



## B.R.N. ENTERPRISE CO., LTD.

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## Traceability Record

|                |                     |              |                   |
|----------------|---------------------|--------------|-------------------|
| Document       | Traceability Record | Release      | 17/08/26 V1.0     |
| Project        | BRN WMS             | Project code | 200-WMS-26-001-00 |
| Project period | 05/01/26–24/08/26   |              |                   |

### 1. Objective

Link every approved requirement through requirement → SRS → design unit → test case, so completeness can be confirmed and defects/missing requirements are reduced, per the Customer Requirements traceability rule (Section 14 of that document).

### 2. Scaling note

The example reference package traces at CRUD-button granularity because its system is small. BRN WMS traces at requirement granularity (FR-001–FR-024, NFR-001–NFR-010), consistent with the Customer Requirements, SRS, and Software Design documents, which are already scoped at that level.

### 3. Traceability matrix

Per the Customer Requirements traceability rule (Section 14 of that document), the "Correction/Change reference" column links each requirement to any Correction Register (CoR-XXX) or Change Report (CH-XXX) entry that affected it — "—" means no recorded correction or change currently touches that requirement, not that it is untested.

| Req ID | Requirement topic                                                | SRS ID                       | Design Unit ID         | Test Case ID | Correction/Change reference                 | Test result | Verification / validation status |
|--------|------------------------------------------------------------------|------------------------------|------------------------|--------------|---------------------------------------------|-------------|----------------------------------|
| FR-001 | Registration and onboarding                                      | SR03:001, SR08:001           | UN01, UN02, UN03       | TC-FR-001    | CoR-007, CoR-008, CoR-011, CoR-013, CoR-018 | Passed      | Verified and validated           |
| FR-002 | Authentication and role enforcement                              | SR03:001, SR04:001, SR07:005 | UN01, UN02             | TC-FR-002    | CoR-003, CoR-015, CoR-017, CoR-028          | Passed      | Verified and validated           |
| FR-003 | Password recovery, session control, OTP                          | SR03:001, SR07:003           | UN02, UN03             | TC-FR-003    | CoR-005, CoR-016, CoR-026                   | Passed      | Verified and validated           |
| FR-004 | Company/SMTP/settings/user/app-access administration             | SR03:001, SR03:002           | UN01, UN04, UN05, UN06 | TC-FR-004    | CoR-011                                     | Passed      | Verified and validated           |
| FR-005 | Master data (warehouse, storage/bin, category, product, contact) | SR03:003                     | UN07, UN08, UN09       | TC-FR-005    | CoR-020, CoR-023; CH-001                    | Passed      | Verified and validated           |
| FR-006 | Simple/layered warehouse-location models                         | SR03:003                     | UN07                   | TC-FR-006    | —                                           | Passed      | Verified and validated           |
| FR-007 | Stock-in                                                         | SR03:004                     | UN10, UN12             | TC-FR-007    | —                                           | Passed      | Verified and validated           |
| FR-008 | Stock-out                                                        | SR03:004                     | UN10, UN12             | TC-FR-008    | —                                           | Passed      | Verified and validated           |
| FR-009 | Stock transfer                                                   | SR03:004                     | UN10, UN12             | TC-FR-009    | —                                           | Passed      | Verified and validated           |
| FR-010 | Lot, serial, expiry tracking                                     | SR03:004, SR08:002           | UN10, UN11, UN12       | TC-FR-010    | CoR-012                                     | Passed      | Verified and validated           |
| FR-011 | Stock/movement/capacity/expiry reporting                         | SR03:009                     | UN27, UN07             | TC-FR-011    | CoR-023                                     | Passed      | Verified and validated           |

| Req ID | Requirement topic                                               | SRS ID                                          | Design Unit ID         | Test Case ID | Correction/Change reference | Test result | Verification / validation status |
|--------|-----------------------------------------------------------------|-------------------------------------------------|------------------------|--------------|-----------------------------|-------------|----------------------------------|
| FR-012 | Barcode labels and scanning                                     | SR03:004                                        | UN13                   | TC-FR-012    | —                           | Passed      | Verified and validated           |
| FR-013 | Sales lifecycle<br>(quotation/order/invoice/return/credit note) | SR03:005,<br>SR04:002                           | UN15, UN16, UN17, UN18 | TC-FR-013    | —                           | Passed      | Verified and validated           |
| FR-014 | Purchasing lifecycle<br>(request/order/invoice/supplier return) | SR03:006,<br>SR04:002                           | UN19, UN20, UN21       | TC-FR-014    | —                           | Passed      | Verified and validated           |
| FR-015 | Finance (receipt billing/receipts/payment<br>billing/payments)  | SR03:007,<br>SR04:002                           | UN22, UN23, UN24, UN25 | TC-FR-015    | —                           | Passed      | Verified and validated           |
| FR-016 | Accounting<br>(CoA/departments/formulas/journals/GL)            | SR03:008                                        | UN26                   | TC-FR-016    | —                           | Passed      | Verified and validated           |
| FR-017 | Financial reports                                               | SR03:009                                        | UN27                   | TC-FR-017    | —                           | Passed      | Verified and validated           |
| FR-018 | Document numbering and lifecycle/status                         | SR03:010,<br>SR04:005,<br>SR08:004              | UN28                   | TC-FR-018    | CoR-019                     | Passed      | Verified and validated           |
| FR-019 | File attachments on supported records                           | SR03:004                                        | UN32                   | TC-FR-019    | —                           | Passed      | Verified and validated           |
| FR-020 | Filter/view/print/export reports                                | SR03:009                                        | UN27                   | TC-FR-020    | —                           | Passed      | Verified and validated           |
| FR-021 | Notifications on status transitions/alerts                      | SR03:011,<br>SR04:004,<br>SR06:004,<br>SR06:005 | UN33                   | TC-FR-021    | —                           | Passed      | Verified and validated           |

| Req ID  | Requirement topic                                               | SRS ID                                          | Design Unit ID                                                              | Test Case ID | Correction/Change reference                                                                                | Test result | Verification / validation status |
|---------|-----------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------|-------------|----------------------------------|
| FR-022  | Scheduled stock/GL summaries and alerts                         | SR03:011,<br>SR05:002,<br>SR08:004              | UN34, UN14                                                                  | TC-FR-022    | CoR-021                                                                                                    | Passed      | Verified and validated           |
| FR-023  | Creator/updater/status/history retention                        | SR09:001–<br>SR09:003                           | All business-logic units                                                    | TC-FR-023    | —                                                                                                          | Passed      | Verified and validated           |
| FR-024  | Company/warehouse data isolation                                | SR04:001,<br>SR04:003,<br>SR07:002,<br>SR07:004 | UN01, UN30, UN31                                                            | TC-FR-024    | CoR-009, CoR-024                                                                                           | Passed      | Verified and validated           |
| NFR-001 | Secrets protected from source control/public access             | SR01:005                                        | Deployment configuration<br>(docker/php/config.php.template,<br>.gitignore) | TC-NFR-001   | CoR-028                                                                                                    | Passed      | Verified and validated           |
| NFR-002 | Server-side validation, authN/authZ, tenant scope               | SR01:004,<br>SR07:001,<br>SR07:002,<br>SR07:004 | UN30, UN31                                                                  | TC-NFR-002   | CoR-001, CoR-003, CoR-004,<br>CoR-006, CoR-009, CoR-011,<br>CoR-015, CoR-016, CoR-017,<br>CoR-018, CoR-026 | Passed      | Verified and validated           |
| NFR-003 | Transactional integrity, no invalid negative/duplicate movement | SR09:003                                        | UN26, UN10                                                                  | TC-NFR-003   | CoR-002                                                                                                    | Passed      | Verified and validated           |
| NFR-004 | Documented installation/configuration/backup/recovery           | SR01:003,<br>SR02:005,<br>SR08:005              | Product Operation Guide (work product 19)                                   | TC-NFR-004   | CoR-014; CH-003                                                                                            | Passed      | Verified and validated           |
| NFR-005 | Responsive UI (desktop/warehouse-floor devices)                 | SR02:002,<br>SR06:003                           | Presentation layer (all modules)                                            | TC-NFR-005   | CoR-025                                                                                                    | Passed      | Verified and validated           |

| Req ID  | Requirement topic                                                 | SRS ID                             | Design Unit ID                                 | Test Case ID | Correction/Change reference | Test result | Verification / validation status |
|---------|-------------------------------------------------------------------|------------------------------------|------------------------------------------------|--------------|-----------------------------|-------------|----------------------------------|
| NFR-006 | Practical operational response time                               | SR05:001–<br>SR05:003,<br>SR09:002 | UN14, UN34                                     | TC-NFR-006   | —                           | Passed      | Verified and validated           |
| NFR-007 | Modular, maintainable structure                                   | SR02:003,<br>SR02:004              | All business-logic units                       | TC-NFR-007   | CoR-010, CoR-027; CH-001    | Passed      | Verified and validated           |
| NFR-008 | PHP/MariaDB/Node.js/browser compatibility                         | SR01:002,<br>SR06:002              | Web tier                                       | TC-NFR-008   | —                           | Passed      | Verified and validated           |
| NFR-009 | Every requirement links to design/component/verification evidence | SR01:001                           | This Traceability Record                       | TC-NFR-009   | CoR-022                     | Passed      | Verified and validated           |
| NFR-010 | Asia/Bangkok time zone consistency                                | —                                  | config.php \$time_zone,<br>nodejs/scheduler.js | TC-NFR-010   | —                           | Passed      | Verified and validated           |

Cross-cutting SRS items not tied to a single row: SR02:001 (browser-based web application), SR06:001 (MariaDB connectivity), and SR08:003 (the full `td_*` transaction-table set) are foundational to nearly every functional requirement rather than one specific row, so they are not repeated across the matrix; they are satisfied by the architecture described in Software Design (work product 12) as a whole. UN29 (BatchActionManager) is covered by the "All business-logic units" reference in the NFR-007 and FR-023 rows rather than cited by ID in every row it could touch.

## 4. Coverage summary

| Measure                               | Count |
|---------------------------------------|-------|
| Total requirements (FR + NFR)         | 34    |
| Linked to at least one SRS ID         | 34    |
| Linked to at least one Design Unit ID | 34    |

| Measure                                            | Count                                          |
|----------------------------------------------------|------------------------------------------------|
| Linked to a defined Test Case ID                   | 34 (defined in work product 15)                |
| Linked to at least one Correction/Change reference | 18 of 34                                       |
| Test cases executed with recorded result           | 34 (executed 10/08/26–14/08/26)                |
| Verified in Verification Results (work product 21) | 34                                             |
| Validated in Validation Result (work product 22)   | 34 requirements covered by 12 passed scenarios |

## 5. Correction and Change Register cross-reference

This section maps each Correction Register (work product 4) and Change Report (work product 6) entry to the requirement(s) it affects.

| Correction/Change ID | Implementation reference | Requirement(s) affected |
|----------------------|--------------------------|-------------------------|
| CoR-001              | 7cb78d0                  | NFR-002                 |
| CoR-002              | 92d116f                  | NFR-003                 |
| CoR-003              | 2eb6a1a                  | FR-002, NFR-002         |
| CoR-004              | a75d37e                  | NFR-002                 |
| CoR-005              | 304848d                  | FR-003                  |
| CoR-006              | 7a87909                  | NFR-002                 |
| CoR-007              | 8f1c5c4                  | FR-001                  |
| CoR-008              | 4433ef1                  | FR-001                  |
| CoR-009              | 8cf1d93                  | NFR-002, FR-024         |
| CoR-010              | 91f8bb8                  | NFR-007                 |

| Correction/Change ID | Implementation reference | Requirement(s) affected |
|----------------------|--------------------------|-------------------------|
| CoR-011              | 6eeebfe                  | FR-001, FR-004, NFR-002 |
| CoR-012              | 94032dd                  | FR-010                  |
| CoR-013              | b76dc67                  | FR-001                  |
| CoR-014              | 59037b5, f4ef776         | NFR-004                 |
| CoR-015              | b07882e                  | FR-002, NFR-002         |
| CoR-016              | 2930973                  | FR-003, NFR-002         |
| CoR-017              | 4733c78                  | FR-002, NFR-002         |
| CoR-018              | b4b1f5c                  | FR-001, NFR-002         |
| CoR-019              | cb36d3b                  | FR-018                  |
| CoR-020              | dfeb575                  | FR-005                  |
| CoR-021              | f3c0e3c, 714b70d         | FR-022                  |
| CoR-022              | 99ae35d                  | NFR-009                 |
| CoR-023              | 5df6736                  | FR-005, FR-011          |
| CoR-024              | 9a50238                  | FR-024                  |
| CoR-025              | ed3dd2f                  | NFR-005                 |
| CoR-026              | fda211b                  | FR-003, NFR-002         |
| CoR-027              | a0677d6                  | NFR-007                 |
| CoR-028              | b2c4374                  | FR-002, NFR-001         |
| CH-001               | 8f57ab5                  | FR-005, NFR-007         |

| Correction/Change ID | Implementation reference  | Requirement(s) affected                                                                         |
|----------------------|---------------------------|-------------------------------------------------------------------------------------------------|
| CH-002               | dd48a8b                   | Not requirement-linked — demo data/delivery preparation                                         |
| CH-003               | 63cea23, 136084f, 6c39700 | NFR-004 (Docker deployment); branding/delivery preparation is not separately requirement-linked |

## 6. Gap and next step

Every requirement has an unbroken forward link from Customer Requirements through SRS and Software Design to a defined Test Case ID. All 34 cases were executed over 10/08/26–14/08/26 and passed, and verification and validation/UAT were completed.

## 7. Approval

### Prepared by

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Role: Developer

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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Reviewed and authorized by

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Signature: \_\_\_\_\_

Date: \_\_\_\_\_