



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

1011 Supalai Grand Tower, 7th Floor, Unit 6-7, Rama 3 Road, Chongnonsi, Yannawa, Bangkok 10120
Tel. (+66) 2687 0250 Fax. (+66) 2687 0255

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-012, CoR-014, CoR-019	Passed	Verified and validated
FR-002	Authentication and role enforcement	SR03:001, SR04:001, SR07:005	UN01, UN02	TC-FR-002	CoR-003, CoR-016, CoR-018, CoR-029	Passed	Verified and validated
FR-003	Password recovery, session control, OTP	SR03:001, SR07:003	UN02, UN03	TC-FR-003	CoR-005, CoR-017, CoR-027	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-012	Passed	Verified and validated
FR-005	Master data (warehouse, storage/bin, category, product, contact)	SR03:003	UN07, UN08, UN09	TC-FR-005	CoR-021, CoR-024; 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

Req ID	Requirement topic	SRS ID	Design Unit ID	Test Case ID	Correction/Change reference	Test result	Verification / validation status
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-013	Passed	Verified and validated
FR-011	Stock/movement/capacity/expiry reporting	SR03:009	UN27, UN07	TC-FR-011	CoR-024	Passed	Verified and validated
FR-012	Barcode labels and scanning	SR03:004	UN13	TC-FR-012	—	Passed	Verified and validated
FR-013	Sales lifecycle (quotation/order/invoice/return/credit note)	SR03:005, SR04:002	UN15, UN16, UN17, UN18	TC-FR-013	—	Passed	Verified and validated
FR-014	Purchasing lifecycle (request/order/invoice/supplier return)	SR03:006, SR04:002	UN19, UN20, UN21	TC-FR-014	—	Passed	Verified and validated
FR-015	Finance (receipt billing/receipts/payment billing/payments)	SR03:007, SR04:002	UN22, UN23, UN24, UN25	TC-FR-015	—	Passed	Verified and validated
FR-016	Accounting (CoA/departments/formulas/journals/GL)	SR03:008	UN26	TC-FR-016	—	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-017	Financial reports	SR03:009	UN27	TC-FR-017	—	Passed	Verified and validated
FR-018	Document numbering and lifecycle/status	SR03:010, SR04:005, SR08:004	UN28	TC-FR-018	CoR-020	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, SR04:004, SR06:004, SR06:005	UN33	TC-FR-021	—	Passed	Verified and validated
FR-022	Scheduled stock/GL summaries and alerts	SR03:011, SR05:002, SR08:004	UN34, UN14	TC-FR-022	CoR-022	Passed	Verified and validated
FR-023	Creator/updater/status/history retention	SR09:001–SR09:003	All business-logic units	TC-FR-023	—	Passed	Verified and validated
FR-024	Company/warehouse data isolation	SR04:001, SR04:003, SR07:002, SR07:004	UN01, UN30, UN31	TC-FR-024	CoR-009, CoR-025	Passed	Verified and validated
NFR-001	Secrets protected from source control/public access	SR01:005	Deployment configuration (docker/php/config.php.template, .gitignore)	TC-NFR-001	CoR-029	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-002	Server-side validation, authN/authZ, tenant scope	SR01:004, SR07:001, SR07:002, SR07:004	UN30, UN31	TC-NFR-002	CoR-001, CoR-003, CoR-004, CoR-006, CoR-009, CoR-012, CoR-016, CoR-017, CoR-018, CoR-019, CoR-027	Passed	Verified and validated
NFR-003	Transactional integrity, no invalid negative/duplicate movement	SR09:003	UN26, UN10	TC-NFR-003	CoR-002; CoR-010 (unclear — see Section 5)	Passed	Verified and validated
NFR-004	Documented installation/configuration/backup/recovery	SR01:003, SR02:005, SR08:005	Product Operation Guide (work product 19)	TC-NFR-004	CoR-015; CH-003	Passed	Verified and validated
NFR-005	Responsive UI (desktop/warehouse-floor devices)	SR02:002, SR06:003	Presentation layer (all modules)	TC-NFR-005	CoR-026	Passed	Verified and validated
NFR-006	Practical operational response time	SR05:001–SR05:003, SR09:002	UN14, UN34	TC-NFR-006	—	Passed	Verified and validated
NFR-007	Modular, maintainable structure	SR02:003, SR02:004	All business-logic units	TC-NFR-007	CoR-011, CoR-028; CH-001	Passed	Verified and validated
NFR-008	PHP/MariaDB/Node.js/browser compatibility	SR01:002, SR06:002	Web tier	TC-NFR-008	—	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-009	Every requirement links to design/component/verification evidence	SR01:001	This Traceability Record	TC-NFR-009	CoR-023	Passed	Verified and validated
NFR-010	Asia/Bangkok time zone consistency	—	<code>config.php</code> <code>\$time_zone,</code> <code>nodejs/schedule</code> <code>r.js</code>	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
Linked to a defined Test Case ID	34 (defined in work product 15)
Linked to at least one Correction/Change reference	18 of 34

Measure	Count
Test cases executed with recorded result	34
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

Correction/Change ID	Implementation reference	Requirement(s) affected
CoR-010	c7b6791	Unclear — the correction record notes "Commit history records a revert without a detailed issue record"; no specific requirement is assigned rather than guessing
CoR-011	91f8bb8	NFR-007
CoR-012	6eeebfe	FR-001, FR-004, NFR-002
CoR-013	94032dd	FR-010
CoR-014	b76dc67	FR-001
CoR-015	59037b5, f4ef776	NFR-004
CoR-016	b07882e	FR-002, NFR-002
CoR-017	2930973	FR-003, NFR-002
CoR-018	4733c78	FR-002, NFR-002
CoR-019	b4b1f5c	FR-001, NFR-002
CoR-020	cb36d3b	FR-018
CoR-021	dfeb575	FR-005
CoR-022	f3c0e3c, 714b70d	FR-022
CoR-023	99ae35d	NFR-009
CoR-024	5df6736	FR-005, FR-011
CoR-025	9a50238	FR-024

Correction/Change ID	Implementation reference	Requirement(s) affected
CoR-026	ed3dd2f	NFR-005
CoR-027	fda211b	FR-003, NFR-002
CoR-028	a0677d6	NFR-007
CoR-029	b2c4374	FR-002, NFR-001
CH-001	8f57ab5	FR-005, NFR-007
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 passed, and verification and validation/UAT were completed.

7. Approval

Prepared by

Name: Thanakorn Sathitwitayakul

Role: Developer

Signature: _____

Date: _____

Reviewed by

Name: Apirach Supattaratpateep

Role: Project Manager

Signature: _____

Date: _____

Reviewed and authorized by

Name: Seri Viriyasakultorn

Project roles: Project Sponsor / Customer Representative / Authorized Approver

Position: Managing Director

Company: B.R.N. Enterprise Co., Ltd.

Signature: _____

Date: _____