CASS™
Technical Guide

2009-2010 cycle

UNITED STATES POSTAL SERVICE®

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Purpose

The CASS™ certification process is designed in cooperation with the mailing industry to improve the accuracy of postal codes [i.e., carrier route, 5-digit ZIP™, ZIP + 4®, and delivery point codes (DPCs)] that appear on mailpieces. The CASS software certification program provides hardware and software manufacturers, service bureaus, and commercial mailers a common measure by which to test the quality of address-matching software. Software tests for CASS certification are graded by the U.S. Postal Service® National Customer Support Center (NCSC), and the results are returned to the developer to provide useful diagnostics for correcting software deficiencies. However, CASS does not measure the accuracy of ZIP + 4, delivery point, 5-digit ZIP, or carrier route codes in a mailer's address file.

Overview

The CASS certification process consists of two parts: Stage I is optional (but recommended) prior to attempting certification, while Stage II is required.

Stage I is a self-test that helps developers measure and diagnose the performance of their address-matching software when it is applied to a CASS test address file. The Stage I results assist developers with software debugging and troubleshooting in preparation for Stage II of the CASS certification process. The results of Stage I processing are not reviewed by the NCSC and have no effect on CASS certification. The Stage I file can be downloaded electronically from the Rapid Information Bulletin Board System (RIBBS) at **http://ribbs.usps.gov/files/cass/cass_cycle_m.** For more information on downloading Stage I files from the Internet, call the CASS Department at 800-642-2914.

Stage II is graded by the NCSC and is used to evaluate address-matching software performance by processing a test address file. To attain CASS certification, address-matching software must achieve a required score on the Stage II test. The Stage II file(s) must be processed with address-matching software. Developers are not permitted to allow another company or service bureau to process the Stage II file(s). The Stage II file can be ordered using the "CASS Order Form" on page 49 or online at **https://ribbs.usps.gov/files/cass/orders**.

CASS certification applies to 5-digit ZIP Code, eLOT, Carrier Route, RDI, DPV® or DSF^2, LACS^{Link} and Suite^{Link} products. Developers may order CASS files to test address-matching software in two ways: 1)ZIP + 4 or ZIP+4/eLOT only for address lookup tools that do not qualify for automation discounts; 2) all categories can be tested with a single run using the Merge or Merge/eLOT files, which incorporates the testing information for all categories into a single file. DSF^2 and DPV cannot be certified in one test.

CASS certification is valid until the end of the current annual period (i.e., from August 1 of one year through July 31 of the next). To remain CASS Certified for each annual period, developers must reapply for certification and meet the minimum accuracy requirements during Stage II testing.

MERLIN® verifies 9-digit ZIP Code information at the points of acceptance and has a zero tolerance for ZIP + 4 codes of '0000' and '9999'. The return of '0000'

in the ZIP + 4 add-on, or the return of an invalid '9999' in the ZIP + 4 add-on, will continue to be a fatal add-on error for CASS/MASS. The return of '0000' in the ZIP + 4 add-on, or the return on an **invalid** '9999' in the ZIP + 4 add-on, will be cause for CASS/MASS certification failure and will require retesting.

Fee-Based Certification

These charges were established to cover costs of developing and issuing testing material and administering the overall CASS and MASS program.

Fee-Based Certification	Aug/Oct (New Cycle)	NOV/ DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	After July 31, for Current Cycle
CASS	$200	$200	$200	$500	$500	$600	$700	$800	$900	$1,000
MASS MFG (MLOCR)		$500	$500	$500	$500	$500	$500	$500	$1000	$1,500
MASS End-Users (MLOCR									$1000	$1,500
MASS MFG (Encoder)		$300	$300	$300	$300	$300	$300	$300	$750	$1,000
MASS End-Users (Encoder)									$750	$1,000

For CASS certification, customers will be billed based on the number of separate software configurations certified, not on the number of Stage II files ordered. In contrast, MASS customers will be billed for each test deck ordered, regardless of the number of decks needed to achieve certification. Billing procedures are coordinated with our Accounts Receivable Department. Customers will be billed as certification is awarded.

We remain confident that manufacturers are committed to attempt manufacturer certification as early as possible.

Stage File Overview

Stage I

CASS Stage I files are tests with answers provided and are intended to enable businesses to measure and diagnose the accuracy of their address-matching software. All CASS Stage I files are created from data in the ZIP + 4 Product. Most Stage I records are altered for testing purposes.

CASS Stage I files contain one copyright header record and approximately 150,000 test address records assembled from national address data. Each test address record contains three major components:

- Miscellaneous elements (CASS key and customer ID)
- Input elements (test address information to be matched by the customer's address-matching software)
- Answer elements (the correct address information for use in comparing Stage I results).

For each test address record that requires a match against the ZIP + 4 Product, the address-matching software must evaluate and correct any missing or incorrect city names, state abbreviations, and/or 5-digit ZIP Codes and, if needed, correct and standardize the delivery address line (per Publication 28, *Postal Addressing Standards*). Stage I answers may then be compared to the information in the test address record's answer element fields.

A CASS Stage I file is posted on our website at http://ribbs.usps.gov/files/cass for organizations that are developing address-matching software. Downloading the Stage I file relieves customers of the task of determining whether non-match or incorrect match conditions encountered during testing are due to software deficiencies.

Stage II

CASS Stage II files (ZIP + 4/DP, 5-digit ZIP Code, Carrier Route, eLOT, RDI, Merge, DPV, DSF^2, Suite^{Link} and LACS^{Link}) enable developers to demonstrate the accuracy of their address-matching software. The CASS Stage II files are tests for which customer answers are required.

CASS Stage II files are created from ZIP + 4 Product data, but most address records are altered for testing purposes. Each CASS Stage II file contains one copyright header record and approximately 150,000 test address records comprised of addresses from across the country. Each test address record contains three major components:

- Miscellaneous elements (CASS key and customer ID)
- Input elements (the test address information to be matched by the customer's address-matching software)
- Answer elements (empty fields that will contain the customer answers).

The answer fields are used in conjunction with the test addresses by the NCSC to determine the accuracy of the customer's address-matching software. The input elements must be returned with the answer elements. (See "Grading, Scoring, and Certification" on page 31.)

The test address records in the CASS Stage II files may or may not contain valid input. For example, the City and State fields may or may not contain valid data, and the Delivery Address field may or may not follow Publication 28, *Postal Addressing Standards* guidelines. Address-matching software must: 1) apply the correct ZIP + 4/DP, 5-digit ZIP, eLOT, Carrier Route, RDI, DSF^2, and DPV codes; 2) correct and/or standardize the Delivery Address, City, and State fields, and; 3) place the answers in the appropriate answer element fields.

To achieve certification, developers must follow all of the rules outlined in the following sections: "Product Types" (page 42), "Stage II File Processing" (page 48), and "Ordering CASS Products" (page 49).

Certification Overview

CASS offers a manufacturer certification process that provides the mailing industry with a method whereby a software manufacturer's CASS certification can function as a blanket certification for all users of a particular address-matching

software package. Throughout this process, the requirement that each user of address-matching software attain CASS certification is only necessary in certain situations.

Note: Manufacturer certification is available only to software manufacturers (companies that develop address-matching software). All user modifications to a CASS Certified product (i.e. new drivers APIs) must be certified separately by the End-User and must be listed on item 5A of the CASS Order Form.The manufacturer box on the front of the order form must be checked.

The Postal Service intends to begin a policy of revoking certification of any user modified address matching software that has not been CASS Certified by the End-User (page 49).

The NCSC receives, grades, and evaluates processed Stage II files and makes results available to the customer within two 10 business days.

Manufacturer Certification

To attain manufacturer certification, order a CASS Stage II file using the *CASS Order Form* (page 49) and check the Manufacturer Certification box on the front of the form. Requesting manufacturer certification ensures that the company will be listed as a software manufacturer in USPS documents and on RIBBS (http://ribbs.usps.gov/files/vendors/). If the address-matching software attempting certification has optional processing parameters that affect the address-matching logic, a printed statement of the parameters to be used in processing the CASS Stage II file must be attached to the signed *CASS Order Form*.

The same version of address-matching software may be certified under various specific configurations and platforms. (A configuration is a 3-character alphabetic identifier associated with a software name and version number that represents a specific set of parameter settings.) The configuration must be specified on the *CASS Order Form*.

The address-matching software being certified must be capable of generating a facsimile of PS Form 3553, *CASS Report*, which identifies the specific configuration(s) and platform used in address file processing. (See Appendix 1, “PS Form 3553,” on page 53.) The software must also contain technology that disables access to outdated US Postal Service data as described in the *Domestic Mail Manual* (DMM) 708, Section 3.0, and should not print PS Form 3553 if the software has undergone user modifications.

Return the computer-generated PS Form 3553 facsimile from the CASS Stage II file processing run with the answer file for evaluation. The software must be able to identify the current CASS Certified configurations and must not print a PS Form 3553 when a non-CASS Certified configuration is used to process an address list.

Note: All CASS/MASS manufacturers are required to provide a PS Form 3553 hard copy to the CASS department for evaluation to ensure the facsimile meets USPS standards. This form may be faxed or sent as a ‘.pdf’ or ‘.txt’ file via the internet or as an attachment to an email.

User Certification

Vendors, service bureaus, or mailers who have special requirements for using address-matching software in a configuration that has not been CASS Certified by the manufacturer must apply for user-defined certification. Software service bureaus or mailers seeking CASS certification and using address-matching software in a configuration that has been manufacturer-certified must apply for user-defined certification by checking the User-Defined Certification box on the *CASS Order Form* and specifying the exact configuration used for manufacturer certification.

Contact your manufacturer for more information on manufacturer-certified configurations and parameters.

Note: Certificates issued will be differentiated by a manufacturer-certified statement on the certificate. The certificate format is subject to change without notice.
Platform Certification Policy

CASS requires all separate platforms for a single product to be individually CASS tested and certified. However, for those developers who successfully demonstrated their software's ability to achieve consistent scores will be able to request a 3-year exemption to separate platform testing based on their past cycles scores. This request should be submitted to the certification Department by email, fax or letter. If software is required to be recompiled to run on a platform, the platform must be certified.

The requirement for developers to obtain CASS certification for each operating system produced remains in effect. If a developer is uncertain as to whether a product must be independently certified, he or she should check with the CASS Department for clarification.

Software Updates

The requirement to use standardized version numbering remains in effect. For the 2009–2010 cycle, software must increment the cycle field to 'M'. CASS will continue to require software to report the full version, revision, cycle number and optional manufacturer information on PS Form 3553. The *CASS/MASS Certified Products Guide* will indicate the version number up to the cycle field value. Business mail entry personnel will continue to confirm a product's certification via the *CASS/MASS Certified Products Guide*.

Version Control

When a CASS Certified product is modified for any reason, the developer must contact the CASS Department to determine whether recertification is necessary. The CASS Department recognizes that all product modifications do not involve changes to the core functionality of the address-matching logic. Changes made to fix a specific problem, such as a program abend, or to provide a customer a specific interface, generally will not require recertification; however, the CASS Department requires that all changes be reported, regardless of their purpose. The CASS Department will review the proposed change and notify the developer as to whether they must submit for recertification.

The CASS Department will review and respond to any notice of a patch or modification within two business days. If the CASS Department fails to respond within this time, the developer can assume approval, but CASS reserves the right to

require recertification of the specific release to verify continued compliance with CASS requirements.

Developers faced with an urgent need to provide a patch to their customer(s) may do so without prior notification and clearance by the CASS Department. However, developers must report the emergency release to the CASS Department within two days. Failure to notify CASS of patches or modifications may result in decertification of the modified product and rescinding of any postage discounts obtained using the modified product.

Note: Postage discounts may be rescinded retroactively.

Developers can report modifications to CASS Certified products via email at cassman.ncsc@usps.gov. Call the CASS Department at 800-642-2914 for more information.

Media Configurations

The CASS Stage II file product is available in Internet format only.

Electronic Fulfillment

Attributes		
Record Length	=	600 Characters

Stage File Description

Copyright Header Record

The header record on the CASS Stage I and II test files is a copyright record. PS Form 3553, *CASS Summary Report* has been incorporated into the header record, and software developers must return PS Form 3553 electronically (see record layout page 12). The following table also identifies header record components for DPV and DSF2. (See "Appendix 5" on page 71.)

Field Sequence Number	Field Description	Length	Position From/Through	
1	Filler	3	001	003
2	File Version Month	2	004	005
3	File Version Day	2	006	007
4	File Version Year	4	008	011
5	Copyright Symbol	11	012	022
6	Sequence Number	3	023	025
7	Customer Name	9	026	034
8	System Name	5	035	039
9	Stage Number	6	040	045
10	3553 A1 CASS Z4Change/DirectDPV Company Name	40	046	085
11	3553 A1 eLOT Company Name	40	086	125
12	3553 A1 CASS Z4Change/DirectDPV Configuration	3	126	128
13	3553 A1 eLOT Configuration	3	129	131
14	3553 A1 CASS Z4Change/DirectDPV Software Name	30	132	161
15	3553 A1 CASS Z4Change/DirectDPV Software Version	16	162	177
16	3553 A1 eLOT Software Name	30	178	207
17	3553 A1 eLOT Software Version	16	208	223
18	3553 B1 List Processor Name	25	224	248
19	3553 B2 Master File Process Date	8	249	256
20	3553 B2 Z4Change/DirectDPV Process Date	8	257	264
21	3553 B2 eLOT Process Date	8	265	272
22	3553 B2 Carrier Route Process Date	8	273	280
23	3553 B3 ZIP + 4/DPV Database Date	8	281	288
24	Filler	8	289	296
25	3553 B3 eLOT Database Date	8	297	304
26	3553 B3 Carrier Route Database Date	8	305	312

Field Sequence Number	Field Description	Length	Position From/Through	
27	3553 B4 Address List Name	25	313	337
28	3553 B5 Number Lists Processed	3	338	340
29	3553 B6 Total Records Submitted	6	341	346
30	3553 C1 Total Records ZIP + 4/DPV Coded	6	347	352
31	3553 C1 ZIP + 4/DPV Valid From Date	8	353	360
32	3553 C1 ZIP + 4/DPV Valid To Date	8	361	368
33	3553 C2 Total Records Z4Change Coded	6	369	374
34	Filler	16	375	390
35	3553 C3 Total DirectDPV Coded	6	391	396
36	3553 C3 DirectDPV Valid From Date	8	397	404
37	3553 C3 DirectDPV Valid To Date	8	405	412
38	3553 C4 Total Records 5-Digit Coded	6	413	418
39	3553 C4 5-Digit Valid From Date	8	419	426
40	3553 C4 5-Digit Valid To Date	8	427	434
41	3553 C5 Total Records Carrier Route Coded	6	435	440
42	3553 C5 Carrier Route Valid From Date	8	441	448
43	3553 C5 Carrier Route Valid To Date	8	449	456
44	3553 C6 Total Records eLOT Coded	6	457	462
45	3553 C6 eLOT Valid From Date	8	463	470
46	3553 C6 eLOT Valid To Date	8	471	478
47	Filler	8	479	486
48	Z4CHANGE/DirectDPV Date	8	487	494
49	3553 Total High-rise Exact	6	495	500
50	3553 Total High-rise Default	6	501	506
51	3553 Total Rural Route Exact	6	507	512
52	3553 Total Rural Route Default	6	513	518
53	3553 Total LACS	6	519	524
54	3553 Total EWS	6	525	530
55	3553 Total Suite^{Link}	6	531	536
56	Filler	6	537	542
57	Filler	34	543	576
58	DPV Data Used	1	577	577
59	3553 B3 DPV Date – Format YYYYMMDD	8	577	585
60	Platform for Test	12	586	597
61	Configuration for Test	3	598	600

Completing PS Form 3553

Completion and submission of PS Form 3553 is a requirement for CASS certification. Data returned on PS Form 3553 must agree with the data returned in the Stage II file or derived from the mailpieces read during the CASS grading process.

Software must populate the electronic Stage II file returned for official grading, with the PS Form 3553 summary information in the header record.

Qualitative Statistical Summary

Software manufacturers must populate the Qualitative Statistical Summary information fields on the CASS Summary Report (PS Form 3553). This section comprises a summary of counts in specified areas obtained on records on any processed list.

Copyright Header Records Data Element Definitions

A1: CASS/Z4Change/eLOT Certified Company Name

The name of the company seeking certification. End-user modification of any certified product requires independent certification by the end-user.

A1: CASS/Z4Change/eLOT Software Name and Version

The software name must be the name of the software product submitted for certification. The software version is the version number submitted for certification. The version number must adhere to the version control standard (see Appendix 2, page 57) and consists of a version number, revision number, CASS cycle alpha-identifier, and, if applicable, manufacturer number. The entire version, revision, and cycle number must be reflected on the PS Form 3553, but the *CASS/MASS Certified Products Guide* will list only the version number.

A1: CASS/Z4Change/eLOT Configuration

A 3-character alphabetic identifier (associated with a specific software name and version number) that represents a set of software parameter settings.

A2: MASS-Certified Company Name

The name of the company seeking MASS certification.

A2: MASS-Certified Software Name and Version

The name and version of the product certified by the system manufacturer.

A2: MASS Configuration

The configuration of the product certified by the system manufacturer.

A2: MASS MLOCR Serial Number

The specific serial number of the device that is MASS tested.

B1: List Processor Name

The name of the company or person(s) responsible for processing the address list(s) or mailpieces.

B2: Date List Processed

The date the address list is processed. If processing lasts for more than one day, list the first day of processing. For Z4Change processing, the Master File Date List Processed block must indicate the date the entire master file was first processed. The Z4Change Date List Processed block must indicate the date on which Z4Change processing occurred, and the date must not be older than three years after the Master File Date List Processed.

B3: Date of Database

The product release date of the USPS Address Information System (AIS) product. All certified software must contain technology that disables access to outdated Postal Service data as described in the *Domestic Mail Manual* (DMM) 708, Section 3.0. Products may show the date in either MM/YY or MM/DD/YY format. Where an MM/YY format is used, the assumed DD value is 15.

B2 & B3: Z4Change Date

This field contains the date of the Z4Change Product used to process against the stage 1 or 2 file provided by the CASS department. The Z4Change Product is used to ensure that the questions presented to developers on stage files have not experienced any transactions. This process is used to assist software manufacturers in analyzing and evaluating their address matching software. It is strongly recommended that software developers/manufacturers match up the same product dates for both the ZIP + 4 File and City–State File monthly products and the Z4Change Product in order to minimize differences in address matching results.

B2 & B3: eLOT Date

This field contains the date of the eLOT product used to process against the Stage 1 or 2 file provided by the CASS Department.

B2 & B3: CRIS Date

This field contains the date of the Carrier Route product used to process against the Stage I and II file.

B4: Address List Name or ID

The 9-character customer/file identifier (e.g., 00251ZABU) supplied by the CASS Department.

B5: Number of Lists

If submitting for certification, enter 1. This entry cannot be zero (0) or blank.

B6: Total Records Submitted

The number of records in the address file or total number of mailpieces processed.

C1: Total ZIP + 4/DPV Coded

The total number of records assigned an add-on (plus 4) by address-matching software where the primary number DPV confirmed using the DPV product. Only those address records where the primary and/or secondary number (when present) DPV confirmed will be counted. If a match to an “ND” record occurs, do not count it toward this total since no ZIP + 4 code is generated.

C2: ZIP + 4/DPV Validation Period “From” Date

Must be the same value as B2, Date List Processed. This date may not exceed 30 days before the ZIP + 4 Product release date (computed using the 15th) and no later than 105 days after the product file date. Products must show the validation period “From” and “To” dates in MMDDYYYY format.

C1: ZIP + 4/DPV Validation Period “To” Date

Calculated as the ZIP + 4 Valid From date plus 180 days. Products must show the validation period “From” and “To” dates in MMDDYYYY format.

C2: Total Z4Change Processed

The total number of records extracted from an address file, including all address records with ZIP + 4 codes requiring Z4Change reprocessing and any address records with a blank ZIP + 4 code if they are reprocessed during the Z4Change processing.

C2: Z4Change Validation Period Dates

Not applicable.

C3: DirectDPV

The total number of records found in the DirectDPV file that have changed since the file was last ZIP + 4 certified.

C3: DirectDPV Validation Period Dates

These fields must equal the ZIP + 4 Validation Period Dates.

C4: Total 5-Digit Coded

The total number of records for which a 5-digit ZIP Code was assigned or retained from the input address during processing.

C4: 5-Digit Validation Period “From” Date

The effective processing date for records that were 5-digit coded. This date may be 30 days before the ZIP + 4, Five-Digit ZIP, or the Carrier Route Product dates (computed from the 15th) or up to 105 days after the product date.

C4: 5-Digit Validation Period “To” Date

Calculated as the 5-Digit Valid From Date plus 365 days.

C5: Total CR-RT Coded

The total number of records assigned a carrier route during processing.

C5: CR-RT Validation Period “From” Date

The effective processing date for records that were carrier route coded. This date may be 30 days before the ZIP + 4 or the Carrier Route Product date (the 15th of each month or bimonthly) or up to 105 days after the ZIP + 4 or Carrier Route Product date.

C5: CR-RT Validation Period “To” Date:

Calculated as the CR-RT Valid From Date plus 90 days.

C6: Total eLOT Assigned

The total number of records assigned an eLOT sequence number and an ascending or descending code by address-matching software.

C6: eLOT Validation Period “From” Date

The effective processing date for records that were eLOT assigned. This date may be 30 days before the eLOT Product date (the 15th of each month or bimonthly) or up to 105 days after the eLOT Product date.

C6: eLOT Validation Period “To” Date

Calculated as the eLOT Valid From date plus 90 days.

DPV Data: Field Sequence Numbers 58-60

58: DPV Date – Format YYYYMMDD

Date of DPV files used to perform DPV confirmation.

59: Platform for Test

This field contains the platform for which a particular CASS test was ordered.

60: Configuration For Test

This field contains the configuration for which a particular CASS test was ordered.

Test Address Record

The test address records in the CASS Stage I and II files contain miscellaneous elements, input elements, and answer elements comprising the actual test address records. Each test address record's individual input elements may or may not be correct in format, standardization, or accuracy. The following table identifies test address record components.

Field Sequence Number	Field Description	Length Input	Position From/ Through	
1	Customer ID	9	001	009
2	CASS Key	11	010	020
3	ZIP Code Answer	5	021	025
4	ZIP Code Alternate Answer Allowed*	1	026	026
5	ZIP Code Include In 3553 *	1	027	027
6	ZIP + 4 Add-On Answer	4	028	031
7	ZIP + 4 Add-On Include In 3553 *	1	032	032
8	Delivery Point Answer	2	033	034
9	Delivery Point Include In 3553*	1	035	035
10	Delivery Point Check Digit Answer	1	036	036
11	Carrier Route Answer	4	037	040
12	Carrier Route Alternate Answer Allowed*	1	041	041
13	Carrier Route Include In 3553*	1	042	042
14	City Name Answer	28	043	070
15	City Name Alternate Answer Allowed*	1	071	071
16	State Code Answer	2	072	073
17	Urbanization Answer	28	074	101
18	Firm Name Answer	40	102	141
19	Primary Delivery Address Line Answer	64	142	205
20	Primary Delivery Address Line Alt. Answer Allowed*	1	206	206
21	Second Delivery Address Line Answer	64	207	270
22	Second Delivery Address Line Alt. Answer Allowed*	1	271	271
23	Locatable Address Conversion Indicator	1	272	272
24	Enhanced Line of Travel (eLOT) Sequence Number Answer	4	273	276
25	Enhanced Line of Travel (eLOT) Ascending/ Descending Answer	1	277	277
26	Firm or Recipient Input	40	278	317
27	Urbanization Input	28	318	345
28	Primary Delivery Address Line Input	64	346	409
29	Second Delivery Address Line Input	64	410	473

Field Sequence Number	Field Description	Length Input	Position From/ Through	
30	Last Line Input	42	474	515
31	Filler	1	516	516
32	Record Type Code	1	517	517
33	Category Subcategory Indicator*	2	518	519
34	USPS Internal Research Development Flag*	1	520	520
35	Non-Deliverable Record Indicator*	1	521	521
36	Multiple Response ZIP + 4 Answer 1*	9	522	530
37	Multiple Response ZIP + 4 Answer 2*	9	531	539
38	PMB-Designator	4	540	543
39	PMB-Number	8	544	551
40	Default Flag	1	552	552
41	Internal Use	1	553	553
42	Early Warning System (EWS) Flag	1	554	554
43	Internal Use	1	555	555
44	Enhanced Line of Travel (eLOT) Sequence	4	556	559
45	Enhanced Line of Travel (eLOT) Asc/Desc	1	560	560
46	DPV Confirmation Indicator	1	561	561
47	DPV CMRA Indicator	1	562	562
48	DPV False Positive Indicator	1	563	563
49	DSF^2 Delivery Type	1	564	564
50	DSF^2 No Stats Indicator	1	565	565
51	DSF^2 Business Indicator	1	566	566
52	DSF^2 Drop Indicator	1	567	567
53	DSF^2 Drop Count	3	568	570
54	DSF^2 Throwback Indicator	1	571	571
55	DSF^2 Seasonal Indicator	1	572	572
56	DSF^2 Vacant Indicator	1	573	573
57	DSF^2 LACS Indicator	1	574	574
58	DSF^2 Educational Indicator	1	575	575
59	DPV Footnote 1	2	576	577
60	DPV Footnote 2	2	578	579
61	DPV Footnote 3	2	580	581
62	Filler	5	582	586

Field Sequence Number	Field Description	Length Input	Position From/ Through	
63	DSF^2 Primary Number Error Flag	1	587	587
64	DSF^2 Secondary Number Error Flag	1	588	588
65	Residential Delivery Indicator	1	589	589
66	DSF^2 Pseudo Sequence Number	4	590	593
67	LACS^{Link} Indicator	1	594	594
68	LACS^{Link} Return Code	2	595	596
69	Suite^{Link} Return Code	2	597	598
70	Internal Use	2	599	600

* Fields populated within Stage I file only.

•DPV Customers see Appendix 5 (page 71).
•LACS^{Link} customers see Appendix 9 (page 103)

Note: For Internet media, please add two bytes for CRLF.

Note: Pseudo Sequence Number applies only to DSF^2 licensees.

Test Address Data Element Definitions

Carrier Route Answer

In the CASS Stage I file, this field contains the valid carrier route code; however, on the Stage II file, this field is blank. The customer's matching software must place the assigned carrier route code in this field.

Comments: Developers seeking Merge certification must place the correct carrier route code (provided by the address-matching software for the test address) in this field. The carrier route answer must be returned exactly as it appears on the database. If the address-matching software is unable to determine the carrier route answer, fill the field with spaces. The 5-digit ZIP Code answer must also be placed in its appropriate answer field.

It is permissible to assign carrier route information in multiple-response conditions; however, a carrier route cannot be assigned unless a valid ZIP Code is assigned. When an input address produces a multiple response, a carrier-route ID can be assigned only when all multiple response candidate records contain the same 5-digit ZIP Code and carrier route ID. In all cases, if the ZIP answer is determined to be incorrect, the carrier route answer will be considered incorrect regardless of whether it is a valid carrier route. Failure to assign a carrier route answer will not be graded as incorrect in a multiple response situation.

Carrier Route Alternate Answer Allowed

This field indicates that an answer other than the one provided in the Stage I file is permitted.

Field Description: Y = An alternate answer is allowed
N = An alternate answer is not allowed

Comments: An alternate answer may consist of a carrier route code or spaces. When multiple candidate records are available at the ZIP + 4 level and share the same ZIP Code and carrier route ID, the carrier route ID may be returned in the output record.

Carrier Route Include In 3553 Indicator

This field indicates whether to increment the Records Carrier Route Coded Total column in block C4 (or on the electronic form). (See "Copyright Header Record" on page 7.)

Field Description: Y = Increment the Records Carrier Route Coded Total column on PS Form 3553
N = Do not increment the Records Carrier Route Coded Total column on PS Form 3553

CASS Key

A unique alphanumeric identifier associated with each test address record on the Stage I or II files.

Field Description: Alphanumeric

Comments: Use this key when referencing Stage file questions when discussing addressing issues with the CASS Department.

Examples: L9945684587

Category/Subcategory Indicator

This field in the Stage I file contains a 2 byte code identifying the type of test address given.

Field Description: See Appendix 3, page 60, "Translation of Error Codes and Flats".

City Name Answer

This field must contain an acceptable mailing name returned by the software.

Field Description: Alphanumeric

Comments: The CASS Stage I file contains the answer for each test address for all product categories. If the input city name is a valid mailing name, the City Name Answer field must contain a standard version of the input city name or its official 13-character abbreviation.

If the input city name IS a valid mailing name, this field must contain one of the following answers:

- Preferred last line city name associated with the ZIP + 4 record matched if override city name condition exists or its official 13-character abbreviation.
- Preferred last line city name at the 5-digit level, its official 13-character abbreviation or input city name if override condition does not exist.

If the input city name is NOT a valid mailing name, this field must contain one of the following answers:

- Preferred last line city name associated with the ZIP + 4 record matched or its official 13-character abbreviation.
- Preferred last line city name at the 5-digit level or its official 13-character abbreviation.

If the input address record results in a multiple-response condition (i.e., two or more candidate records), the software can either return the last line input or a valid city name for the input 5-digit ZIP Code.

City Name Alternate Answer Allowed

This field indicates whether a city name other than the answer provided in the Stage I file is permitted in the City Name Answer field.

Field Description: Y = An alternate city name answer is allowed
N = An alternate city name answer is not allowed

Comments: Alternate answers may consist of spaces, return of input, or a correctly spelled-out version of the input address record.

Customer ID

This field contains the customer identification number in the CASS system for Stage files. The ID is assigned by the CASS Department and should be used for all correspondence with the US Postal Service concerning CASS certification.

Field Description: Alphanumeric

Examples: 00009ZAB3

Default Flag Indicator

This field, when populated, indicates that the record processed obtained an exact match to a record in the ZIP + 4 file either to a hi-rise or a rural route default record. This field is also populated when a match is made to a base street record where hi-rise exact records exist and no hi-rise default record is present on the ZIP + 4 file.

Field Description: Y = The default indicator/flag is set

Delivery Address Answer Line 1/Line 2 Answer

These fields (Line 1 and Line 2) must contain the correct, standardized delivery address line returned by the software. Guidelines for delivery address line standardization can be found in Publication 28, *Postal Addressing Standards*.

Field Description: Alphanumeric

Comments: To certify using any CASS Stage II products, you must place the correct, standardized delivery address line or return the delivery address input for each codeable test address.

If the test delivery address line is a highrise record. A unit designator and/or secondary value should be included in the answer field as described in the *Address Information System Products Technical Guide* and Publication 28, *Postal Addressing Standards*.

Delivery Address Line 1/Line 2 Alternate Answer Allowed Indicator

This field indicates whether a delivery answer other than the one provided in the Delivery Answer field is permitted.

Field Description: Y = An alternate answer is allowed
N = An alternate answer is not allowed

Comments: The alternate answer may consist of spaces, return of input, or a correctly spelled version of the delivery address input record.

Delivery Address Line 1/Line 2 Input

This field contains the test delivery address line information.

Field Description: Alphanumeric

Comments: Each element in the Delivery Address Line 1 Input field may or may not be separated from each adjacent element by a single space. Elements may be spelled out or abbreviated, or they may also be incorrect.

Customers who wish to be certified for the CASS Stage II process for any CASS product category must place the correct, standardized version of the Delivery Address Input field into the Delivery Address Answer field. If the customer's address-matching software is unable to match to the correct address record and return the correct standardized delivery address answer, the delivery address input should be returned to the answer field.

If the input delivery address field contains a unit designator and/or secondary value, it must be included in the Delivery Address Answer field returned. Any Delivery Address Answer field generated from the test delivery address input should follow the guidelines discussed in Publication 28, *Postal Addressing Standards*.

Delivery Point Answer

This field contains the last two digits of the house/box number, or if an "H" record is matched, the secondary unit number representing the delivery point information to form the 11-digit or delivery point barcode (DPBC).

Field Description: 00 through 99 or spaces

Comments: The Delivery Point Answer and Delivery Point Check Digit Answer fields are graded for all ZIP + 4/DP or Merge Stage II files. The guidelines for assigning the delivery point answer and delivery point check digit answer are stated in "Delivery Point Barcode Rules" (page 35).

Delivery Point Answer Include In 3553 Indicator

This field indicates whether to increment the Records ZIP + 4/DPV coded when applicable.

Field Description: Y = Increment the Total Records Delivery Point Coded column on PS Form 3553
N = Do not increment the Total Records Delivery Point Coded column on PS Form 3553

Delivery Point Check Digit Answer

This field must contain the check digit (i.e., correction character) for the 11-digit delivery point barcode (DPBC) returned by the software. See page 43 for a complete definition of check digit and an example.

Field Description: Numeric (0 through 9)

Comments: The Delivery Point Answer and Delivery Point Check Digit Answer fields are graded for all ZIP + 4/DP or Merge Stage II files.

DSF^2 Delivery Type

Field contains the results of the call to the DPV Delivery Type Hash Tables: dph.hs1, dph.hs2, dph.hs3, and dph.hs4. When a 'Y' is returned from one of these tables, software must indicate which table in which the address was found.

Field Description:

1 = Address was found in CURB table: dph.hs1.

2 = Address was found in NDCBU table: dph.hs2.

3 = Address was found in CENTRALIZED table: dph.hs3.

4 = Address was found in OTHER(DOOR SLOT) table: dph.hs4

Blank = Address not presented to hash tables.

DSF^2 No Stats Indicator

Field contains the results of the call to the DPV NOSTATS Hash Table: dph.hsx

Field Description:

Y = Address was found in NOSTATS table.

N = Address was not found in NOSTATS table.

Blank = Address not presented to hash table.

DSF^2 Business Indicator

Field contains the results of the call to the DPV BUSINESS Hash Table: dph.hsb

Field Description:

Y = Address was found in BUSINESS table.

N = Address was not found in BUSINESS table.

Blank = Address not presented to hash table.

DSF^2 Drop Indicator

Field contains the results of the call to the DPV DROP Hash Table (dph.hsd)

Field Description:

Y = Address was found in DROP table.

N = Address was not found in DROP table.

Blank = Address not presented to hash table.

DSF^2 Drop Count

Field contains the results of the call to the DPV DROP COUNT Hash Table: dph.hsk

Field Description: 000 thru 999 Three Digit count found in DPV DROP COUNT table.

Blank = Address not presented to hash table.

DSF^2 Throwback Indicator

This field contains the results of the call to the DPV THROWBACK Hash Table: dph.hst

Field Description: Y = Address was found in THROWBACK table.

N = Address was not found in THROWBACK table.

Blank = Address not presented to hash table.

DSF^2 Seasonal Indicator

Field contains the results of the call to the DPV SEASONAL Hash Table: dph.hss

Field Description: Y = Address was found in SEASONAL table.
N = Address was not found in SEASONAL table.
Blank = Address not presented to hash table.

DSF^2 Vacant Indicator

Field contains the results of the call to the DPV VACANT Hash Table: dph.hsv

Field Description: Y = Address was found in VACANT table.
N = Address was not found in VACANT table.
Blank = Address not presented to hash table.

DSF^2 LACS Indicator

Field contains the results of the call to the DPV LACS Hash Table: dph.hsl

Field Description: Y = Address was found in LACS table.
N = Address was not found in LACS table.
Blank = Address not presented to hash table.

DSF^2 Educational Indicator

Field contains the results of the call to the DPV Educational Hash Table: dph.hse

Field Description: Y = Address was found in Educational table.
N = Address was not found in Educational table.
Blank = Address not presented to hash table.

DSF^2 Footnote 1 through DSF^2 Footnote 3

Fields are used to return one or more footnotes that must be set in accordance with DSF^2 License requirements. For footnote flag values, see DPV/DSF^2 Licensing materials.

DSF^2 Primary Number Error Flag

Field Description: Y = Address had a Primary Number error.
N or Blank = Address did not have a Primary Number error.

DSF^2 Secondary Number Error Flag

Field Description: Y = Address had a Secondary Number error.
N or Blank = Address did not have a Primary Number error.

Early Warning System (EWS) Flag

This field indicates a match has been made to the Early Warning System File.

Field Description: Y = Address found in EWS data, thus resulting in a ZIP + 4 No Match.
Blank = Address not found in EWS data.

eLOT Asc/Dsc Flag

This field contains the correct eLOT ascending/descending code assignment for the corresponding ZIP + 4/CRID matched record on the Stage I file. CASS will accept answer in position 277 or position 560.

eLOT Sequence

This field reflects the correct eLOT sequence number assigned for the corresponding ZIP + 4 matched record on the stage I file. CASS will accept answer in position 273 or position 556.

*Note: The CRID that is assigned during ZIP + 4 matching **MUST** be used to input when querying the eLOT data files.*

Field Desctiption: 4-digit numeric when populated, blank otherwise.

Firm or Recipient Input

This field may contain the real or fictitious name of an individual, company, building, apartment complex, shopping center, or other entity identifier.

Field Description: Alphanumeric

Comments: Information in this field may not be spelled correctly, may be abbreviated or spelled out, and may contain words from the Last Word Abbreviations Table in Publication 28 or words that are not valid for that firm.

Examples:		
	PLAZA OFFICE BUILDING	PLAZA OFFICE BLDG
	NUMBER ONE COMPANY	NO 1 CO
	INTERNAL BUSINESS MACHINES	IBM

Firm Name Answer

This field contains the correct, standardized firm name answer. Firm names may be output in the answer field in three ways: 1) Exactly as they appear in the ZIP + 4 Product Building or Firm Name field; 2) Abbreviated according to the Business Word Table in Publication 28, *Postal Addressing Standards*; 3) as they are shown in the Firm or Recipient Input field.

Field Description: Alphanumeric

Last Line Input

This field contains the last line information, i.e., city name, state abbreviation, 5-digit ZIP Code, and possibly a ZIP + 4 code.

Field Description: Alphanumeric

Comments: This field may contain a valid, standardized city name according to City State Product or Publication 28, *Postal Addressing Standards*.

Locatable Address Conversion System Indicator

The Locatable Address Conversion Service (LACS) indicator identifies addresses that matched to a ZIP + 4 record with LACS indicator. These types of address conversions are rural route to city-style addresses so that emergency vehicles (e.g., ambulances, police cars, etc.) can more easily find these locations.

Field Definition: L or Blank

Comments: In the CASS Stage I file, this field (for applicable records) contains the indicator. For the Stage II file, address-matching software must identify the specific ZIP + 4 records that contain the LACS indicator and insert an "L" to the appropriate answer field to be scored correctly.

LACS^{Link}™Indicator

The LACS^{Link} indicator will be populated when the LACS^{Link} hash tables are queried.

Indicator Values:

Y = LACS Record Match
A new address could be furnished. The input record matched to a record in the master file.

S = LACS Record, Secondary number dropped from input address.
The record is a ZIP + 4 street level or highrise match. The input record matched to a master file record, but the input address had a secondary number and the master file record did not.

N = No Match
A new address could not be furnished. The input record COULD NOT be matched to a record in the master file.

Y = Found LACS Record, New address would not convert at run time.
The new address could not be converted to a deliverable address. The input record matched to a record in the master file.

F = A false positive record was detected.

Note: You will be required to email the false positive records to DSF2Stop@usps.gov. For more information regarding the required format for the email, see 2005-2006min.doc posted on RIBBS at www.ribbs.usps.gov/files/cass.

LACS^{Link} Return Code

The LACS^{Link} return code values are A, 00, 14, 92, or blank. See the LACS^{Link} Interface Developer's Guide for more information on the return code values.

Return Code Values:

A = LACS Record Match
A new address could be furnished. The input record matched to a record in the master file.

00 = No Match
A new address could not be furnished. The input record COULD NOT be matched to a record in the master file.

14 = Found LACS Record, New address would not convert at run time.
The new address could not be converted to a deliverable address. The input record matched to a record in the master file.

92 = LACS Record, Secondary number dropped from input address.
The record is a ZIP + 4 street level or highrise match. The input record matched to a master file record, but the input address had a secondary number and the master file record did not.

Multiple Response ZIP + 4 Answer1/Answer2

These fields contain multiple ZIP + 4 codes that are considered potential candidate records for the delivery address input given.

Field Description: Numeric

Comments: These fields do not necessarily indicate all candidate records in ZIP + 4 Product that may be considered potential matches. They are intended to serve as a tool and to assist software developers in analyzing the quality of their software development.

Examples: 123456789

Non-Deliverable Record Indicator

This field on the Stage I file indicates that the address test question is a valid match to a record on ZIP + 4 Product; however, the match is made against a non-deliverable (ND) type record.

Field Description:
Y = Record is an ND-type record within ZIP + 4 Product.
Blank = Record is not an ND-type record within ZIP + 4 Product.

Comments: The indicator assists in analyzing address-matching software.

PMB–Designator Answer Field

This field is populated with the parsed PMB designator supplied by the customer's software. This field is required when Delivery Address Line 1 or 2 contains a PMB designator and number regardless of whether the input address causes a match or no match condition. This confirms the ability of software to accurately identify addresses containing the new PMB designator.

PMB–Number Answer Field

This field contains the parsed PMB number following the PMB designator that is supplied by the customer's software. This field is required when the Delivery Address Line 1 or 2 contains a PMB number regardless of whether the input address causes a match or no match condition. This again verifies the ability of the software to accurately identify addresses containing the new PMB number.

Record Type Code

CASS will continue to require certified software to return the Record Type Code in all ZIP + 4 matches. The level match code facilitates identifying or confirming certain software matches when delivery point assignment are erroneous. This field contains a single alpha character that indicates the record type.

Field Description: Single alpha

RDI™ Flag

This field determines if a delivery point is residential.

Field Description: Y = Indicates residential delivery.
Blank = Record is not a residential on ZIP + 4.

Standard PMB–Designator

This field contains the standardized PMB designator as provided for in the Test Address Record. This field will be populated when either the Delivery Address Line 1 or Delivery Address Line 2 contains a PMB designator and PMB number whether it is a match or no match condition.

Standard PMB–Number

This field contains the standardized PMB number as provided for in the Test Address Record. This field will be populated when either the Delivery Address Line 1 or Delivery Address Line 2 contains the PMB designator and PMB number whether it is a match or no match condition.

State Code Answer

This field contains the standardized state or US territory abbreviation answer. US territory abbreviations may be found in the following publications: the *Address Information System Products Technical Guide*; Publication 28, *Postal Addressing Standards*, *National Five-Digit ZIP Code and Post Office Directory.*

Field Description: Alpha

Suite^{Link} Indicator

The Suite^{Link} indicator is populated when the Suite^{Link} tables are queried. The Suite^{Link} return codes are A, 00, or blank. See the Suite^{Link} Software Developers Guide for more information on the return code values.

Indicator Values: **Y = Suite^{Link} Record Match**
Business address improved. The input record matched to a rcord in the master file. An improved business address could be furnished.

N = No Match
Business address not improved. The input record COULD NOT BE matched to a record in the master file. An improved business address could not be furnished.

Return Code Values:

A = Suite^{Link} Record Match
Business address improved. The input record matched to a rcord in the master file. An improved business address could be furnished.

00 = No Match
Business address not improved. The input record COULD NOT BE matched to a record in the master file. An improved business address could not be furnished.

Urbanization Answer

This field must contain the correct, standardized urbanization name. Guidelines for urbanization standardization can be found in Publication 28, *Postal Addressing Standards*.

Field Description: Alphanumeric

Comments: Codeable test address records in the Urbanization Answer field of the CASS Stage I file contain an answer where applicable.

For each codeable test address, address-matching software must place the correct, standardized urbanization name in this field. For grading purposes, when a match is made to a ZIP + 4 record for which no urbanization key exists, CASS will only accept return of the input urbanization in the Urbanization Answer field. Software developers are encouraged to implement the new policy and retain input urbanization as soon as possible to avoid data loss.

Urbanization Input

This field can contain either the real or fictitious name of an urban development within a geographic area.

Field Description: Alphanumeric

Comments: This element may contain information with a correct spelling. Information may be abbreviated or spelled out, and some common urbanization prefixes could be dropped.

USPS Internal Research Development Flag

This field contains test questions that have been developed to provide a foundation for analysis on how address-matching software responds to specific address types/styles that may be modified. Questions flagged with this indicator are not potential address constructs for the Stage II file.

Field Description: Y = Indicates that the test address record is for internal research and development only.

Blank =This test question is not for internal research and development.

ZIP Code Answer

This field contains a code that identifies a specific geographic delivery area. A 5-digit ZIP Code can represent an area within a state, an area that crosses state boundaries (unusual condition), a single building, or a company that has a very high mail volume. “ZIP” is an acronym for Zone Improvement Plan.

Field Description: Numbers or spaces

Comments: Customers seeking CASS certification must place the correct ZIP Code provided by their matching software for the test address in this field or return input.

ZIP Code Include In 3553 Indicator

This field specifies whether to increment the 5-digit coded total column on PS Form 3553 (or the electronic form). (See “Copyright Header Record” on page 7.)

Field Description:

Y = Increment the total coded column for records 5-digit coded on PS Form 3553

N = Do not increment the total coded column for records 5-digit coded on PS Form 3553.

ZIP + 4 Add-On Answer

This field contains the correct add-on assignment for the address input based on CASS matching guidelines.

Field Description: Numbers or spaces.

ZIP Code Alternate Answer Allowed

This field indicates whether an answer other than the one in the ZIP Code Answer field on the Stage I file is allowed in the ZIP Code Answer field.

Field Description:

Y = An alternate answer is permitted
N = An alternate answer is not permitted

Comments: An alternate answer may consist of either spaces or return of the input ZIP Code.

ZIP + 4 Add-On Include in 3553

This field specifies whether to increment the ZIP + 4 coded total column on the PS Form 3553.

Field Description:

Y = Increment the total coded column for records ZIP + 4 Coded on the PS Form 3553.

N = Do not increment the total coded column for records ZIP + 4 coded on the PS Form 3553.

CASS Electronic Report Record

	Field Sequence Number	Field Description	Length	Position From/Through	
	1	Filler	01	001	001
	2	CASS Key	08	002	009
	3	Input ZIP Code	10	010	019
	4	Filler	04	020	023
Question	5	Input City Name	35	024	058
Question	6	Input State	02	059	060
Question	7	Input URB Name	40	061	100
Question	8	Input Firm Name	40	101	140
Question	9	Input Delivery Address*	64	141	204
Standard Answer	10	Standard Firm Name	40	205	244
Standard Answer	11	Standard Urbanization or Firm	40	245	284
Standard Answer	12	Standard Delivery Address*	64	285	348
Standard Answer	13	Standard City Name	28	349	376
Standard Answer	14	Standard State	02	377	378
Standard Answer	15	Standard ZIP Code	05	379	383
Standard Answer	16	Standard ZIP + 4 Add-On	04	384	387
Standard Answer	17	Standard Carrier Route	04	388	391
Standard Answer	18	Standard Delivery Point Barcode	02	392	393
Standard Answer	19	Standard Delivery Point Check Digit	01	394	394
	20	CASS Finance Number	06	395	400
	21	Standard LACS Indicator	01	401	401
	22	Customer RDI	01	402	402
	23	Standard RDI	01	403	403
	24	Customer ZIP + 4 Record Type	01	404	404
	25	ZIP + 4 Record Type	01	405	405
	26	Category Subcategory Indicator	02	406	407
	27	ZIP + 4 Odd/Even/Both	01	408	408
	28	Error Codes	30	409	438
Customer Information	29	Customer Firm Name	40	439	478
Customer Information	30	Customer Urbanization Name	40	479	518
Customer Information	31	Customer Delivery Address*	64	519	582
Customer Information	32	Customer City Name	28	583	610
Customer Information	33	Customer State	02	611	612
Customer Information	34	Customer ZIP Code	05	613	617

Field Sequence Number	Field Description	Length	Position From/Through	
35	Customer ZIP + 4 Add-On	04	618	621
36	Customer Carrier Route	04	622	625
37	Customer Delivery Point Barcode Answer	02	626	627
38	Customer Delivery Point Check Digit	01	628	628
39	Customer LACS Indicator	01	629	629
40	Customer eLOT Sequence Number	04	630	633
41	Customer eLOT Ascending/Descending	01	634	634
42	Filler	08	635	642
43	Standard eLOT Sequence	04	643	646
44	Standard eLOT Ascending/Descending	01	647	647
45	PMB Designator	04	648	651
46	Filler	01	652	652
47	PMB Number	08	653	660
48	Standard PMB Designator	04	661	664
49	Filler	01	665	665
50	Standard PMB Number	08	666	673
51	Standard Default Flag	01	674	674
52	Customer Default Flag	01	675	675
53	Filler	25	676	700
54	Standard DPV Confirm Indicator	1	701	701
55	Standard DPV CMRA Indicator	1	702	702
56	Standard DPV False Positive Indicator	1	703	703
57	Standard DSF^2 Delivery Type	1	704	704
58	Standard DSF^2 No Stats Indicator	1	705	705
59	Standard DSF^2 Business Indicator	1	706	706
60	Standard DSF^2 Drop Indicator	1	707	707
61	Standard DSF^2 Drop Count	3	708	710
62	Standard DSF^2 Throwback Indicator	1	711	711
63	Standard DSF^2 Seasonal Indicator	1	712	712
64	Standard DSF^2 Vacant Indicator	1	713	713
65	Standard DSF^2 LACS Indicator	1	714	714
66	Standard DSF^2 Educational indicator	1	715	715
67	Standard DPV Footnote 1	2	716	717

Field Sequence Number	Field Description	Length	Position From/Through	
68	Standard DPV Footnote 2	2	718	719
69	Standard DPV Footnote 3	2	720	721
70	Standard DSF^2 Primary Number Error Flag	1	722	722
71	Standard DSF^2 Secondary Number Error Flag	1	723	723
72	Customer DPV Confirm Indicator	1	724	724
73	Customer DPV CMRA Indicator	1	725	725
74	Customer DPV False Positive Indicator	1	726	726
75	Customer DSF^2 Delivery Type	1	727	727
76	Customer DSF^2 No Stats Indicator	1	728	728
77	Customer DSF^2 Business Indicator	1	729	729
78	Customer DSF^2 Drop Indicator	1	730	730
79	Customer DSF^2 Drop Count	3	731	733
80	Customer DSF^2 Throwback Indicator	1	734	734
81	Customer DSF^2 Seasonal Indicator	1	735	735
82	Customer DSF^2 Vacant Indicator	1	736	736
83	Customer DSF^2 LACS Indicator	1	737	737
84	Customer DSF^2 Educational Indicator	1	738	738
85	Customer DPV Footnote 1	2	739	740
86	Customer DPV Footnote 2	2	741	742
87	Customer DPV Footnote 3	2	743	744
88	Customer DSF^2 Primary Number Error Flag	1	745	745
89	Customer DSF^2 Secondary Number Error Flag	1	746	746
90	Standards LACS^{Link} Flag	1	747	747
91	Standard LACS^{Link} Return Code	2	748	749
92	Customer LACS^{Link} Flag	1	750	750
93	Customer LACS^{Link} Return Code	2	751	752
94	Standard Suite^{Link} Return Code	2	753	754
95	Customer Suite^{Link} Return Code	2	755	756
96	Filler	19	757	775

* Questions with **one** address line will use the full 64 byte address field. Questions with **two** address lines will use bytes 1–32 and bytes 33–64 separately to represent multiple address lines.

Note: For Internet media, please add two bytes for CRLF.

Early Warning System (EWS) File Layout

Field Sequence Number	Field Description	Length	Position From/Through	
1	ZIP Code	5	01	05
2	Pre-Directional Abbreviation	2	06	07
3	Street Name	28	08	35
4	Suffix Abbreviation	4	36	39
5	Post Directional Abbreviation	2	40	41
6	Filler	46	42	87

Grading, Scoring, and Certification

CASS Stage II product files are analyzed, graded, and scored to determine CASS certification. The test score may vary based on such factors as address-matching software performance and timeliness of customer database updates.

Except for category L (which remains optional), all categories are mandatory and cannot be bypassed by address-matching software. If software attempts to code optional categories and the answers are incorrect, it will be counted as an error against the total in the final scoring. Likewise, if software attempts these questions and gets them right, it will count toward the total correct score. Software must attempt to match against every mandatory category, and each category requires a score of 98.5 percent accuracy. If one of the mandatory categories failed (less than 98.5 percent accuracy), the entire test is a fail. If a mandatory category is bypassed or not answered, the test is also considered a failure. Subcategories within a mandatory category cannot be bypassed.

All address-matching software developers attempting certification of their product are required to provide a PS Form 3553 within the header record of the CASS Stage II file. If no header record is present, the evaluation process will not occur.

The CASS Department will compare and analyze the hardcopy or electronic PS Form 3553 against the answer field information returned in the Stage II file. Computation of PS Form 3553 values must be based on the answers returned during the matching process—never from input fields. In normal operations, if a user chooses to overwrite input fields with output information, production of the PS Form 3553 must be able to discern between processed and unprocessed records. If any errors are identified in the comparison, the grading process will continue; however, certification cannot be issued until a valid PS Form 3553 is submitted to the CASS Department.

New Grading Requirements

Please refer to the “CASS Cycle M” directory available on the web at ribbs.usps.gov/files/cass for further information regarding new initiatives being introduced in the 2009–2010 CASS cycle.

Fatal Add-On Error

CASS and MASS certification requirements will continue to support the ZIP + 4 verification on mailings processed by MERLIN. The return of ‘0000’ in the ZIP + 4 add-on, or the return on an **invalid** ‘9999’ in the ZIP + 4 add-on, is cause for CASS/MASS certification failure and requires retesting.

Stage II File Evaluation

Address-matching software evaluation is based on the CASS product answer requirements and USPS *DMM*®, “Coding Accuracy Support System,” Section 708.3.

An answer address record is deemed correct or incorrect based on individual answer fields. If a single answer field or portion of an answer field (for fields that require parsing, e.g., Delivery Address Answer) is incorrect, the entire address is considered incorrect and counts as a single error. The grading process generates reports containing statistical scoring information and detailed analysis of the problem areas encountered.

To calculate the total number of records and the number of records for each category, the following record types must be considered:

1. Must answer. Records must be coded correctly by matching software. If the record is coded incorrectly or left blank, it is counted towards the total number of incorrectly coded records.
2. Optional answer, where no answer is bypassed, is not mandatory. If they are coded incorrectly, they are counted towards the total number of incorrectly coded records. If these records are coded correctly by matching software, they are counted towards the total number of correctly coded records. If they are not coded (left blank) or the input is returned, they are not counted towards the total number of correct or incorrectly coded records. Optional answer categories are identified by the single asterisk on the "Customer No Match Translation of Error Codes & Special Flags" in Appendix 3.
3. Must return input record and not assign an add-on code unless using DPV as tiebreaker. A blank answer field will be considered an error and counted towards the number of incorrectly coded records. In addition, software tested against CASS Merge/eLOT must perform a 5-digit ZIP Code and carrier-route validation, if possible, when multiple candidate records exist at the ZIP + 4 level. DPV enabled software may elect to code where input address ambiguities (i.e. missing suffixes, misspelled street names, etc.) and data anomolies exist within the ZIP + 4 file. When all candidate records share the same 5-digit ZIP Code and carrier route indicator, the software may return a valid 5-digit ZIP Code and carrier route in the output record. Must Return input records are identified by the double asterisk on the "Customer No Match Translation of Error Codes & Special Flags" in Appendix 3.
4. No grading for standardization records may or may not contain an input ZIP Code, may have a misspelled city name, and may contain a nonmailing name. The address also may contain a numeric street name, misspelled street name, or street names that could possibly be pre- or post-directional. Address-matching software must be able to correctly match the input address with the appropriate carrier route, 5-digit or ZIP + 4 record and return a properly standardized answer along with the ZIP Code, +4 add-on code, delivery point code, and the check digit. CASS accepts and grades the answer as correct in the standard abbreviated format, completely spelled out, exactly as presented in the USPS AIS product or the input record for non-matched records. These categories are identified by the three asterisks on the "Customer No Match Translation of Error Codes & Special Flags" in Appendix 3.
5. Normalization required for subcategory MA. Some PO Box, Rural Route and Highway Contract input addresses often appear on a mailing list with the following words and must be converted as shown: This category is identified by the four asterisks on the "Customer No Match Translation of Error Codes & Special Flags" in Appendix 3.

INPUT	OUTPUT
Drawer 10	PO Box 10
Drawer A	PO Box A
Caller 10	PO Box 10
Lockbox 10	PO Box 10
Firm Caller A	PO Box A
Bin A	PO Box A
Rural Route 1	RR 1
FDR Route 1	RR 1
Star Route 1	HC 1
Highway Contract 1	HC 1

Please refer to the "CASS Cycle M" directory available on the web at ribbs.usps.gov/files/cass for further information regarding new initiatives being introduced in the 2009–2010 CASS cycle.

Record Type	Answer = NCSC Answer	Answer = Other Answer	Answer = Return of Input Address
Must Answer	Add 1 to Correct Count	Add 1 to Incorrect Count	Add 1 to Incorrect Count
Optional Answer	Add 1 to Correct Count	Add 1 to Incorrect Count	Add 0 to Incorrect Count and 1 to Correct Count
Must Return Input	Add 1 to Correct Count	Add 1 to Incorrect Count	Add 1 to Correct Count

Scoring

Minimum accuracy percentages required to achieve a passing score for CASS product categories include the following:

5-Digit:	98.5% or higher
Carrier Route:	98.5% or higher
ZIP + 4/DP:	98.5% or higher
DPBC:	100%
eLOT:	100%
Perfect Address:	100%
DPV:	100%
RDI:	100%
DSF^2:	100%
LACS^{Link}:	98.5% or higher
Suite^{Link}:	100%

Note: Merge and Merge/eLOT require the same scores as above. However, you must correctly assign the delivery point code for 100 percent of all ZIP + 4/DPV confirmed records. If you fail to achieve a passing score on any single category of the Merge file, you will fail all four categories regardless of

other scores. eLOT will not be scored unless the 5-digit, carrier route, and ZIP + 4/DP codes are correct.

Analysis

A Grading Output Analysis Report is provided when the required minimum score is not achieved. It contains the following reports:

- *CASS Statistical Summary*—Divided into two parts: Part 1 contains percentage-based information on address-matching software accuracy by CASS product category; Part 2 contains percentage-based information by special flag category within a CASS product category.
- *CASS Statistical Summary Error Message Summary*—Contains count-based information on the errors encountered on customer answer records. The information is presented according to code within a special flag.
- *Customer No Match Report*—Contains detailed information about the customer address records that have been graded and scored as incorrect. The report provides the original CASS input.

Certification

When the required minimum scoring levels are achieved for each CASS product processed, the software will be certified. Upon certification, the NCSC issues an official letter acknowledging certification and a CASS certificate for each product certified. In addition, your company's name can be included in the *CASS/MASS Certified Products Guide*.

Delivery Point Barcode Rules (Primary)

1. General Rule

Address: 1234 MAIN ST (PO BOX 44, RR 1 BOX 154, HC 1 BOX 1264)

DPBC: 34 (44, 54, 64)

Use last two digits. Print code characters in DPBC representing last two digits of primary street number (or post office box, rural route box, or highway contract route number).

2. No Numbers

Address: MAIN ST (RR 1, HC 1)

DPBC: 99 (99, 99)

Use 99. Print code characters in DPBC representing last two digits of primary street number (or PO box, rural route box, or highway contract route number).

3. Single Digits

Address: 8 MAIN ST (PO BOX 1, RR 1 BOX 2, HC 1 BOX 3)

DPBC: 08 (01, 02, 03)

Add leading zero. Print code characters in DPBC representing leading zero and single digit.

4. Fractional Number

Address: 1234 1/2 MAIN ST (PO BOX 1 1/2, RR 1 BOX 2 3/4, HC 1 BOX 10 1/4)

DPBC: 34 (01, 02, 10)

Ignore fraction. Print code characters in DPBC representing two digits to left of fraction. If single digit to left of fraction, add leading zero.

5. Trailing Alphas

Address: 1234A MAIN ST (PO BOX 4A, RR 1 BOX 154A, HC 1 BOX 1264AA)

DPBC: 34 (04, 54, 64)

Ignore trailing alphas. Print code characters in DPBC representing last two digits to left of space and alphas. If single digit to left of space and alphas, add leading zero.

6. Space and Alphas

Address: 1234 A MAIN ST (PO BOX 4 AA, RR 1 BOX 154 A, HC BOX 1264 AA)

DPBC: 34 (04, 54, 64)

Ignore space and alphas. Print code characters in DPBC representing two digits to left of space and alphas. If single digit to left of space and alphas, add leading zero.

7. Alphas Only

Address: A Main St (PO Box AA, RR1 Box X, HC 1 Box AB)

DPBC: 99 (99, 99, 99)

Ignore alphas and use 99. Print code characters in DPBC representing 99 when alphas appear as the only primary street number.

8. Leading/Embedded Alphas

Address: 23S411 MAIN ST (23S4 MAIN ST, 2W3S1 MAIN ST, 2AA1 MAIN ST, C8INT)

DPBC: 11 (04, 01, 01)

Print code characters in DPBC representing last two digits to right of alphas. If single digit to right of alphas, add leading zero.

9. Slashes (/)

Address: 123/4 MAIN ST (POBOX 1/4, RR 1 BOX 123/124/125, HC 3 BOX 11/13)

DPBC: 99 (99, 99, 99)

Print code characters in DPBC representing 99 whenever a slash appears directly next to numerics in the primary street number.

10. Other Embedded Symbols

Address: 1.23 MAIN ST (PO BOX 1–3, RR 1 BOX 1.23, HC 3 BOX 11*7)

DPBC: 23 (03, 23, 07)

Use last two digits to right of the symbol. Print code characters in DPBC representing last two digits to the right of all symbols (except slashes), such as periods and hyphens appearing in primary street numbers. If single digit to right, add leading zero.

11. Embedded Spaces

Address: 1 23 MAIN ST (PO BOX 1 3, RR 1 BOX 1 7, HC 1 BOX 12 34)

DPBC: 23 (03, 07, 34)

Treat embedded spaces like other symbols (Rule 10). Print code characters in DPBC representing last two digits to right of space. If single digit to right, add leading zero.

12. Numeric Street Names

Address: 8 33 ST (123 7th ST)

DPBC: 08 (23)

Ignore numeric street name. Print code characters in DPBC representing last two digits of primary street number (Rule 1).

13. All Other Anomalies

Use 99. Print code characters in DPBC representing 99 for conditions not covered by Rules 1–12.

Calculating Delivery Points for Military, RR, and HC Default Matches

CASS grading procedure for calculating delivery points for military, RR, and HC default matches requires that delivery point values be assigned based on the input box number when it is present. When no input box number is present, the delivery point value should default to 99.

Carrier Route ID and Delivery Point Assignment Rules Within Unique ZIP Codes Only

Subcategory	Condition	CRID	DPC
4A/4E	Normal matching	Use CRID associated with ZIP + 4 Record	Assign based on normal DPC derivation rules
4B	ZIP + 4 valid - Retain and address agrees with the ZIP + 4	Use CRID associated with ZIP + 4 Record	Assign based on normal DPC derivation rules
4B	ZIP + 4 valid, but firm or address line doesn't correspond to matched ZIP + 4 record	Use CRID associated with ZIP + 4 Record	Based on the Primary Street Number
4C/4I	ZIP + 4 invalid	Default CRID to 'C000'	Assign based on Primary Street Number Value
4D	ZIP + 4 valid, but address line doesn't correspond to matched ZIP + 4 record	Use CRID associated with ZIP + 4 record	Based on the Primary Street Number

Delivery Point Barcode Rules (Secondary)

Special Characters and Fractions in Secondary Address Values

When the input secondary address contains embedded special characters (e.g., dashes or periods), they must be ignored when calculating the DPC. For example, when calculating the DPC for secondary address A2-5, use the same algorithm used for secondary address A25.

Slashes and embedded spaces are only allowed to exist in secondary address values. Ignore any fractional components in the input secondary address when computing the DPC unless the fraction is the only value in the secondary address. (See Rule 8, page 43, for secondary addresses consisting of only a fraction.)

Examples:

Secondary Address Value	Secondary Range Matched	DPC	Rule
5 1/2	1–10	05	1
2 1/3C	2 1/3A–2 1/3D	02	1
A8 1/4	A6 1/4–A12 1/4	18	4

Pattern Differences Between Input Secondary Addresses and ZIP + 4 Product

There can be situations in which the input secondary address pattern differs from the pattern for the secondary address found within ZIP + 4 Product. For example, an input address may be shown as “APT 5A” and matched to a secondary range of “1–10” in ZIP + 4 Product. This would be correct because a single trailing alpha character is considered to fall within an all-numeric range. When an input address contains a single trailing alpha character and is matched to an all-numeric range, calculate the DPC using the input secondary address format.

Example:

Secondary Address Value	Secondary Range Matched	DPC	Rule
5A	1–10	51	3

Another situation that can occur may require swapping the alpha and numeric components of the secondary address to match a corresponding pattern on ZIP + 4 Product. For example, an input secondary address value of A7 is considered a match to secondary range 1A–10A by swapping the input alpha and numeric values to create 7A. This is valid only when a similar pattern for the secondary address exists in ZIP + 4 Product; a leading alpha character may not be swapped to match to an all numeric secondary range. When an input secondary address value requires swapping the alpha and numeric values to match to a corresponding pattern in ZIP + 4 Product, use the swapped format to calculate the DPC regardless of whether the swapped value is retained for output in the address.

Example:

Secondary Address Value	Swapped Format of Input Secondary Address Value	ZIP + 4 Product Secondary Range Matched	DPC	RULE
A7	7A	1A–10A	71	3
6B	B6	B1–B10	26	4

Address as shown on mailpiece: 123 MAIN ST APT A7
CITY ST 12345-1234 (DPC 71)

Secondary Numbers Used As Primary Number Values

When a secondary numeric value is used as the primary number in an address, always calculate the DP assignment based on the secondary number, regardless of how the number is presented in the address. For example, assuming an input address of

1800 IDS TOWER
MINNEAPOLIS MN 55402

a match would be made to

80 S 8TH ST STE 1800
MINNEAPOLIS MN 55402-2123

The DPC for the input address must be calculated based on the value 1800, regardless of how the address is ultimately displayed on a mailpiece.

Default Matches to Highrise Records With Secondary Ranges

There are cases in the ZIP + 4 Product in which a single highrise record for a primary address with secondary ranges exists and there is no highrise default record, i.e., a "single-coded 'H' record condition."

Example:

ZIP TYPE	REC LOW	PRIM HIGH	PRIM	STREET NAME	SEC DESG	SEC LOW	SEC HIGH	ZIP + 4
38134	S	5200	5298	SHELBORNE CIR				5610
38134	H	5206	5206	SHELBORNE CIR	APT	1	16	5660

Developers are instructed to assign the street record ZIP + 4 code for those addresses in which the street name and primary number matches to a highrise record but the secondary number is out of range and cannot be assigned to a highrise default record. The DP value will be based upon the primary address value since the match is made to a street record.

Example:

Input Address: 2758 BARTLETT BLVD STE 212
BARTLETT TN 38134

Current Match: 2758 BARTLETT BLVD STE 212
BARTLETT TN 38134-4500(99)

Revised Match: 2758 BARTLETT BLVD STE 212
BARTLETT TN 38134-4530(58)

This new policy only applies when no highrise default record is present in the ZIP + 4 Product. If a highrise default is present, developers must continue to match it when the input secondary is missing or out of range. The DP value will remain 99 on matches to highrise default records.

Rule 1: Numeric Simple Rule

The Numeric Simple Rule applies to situations in which the secondary address value only contains numbers (0–9), excluding fractional values or special characters, and the numeric value in the hundreds' or thousands' place equals zero. The last two digits of the secondary number must become the DPC. (See Rule 5, page 41, if the numeric value in either the hundreds' or thousands' place is greater than zero.)

Example:

Secondary Value	DPC
1	01
2	02
98	98
99	99
7–2	72

Secondary Value	DPC
10001	01
10002	02
10098	98
100 99	99
10007.2	72

Secondary Value	DPC

Secondary Value	DPC
10004 23/3	04

Rule 2: Alphabetic Rule

The Alphabetic Rule is used when the secondary address value contains only alphabetic characters, excluding fractional values or special characters. Compute the DPC using only the rightmost alphabetic character. Each character of the alphabet is assigned a unique DPC based on a progressive substitution starting at 73 and continuing through 98 (e.g., A = 73, B = 74, Z = 98).

Example:

Secondary Value	DPC
A	73
B	74
C	75
W	95
Z	98

Secondary Value	DPC
LA	73
AAB	74
A–C	75
W 1/2	95
MEZZ	98

Rule 3: Alphanumeric Rule—Trailing Alpha

The Alphanumeric Rule—Trailing Alpha applies to alphanumeric secondary addresses in which the last character is an alphabetic character within the range A to Z. Form the DPC from the secondary address according to the following formula: DPC = MOD (X + (10 • Y))

In this equation, “X” equals the conversion value of the rightmost alphabetic character from the alphanumeric conversion table, and “Y” equals the rightmost non-fractional numeric form value. The term “MOD” refers to the remainder of (X + (10 • Y)), which is the DPC.

1. Convert the trailing alphabetic character (X) to a numeric value using the Alphanumeric Conversion Table below.
2. Find the rightmost, non-fractional digit (Y), and multiply it by 10.
3. Add the values yielded by steps 1 and 2.

Alphanumeric Conversion Table

A = 1	F = 6	K = 21	P = 26	U = 41
B = 2	G = 7	L = 22	Q = 27	V = 42
C = 3	H = 8	M = 23	R = 28	W = 43
D = 4	I = 9	N = 24	S = 29	X = 44
E = 5	J = 0	O = 25	T = 30	Y = 45
				Z = 46

Examples:

Note: The letter "R" followed by a number is translated as "remainder of."

SEC VALUE	STEP 1 X	STEP 2 10 • Y	STEP 3 ADD SUM STEP 1 + STEP 2	DPC
1A	A = 1	10 • 1 = 10	1 + 10 = 11	11
10D	D = 4	10 • 0 = 0	4 + 0 = 4	04
99Q	Q = 27	10 • 9 = 90	27 + 90 = 117	17
A4K	K = 21	10 • 4 = 40	21 + 40 = 61	61
2-4M	M = 23	10 • 4 = 40	23 + 40 = 63	63
A78Z	Z = 46	10 • 8 = 80	80 + 46 = 126	26

Rule 4: Alphanumeric Rule—Trailing Numeric

The Alphanumeric Rule—Trailing Numeric applies to alphanumeric secondary addresses with trailing numbers. Derive the DPC from the secondary address according to the following formula:

$$DPC = MOD\ (((X \bullet 10) + Y)/100)$$

"X" equals the alphanumeric conversion value of the leftmost alphabetic character, and "Y" equals the rightmost non-fractional numeric value. Within the formula, "MOD" refers to the remainder of (((X • 10) + Y)/100).

1. Convert the first alphabetic character (X) to a number using the Alphanumeric Conversion Table (see Rule 3, page 39).
2. Multiply the value yielded in step 1 by 10.
3. Add the rightmost, non-fractional digit (Y) to the value yielded by step 2.
4. Divide the value yielded by step 3 by 100. Take the remainder (MOD) as the DPC.

Example:

Note: The letter "R" followed by a number is translated as "remainder of."

SEC VALUE	STEP 1 X	STEP 2 10 • Y	STEP 3 ADD SUM STEP 1 + STEP 2	STEP 4 MOD (STEP 3 ANS/100)	DPC
A1	A = 1	10 • 1 = 10	1 + 10 = 11	11/100 = 0 R11	11
B3	B = 2	10 • 2 = 20	20 + 3 = 23	23/100 = 0 R23	23
4G5	G = 7	10 • 7 = 70	70 + 5 = 75	75/100 = 0 R75	75
Q37	Q = 27	10 • 27 = 270	270 + 7 = 277	277/100 = 2 R77	77
D-33	D = 4	10 • 4 = 40	40 + 3 = 43	43/100 = 0 R43	43
3V-175	v = 42	10 • 42 = 420	420 + 5 = 425	425/100 = 4 R25	25
R2 1/4	R = 28	10 • 28 = 280	280 + 2 = 282	282/100 = 2R82	82
1A.2	A = 1	10 • 1 = 10	10 + 2 = 12	12/100 = 0 R12	12
44C102	C = 3	10 • 3 = 30	30 + 2 = 32	32/100 = 0 R32	32

SEC VALUE	STEP 1 X	STEP 2 10 • Y	STEP 3 ADD SUM STEP 1 + STEP 2	STEP 4 MOD (STEP 3 ANS/100)	DPC
B1A9	B = 2	10 • 2 = 20	20 + 9 = 29	29/100 = 0 R29	29

Rule 5: Numeric Computed Rule

The Numeric Computed Rule applies to numeric secondary addresses when the value of the combination of digits in the hundreds' and thousands' places is greater than zero.

Note: See Rule 1, page 38, if the value in the hundreds' or thousands' place equals 0.

Compute the DPC from the secondary address according to the following formula:

$$DPC = 25 \cdot (MOD\ (X/4)) + MOD\ (Y/25)$$

"X" equals the numeric value of the digits in the thousands' and hundreds' places, and "Y" equals the value of the digits in the ten's and one's places. Within the formula, "MOD" refers to the remainder derived from the division process.

1. Extract the numeric digits found in the thousand's and hundred's places (X) and divide those by 4.
2. Take the value of the remainder (MOD) from the division in step 1 and multiply that value by 25.
3. Extract the digits found in the tens' and ones' places (Y). Divide that value by 25 and take the remainder (MOD) to develop the DPC.
4. Add the values derived in steps 2 and 3 to create the DPC. If the sum of the two values derived from steps 2 and 3 is less than 10, add a leading 0 to create a 2-digit value.

Example:

Note: The letter "R" followed by a number denotes "remainder of."

SEC VALUE	STEP 1 VALUE OF THOU. & HUND./4	STEP 2 Value from STEP 1 • 25	STEP 3 VALUE OF TENS & ONES/25	STEP 4 ADD ANSW. STEP 2 + STEP 3	DPC
306	3/4 = 0 R3 = 3	3 • 25 = 75	6/25 = 0 R6 = 6	75 + 6 = 81	81
683	6/4 = 1 R2 = 2	2 • 25 = 50	83/25 = 3 R8 = 8	50 + 8 = 58	58
1001	10/4 = 2 R2 = 2	2 • 25 = 50	1/25 = 0 R1 = 1	50 + 1 = 51	51
8874	88/4 = 22 R 0 = 0	0 • 25 = 0	74/25 = 2 R24 = 24	0 + 24 = 24	24
14-102	41/4 = 10 R1 = 1	1 • 25 = 25	2/25 = 0 R2 = 2	25 + 2 = 27	27
1234 1/2	12/4 = 3 R0 = 0	0 • 25 = 0	34/25 = 1 R9 = 9	0 + 9 = 9	09

Rule 6: Address Matched to a ZIP + 4 Record with Blank Secondary Ranges

When an input address is matched to a highrise record with a secondary designator but no secondary ranges, the software must return DPC 99. These 'exceptional" designators do not require a secondary value.

The secondary designators that exist without a secondary range include the following:

- BSMT
- LOWR
- SIDE
- LBBY
- FRNT
- PH
- REAR
- OFC
- UPPR

Example (ZIP + 4 Date):

ZIP	REC TYPE	CARRIER ROUTE ID	STREET	PRIM LOW/HIGH		O/E	SEC DESG	SEC LOW/HIGH		ZIP + 4 LOW/HIGH	
48322	S	C001	MAIN AVE	101	199	O				2111	2111
48322	H	C001	MAIN AVE	123	123	O				2115	2115
48322	H	C001	MAIN AVE	123	123	O	OFC			2116	2116
48322	H	C001	MAIN AVE	123	123	O	APT	101	108	2117	2117
48322	H	C001	MAIN AVE	123	123	O	APT	201	208	2118	2118

Input Address: JANE DOE
123 MAIN AVE OFFICE
WEST BLOOMFIELD MI 48322

Output Address: JANE DOE
101 MAIN AVE OFC
WEST BLOOMFIELD MI 48322-2116 (DPC 99)

In this example, the input address contains the secondary designator "OFFICE," which is matched to the third record displayed containing the secondary designator "OFC." Since the record that is matched to has no secondary ranges shown, the DPC assigned must be 99.

Rule 7: Address Matching to a Highrise Default Record

If a match is made to a default highrise record on ZIP + 4 Product, the DPC assigned must be 99. A default highrise record is a type "H" record that has no secondary designator value or secondary range values.

Example (ZIP + 4 Date):

ZIP	REC TYPE	CARRIER ROUTE ID	STREET	PRIM LOW/HIGH		SEC DESG	SEC LOW/ HIGH		ZIP + 4 LOW/HIGH	
48321	S	C001	MAIN ST	101	199				1111	1111
48321	H	C001	MAIN ST	101	101				1116	1116
48321	H	C001	MAIN ST	101	101	APT	101	108	1117	1117
48321	H	C001	MAIN ST	101	101	APT	201	208	1117	1117

Input Address: JANE DOE
101 MAIN ST APT 405
AUBURN HJLLS MI 48321

Output Address: JANE DOE
101 MAIN ST APT 405
AUBURN HILLS MI 48321-1116(DPC 99)

Since the input secondary value 405 cannot be matched to any of the available secondary ranges, the match is made to the second record displayed, which is the highrise default record. This requires assignment of 99 for the DPC.

Rule 8: Fractional Only Secondary Addresses

If the input secondary address is a fraction without any other leading alphabetic or numeric value present, assign DPC 00. A single trailing alpha following a fractional value is considered part of the fraction.

Example:

SECONDARY ADDRESS VALUE	DELIVERY POINT CODE
1/2	00
2/3	00
3/4 A	00

Delivery Point Check Digit

The delivery point check digit (or correction character) is a number that is added to the sum of the other digits in the delivery point barcode (DPBC) to yield a number that is a multiple of ten.

Example:

5-Digit ZIP Code = 12345
ZIP + 4 Code = 6789
Delivery Point Code = 01
Sum of 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 0 + 1 = 46
Add check digit (4) +4
Equals Multiple of 10 50

Test Types

CASS Stage I files provide assistance in measuring and analyzing address-matching software performance. Any input field on the Stage I file may be incorrect or missing, regardless of category type. Since answers are provided on the Stage I file, software performance can be evaluated by comparing the processing results to the Stage I answer fields. In some cases, the input fields are provided in the answer fields, indicating the input is not a ZIP + 4 codeable record.

Note: Stage I address-matching results will not be graded by the NCSC and will not result in certification. Stage I is not a required step in the certification process; it is only provided as a diagnostic aid.

CASS Stage II files allow developers to demonstrate the address-matching software accuracy in an attempt to receive CASS certification. Any of the input fields on the Stage II file may be incorrect or missing altogether, regardless of category type. The address-matching software answers must be placed in the Stage II file answer fields so that CASS can evaluate the software's performance. In some cases, the input fields are moved to the answer fields, which may be graded as correct, indicating that the Stage II file input address fields should not have been capable of being corrected or standardized. Achieving an acceptable score on the CASS product being tested results in CASS certification for that product category.

MERGE/eLOT (eLOT is optional) is used to evaluate address-matching software performance as it pertains to correcting and standardizing addresses for 5-digit, carrier route, ZIP + 4/DPV confirmed, LACS^{Link} and Suite^{Link} products. RDI is optional and can be taken with the Merge test or as a separate utility test. This test requires a single processing run. If any category in this test fails to achieve a passing score, the address-matching software will not be certified.

Products Needed for Certification

- AIS Products: 800-238-3150, option 0
- ZIP + 4/city state, ZIPMove Licensed Products: 800-589-5766
- DPV
- LACS^{Link}
- Suite^{Link}
- DSF^2 (optional - can be used instead of DPV)

Utility Tests

Utility tests are Stage II files that allow certification for specific products. These certifications do no expire until changes are made to the product data.

Testing involves populating answers for fields only related to the product being tested.

Utility tests are available for the following products:

- eLOT
- Z4Change
- LACS^{Link}
- RDI
- DirectDPV

Ordering CASS Tests

All required information must be entered on the *CASS Order Form* as the developer/customers wishes it to appear in any Postal Service publication. Please specify whether you want the notice of certification to appear in Postal Service documents, and if so, the designation to be used. Also specify whether you are applying for vendor or user-defined certification. If manufacturer certification is sought, your company will automatically be listed as a software and/or hardware manufacturer.

Note: The salesperson listed in the first section on the front of the form is the contact for sales and product information reflected in the CASS/MASS Certified Products Guide.

The CASS Order form is available in hardcopy on page 49 or via the internet at http://ribbs.usps.gov/files/cass/orders. To access the electronic order form, a customer number and password is required. For additional information, please contact the CASS Department at 800-642-2914 or via email at cassman.ncsc@usps.gov. A Terms and Conditions document is also required for the first test ordered for each annual certification.

All order forms and documents are available via the internet at http://ribbs.usps.gov/files/cass/cass_mass_forms.

State & National Files

Specify the geographical areas to be included in the CASS product Stage II file. Each group can be ordered, but they are sent as individual files.

National File—All areas in the United States, including Puerto Rico.

Note: CASS Stage files are not available for geographical areas smaller than an individual state.

State File—The state abbreviation codes listed below should be used to order state tests.

Alabama..... AL01
Alaska..... AK02
Arizona AZ03
Arkansas AR04
California..... CA05
Colorado CO07
Connecticut..... CT08
Delaware..... DE09
District of Columbia..... DC10
Florida FL11
Georgia GA12
Guam GU13
Hawaii HI14
Idaho..... ID15
Illinois..... IL16
Indiana IN17
Iowa IA18
Kansas KS19

Kentucky KY20
Louisiana LA21
Maine..... ME22
Maryland MD23
Massachusetts..... MA24
Michigan..... MI25
Minnesota MN26
Mississippi..... MS27
Missouri..... MO28
Montana..... MT29
Nebraska..... NE30
Nevada..... NV31
New Hampshire..... NH32
New Jersey NJ33
New Mexico NM34
New York..... NY35
North Carolina..... NC36
North Dakota ND37
Ohio OH38
Oklahoma OK39
Oregon OR40
Pennsylvania..... PA41
Puerto Rico PR42
Rhode Island..... RI43
American Samoa AS44
South Carolina..... SC45
South Dakota SD46
Tennessee..... TN47
Texas..... TX48
Utah UT49
Vermont VT50
Virginia VA51
Virgin Island VI52
Washington WA54
West Virginia WV55
Wisconsin WI56
Wyoming WY57

Media Configuration

The media configuration for the CASS test is available only via the internet.

Platform

Indicate the platform in which the software is designed to operate (e.g., Windows, mainframe, etc.). If software is required to be recompiled to run on different platforms, all platforms must be certified. Multiple platform testing is required every three years, unless otherwise specified by the USPS.

Software

The name, version number, and configuration must be provided for the address-matching software intended for testing, whether it is purchased or internally written. The configuration consists of a 3-character alphanumeric field that identifies the parameter settings used by the address-matching software. The version number must comply with CASS Certified address-matching software version formats.

Stage File

Stage I product files may be downloaded from RIBBS at http://ribbs.usps.gov/files/cass. Stage I is optional (but recommended) prior to attempting certification. Stage II is required.

Note: For assistance, call the CASS Department at 800-642-2914.

Processing Steps

1. Complete and mail or fax the *CASS Order Form* along with a Terms and Conditions document. The Terms and Conditions document is required for each location on an annual basis.
   a. No orders are taken over the phone.
   b. The order form must be signed and dated by a company official.
   c. If the address-matching software has optional parameter settings, configuration designators indicating the settings to be used when processing customer and/or client address files must be provided.
2. CASS Stage II test file can be uploaded and downloaded directly from the internet using a Web Browser. To participate in this program, please provide the information requested on the application form. This information will serve as a basis for establishing internet service and the electronic transfer of data files via the internet. Upon receipt of the completed form, the Certification Department will establish an internet account for you to transfer stage files electronically. You will receive a call from one of our support specialists who will provide the URL, customer number, and a password to access your files on the internet.
   a. When transferring processed stage files to the CASS Department, please use the original file name provided to you.
   b. This naming convention consists of a 5-digit number that identifies the customer, a single alpha character that denotes the test type, another single alpha character that identifies the increment, and two alpha characters that specifically identify the manufacturer's software and version number.
   c. Files will be transferred using the WinZip® file compression utility. You must use the file name originally provided to you when uploading the processed test file for grading.
3. Process the CASS product file through the address-matching software.
   a. Set the address-matching software parameters exactly the way you run your files or client address files.
   b. Process the original CASS Stage II file. No backup copies or alternate media are acceptable.

c. Update the appropriate fields for Stage II NCSC evaluation.

d. Upload the answer file via the upload.cfm file in the FTP directory. The file must be zipped and have the same filename as the original file.

Helpful Hint

Always attempt to read the processed Stage II file before returning it to the NCSC for evaluation to ensure that there are no physical problems with the media and that the exact number of records originally sent is returned to the NCSC.

Stage II File Processing

1. Copy the CASS Stage II File

Before processing the Stage II file, make a backup copy and store the original in a safe place. Be advised that all Stage files provided are compressed using the WinZip utility.

2. Process Stage II File

Process the original CASS Stage II file through the address-matching software.

3. Return Stage II File and Media for Evaluation

Customers must return CASS Stage II product files for certification within ten business days of receipt. Failure to do so will result in the certification attempt being voided and the customer being required to reorder the desired CASS Stage II files.

The CASS Stage II file will be evaluated, and the customer will be notified of the results. The NCSC receives, grades, and evaluates processed Stage II files and makes results available to the customer within ten business days.

When the CASS Stage II file has been processed, download the file back through the electronic file transfer using the file name originally provided to you. To be CASS Certified, customers must return a completed facsimile of PS Form 3553 electronically in the copyright header record along with your Stage II file.

The completed PS Form 3553 must represent the address records processed from the Stage II file returned for evaluation. All Stage II files returned for evaluation become the property of the US Postal Service.

UNITED STATES POSTAL SERVICE®

CASS™ Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address

Company Name

Physical Address	Apt/Suite

City	State	ZIP + 4® Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Salesperson (your company)	Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address

Company Name

USPS Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Contact Number (if different)

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ User
- ❑ DPV® Licensee
- ❑ RDI™ Licensee
- ❑ Vendor/Service Bureau
- ❑ DSF²™ Licensee
- ❑ DPV User
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*
- ❑ User-Defined Certification

All information furnished on this application is complete and correct. The responses provided on the CASS Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The CASS Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the CASS Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids CASS certification.

CASS/MASS™ certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the matching software/hardware has optional parameters, you **MUST** return a list of the parameters used to process the CASS™ Stage II file with this form. The electronic version of PS Form 3553, *CASS Summary Report*, MUST be incorporated into the header record. Also, you **MUST** return a hardcopy of PS Form 3553 by fax, FTP, or email with the Stage II certification.

Address Matching Software

1. Geographic type* *(Select one only)*. If state or area, please specify:
   ❑ National ❑ State _____ _____ _____ _____ _____

2. Type of Test: ❑ Merge ❑ Merge/eLOT®

	Yes	No
2A. DPV® Certification:		
2B. RDI™ Certification:	❑ Yes	❑ No
2C. DSF²™ Certification:	❑ Yes	❑ No
2D. LACSLink® Certification:	❑ Yes	❑ No
2E. SuiteLink™ Certification:	❑ Yes	❑ No
	❑	❑

3. Fill in all software information:

Product Title	Version Number	Configuration

4. Fill in all platform information *(If software is required to be recompiled to run on a platform, the platform must be certified)*:

Platform	Platform	Platform	Platform	Platform	Platform

5. This software provides access to candidate record stacks: Yes No

   5A. If this product incorporates software certified under another manufacturer *(i.e., driver or application interface)*, please fill in all information for each software used:

Product Title	Version Number	Configuration	Platform

* *Applies only to address-matching software*

Mail or Fax Completed Form To

CASS DEPARTMENT
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440

UNITED STATES POSTAL SERVICE®

CASS™ Internet File Transfer Application

Technical Contact *(One contact per company/physical location)*

Name	Job Title
Company Name	Urbanization
Street Address, P.O. Box, Rural/Hwy Contract, or Route Number	Apt/Suite
City	State / ZIP + 4® Code
Telephone Number *(Include area code)* / Fax Number *(Include area code)*	Email Address

Administrative/General Contact *(Complete only if information differs from above)*

Name	Job Title
Company Name	Urbanization
Street Address, P.O. Box, Rural/Hwy Contract, or Route Number	Apt/Suite
City	State / ZIP + 4
Telephone Number *(Include area code)* / Fax Number *(Include area code)*	Email Address

Marketing/Sales Contact *(Complete only if information differs from above)*

Requestor's Name	Job Title
Company Name	Urbanization
Street Address, P.O. Box, Rural/Hwy Contract, or Route Number	Apt/Suite
City	State / ZIP + 4
Telephone Number *(Include area code)* / Fax Number *(Include area code)*	Email Address

CASS Customers

I request that my certification be maintained in US Postal Service documents and records as *(select one)*:

- ❑ Integrator/Manufacturer
- ❑ Vendor/Service Bureau
- ❑ I do not wish to be listed in any postal publication or on the internet.
- ❑ I am applying for manufacturer certification
- ❑ I am applying for user-defined certification.

Please initial by each requirement.

_____ The responses provided on CASS Stage II certification files will be obtained using the same configuration used for processing customer/client address files.

_____ Any modifications to software or to the configuration used to process a Stage II file will require recertification prior to use or release.

_____ CASS Stage II files will be processed with in-house, company-owned or leased software/hardware.

_____ All answers will be written to Stage II files via batch processing without manual intervention.

_____ The software used to process CASS Stage II files contain technology that disables access to outdated U.S. Postal Service® data in accordance with *DMM*® 708.3.

_____ When software attempting certification is used interactively, it does not allow automated selection of an individual record from a list of multiple candidates.

_____ End-users of this address matching software product are advised that any modification voids CASS certification.

_____ I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Name *(Please print)*

Company Official Contact Signature

Mail this completed form to

CASS INTERNET SERVICE REQUESTS
ADDRESS MANAGEMENT
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001
Telephone Number: 800-642-2914
Fax Number: 901-681-4440

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Appendix 1

PS Form 3553,
CASS™ Summary Report

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UNITED STATES POSTAL SERVICE

CASS™ Summary Report

This form may be generated as the output of address matching processing using CASS Certified™ software in conjunction with current USPS® address database files. Any facsimile must contain the same information in the same format as the printed form.

See DMM® Section 708 *for more information.*

A. Software

CASS A1	1. CASS Certified Company Name	2. CASS Certified Software Name & Version	3. Configuration
	4. Z4Change Certified Company Name	5. Z4Change Certified Software Name & Version	6. Configuration
	7. DirectDPV™ Certified Company Name	8. DirectDPV Certified Software Name & Version	9. Configuration
	10. eLOT® Certified Company Name	11. eLOT Certified Software Name & Version	12. Configuration
MASS A2	1. MASS™ Certified Company Name	2. MASS Certified Software Name, Version & Model No.	3. Configuration
			4. MLOCR Serial No.

B. List

1. List Processor's Name	2. Date List Processed	3. Date of Database Product Used
	a. Master File	a. ZIP + 4® File
	b. Z4Change	b. Z4Change
	c. DirectDPV	c. DirectDPV
	d. eLOT	d. eLOT
	e. CRIS	e. CRIS
4. List Name or ID No. (*If using ID No., number must start with ID #*)	5. Number of Lists	6. Total Records Submitted for Processing

C. Output

Output Rating	1. Total Coded	2. Validation Period	Output Rating	1. Total Coded	2. Validation Period
a. ZIP + 4/DPV Confirmed ▶		From To	d. 5-Digit Coded ▶		From To
b. Z4Change Processed ▶			e. CRRT Coded ▶		From To
c. DirectDPV ▶		From To	f. eLOT Assigned ▶		From To

D. Mailer

I certify that the mailing submitted with this form has been coded *(as indicated above)* using CASS Certified software meeting all of the requirements listed in the *DMM* Section 708.

1. Mailer's Signature	2. Date Signed

3. Name and Address of Mailer

E. Qualitative Statistical Summary (QSS)

For informational Purposes Only: QSS is solely made available for the list processor's review and analysis. This information is not to be considered by the U.S. Postal Service® personnel in determining rate eligibility under any circumstances. See reverse for a detailed explanation.

High Rise Default	High Rise Exact	RR Default	RR Exact	LACSLink®	EWS	SuiteLink™

Privacy Notice: For information regarding our Privacy Policy, visit USPS.COM®.

Instructions

A. Software

A1.1, 1.4, 1.7, & A2.1 – Company Name: Enter the name for *each kind of software* as it appears on the CASS™/MASS™ certificate.
A1.2, 1.5, 1.8, & A2.2 – Software Name and Version: Enter name and version for *each kind of software* as it appears on the CASS/MASS certificate.
A1.3, 1.6, 1.9, & A2.3 – Configuration: Enter the specific software configuration parameter settings as it appears on the CASS/MASS certificate.
A2.4 – MLOCR: Enter the MLOCR Serial Number as it appears on the MASS Certificate.

NOTE: If information entered in this section represents the list processing of more than one certified company, attach a list of company names, software names and versions, as well as the configuration to code the address information used in the mailing.

B. List

1. List Processor's Name: Enter the company name that coded the address list(s) and/or performed ZIP + 4®/DPV® confirmation using CASS Certified™software. Attach a list if additional space is required.
2. Date List Processed: Enter the processing date for each list. If multiple lists, enter the oldest date from the list.
3. Date of Database Product Used: Enter the version date of each database package used for processing. If multiple lists, enter the oldest version date from the lists.
4. List Name or ID No.: Print the name or identification number of the address list. If more than one list is used, leave blank. If the identification number is used, the number MUST be preceded by "ID#".
5. Number of Lists: Enter the number of lists used to produce the mailing.
6. Total Records Submitted for Processing: Enter the total number of address records *(from all lists in item B5)* submitted at the time the list(s) was coded.

C. Output

1. Total Coded: Enter the total number coded.
2. Validation Period: Enter the effective dates as shown below:

Product Name	From Date	To Date
ZIP + 4/DPV Confirmed	30 days before *(the 15th of each month or bi- monthly)* or no later than 105 days after the file date.	180 days after the ZIP + 4 valid "From" date.
DirectDPV™	30 days before *(the 15th of each month or bimonthly)* or no later than 105 days after the ZIP + 4 product file date.	180 days after the DirectDPV/ZIP + 4 valid "From" date.
Five-Digit Coded	30 days before *(the 15th of each month or bimonthly)* or no later than 105 days after the ZIP + 4, Five-digit ZIP, or the Carrier Route product date.	365 days after the Five-Digit Valid "From" date.
Total Carrier Route Coded	30 days before or up to 105 days after the ZIP + 4, Five-Digit ZIP™, or the Carrier Route product date *(the 15th of each month or bimonthly)* or up to 105 days after the file date.	90 days after the Carrier Route Valid "From" date.
eLOT® Sequence No. Assigned	30 days before or up to 105 days after the eLOT file product date *(the 15th of each month or bimonthly)*.	90 days after the eLOT valid "From" date.

D. Mailer

1. Signature: Signature of individual who processed the list, or the mailer's representative.
2. Date Signed: Enter the date this form is signed.
3. Name & Address of Mailer: Enter the name and address of the individual whose signature appears in item D1.

E. Qualitative Statistical Summary (QSS)

This information allows mailers and list processors to evaluate the quality of their address list processed through CASS software before its contents enter the mailstream. A significant number of Highrise default/rural route default matches, although these addresses remain eligible for postal automation rate discounts at this time, increase the costs and reduce the efficient delivery of this mail. Mailer's should research to obtain secondary unit designator address information or highrise addresses and specific box number information for rural route addresses which are coded to default records on the National ZIP + 4 File.

Highrise Default/RR Default

Entries in this box show the number of addresses that were default matched. Defaults are matches made to addresses that contain invalid/missing secondary address or box information. A highrise default contains the building street address in the primary range field and spaces in the secondary range field. A rural route default contains the route number in the primary name but also has spaces in the primary address range.

LACSLink® System

Entries in this box show the number of addresses which have been converted through the LACSLink process. LACSLink is a data product provided by the Postal Service to allow addresses that have been converted due to USPS changes or for 911 emergency systems to be linked with their new address.

Early Warning System (EWS)

Entries in this box show the number of addresses on the processed address list that are new addresses not in the current U.S. Postal Service® ZIP + 4 File. These addresses are, however, valid addresses as formatted and should not be changed in any way since the U.S Postal Service will assign ZIP + 4's to these addresses on the next monthly ZIP + 4 File.

SuiteLink™ System

Entries in this box show the number of ZIP+4/DPV confirmed addresses that matched to a highrise default, and the SuiteLink process returned the appropriate suite number. Only SuiteLink enabled software will return a value in this box *(Check with your software vendor for obtaining this option)*. These address records are valid delivery points by the U.S. Postal Service. Addresses that are not confirmed by DPV are either new addresses not available on the current Delivery Sequence File, or are not valid and the list holder should further investigate to determine the accuracy of these addresses. Mailers should make every effort to ensure the quality of their address list(s).

Appendix 2

CASS Version Control

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CASS Version Control

	06.03	.05	.M	.08.07
Fields	A	B	C	D
	Version Number	Revision Number	CASS Cycle	Manufacturer Number

Field A

Contains the software version number. The manufacturer assigns number-decimal-number to this 4-byte field. If an existing address-matching software product is modified or updated, the version number must be updated. All changes must be reported to the CASS Department in writing prior to release. The CASS staff will evaluate the change to determine whether the version requires recertification.

Note: Any new release of address-matching software must include a new version number. All new releases require CASS certification.

Field B

Contains the software revision number. The manufacturer assigns decimal-number-decimal to this 3-byte field.

Field C

Contains the cycle indicator. The CASS Department assigns the indicator each year and sends out written notification prior to the beginning of certification testing. This 2-byte field contains a decimal and the letter associated with the cycle being tested.

Field D

Contains the manufacturer number. This field may be used by the manufacturer to indicate internal tracking information such as bimonthly database releases, which will not be published in the *CASS Certified Product Guide*. This information should not be printed on the 3553.

Note: If Field D is used to indicate database release dates, the USPS recommends using a 2-byte number to indicate the year followed by a decimal and another 2-byte number to indicate the month.

Appendix 3

Translation of Error Codes and Flags

A3 Customer No Match Record Translation of Error Codes and Special Flags

Error Codes

01	5-digit ZIP not match
02	ZIP+4 not match
03	Carrier ID not match
04	City name not match
05	State abbreviation not match
06	Out of range
07	Address is non-deliverable
08	Unique ZIP Code not finest level of code
09	LACS indicator
10	Perfect address
11	General standardization error
12	eLOT sequence
13	eLOT A/D code
14	RDI
15	Fatal Error
16	LACS^{Link} Indicator
17	LACS^{Link} Return Code
18	Suite^{Link} Return Code
19	Incorrect delivery point barcode (Non-Fatal)
20	Incorrect delivery point barcode
21	PMB
22	Default flag error/Record type error
30	History
DO	Confirmation
DC	CMRA
DF	False-positive
DT	Delivery type
DN	No stats
DB	Business
DD	Drop
DK	Drop count
DW	Throwback
DS	Seasonal
DV	Vacant
DL	LACS
FT	Footnote Code Error

Record Type

S	Street
P	PO Box
R	Rural Route
H	Highrise
F	Firm
G	General Delivery

Standard Address with Elements

(Spelled out or Abbreviated)

AA	Firm Name - Abbreviation
AB	Firm Name - Noise words
AC	Firm Name - Address similar to firm name
AD	Firm Name - Swap firm name and Address field
AE	Normalized street name
AF	Street Name - Spelling variation
AG	Firm Name not present - Valid Z4 on input match to firm
A0	5-digit
A1	Dropped 5-digit
A4	5-digit with non-mailing name
A5	Dropped 5-digit with non-mailing name
A8	5digit misspelled city
* A9	Dropped 5-digit with misspelled city

Standard Address

(Includes Reversed Alphanumeric Primary/Secondary Numbers, Reversed Pre/Post Directionals, and Secondary Number Combined with Primary Number)

B0	5-digit
B1	Dropped 5-digit
* B2	5-digit with misspelled street
* B3	Dropped 5-digit with misspelled street
B4	5-digit with non-mailing name
B5	Dropped 5-digit with non-mailing name
* B6	5-digit with misspelled street and non-mailing name
* B7	Dropped 5-digit with misspelled street and non-mailing name
B8	5-digit with misspelled city
* B9	Dropped 5-digit with misspelled city
BE	Normalized street names

Standard Address with Post-Directional Dropped or Incorrect

CC	Post-directional changed to a non-cardinal directional - no match
C0	5-digit
C1	Dropped 5-digit
* C2	5-digit with misspelled street
* C3	Dropped 5-digit with misspelled street
C4	5-digit with non-mailing name
C5	Dropped 5-digit with non-mailing name
* C6	5-digit with misspelled street and non-mailing name
* C7	Dropped 5-digit with misspelled street and non-mailing name
C8	5-digit with misspelled city
* C9	Dropped 5-digit with misspelled city

* No answer will be bypassed
** Return input record (Unless using DPV to break the tie)
*** No grading for standardization
**** Normalization required

Standard Address with Pre-Directional Dropped or Incorrect

	DC	Pre-directional changed to a non-cardinal directional - no match
	D0	5-digit
	D1	Dropped 5-digit
*	D2	5-digit with misspelled street
*	D3	Dropped 5-digit with misspelled street
	D4	5-digit with non-mailing name
	D5	Dropped 5-digit with non-mailing name
*	D6	5-digit with misspelled street and non-mailing name
*	D7	Dropped 5-digit with misspelled street and non-mailing name
	D8	5-digit with misspelled city
*	D9	Dropped 5-digit with misspelled city

Standard Address with Suffix Dropped

	E0	5-digit
	E1	Dropped 5-digit
*	E2	5-digit with misspelled street
*	E3	Dropped 5-digit with misspelled street
	E4	5-digit with non-mailing name
	E5	Dropped 5-digit with non-mailing name
*	E6	5-digit with misspelled street and non-mailing name
*	E7	Dropped 5-digit w/misspelled street and non-mailing name
	E8	5-digit with misspelled city
*	E9	Dropped 5-digit with misspelled city

Dual Address

	F0	Street address
	F1	Box record
	F2	Dual Address on separate line
	F4	Street address with non-mailing name
	F8	Street address with misspelled city
	F9	Box record with misspelled city

Aliases

	G0	5-digit - Base
	G1	5-digit - Alias
	G2	Dropped 5-digit - Base
	G3	Dropped 5-digit - Alias
**	G4	5-digit - Out of range
	G5	30 char abbreviation alias

Alias/Mult Response

**	H0	5-digit - Base
**	H1	5-digit - Alias

Small Town Default

	I0	Exist in ZIP+4
**	I1	No match in ZIP+4 P&G records exist
**	I2	General Delivery match in ZIP+4/ G rec only - no match
**	I3	No match in ZIP+4/City State

Last Line

	JA	Input city/ZIP Code correspond; exact match in ZIP Code
	JB	Input city/ZIP Code correspond; Input City is non-mailing name, exact match in ZIP Code
	JC	Input city/ZIP Code don't correspond; inexact match in ZIP Code
	JD	Input city/ZIP Code don't correspond; inexact match in city
	JE	Input city equals 5-digit PLL, ZIP+4 PLL is different
	JI	Input city/ZIP Code don't correspond; best candidate is inexact match in finance number, but not in either City or ZIP Code. No Match.
	J0	5-digit
	J1	Dropped 5-digit
*	J2	5-digit with misspelled street
*	J3	Dropped 5-digit with misspelled street
	J4	5-digit with dropped component
	J5	Dropped 5-digit and component
*	J6	5-digit with dropped component and misspelled street
*	J7	Dropped 5-digit and component with misspelled street
	J8	5-digit with misspelled city
*	J9	Dropped 5-digit with misspelled city

Multiple Response

**	K0	5-digit
**	K1	Dropped 5-digit
**	K2	5-digit with misspelled street
**	K3	Dropped 5-digit with misspelled street
**	K4	5-digit with dropped or incorrect component
**	K5	Dropped 5-digit and/or incorrect component
**	K6	5-digit with dropped/incorrect component and misspelled street
**	K7	Dropped 5-digit and/or incorrect component with misspelled street
**	K8	5-digit with misspelled city
**	K9	Dropped 5-digit with misspelled city

Inexact/Questionable Matching Logic

*	L0	5-digit
*	L1	Dropped 5-digit

* No answer will be bypassed
** Return input record (Unless using DPV to break the tie)
*** No grading for standardization
**** Normalization required

Key Elements Also Known As

****MA	Out of range - no match
M0	With 5-digit
M1	Dropped 5-digit
M8	5-digit with misspelled city
M9	Dropped 5-digit with misspelled city

*** NDF Position Error

N0	5-digit
N1	Dropped 5-digit

Extra Information

O0	5-digit
O1	Dropped 5-digit
O2	PMB on address line
O3	PMB on secondary address line
O4	Valid Secondary with '#' sign; exact match
O5	PMB number is a valid PO Box Number - no match
O6	Invalid secondary with '#' sign; default match
O7	Double '#' signs at the end of address line – invalid
O8	Double '#' signs at the end of address line, one valid value, one invalid value

Syndrome

P0	Seattle Syndrome wtih 5-digit on Input
P1	Seattle Syndrome with Dropped 5-digit on Input
*** P2	Salt Lake Syndrome with 5-digit on Input
*** P3	Salt Lake Syndrome with Dropped 5-digit on Input
P4	Flushing NY Syndrome with 5-digit on Input
P5	Flushing NY Syndrome dropped 5-digit on Input

ZIP Correction

R0	Incorrect 5-digit within finance no.
R1	Invalid 5-digit
R2	Incorrect 5-digit within finance no. and incorrect +4
R4	Incorrect 5-digit within finance no. and blank city/state
R5	Incorrect 5-digit not within finance no.

Highrise Default or Delivery Point Alternate

S0	With 5-digit
S4	With 5-digit highrise
S5	"Chase the Base" – Delivery point alternate on input, return highrise exact
** S6	With 5-digit highrise multiple

Hyphenated Ranges

T1	Numeric alpha no match to numeric/numeric alpha exists
T2	Alphanumeric/numeric alpha-transpose to make match
T3	Delete hyphen
T4	Add hyphen
T5	Secy alphanumeric insert hyphen and transpose – default
T6	Add alpha to match to numeric range only
** T7	Add double alphas and validate no match to numeric
** T8	Transpose alpha to beginning/no match to numeric range
TA	Recombine hyphenated trailing primary alpha with secondary number
TB	Recombine non-hyphenated trailing primary alpha with secondary number
TC	Recombine hyphenated trailing primary numeric with secondary number
TD	Recombine hyphenated trailing alphanumeric/ numeric alpha with secondary number
TE	Recombine secondary values into one; exact match only

APO / FPO

UA	Bad org info in address line without ZIP Code
UB	Out of range records for PSC box numbers
U0	Clean military addresses with 5-digit
U1	Reversed box/PSC number with ZIP Code
U2	Reversed box/PSC number without ZIP Code
U3	Good address/ZIP Code with invalid city name
*** U4	PSC box turned into PO Box with ZIP Code
** U5	Missing PSC, CMR, unit number with good box number
U6	Good military address with invalid ZIP Code
U7	Bad org info in Firm Name field with good ZIP Code
U8	Bad org info in Firm Name field without ZIP Code
U9	Bad org info in address line with ZIP Code

Delivery Address Line

** V0	Contains firm name
** V1	Contains highrise name

Multiple Finance Number Matching

** W0	Multiple response within finance no. - dropped 5-digit
W1	Single response within finance no.- dropped 5-digit
W2	Altered street name
W3	No correlation between city & ZIP-Match in ZIP
** W4	City and ZIP Code from different finance numbers
W5	City and State does not agree with ZIP Code
W6	City and ZIP Code agree, state from different finance

* No answer will be bypassed
** Return input record (Unless using DPV to break the tie)
*** No grading for standardization
**** Normalization required

Highrise

	X0	With a firm suite number
*	X2	With misspelled street
	X8	With a firm suite number and misspelled city

Split/Combined Elements

	Y0	Combine pre-directional with street name
	Y1	Split pre-directional words off street name
	Y2	Split suffix words off street name
	Y3	Drop suffix words off multi-word street names
	Y4	Combine suffix with street name
	Y5	Shift street name to pre-directional suffix to street name
**	Y6	Invalid street name
*	Y7	Street name spelling variations

ZIPMove

	Z0	Valid match in new finance number/Match.
	Z1	Invalid match in ZIPMove/No Match.
	Z2	Valid ZIPMove match; invalid in new finance number/No Match.

Out of Range/Overlapping

**	10	Bad PO Box for finance no./ZIP
	11	Overlapping PO Box ranges/return lowest ZIP + 4
**	15	Bad rural route for finance no./ZIP
**	20	Invalid primary number
	21	Invalid secondary number
	22	"EWS" No match; Input is exact match to EWS record
	23	LACS^{Link}
**	24	LACS^{Link} no match
	25	Suite^{Link} (optional category)
	26	Suite^{Link} no match (optional category)

Unique ZIP Codes

	4A	Valid city and ZIP Code
	4B	Valid city and ZIP Code with valid add-on (match)
	4C	Valid city and ZIP Code - default match
	4D	Unique input ZIP - exact match to non-unique if exact match not available in unique
	4E	No correlation between city and ZIP Code; match to city
**	4F	No correlation between city and ZIP Code (no match; delete ZIP Code)
	4G	Input address line taken from unique ZIP + 4 record, match into non-unique
	4H	No input ZIP - can make exact match to unique (firm name not required)
	4I	Valid city and ZIP COde with invalid add-on (retain ZIP + 4)

Puerto Rico

**	5A	Missing noise URB - end address/multiple with valid or invalid URB
	5B	Drop or abbreviate leading suffix
	5C	Alpha or numeric - end address
	5D	Numeric house number - end address preceded by "#," "No.," or "Num"
	5E	Alphanumeric house number - end address preceded by "Blq"
	5F	Alphanumeric house number - begin/end address space alphanumeric
	5G	Alphanumeric house number - begin/end address hyphen alphanumeric
	5H	Hyphen house number/"Blq" and "Casa," "Blq" and "#"
**	5J	Address contains standalone word "Buzon" (no normalization)
	5K	No URB input - Match to address with blank URB
	51	No URB input - single response
**	52	No URB input - multiple response
	53	Valid URB on input - single response with valid/invalid URB
**	54	Valid URB on input - multiple response with valid/invalid URB
	55	Missing noise URB - single response with valid/invalid URB
**	56	Missing noise URB-multiple response with valid/invalid URB
	57	Valid URB end address-single response with valid or invalid URB
**	58	Valid URB end address - multiple response with valid or invalid URB
	59	Missing URB noise end address - single valid/invalid URB

Magnet Streets With Multiple Parse Variations

**	6E	Parsed street name or ZIP+4 street name contains directional or suffix
	6F	Variation in directional or suffix presentation
	6G	Suffix or directional dropped
	6H	Street name incorrectly split into multiple words
	6K	Trailing numeric/alpha value following a valid suffix

Multiple Address Lines and Perfect Addresses

	7A	Address line split between two lines
	70	Perfect address
	7B	Multiple field addresses with split-indicia

* No answer will be bypassed
** Return input record (Unless using DPV to break the tie)
*** No grading for standardization
**** Normalization required

Appendix 4

Sample Statistical & Error Message Summaries

DO NOT MAIL -- INTERNAL USE ONLY

USPS 47-2467

REPORT CII027P1

US POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
NATIONAL CUSTOMER SUPPORT CENTER
CASS STATISTICAL SUMMARY

DATE: 08/14/2008
TIME: 12:06:06
PAGE:

LAST ZAP DATE: 08/15/2006
TRANS DATE: 08/15/2008
POOL DATE: 08/15/2006

CUSTOMER NAME: USPS
CUSTOMER IDENTIFICATION: 00421GABC
STAGE: NATIONAL

	5-DIGIT				ZIP+4				CARRIER ROUTE			
	ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WITH PENALTIES ASSESSED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WITH PENALTIES ASSESSED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WITH PENALTIES ASSESSED	
	TOTAL	PERCENT	TEST	VENDOR	TOTAL	PERCENT	TEST	VENDOR	TOTAL	PERCENT	TEST	VENDOR
CORRECTLY CODED ADDRESSES	149,010	99.711%			147,456	99.473%			146,959	99.476%		
INCORRECTLY CODED ADDRESSES	352	0.289%	80		704	0.527%	77		664	0.524%	110	
RECORDS BYPASSED	638	0.000%			1,840	0.000%			2,377	0.000%		
TOTAL ADDRESSES	150,000				150,000				150,000			

	DPBC		ELOT		PERFECT ADDRESS		DPV BASIC		RDI		FATAL ADDON		LACSLINK		SUITELINK	
	ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED		ADDRESSES WHICH ARE GRADED & SCORED	
	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT
CORRECTLY CODED ADDRESSES	145,481	100.000%	64,331	80.096%	887	100.000%	9,237	8.946%	0	100.000%	150,000	100.000%	0	100.000%	0	100.000%
INCORRECTLY CODED ADDRESSES	0	0.000%	15,986	19.904%	0	0.000%	94,018	91.054%	0	0.000%	0	0.000%	0	0.000%	0	0.000%
RECORDS BYPASSED	4,519	%	69,683	0.000%	0	0.000%	46,745	0.000%	0	0.000%	0	0.000%	0	0.000%	0	0.000%
TOTAL ADDRESSES	150,000		150,000		887		150,000		150,000		150,000		0		0	

ERROR CODES

01 5-DIGIT ZIP	08 UNIQUE NOT FINEST OF CODE	15 FATAL ADDON	22 DEFAULT FLAG	DB BUSINESS
02 ZIP+4	09 LACS INDICATDR	16 LACSLink INDICATOR	30 HISTORY PENALTY	DD DROP
03 CARRIER ID	10 PERFECT ADDRESS	17 LACSLink RETURN CODE	DO CONFIRMATION	DK DRDP COUNT
04 CITY NAME	11 GENERAL STANDARDIZATION	18 SuiteLink	DC CMRA	DW THROWBACK
05 STATE ABBREVIATION	12 ELOT SEQUENCE	19 DPBC (NON-FATAL)	DF FALSE-POSITIVE	DS SEASONAL
06 OUT OF RANGE	13 ELOT ASC/DES	20 DPBC	DT DELIVERY TYPE	DV VACANT
07 ADDRESS NON-DELIVERABLE	14 RDI	21 PMB PARSE	DN NO STATS	DL LACS

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UNITED STATES POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
NATIONAL CUSTOMER SUPPORT CENTER
CASS STATISTICAL SUMMARY

ADDRESSES WHICH ARE GRADED & SCORED

		ZIP+4			CARRIER ROUTE			5 DIGIT		
CATEGORY	TOTAL ADDRESSES	TOTAL CORRECT	TOTAL INCORRECT	PERCENT CORRECT	TOTAL CORRECT	TOTAL INCORRECT	PERCENT CORRECT	TOTAL CORRECT	TOTAL INCORRECT	PERCENT CORRECT
A	6,738	6,643	95	98.590%	6,685	53	99.213%	6,722	16	99.762%
B	5,319	5,307	12	99.774%	5,310	9	99.830%	5,314	5	99.905%
C	5,450	5,411	39	99.284%	5,405	45	99.174%	5,438	12	99.779%
D	5,281	5,258	23	99.564%	5,251	30	99.431%	5,266	15	99.715%
E	4,500	4,480	20	99.555%	4,474	26	99.422%	4,490	10	99.777%
G	3,250	3,225	25	99.230%	3,223	27	99.169%	3,233	17	99.476%
H	1,808	1,808	0	100.000%	1,808	0	100.000%	1,808	0	100.000%
I	2,883	2,854	29	98.994%	2,854	29	98.994%	2,882	1	99.965%
J	3,346	3,329	17	99.491%	3,329	17	99.491%	3,338	8	99.760%
K	3,333	3,325	8	99.519%	3,330	3	99.819%	3,332	1	99.939%
L	1,500	1,500	0	100.000%	1,500	0	100.000%	1,500	0	100.000%
M	3,500	3,470	30	99.142%	3,472	28	99.200%	3,475	25	99.285%
N	902	901	1	99.889%	902	0	100.000%	902	0	100.000%
O	5,840	5,815	25	99.571%	5,806	34	99.417%	5,827	13	99.777%
P	186	186	0	100.000%	186	0	100.000%	186	0	100.000%
Q	1,500	1,500	0	100.000%	1,487	13	99.133%	1,500	0	100.000%
R	3,248	3,223	25	99.230%	3,223	25	99.230%	3,223	25	99.230%
S	2,579	2,504	75	97.091%	2,517	62	97.595%	2,565	14	99.457%
T	4,078	4,055	23	99.435%	4,059	19	99.534%	4,060	18	99.558%
U	4,080	4,053	27	99.338%	4,056	24	99.411%	4,075	5	99.877%
V	1,510	1,509	1	99.933%	1,509	1	99.933%	1,510	0	100.000%
W	3,000	2,978	22	99.266%	2,984	16	99.466%	2,996	4	99.866%
X	2,400	2,393	7	99.708%	2,394	6	99.750%	2,400	0	100.000%
Y	3,600	3,585	15	99.583%	3,585	15	99.583%	3,595	5	99.861%
Z	1,429	1,419	10	99.300%	1,419	10	99.300%	1,421	8	99.440%
1	2,235	2,231	4	99.821%	2,235	0	100.000%	2,235	0	100.000%
2	1,894	1,884	10	99.472%	1,882	12	99.366%	1,892	2	99.894%
4	3,672	3,660	12	99.673%	3,660	12	99.673%	3,662	10	99.727%
5	7,024	6,899	124	98.234%	6,901	122	98.262%	7,008	16	99.772%
6	2,704	2,671	33	98.779%	2,688	16	99.408%	2,698	6	99.778%
7	1,211	1,211	0	100.000%	1,211	0	100.000%	1,211	0	100.000%
TOTAL	100,000	99,287	712	0.000%	99,345	654	0.000%	99,764	236	0.000%

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UNITED STATES POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
NATIONAL CUSTOMER SUPPORT CENTER
CASS STATISTICAL SUMMARY
ERROR MESSAGE SUMMARY

GRADED & SCORED ONLY

CATEGORY	TOTAL ADDRESSES	1 ZIPCODE NOT MATCH	2 ZIP4 NOT MATCH	3 CARR ID NOT MATCH	4 CITY NOT MATCH	5 STATE NOT MATCH	6 OUT OF RANGE
A	6,738	0	79	37	83	0	0
B	5,319	4	11	8	69	0	0
C	5,450	8	35	41	66	0	0
D	5,281	5	13	20	167	0	0
E	4,500	4	14	20	161	0	0
G	3,250	2	10	12	0	0	0
H	1,808	0	0	0	0	0	0
I	2,883	0	28	28	0	0	0
J	3,346	5	14	14	0	0	0
K	3,333	1	8	3	0	0	0
L	1,500	0	0	0	0	0	0
M	3,500	1	6	4	0	0	0
N	902	0	1	0	0	0	0
O	5,840	0	12	21	0	0	0
P	186	0	0	0	0	0	0
Q	1,500	0	0	13	0	0	0
R	3,248	2	2	2	14	0	0
S	2,579	3	64	51	0	0	0
T	4,078	0	5	1	0	0	0
U	4,080	4	26	23	0	0	0
V	1,510	0	1	1	0	0	0
W	3,000	4	22	16	0	0	0
X	2,400	0	7	6	0	0	0
Y	3,600	2	12	12	28	0	0
Z	1,429	8	10	10	0	0	0
1	2,235	0	4	0	0	0	0
2	1,894	2	10	12	0	0	0
4	3,672	6	8	8	0	0	0
5	7,024	1	109	107	0	0	0
6	2,704	5	32	15	0	0	0
7	1,211	0	0	0	0	0	0
TOTAL	100,000	67	543	485	588	0	0

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UNITED STATES POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
NATIONAL CUSTOMER SUPPORT CENTER
CASS STATISTICAL SUMMARY
ERROR MESSAGE SUMMARY

GRADED & SCORED ONLY

CATEGORY	TOTAL ADDRESSES	9 LACS INDICATOR	10 PERFECT ADDRESS	11 GENERAL STANDARD ERROR	12 INCORRECT ELOT-SEQ #	13 INCORRECT ELOT-ASC-DEC	
A	6,738	0	0	16	0	0	
B	5,319	0	0	1	0	0	
C	5,450	0	0	4	0	0	
D	5,281	0	0	10	0	0	
E	4,500	0	0	6	0	0	
G	3,250	0	0	15	0	0	
H	1,808	0	0	0	0	0	
I	2,883	0	0	1	0	0	
J	3,346	0	0	3	0	0	
K	3,333	0	0	0	0	0	
L	1,500	0	0	0	0	0	
M	3,500	0	0	24	0	0	
N	902	0	0	0	0	0	
O	5,840	0	0	13	3	0	
P	186	0	0	0	0	0	
Q	1,500	0	0	0	0	0	
R	3,248	0	0	23	0	0	
S	2,579	0	0	11	0	0	
T	4,078	0	0	18	2	0	
U	4,080	0	0	1	0	0	
V	1,510	0	0	0	0	0	
W	3,000	0	0	0	0	0	
X	2,400	0	0	0	0	0	
Y	3,600	0	0	3	0	0	
Z	1,429	0	0	0	0	0	
1	2,235	0	0	0	0	0	
2	1,894	0	0	0	0	0	
4	3,672	0	0	3	0	0	
5	7,024	4	0	5	0	0	
6	2,704	0	0	1	0	0	
7	1,211	0	0	0	0	0	
TOTAL	100,000	4	0	158	5	0	

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UNITED STATES POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
NATIONAL CUSTOMER SUPPORT CENTER
CASS STATISTICAL SUMMARY
ERROR MESSAGE SUMMARY

GRADED & SCORED ONLY

CATEGORY	TOTAL ADDRESSES	17 INCORRECT SECONDARY UNIT	19 INCORRECT DPBC NON-FATAL	20 INCORRECT DPBC	21 INCORRECT PMB PARSE	22 INCORRECT DEFAULT FLAG	30 HISTORY PENALTY
A	6,738	0	0	0	0	12	0
B	5,319	0	0	0	0	0	0
C	5,450	0	0	0	0	0	0
D	5,281	0	0	0	0	0	0
E	4,500	0	0	0	0	1	0
G	3,250	0	0	0	0	0	0
H	1,808	0	0	0	0	0	0
I	2,883	0	0	0	0	1	0
J	3,346	0	0	0	0	3	0
K	3,333	0	0	0	0	0	0
L	1,500	0	0	0	0	0	0
M	3,500	0	0	0	0	24	0
N	902	0	0	0	0	0	0
O	5,840	0	0	0	10	3	0
P	186	0	0	0	0	0	0
Q	1,500	0	0	0	0	0	0
R	3,248	0	0	0	0	23	0
S	2,579	0	0	0	0	0	0
T	4,078	0	1	0	0	3	0
U	4,080	0	0	0	0	0	0
V	1,510	0	0	0	0	0	0
W	3,000	0	0	0	0	0	0
X	2,400	0	0	0	0	0	0
Y	3,600	0	0	0	0	0	0
Z	1,429	0	0	0	0	0	0
1	2,235	0	0	0	0	0	0
2	1,894	0	0	0	0	0	0
4	3,672	0	0	1	0	3	0
5	7,024	0	0	6	0	0	0
6	2,704	0	0	0	0	0	0
7	1,211	0	0	0	0	0	0
TOTAL	100,000	0	1	7	10	73	0

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Appendix 5

DPV® & DSF2™ Products

DPV and DSF2

When a ZIP + 4 match is made to a military, general delivery, or a unique address move “Y” to the DPV Confirmation Indicator. Spaces should be moved to all other DPV/DSF^2 fields and one of the footnotes listed below should be used. In these cases a ZIP + 4 match is considered to be equivalent to a delivery point match.

Software may optionally use DPV to make inexact matches to magnet street records. If only one DPV confirms, a match is allowed to the inexact record.

Footnote codes:

N1 - No Delivery Type

OLD:

N1 Input Address Primary Number Matched to DPV but **Highrise** Address Missing Secondary Number.

NEW:

N1 Input Address Primary Number Matched to DPV but Address Missing Secondary Number

PO Box Records should not be included in the process.

DPV validates the address when there is no Highrise default record present in the database. If there are only records with secondary information and no Highrise default, the DPV file build creates a Highrise default record with no delivery type in order to validate these addresses. This is also done on street records with secondary information but no default record is in the database. Matches to these created defaults can be recognized by the lack of a delivery type for the address.

Licensee Performance Requirements DSF2 Licensed Service

The following standard footnotes shall be provided to customers upon their request:

AA	Input Address Matched to the ZIP + 4 file
A1	Input Address Not Matched to the ZIP + 4 file
BB	Input Address Matched to DPV (all components)
CC	Input Address Primary Number Matched to DPV but Secondary Number not Matched (present but invalid)
F1	Input Address Matched to a Military Address
G1	Input Address Matched to a General Delivery Address
N1	Input Address Primary Number Matched to DPV but Address Missing Secondary Number
M1	Input Address Primary Number Missing
M3	Input Address Primary Number Invalid

P1	Input Address PO, RR, or HC Box number missing
P3	Input Address PO, RR, or HC Box number Invalid
RR	Input Address Matched to CMRA and PMB designator present (PMB 123 or #123)
R1	Input Address Matched to CMRA but PMB designator not present (PMB 123 or #123)
U1	Input Address Matched to a Unique ZIP Code

No Delivery Type on Match

If you get a DPV confirm (BB) or (CC) Input Address Matched to DPV (all components) and no delivery type, you need to move (N1) Input Address Primary Number Matched to DPV but Address Missing Secondary Number to the footnote code, replacing BB or CC with N1.

On the footnotes of F1, G1 and U1, move the "Y" to the DPV return code and space to all other flags.

DPV Error Codes

DB	Business
DC	CMRA
DD	Drop
DE	DSF2 Educational
DF	False-Positive
DK	Drop Count
DL	LACS
DN	No-Stats
DO	Confirmation
DS	Seasonal
DT	Delivery-Type
DV	Vacant
DW	Throwback
FT	Footnote Code

DPV™ Data Element Definitions

Test Address Data Element Definitions

DPV/DSF^2 fields are populated by software that is licensed, or is in the process of applying for a license, to perform DPV/DSF^2 Confirmation. For more details, see DPV/DSF^2 Licensing materials.

DPV Confirmation Indicator

Field contains the results of the call to the DPV Confirmation Hash Table: dph.hsa

Field Description:

Y = Address was DPV confirmed for both primary and (if present) secondary numbers.

D = Address was DPV confirmed for the primary number only, and Secondary number information was missing.

S = Address was DPV confirmed for the primary number only, and Secondary number information was present but unconfirmed.

N = Both Primary and (if present) Secondary number information failed to DPV Confirm.

Blank = Address not presented to hash table.

DPV CMRA Indicator

Field contains the results of the call to the DPV CMRA Hash Table: dph.hsc

Field Description: Y = Address was found in CMRA table.

N = Address was not found in CMRA table.

Blank = Address not presented to hash table.

DPV False Positive Indicator

Field contains the results of the call to the DPV False Positive Hash Table: dph.hsf

Field Description: Y = Address was found in False Positive table.

N = Address was not found in False Positive table.

Blank = Address not presented to hash table.

DSF^2 False Positive Header Record

Field Sequence Number	Field Description	Length	Position From/Through	
1	Mailer's Company Name	40	01	40
2	Mailer's Address Line	58	41	98
3	Mailer's City Name	28	99	126
4	Mailer's State Name	02	127	128
5	Mailer's 9-Digit ZIP	09	129	137
6	Total Records Processed	09	138	146
7	Total Records DPV Matched	09	147	155
8	% Match Rate to DSF^2	09	156	164
9	% Match Rate to ZIP + 4	09	165	173
10	Number of ZIP Codes on File	05	174	178
11	Number of False Positives	02	179	180

DSF^2 False Positive Record

Field Sequence Number	Field Description	Length	Position From/Through	
1	Street Pre-Directional	02	01	02
2	Street Name	28	03	30
3	Street Suffix Abbreviation	04	31	34
4	Street Post-Directional	02	35	36
5	Address Primary Number	10	37	46
6	Address Secondary Abbreviation	04	47	50
7	Address Secondary Number	08	51	58
8	Matched ZIP Code	05	59	63
9	Matched Plus4	04	64	67
10	Filler	113	68	180

To calculate the percentages for the DSF^2 False Positive Header Record, see the License Performance Requirements.

DSF^2 Header Record 1

The DSF^2 header record 1 contains information about the license and their customer.

Field Sequence Number	Field Description	Length	Position From/Through	
1	Filler	3	001	003
2	DSF^2 Header ID, must be DSF1	4	004	007
3	DSF^2 Licensee Name	40	008	047
4	DSF^2 License Number	4	048	051
5	DSF^2 Report Date – YYYYMMDD	8	052	059
6	DSF^2 File Received Date – YYYYMMDD	8	060	067
7	DSF^2 File Processed Date – YYYYMMDD	8	068	075
8	DSF^2 Access Mode	1	076	076
9	Filler	2	077	078
10	DSF^2 Customer Name	40	079	118
11	DSF^2 Customer Tax ID Number	12	119	130
12	DSF^2 Customer SIC	6	131	136
13	DSF^2 Customer Number	6	137	142
14	Filler	458	143	600

DSF^2 Header Record 1 Data Element Definitions:

4: DSF^2 - License Number

Assigned by Licensing Department upon receipt of approval.

5: DSF^2 - Report Date

Date monthly report is prepared.

6: DSF^2 - Received Date

Date licensee received customer file.

7: DSF^2 - Processed Date

Date licensee processed customer file.

DSF^2 Header Record 2

The DSF^2 header records 1 and 2 contain counts for records that were ZIP + 4 coded and flagged for LACS conversions, along with these counts tallied by ZIP + 4 record type. In addition, there are counts, broken down by ZIP + 4 record type, for records that were presented to each of the DPV hash tables, as well as counts of matches to each of the hash tables.

Field Sequence Number	Field Description	Length	Position From/Through	
1	Filler	3	001	003
2	DSF^2 Header ID, must be **DSF2**	4	004	007
3	Total Records Presented	9	008	016
4	Total LACS	9	017	025
5	Total Records ZIP + 4 Coded	9	026	034
6	Total Street Records ZIP + 4 Coded	9	035	043
7	Total Street Records LACS	9	044	052
8	Total Highrise Records ZIP + 4 Coded	9	053	061
9	Total Highrise Records LACS	9	062	070
10	Total POBOX Records ZIP + 4 Coded	9	071	079
11	Total POBOX Records LACS	9	080	088
12	Total RR Records ZIP + 4 Coded	9	089	097
13	Total RR Records LACS	9	098	106
14	Total Firm Records ZIP + 4 Coded	9	107	115
15	Total General Delivery Records ZIP + 4 Coded	9	116	124
16	Total Records DPV Validated	9	125	133
17	Total Street Records DPV Validated	9	134	142

Field Sequence Number	Field Description	Length	Position From/Through	
18	Total Street Records Presented to CMRA	9	143	151
19	Total Street Records CMRA Validated	9	152	160
20	Total Street Records Presented to DROP	9	161	169
21	Total Street Records DROP Validated	9	170	178
22	Total Street Records Presented to BUSINESS	9	179	187
23	Total Street Records BUSINESS Validated	9	188	196
24	Total Street Records Pres to THROWBACK	9	197	205
25	Total Street Records THROWBACK Validated	9	206	214
26	Total Street Records Presented to SEASONAL	9	215	223
27	Total Street Records SEASONAL Validated	9	224	232
28	Total Street Records Presented to VACANT	9	233	241
29	Total Street Records VACANT Validated	9	242	250
30	Total Street Records Pres to CURB	9	251	259
31	Total Street Records CURB Validated	9	260	268
32	Total Street Records Pres to NDCBU	9	269	277
33	Total Street Records NDCBU Validated	9	278	286
34	Total Street Records Pres to CENTRALIZED	9	287	295
35	Total Street Records CENTRALIZED Validated	9	296	304
36	Total Street Records Pres to OTHER	9	305	313
37	Total Street Records OTHER Validated	9	314	322
38	Total Street Records Pres to NOSTAT	9	323	331
39	Total Street Records NOSTAT Validated	9	332	340
40	Total Street Records Pres to Educational	9	341	349
41	Total Street Records Educational Validated	9	350	358
42	Total Highrise Records DPV Validated	9	359	367
43	Total Highrise Records Presented to CMRA	9	368	376
44	Total Highrise Records CMRA Validated	9	377	385
45	Total Highrise Records Presented to DROP	9	386	394
46	Total Highrise Records DROP Validated	9	395	403
47	Total Highrise Records Presented to BUSINESS	9	404	412
48	Total Highrise Records BUSINESS Validated	9	413	421
49	Total Highrise Records Pres to THROWBACK	9	422	430
50	Total Highrise Records THROWBACK Validated	9	431	439
51	Total Highrise Records Presented to SEASONAL	9	440	448
52	Total Highrise Records SEASONAL Validated	9	449	457
53	Total Highrise Records Presented to VACANT	9	458	466
54	Total Highrise Records VACANT Validated	9	467	475

Field Sequence Number	Field Description	Length	Position From/Through	
55	Total Highrise Records Pres to CURB	9	476	484
56	Total Highrise Records CURB Validated	9	485	493
57	Total Highrise Records Pres to NDCBU	9	494	502
58	Total Highrise Records NDCBU Validated	9	503	511
59	Total Highrise Records Pres to CENTRALIZED	9	512	520
60	Total Highrise Records CENTRALIZED Validated	9	521	529
61	Total Highrise Records Pres to OTHER	9	530	538
62	Total Highrise Records OTHER Validated	9	539	547
63	Total Highrise Records Pres to NOSTAT	9	548	556
64	Total Highrise Records NOSTAT Validated	9	557	565
65	Total Highrise Records Pres to Educational	9	566	574
66	Total Highrise Records Educational Validated	9	575	583
67	Filler	17	584	600

DSF^2
Header Record 3

Field Sequence Number	Field Description	Length	Position From/Through	
1	Filler	3	001	003
2	DSF^2 Header ID, must be **DFS3**	4	004	007
3	Total POBOX Records DPV Validated	9	008	016
4	Total POBOX Records Presented to BUSINESS	9	017	025
5	Total POBOX Records BUSINESS Validated	9	026	034
6	Total POBOX Records Presented to VACANT	9	035	043
7	Total POBOX Records VACANT Validated	9	044	052
8	Total POBOX Records Presented to Educational	9	053	061
9	Total POBOX Records Educational Validated	9	062	070
10	Total RR Records DPV Validated	9	071	079
11	Total RR Records Presented to CMRA	9	080	088
12	Total RR Records CMRA Validated	9	089	097
13	Total RR Records Presented to DROP	9	098	106
14	Total RR Records DROP Validated	9	107	115
15	Total RR Records Presented to BUSINESS	9	116	124
16	Total RR Records BUSINESS Validated	9	125	133
17	Total RR Records Pres to THROWBACK	9	134	142

Field Sequence Number	Field Description	Length	Position From/Through	
18	Total RR Records THROWBACK Validated	9	143	151
19	Total RR Records Presented to SEASONAL	9	152	160
20	Total RR Records SEASONAL Validated	9	161	169
21	Total RR Records Presented to VACANT	9	170	178
22	Total RR Records VACANT Validated	9	179	187
23	Total RR Records Pres to CURB	9	188	196
24	Total RR Records CURB Validated	9	197	205
25	Total RR Records Pres to NDCBU	9	206	214
26	Total RR Records NDCBU Validated	9	215	223
27	Total RR Records Pres to CENTRALIZED	9	224	232
28	Total RR Records CENTRALIZED Validated	9	233	241
29	Total RR Records Pres to OTHER	9	242	250
30	Total RR Records OTHER Validated	9	251	259
31	Total RR Records Pres to NOSTAT	9	260	268
32	Total RR Records NOSTAT Validated	9	269	277
33	Total Firm Records DPV Validated	9	278	286
34	Total Firm Records Presented to CMRA	9	287	295
35	Total Firm Records CMRA Validated	9	296	304
36	Total Firm Records Presented to DROP	9	305	313
37	Total Firm Records DROP Validated	9	314	322
38	Total Firm Records Presented to BUSINESS	9	323	331
39	Total Firm Records BUSINESS Validated	9	332	340
40	Total Firm Records Pres to THROWBACK	9	341	349
41	Total Firm Records THROWBACK Validated	9	350	358
42	Total Firm Records Presented to SEASONAL	9	359	367
43	Total Firm Records SEASONAL Validated	9	368	376
44	Total Firm Records Presented to VACANT	9	377	385
45	Total Firm Records VACANT Validated	9	386	394
46	Total Firm Records Pres to CURB	9	395	403
47	Total Firm Records Curb Validated	9	404	412
48	Total Firm Records Pres to NDCBU	9	413	421
49	Total Firm Records NDCBU Validated	9	422	430
50	Total Firm Records Pres to CENTRALIZED	9	431	439
51	Total Firm Records CENTRALIZED Validated	9	440	448
52	Total Firm Records Pres to OTHER	9	449	457
53	Total Firm Records OTHER Validated	9	458	466
54	Total Firm Records Pres to NOSTAT	9	467	475

Field Sequence Number	Field Description	Length	Position From/Through	
55	Total Firm Records NOSTAT Validated	9	476	484
56	Total Firm Records Pres to Educational	4	485	488
57	Total Firm Records Educational Validated	4	489	492
58	Total GENDEL Records DPV Validated	9	493	501
59	Total Records with Primary Number Errors	9	502	510
60	Total Street Records with Primary Num Errors	9	511	519
61	Total Highrise Records with Primary Num Errors	9	520	528
62	Total POBOX Records with Primary Num Errors	9	529	537
63	Total RR Records with Primary Num Errors	9	538	546
64	Total Firm Records with Primary Num Errors	9	547	555
65	Total Records with Secondary Number Errors	9	556	564
66	Total Street Records w/Secondary Num Errors	9	565	573
67	Total Highrise Records w/Secondary Num Errors	9	574	582
68	Total Firm Records w/Secondary Num Errors	9	583	591
69	Total Records FALSE POSITIVE Validated	9	592	600

DSF2 Header Record 2 Data Element Definitions

Total Records Presented

This field contains the total number of records in the input file.

Total LACS

This field contains the total number of records with LACS flag set.

Total Records ZIP + 4 Coded

This field contains the total number of records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total Street Records ZIP + 4 Coded

This field contains the total number of S records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total Street Records LACS

This field contains the total number of S records with LACS flag set.

Total Highrise Records ZIP + 4 Coded

This field contains the total number of H records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total Highrise Records LACS

This field contains the total number of H records with LACS flag set.

Total POBOX Records ZIP + 4 Coded

This field contains the total number of P records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total POBOX Records LACS

This field contains the total number of P records with LACS flag set.

Total RR Records ZIP + 4 Coded

This field contains the total number of R records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total RR Records LACS

This field contains the total number of R records with LACS flag set.

Total Firm Records ZIP + 4 Coded

This field contains the total number of F records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total General Delivery Records ZIP + 4 Coded

This field contains the total number of G records that were successfully coded against the ZIP + 4 file and assigned an add-on (plus 4).

Total Records DPV Validated

This field contains the total number of records in the file that DPV Confirmed (Y, S, or D).

The next group of fields are broken down by ZIP + 4 record type (S, H, P, R, F, and G) and are used to supply counts for:

Records that were DPV Confirmed (Y,S, or D):	dph.hsa
Records that were presented to the CMRA table	dph.hsc
Records that were confirmed in the CMRA table	
Records that were presented to the DROP table	dph.hsd
Records that were confirmed in the DROP table	
Records that were presented to the BUSINESS table	dph.hsb
Records that were confirmed in the BUSINESS table	
Records that were presented to the THROWBACK table	dph.hst
Records that were confirmed in the THROWBACK table	
Records that were presented to the SEASONAL table	dph.hss
Records that were confirmed in the SEASONAL table	
Records that were presented to the VACANT table	dph.hsv

Records that were confirmed in the VACANT table	
Records that were presented to the CURB table	dph.hs1
Records that were confirmed in the CURB table	
Records that were presented to the NDCBU table	dph.hs2
Records that were confirmed in the NDCBU table	
Records that were presented to the CENTRALIZED table	dph.hs3
Records that were confirmed in the CENTRALIZED table	
Records that were presented to the OTHER (DOORSLOT) table	dph.hs4
Records that were confirmed in the OTHER (DOORSLOT) table	
Records that were presented to the NOSTAT table	dph.hsx
Records that were confirmed in the NOSTAT table	

These fields are:

Total Street Records DPV Validated
Total Street Records Presented to CMRA
Total Street Records CMRA Validated
Total Street Records Presented to DROP
Total Street Records DROP Validated
Total Street Records Presented to BUSINESS
Total Street Records BUSINESS Validated
Total Street Records Pres to THROWBACK
Total Street Records THROWBACK Validated
Total Street Records Presented to SEASONAL
Total Street Records SEASONAL Validated
Total Street Records Presented to VACANT
Total Street Records VACANT Validated
Total Street Records Pres to CURB
Total Street Records CURB Validated
Total Street Records Pres to NDCBU
Total Street Records NDCBU Validated
Total Street Records Pres to CENTRALIZED
Total Street Records CENTRALIZED Validated
Total Street Records Pres to OTHER
Total Street Records OTHER Validated
Total Street Records Pres to NOSTAT
Total Street Records NOSTAT Validated
Total Street Records Presented to Educational

Total Street Records Educational Validated

Total Highrise Records DPV Validated
Total Highrise Records Presented to CMRA
Total Highrise Records CMRA Validated
Total Highrise Records Presented to DROP
Total Highrise Records DROP Validated
Total Highrise Records Presented to BUSINESS
Total Highrise Records BUSINESS Validated
Total Highrise Records Pres to THROWBACK
Total Highrise Records THROWBACK Validated
Total Highrise Records Presented to SEASONAL
Total Highrise Records SEASONAL Validated
Total Highrise Records Presented to VACANT
Total Highrise Records VACANT Validated
Total Highrise Records Pres to CURB
Total Highrise Records CURB Validated
Total Highrise Records Pres to NDCBU
Total Highrise Records NDCBU Validated
Total Highrise Records Pres to CENTRALIZED
Total Highrise Records CENTRALIZED Validated
Total Highrise Records Pres to OTHER
Total Highrise Records OTHER Validated
Total Highrise Records Pres to NOSTAT
Total Highrise Records NOSTAT Validated
Total Highrise Records Presented to Educational
Total Highrise Records Educational Validated

Total POBOX Records DPV Validated
Total POBOX Records Presented to BUSINESS
Total POBOX Records BUSINESS Validated
Total POBOX Records Presented to VACANT
Total POBOX Records VACANT Validated

Total RR Records DPV Validated
Total RR Records Presented to CMRA

Total RR Records CMRA Validated
Total RR Records Presented to DROP
Total RR Records DROP Validated
Total RR Records Presented to BUSINESS
Total RR Records BUSINESS Validated
Total RR Records Pres to THROWBACK
Total RR Records THROWBACK Validated
Total RR Records Presented to SEASONAL
Total RR Records SEASONAL Validated
Total RR Records Presented to VACANT
Total RR Records VACANT Validated
Total RR Records Pres to CURB
Total RR Records CURB Validated
Total RR Records Pres to NDCBU
Total RR Records NDCBU Validated
Total RR Records Pres to CENTRALIZED
Total RR Records CENTRALIZED Validated
Total RR Records Pres to OTHER
Total RR Records OTHER Validated
Total RR Records Pres to NOSTAT
Total RR Records NOSTAT Validated

Total Firm Records DPV Validated
Total Firm Records Presented to CMRA
Total Firm Records CMRA Validated
Total Firm Records Presented to DROP
Total Firm Records DROP Validated
Total Firm Records Presented to BUSINESS
Total Firm Records BUSINESS Validated
Total Firm Records Pres to THROWBACK
Total Firm Records THROWBACK Validated
Total Firm Records Presented to SEASONAL
Total Firm Records SEASONAL Validated
Total Firm Records Presented to VACANT
Total Firm Records VACANT Validated
Total Firm Records Pres to CURB

Total Firm Records CURB Validated

Total Firm Records Pres to NDCBU

Total Firm Records NDCBU Validated

Total Firm Records Pres to CENTRALIZED

Total Firm Records CENTRALIZED Validated

Total Firm Records Pres to OTHER

Total Firm Records OTHER Validated

Total Firm Records Pres to NOSTAT

Total Firm Records NOSTAT Validated

Total Firm Records Presented to Educational

Total Firm Records Educational Validated

Total GENDEL Records DPV Validated

Total Records with Primary Number Errors

This field contains the total number of records with Primary Number errors, i.e., footnote M1, M3.

Total Street Records with Primary Number Errors

This field contains the total number of S records with Primary Number errors, i.e., footnote M1, M3.

Total Hirise Records with Primary Number Errors

This field contains the total number of H records with Primary Number errors, i.e., footnote M1, M3.

Total PO BOX Records with Primary Number Errors

This field contains the total number of P records with Primary Number errors, i.e., footnote M1, M3.

Total RR Records with Primary Number Errors

This field contains the total number of R records with Primary Number errors, i.e., footnote M1, M3.

Total Firm Records with Primary Number Errors

This field contains the total number of F records with Primary Number errors, i.e., footnote M1, M3.

Total Records with Secondary Number Errors

This field contains the total number of records with Secondary Number errors, i.e., footnote CC, N1.

Total Street Records w/Secondary Number Errors

This field contains the total number of S records with Secondary Number errors, i.e., footnote CC, N1.

Total Hirise Records w/Secondary Number Errors

This field contains the total number of H records with Secondary Number errors, i.e., footnote CC, N1.

Total Firm Records w/Secondary Number Errors

This field contains the total number of F records with Secondary Number errors, i.e., footnote CC, N1.

Total Records FALSE POSITIVE Validated

This field contains the total number of records that were found in the FALSE POSITIVE hash table, dph.hsf

Appendix 6

Z4CHANGE Certification

Z4CHANGE

Z4CHANGE was developed in response to customers who wanted a cost-effective method to improve the deliverability of their mail by using the most current ZIP + 4/delivery point information. Z4CHANGE helps customers accomplish this goal by providing them with the data that indicates which ZIP + 4 Codes have had any transactions in the past twelve months. When a highrise (H record) or a firm (F record) is added, this product also shows a transaction for the supporting street ZIP + 4 Code. This allows the customer the opportunity to upgrade the previously coded street-level matches. Customers must then develop their own software to access the Z4CHANGE file to determine which records on their address list need to be reprocessed by CASS Certified software. As a result, only the records that have had transactions will need to be reprocessed, and this can be done on a monthly or quarterly basis.

Using the Z4CHANGE product and becoming Z4CHANGE certified eliminates the need to reprocess an entire address list every year by providing a method to maintain continuous qualification for the discounted automation rates. As a Z4CHANGE user, the customers' address files are maintained in compliance with United States Postal Service regulations, i.e., maintenance of current updates and proper use of the product.

If the United States Postal Service determines that a significant change has been made in the CASS requirements, customers will be required to reprocess their entire address list. Otherwise, it will be necessary that customers reprocess their entire file at the end of the third year following Z4CHANGE certification.

Benefits

Z4CHANGE offers the mailing customer the following benefits:

- Reduces costs in meeting automation-based requirements by reducing the time and expense of reprocessing your address file.
- Eliminates responsibility to meet the requirements of the Domestic mail Manual (DMM) for matching address lists with current CASS Certified software within one year of the date of mailing.
- Allows ability to process address files more frequently, thus producing an address list that is current to within 45 days (on the average) if processing quarterly or within 180 days.
- Enhances competitiveness in the marketplace by improving the deliverability of mail and adding to the promptness of mail delivery.

General Information

To use the Z4CHANGE product, it is vitally important that you know the cycle date of the ZIP + 4 database used the *previous* time you processed your address list with CASS Certified software. You must also know the cycle date of the ZIP + 4 database you are using for your current reprocessing. Your CASS Certified software vendor should be able to provide this information.

The Z4CHANGE product is offered in either a monthly or bimonthly update. Therefore, you must know the update cycle for your CASS Certified software vendor. Generally, if you receive monthly updates of the ZIP + 4 database from your CASS Certified software vendor, you need to subscribe to the monthly installment of Z4CHANGE even if you are only matching bimonthly.

When you have established the correct cycle date of your ZIP + 4 database, be sure to load the Z4CHANGE product that corresponds to the same cycle date. You must then calculate the difference in months between the ZIP + 4 database you used the last time you processed your address list and the one you are currently using. For example, if you are processing bimonthly and your vendor uses bimonthly update cycles, this number should be two.

To use the Z4CHANGE product, you must develop your own Z4CHANGE file access software. In addition, you must obtain certification for your Z4CHANGE software to take advantage of the continuous qualification for the automation postage rates. However, you do not have to be certified to purchase or use the Z4CHANGE product.

Z4CHANGE certification test includes two test files consisting of ZIP + 4 records marked *Stage I* and *Stage II*, respectively. To ensure that you have correctly installed the product and correctly implemented your Z4CHANGE software, you should process the Stage I test file and compare your answers to the answers provided.

After completing Stage I, process the Stage II test file and return it to the National Customer Support Center (NCSC) for grading. Please refer to the section in this document on Z4CHANGE certification for more details.

File Description

Each record in the Z4CHANGE product contains 21 bytes. The first 9 bytes represent a valid ZIP + 4 Code. The remaining 12 bytes are flags for each month indicating whether a ZIP + 4 Code has had any type of transaction (add or delete) and the month that the transaction occurred.

Each flag is set either to "N" to indicate the ZIP + 4 Code had no transactions for the month or "Y" to indicate the ZIP + 4 Code had transactions for the month. The first flag represents the current month. For example, if the current Z4CHANGE cycle is November, then the first flag represents November, the second flag represents October and the third flag represents September, etc.

Figure 1 uses ZIP + 4 Code 38018-7740 to illustrate that the second flag is set to "Y," indicating that the ZIP + 4 Code changed in October.

Current Month	November											
ZIP + 4 Code	38018-7740											
	November	**October**	September	August	July	June	May	April	March	February	January	December
38018-7740	N	**Y**	N	N	N	N	N	N	N	N		N

ZIP + 4 Code 38018-7740 has a transaction in October

Figure 1—ZIP + 4 Code Transaction in October

Using Z4CHANGE

To use the Z4CHANGE product, you must know the cycle date of the ZIP + 4 database used for address matching. You must also know the cycle date of the current Z4CHANGE product. To determine the number of months since the last address-matching cycle, check the ZIP + 4 Code. If any flags have been set to "Y" during that time frame, reprocess the address through CASS Certified software.

For example, if the current Z4CHANGE product is November, the first flag is November and the last flag is December of the previous year. Assume that the last address-matching cycle used the March Z IP+4 database. Find the appropriate ZIP + 4 Code. In the example, the ZIP + 4 Code is 12345-0009. Figure 2 indicates that a change has occurred to the ZIP + 4 Code since March. Therefore, this address requires processing through CASS Certified software.

Current Month	November											
ZIP + 4 Code												
	November	October	September	**August**	July	June	May	April	**March**	February	January	December
12345-0009	N	N	N	**Y**	N	N	N	N	**N**	N		N

ZIP + 4 Database

Figure 2—Address Requiring Reprocessing

Figure 3 focuses on the ZIP + 4 Code 12345-0100, in which no changes occurred. This address *does not* require processing through CASS Certified software.

Current Month	November											
ZIP + 4 Code	November	October	September	August	July	June	May	April	**March**	February	January	December
12345-0100	N	N	N	Y	N	N	N	N	**N**	N		N

ZIP + 4 Database

Figure 3—Address Not Requiring Reprocessing

Stage I

A Stage I file similar to the Stage I file used in CASS certification has been developed for Z4CHANGE software. Stage I is a “test with answers”, and its purpose is to enable you to compare your answers to those provided. This evaluation will assist with software debugging in preparation for Stage II. The Stage I file consists of ZIP + 4 records with a flag indicating whether the ZIP + 4 record has experienced a change. The flag contains a “Y” to indicate that a change has occurred or an “N” to indicate that no change has occurred.

Stage II

Stage II is a “test without answers.” The Stage II file consists of ZIP + 4 records. Your Z4CHANGE software must process each ZIP + 4 record, compare each to the Z4CHANGE file, and return a “Y” or “N” in the answer field to indicate whether the ZIP + 4 Code has experienced a change.

Processing the Stage II File

Process the original Z4CHANGE Stage II product file through the Z4CHANGE software. Software must be able to evaluate the Stage II file data and determine whether a change has occurred to the ZIP + 4 records during the previous five months. Stage II requires a 100% match rate. If the original Z4CHANGE Stage II file cannot be completely processed, you must order a new one.

When the Z4CHANGE Stage II files has been processed, download the file back through the electronic file transfer using the file name originally provided to you. A completed facsimilie of PS Form 3553 must be returned with the Stage II file.

Z4CHANGE Certification

When the required level of accuracy (100%) is achieved for the Z4CHANGE software, certification is achieved. Certification consists of issuing an official notification letter, Z4CHANGE certificate, and inclusion of your company's name in a

list of certified companies available in electronic format at http://ribbs.usps.gov/files/vendors or in hardcopy format.

Note: If the USPS determines that a significant change has been made in the CASS certification process, you will be required to reprocess your entire address file and produce a new form 3553. Otherwise, it will be necessary for you to reprocess your entire file at the end of the third year following the date of your Z4CHANGE certification.

Test File Format

The Z4CHANGE Stage I and Stage II file products is available only in Internet format.

Cartridge Confirmation Options

Format	Recording Technique	Attributes	Density	Label Option
I	Internet			

Each record consists of a 9-digit ZIP + 4 Code followed by a one-character answer. A header record does not exist in this file.

Record Layout

Field Sequence Number	Field Description	Length	Position From/Through	
1	CUSTOMER ID	09	001	009
2	ZIP-CODE	05	010	014
3	ADD-ON-CODE	04	015	018
4	ANSWER	01	019	019
5	FILLER	01	020	020

UNITED STATES POSTAL SERVICE®

Z4CHANGE Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address
Company Name	
Physical Address	Apt/Suite
City / State	ZIP + 4® Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*
Salesperson (your company) / Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address
Company Name	
USPS Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Contact Number (if different)	

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ User
- ❑ DPV® Licensee
- ❑ RDI™ Licensee
- ❑ Vendor/Service Bureau
- ❑ DSF²™ Licensee
- ❑ DPV User
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*
- ❑ User-Defined Certification

All information furnished on this application is complete and correct. The responses provided on the Z4CHANGE Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The Z4CHANGE Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the Z4CHANGE Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids Z4CHANGE certification.

Z4CHANGE certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the software has optional parameters, you **MUST** return a list of the parameters used to process the Z4CHANGE file with this form.

Z4CHANGE Software

1. Specify Stage type:
   ❑ Stage I ❑ Stage II ❑ Both

2. Fill in all software information:
   Product: _____
   Version: _____
   Configuration: _____
   Platform: _____

3. Z4CHANGE product cycle date: _____

Mail or Fax Completed Form To

Z4CHANGE CERTIFICATION
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440

Appendix 7

eLOT® Utility Certification

Certification Procedures

CASS will use the Stage File format for eLOT utilities. All of the necessary address fields will be populated to reflect the normal assignment by a CASS certified ZIP + 4 engine: ZIP Code, Carrier ID, ZIP + 4 code and the Delivery Point Code (DPC). Software must locate the record in the eLOT Master file in which the first three items match, and the DPC fits within the range of the lowest/highest DPC. The sort sequence will then be ZIP Code; Carrier ID, eLOT Sequence, ZIP + 4 code and DPC, then ascending or descending based on the flag in the eLOT Master file.

The following guidelines should be used for software to accurately determine the correct eLOT Sequence Number and Ascending/Descending Flag from the eLOT product. Implement the following (assuming the use of a ZIP + 4 engine's results) to successfully achieve eLOT Utility or Merge/eLOT certification.

- Locate the corresponding ZIP Code/CRID in the eLOT Master file matching the input ZIP Code/CRID
- Locate the ZIP Add On Low/ZIP Add On High Number range that your input falls
- Locate the eLOT Low DPC/High DPC range that your input DPC falls
- If Items 1 through 3 above are found, software assigns the eLOT Sequence Number and eLOT Ascending/Descending Flag. Otherwise, your input data element was not located and software assigns the default of "0000D".
- In cases where the Add On Low/Add On High are not equal, the Add On must still be considered in the sort sequence after the eLOT Sequence/Add On are assigned.

Below is an example to assist you in your software development:

eLOT	ZIP	CRID	+4LO	+4HI	DPLO	DPHI	A/D	SEQ
	38111	C002	0500	1000	10	20	A	0002

If ZIP + 4's appear in the following order:

38111-0999

38111-0500

38111-0888

Then pieces would be assigned same eLOT 0002A, and sorted according to eLOT sorting rules (assuming same DPC):

38111-0500 0002A

38111-0888 0002A

38111-0999 0002A

38111-1000 0002A

Scoring

A score of 100% is required to achieve eLOT certification.

Ordering eLOT Certification

Customer Information

Complete all information on the order form exactly as it should appear in any United States Postal Service (USPS) publication. If your company name should not appear in the USPS publications, please check the appropriate box. Specify whether the certification being attempted is manufacturer or user-defined. A company official must sign and date the eLOT Order Form.

Software

The software name, version and configuration must be provided for the software being tested. The configuration consists of a three-character alphabetic field that identifies the parameter settings used by the software processing the eLOT Stage II file.

Note: For assistance with ordering the eLOT certification product, call the CASS Department at 1-800-642-2914.

Stage II Processing Quick Reference

Processing Steps

Stage I and II product files may be ordered individually or jointly. Stage I is optional (but recommended) prior to attempting certification, while Stage II is required. Stage II product files must be processed and returned to the NCSC within ten calendar days from the date of receipt.

Complete the order form and mail or fax it to the National Customer Support Center (NCSC) Certification Department. Orders will not be accepted via telephone. Orders must be signed and dated by a company official. If the software has optional parameter settings, configuration designators indicating the settings to be used when processing customer and/or client address files must be provided.

Process the eLOT Stage II file using the software being certified. Set software parameters exactly as if processing a customer or internal address file. Process the original Stage II file. Backup copies or alternate media will be rejected. Update the appropriate fields in the Stage I file for NCSC evaluation.

Upload or mail the completed Stage II product file to the NCSC for evaluation.

Certification results will be returned when the evaluation is complete.

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UNITED STATES POSTAL SERVICE®

eLOT® Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address

Company Name

Physical Address	Apt/Suite

City	State	ZIP + 4® Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Salesperson (your company)	Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address

Company Name

USPS Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Contact Number (if different)

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ User
- ❑ DPV® Licensee
- ❑ RDI™ Licensee
- ❑ Vendor/Service Bureau
- ❑ DSF²™ Licensee
- ❑ DPV User
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*
- ❑ User-Defined Certification

All information furnished on this application is complete and correct. The responses provided on the eLOT Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The eLOT Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the eLOT Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids eLOT certification.

eLOT certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the matching software/hardware has optional parameters, you MUST return a list of the parameters used to process the eLOT® Stage II file with this form. The electronic version of PS Form 3553, *CASS™ Summary Report*, MUST be incorporated into the header record. Also, you MUST return a hardcopy of PS Form 3553 by fax, FTP, or email with the Stage II certification.

eLOT Software

1. Specify Stage type:

   ❑ Stage I ❑ Stage II ❑ Both

2. Fill in all software information:

Product Title	Version Number*	Configuration	Platform

Mail or Fax Completed Form To

ELOT CERTIFICATION
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440

Appendix 8

RDI™ Utility

RDI™ Utility

RDI is a licensed product of the United States Postal Service. RDI licensees must be parcel shippers, their agent or analysis. The RDI user/licensee attempts to determine the best cost for shipping their packages based upon the fact that some delivery services charge a higher price for a residential delivery than a business delivery.

RDI will help users/licensees shop for the lowest delivery cost for a specific address by identifying whether that address is listed as business or residential in the US Postal Service Address Management System (AMS) database. In order to enter into the process to develop RDI-enabled software, you must be a developer of an address matching software lookup tool.

Additional information on RDI can be found at http://ribbs.usps.gov/files/rdi.

Overview

RDI is designed to be used in conjunction with a CASS Certified ZIP + 4/DPV confirmed address matching software or ZIP Code lookup tool. It works similar to the DPV process, in that the RDI data is supplied as hash tables. It is a much simpler process in that the standard hash algorithm is only determined for the 9-digit and 11-digit ZIP Code rather than the entire address.

While this process is called “Residential Delivery Indicator”, the tables themselves provide information regarding business deliveries. The residential status of an input address to which a ZIP + 4 Code is assigned is recognized by the fact that it does not match to a record in either RDI tables.

The Residential Delivery Indicator data files are the following approximate sizes:

9-Digit table = 8mb

11-digit table = 8mb

The 9-digit hash table consists of ZIP + 4 Codes that contain only business deliveries. The 11-digit table consists of the Delivery Point codes for the business deliveries where the ZIP + 4 Code contains both business and residential deliveries.

The data file may be loaded on any platform. Speed of operation will depend on the amount of RAM and the speed of the processor. Depending on the interface written and the hardware available, the validation inquiry can be done in RAM or as Disk Lookup.

Developers seeking RDI certification must process a stage II file from CASS. The ability of the software to return the correct response from the RDI tables will determine whether the software will be RDI-certified. CASS certified software must identify this match by setting a “Y” flag in position 589. This field determines if a delivery point is residential

Field Description: Y = Residential Delivery
N = Not Residential Delivery
Blank = didn’t go to RDI

Minimum accuracy percentage required achieving a passing score on either Merge/RDI or RDI Utility is 100%. However, you must correctly assign the delivery point code for 100% of all ZIP + 4 coded records. If you fail to achieve a passing score on any single category of the mere file, you will fail all four categories regardless of other scores. RDI will not be scored unless the 5-digit, carrier route, and ZIP + 4/DP codes are correct.

When the required level of accuracy (100%) is achieved for the RDI software, you become certified. Certification consists of issuing an official notification letter, RDI certificate and inclusion of your company's name in a list of certified companies (which can be ordered from the National Customer Support Center).

Scoring

A score of 100% is required to achieve RDI certification.

Ordering RDI Certification

Customer Information

Complete all information on the order form exactly as it should appear in any United States Postal Service (USPS) publication. If your company name should not appear in USPS publications, please check the appropriate box. Specify whether the certification being attempted is manufacturer or user-defined. A company official must sign and date the RDI Order Form.

Software

The software name, version and configuration must be provided for the software being tested. The configuration consists of a three-character alphabetic field that identifies the parameter settings used by the software processing the RDI Stage II file.

Note: For assistance with ordering the RDI certification product, call the CASS Department at 1-800-642-2914.

Stage II Processing Quick Reference

Processing Steps

Stage II product files must be processed and returned to the NCSC within ten calendar days from the date of receipt.

Complete the order form and mail or fax it to the National Customer Support Center (NCSC) Certification Department. Orders will not be accepted via telephone. Orders must be signed and dated by a company official.

Process the RDI Stage II file using the software being certified. Set software parameters exactly as if processing a customer or internal address file. Process the original Stage II file. Backup copies or alternate media will be rejected.

Upload or mail the completed Stage II product file to the NCSC for evaluation.

Certification results will be returned when the evaluation is complete.

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UNITED STATES POSTAL SERVICE®

RDI™ Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address
Company Name	
Physical Address	Apt/Suite
City / State	ZIP + 4® Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*
Salesperson (your company) / Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address
Company Name	
USPS Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Contact Number (if different)	

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*

All information furnished on this application is complete and correct. The responses provided on the RDI Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The RDI Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the RDI Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids RDI certification.

RDI certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the matching software/hardware has optional parameters, you MUST return a list of the parameters used to process the CASS™ Stage II file with this form. The electronic version of PS Form 3553, *CASS Summary Report*, MUST be incorporated into the header record. Also, you MUST return a hardcopy of PS Form 3553 by fax, FTP, or email with the Stage II certification.

RDI Software

1. Specify Stage type:
   - ❑ Stage II

2. Fill in all software information:

Product Title	Version Number*	Configuration	Platform

Mail or Fax Completed Form To

CASS DEPARTMENT
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440

Appendix 9

LACS$^{Link®}$ Product

LACS^{Link} Product

LACS^{Link} is a data product provided by the Postal Service to allow addresses that have been converted due to USPS changes or for 911 emergency systems to be linked with their new address. The input to a LACS^{Link} lookup is a display of the old address (not parsed) of fifty (50) characters in length, and a 5-digit ZIP Code. The output will be a new 11-digit Delivery Point Code with a Hint Byte to allow the reversing of the DPC into a text address.

For additional information about LACS^{Link}, contact the Move Update Department at 800-589-5766.

LACS^{Link} Requirements

The LACS^{Link} testing will include false positive records. You will be required to email the false positive records to DSF2STOP@USPS.GOV. The subject line should be CASS Test LACS^{Link}. Follow the License Performance Requirements.

UNITED STATES POSTAL SERVICE®

LACS^{Link}™ Utility Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address
Company Name	
Physical Address	Apt/Suite
City / State	ZIP + 4® Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*
Salesperson (your company) / Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address
Company Name	
USPS Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite
City / State	ZIP + 4 Code
Contact Number (if different)	

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ User
- ❑ DPV® Licensee
- ❑ RDI™ Licensee
- ❑ Vendor/Service Bureau
- ❑ DSF²™ Licensee
- ❑ DPV User
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*
- ❑ User-Defined Certification

All information furnished on this application is complete and correct. The responses provided on the LACS^{Link} Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The LACS^{Link} Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the LACS^{Link} Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids LACS^{Link} certification.

LACS^{Link} **certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.**

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the matching software/hardware has optional parameters, you MUST return a list of the parameters used to process the LACSLink® Stage II file with this form. The electronic version of PS Form 3553, *CASS™ Summary Report*, MUST be incorporated into the header record. Also, you MUST return a hardcopy of PS Form 3553 by fax, FTP, or email with the Stage II certification.

eLOT Software

1. Specify Stage type:
   - ❑ Stage II

2. Fill in all software information:

Product Title	Version Number*	Configuration	Platform

Mail or Fax Completed Form To

LACSLINK CERTIFICATION
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440

Appendix 10:
Suite^{LinkTM} Product

Suite^{Link} Product

The Suite^{Link} product improves business addressing by adding known secondary (suite) numbers to allow delivery sequencing where it would otherwise not be possible. Given a business name and an associated ZIP + 4 coded address that matches to a high-rise default, the Suite^{Link} process returns the appropriate suite number, when available.

Keys are built using the significant words in a business name and the building's Enhanced Modified Delivery Point (EMDP).

Building an Enhanced Modified Delivery Point (EMDP)

The EMDP is a numeric representation of a delivery point. It is created using the "street level" 9-digit ZIP Code and the primary number. You should not use the secondary number or descriptor when building EMDP for Suite^{Link}.

Sample EMDP

5-Digit ZIP Code	4-Digit Add-On	7 Digits of Primary #	2 Alphas from Primary #
12345	6789	0000123	A

Example of Keys

Input Record:
Investment Bank of America
123 Main St
12345-6789

Businesses at 123 Main St:

Poplar Medical Sales	Ste 212
Poplar Auto Sales Memphis	Ste 214
Poplar Auto Repair	Ste 216
Wilson Law Firm	Ste 218
Boyce's Kayaks	Ste 220

Keys built to probe the SuiteLink Product:
EMDP-America Bank Investment
EMDP-America
EMDP-Bank
EMDP-Investment

**Note that "of" is omitted because it appears in the noise word table.*

SuiteLink Example (cont.)

Input: Poplar Auto Sales
123 Main St (Suite Missing)
12345-6790 (High-rise Default)

Lookup Key: SHA of EMDP-Auto Poplar Sales
Returns: No Matches
Lookup Key: SHA of EMDP-Poplar
Returns: 212, 214, 216
Lookup Key: SHA of EMDP-Auto
Returns: 214, 216
Lookup Key: SHA of EMDP Sales
Retuns: 212,214

Output: 214

Each key that successfully returns a suite number is used to build confidence in the match.

SuiteLink Matching Confidence Rules

The following rules determine if a match is valid and the secondary number may be returned:

A match to the complete input (after testing the noise word table) results in a valid match.

Number of Non-Excluded Words on Input	Number of Words that Must Return the Same Secondary Number
1	1
2	2
3	2
4	3
5 or more	4

After the lookup is complete, if a valid match is obtained, update the Address List. After a valid match is obtained, you must process the address with new secondary information through a CASS Certified engine.

The Suite^{Link} indicator is populated when the Suite^{Link} tables are queried. The Suite^{Link} return codes are A, 00, or blank. See the Suite^{Link} Software Developers Guide for more information on the return code values.

Indicator Values:

Y = Suite^{Link} Record Match
Business address improved. The input record matched to a rcord in the master file. An improved business address could be furnished.

N = No Match
Business address not improved. The input record COULD NOT BE matched to a record in the master file. An improved business address could not be furnished.

Return Code Values:

A = Suite^{Link} Record Match
Business address improved. The input record matched to a rcord in the master file. An improved business address could be furnished.

00 = No Match
Business address not improved. The input record COULD NOT BE matched to a record in the master file. An improved business address could not be furnished.

Suite^{Link} File Layout:

Detail Field	Col	Length
Suite^{Link} Return Code	597	2

For all administration and technical information regarding this product, please contact the Suite^{Link} Department at 800-589-5766 or email ncoalink@usps.gov.

Appendix 11: DirectDPV™

DirectDPV™ Utility

DirectDPV

DirectDPV is a tool to allow mailers to prescreen address records that have previously been ZIP + 4 coded using CASS Certified™ software in an authorized mode. DirectDPV contains either a ZIP + 4 or a ZIP + 4 and a delivery point value for addresses known to the Postal Service™ to have undergone a change which would require an update to the address maintained in the mailer's file. Addresses that have not changed will not require reprocessing.

Requirement

The mailer must store the complete ZIP + 4 code or ZIP + 4/DPV for each address. If the ZIP + 4 code is not present in an address record, DirectDPV cannot be used and the address needs to be resubmitted for CASS processing. It is recommended that the delivery point value be stored in addition to the ZIP + 4 code. If the delivery point value is not stored, the address can be looked up in the DirectDPV process using only the ZIP + 4 code.

When the comparison of the ZIP + 4 or the ZIP + 4 code and delivery point value from the mailer's address record do not appear in the DirectDPV data, the address retains its eligibility to be counted as a ZIP + 4 coded address on the PS Form 3553 document. When the ZIP + 4 code or ZIP + 4 code and delivery point value is found in the DirectDPV data, the address must be either recreated from the DirectDPV data or must be resubmitted to CASS software and updated to qualify for automation rates.

Any process involving the use of DirectDPV requires certification prior to authorized use. A utility test will be provided that exercises the DirectDPV function and verifies that is has been correctly implemented and that the tabulation of statistics on PS Form 3553 is correct.

Use of DirectDPV does not alter the mailer requirement to validate addresses every 180 days using CASS Certified software to qualify for automation rates, except that DirectDPV is an authorized process to use in meeting the 180 day validation process. The Postal Service will require all addresses in the mailer's file be resubmitted to a CASS Certified address matching process on an annual basis regardless of whether DirectDPV is used to maintain the address file.

Note: Refer to the DPV Licensee Performance Requirements for additional information.

Fulfillment

DirectDPV is available only as part of the DPV Product fulfillment to DPV-licensed, CASS Certified address matching software authors.

Certification Procedures

Any process involving the use of DirectDPV requires certification prior to authorized use. A utility test will be provided that exercises the DirectDPV functions and verifies that they have been correctly implemented and the tabulation of statistics on PS Form 3553 is correct.

Although the DirectDPV Utility certification can be requested independently of CASS certification, DirectDPV can only be used in conjunction with CASS Certified Software.

Stage II

Stage II is a “test without answers”. The stage II file consist of records that contain a ZIP + 4 and deliver point, ZIP + 4 only, and no match records.

- A score of 100% is required to pass.
- Software must return a DirectDPV Flag indicating that the record was presented to DirectDPV. The values for the flag are Y (found), 0 (found with all zeros) or N(not found).
- Software must return the new 11-digit and address information for records that are found in the DirectDPV table. If the record is not found in the DirectDPV table then the original input should be returned in the answer fields for the utility test.
- The 3553 will be graded for accuracy and completion.

When the required level if accuracy (100%) is achieved for the DirectDPV software, you become certified. Certification consists of issuing an official notification letter, DirectDPV certificate, and inclusion of your company’s name in a list of certified companies.

Stage File Description

Field Sequence Number	Field Description	Length Input	Position From/ Through	
1	Customer ID	9	001	009
2	CASS Key	11	010	020
3	ZIP Code Answer	5	021	025
4	ZIP Code Alternate Answer Allowed*	1	026	026
5	ZIP Code Include In 3553 *	1	027	027
6	ZIP + 4 Add-On Answer	4	028	031
7	ZIP + 4 Add-On Include In 3553 *	1	032	032
8	Delivery Point Answer	2	033	034
9	Delivery Point Include In 3553*	1	035	035
10	Delivery Point Check Digit Answer	1	036	036
11	Carrier Route Answer	4	037	040
12	Carrier Route Alternate Answer Allowed*	1	041	041
13	Carrier Route Include In 3553*	1	042	042
14	City Name Answer	28	043	070
15	City Name Alternate Answer Allowed*	1	071	071
16	State Code Answer	2	072	073
17	Urbanization Answer	28	074	101
18	Firm Name Answer	40	102	141
19	Primary Delivery Address Line Answer	64	142	205
20	Primary Delivery Address Line Alt. Answer Allowed*	1	206	206
21	Second Delivery Address Line Answer	64	207	270
22	Second Delivery Address Line Alt. Answer Allowed*	1	271	271
23	Locatable Address Conversion Indicator	1	272	272
24	Enhanced Line of Travel (eLOT) Sequence Number Answer	4	273	276
25	Enhanced Line of Travel (eLOT) Ascending/ Descending Answer	1	277	277
26	Firm or Recipient Input	40	278	317
27	Urbanization Input	28	318	345
28	Primary Delivery Address Line Input	64	346	409
29	Second Delivery Address Line Input	64	410	473
30	City Name Input	28	474	501
31	State Input	2	502	503

Field Sequence Number	Field Description	Length Input	Position From/ Through	
32	ZIP Code Input	5	504	508
33	ZIP + 4 Addon Input	4	509	512
34	Delivery Point Input	2	513	514
35	Delivery Point Check Digit	1	515	515
36	Filler	1	516	516
37	Record Type Code	1	517	517
38	Category Subcategory Indicator*	2	518	519
39	USPS Internal Research Development Flag*	1	520	520
40	Non-Deliverable Record Indicator*	1	521	521
41	Multiple Response ZIP + 4 Answer 1*	9	522	530
42	Multiple Response ZIP + 4 Answer 2*	9	531	539
43	PMB-Designator	4	540	543
44	PMB-Number	8	544	551
45	Default Flag	1	552	552
46	Internal Use	1	553	553
47	Early Warning System (EWS) Flag	1	554	554
48	Internal Use	1	555	555
49	Enhanced Line of Travel (eLOT) Sequence	4	556	559
50	Enhanced Line of Travel (eLOT) Asc/Desc	1	560	560
51	DPV Confirmation Indicator	1	561	561
52	DPV CMRA Indicator	1	562	562
53	DPV False Positive Indicator	1	563	563
54	DSF^2 Delivery Type	1	564	564
55	DSF^2 No Stats Indicator	1	565	565
56	DSF^2 Business Indicator	1	566	566
57	DSF^2 Drop Indicator	1	567	567
58	DSF^2 Drop Count	3	568	570
59	DSF^2 Throwback Indicator	1	571	571
60	DSF^2 Seasonal Indicator	1	572	572
61	DSF^2 Vacant Indicator	1	573	573
62	DSF^2 LACS Indicator	1	574	574
63	DSF^2 Educational Indicator	1	575	575
64	DPV Footnote 1	2	576	577

Field Sequence Number	Field Description	Length Input	Position From/ Through	
65	DPV Footnote 2	2	578	579
66	DPV Footnote 3	2	580	581
67	Filler	4	582	585
68	DirectDPV Flag	1	586	586
69	DSF^2 Primary Number Error Flag	1	587	587
70	DSF^2 Secondary Number Error Flag	1	588	588
71	Residential Delivery Indicator	1	589	589
72	DSF^2 Pseudo Sequence Number	4	590	593
73	LACS^{Link} Indicator	1	594	594
74	LACS^{Link} Return Code	2	595	596
75	Suite^{Link} Return Code	2	597	598
76	Internal Use	2	599	600

Processing Steps

Stage files must be processed and returned to the NCSC within ten business days from the date of receipt.

Complete the order form and mail or fax it to the National Customer Support Center certification department. Orders will not be accepted via telephone. Orders must be signed and dated by company official. If the software has optional parameter settings, configuration designators indicating the setting to be used when processing customer and/or client address file must be provided.

Process the DirectDPV stage file using the software being certified. Set software parameters exactly as if processing a customer's address file or an internal address file. Process the original stage file. Backup copies or alternate media will be rejected. Update the appropriate field in the stage file for NCSC review.

Upload stage product file to the NCSC for evaluation.

Certification results will be returned when the evaluation is completed.

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UNITED STATES POSTAL SERVICE®

DirectDPV™ Order Form

Customer Information *(Please print)*

Company Official Contact Name	Email Address

Company Name

Physical Address	Apt/Suite

City	State	ZIP + 4® Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Salesperson (your company)	Telephone Number *(Include area code)*	Salesperson Email Address

Mailing Information *(Please print)*

Attention	Email Address

Company Name

USPS Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Telephone Number *(Include area code)*	Fax Number *(Include area code)*

Billing Address *(If different from Customer and Mailing Information)*

Mailing Address	Apt/Suite

City	State	ZIP + 4 Code

Contact Number (if different)

I request that my certification be maintained in U.S. Postal Service® documents and records as:

- ❑ Integrator/Manufacturer
- ❑ Vendor/Service Bureau
- ❑ I do not wish to be listed in USPS® pubs.

I am applying for:

- ❑ Manufacturer Certification *(Software/Hardware)*
- ❑ User-Defined Certification

All information furnished on this application is complete and correct. The responses provided on the DirectDPV Stage II certification file will be obtained using the same configuration used for processing customer/client address files. Any modification to the software or the configuration used to process the Stage II file will require recertification prior to use or release. The DirectDPV Stage II file will be processed in-house with company-owned or leased software/hardware. All answers will be written to the Stage II file via batch processing without manual intervention. The software used to process the DirectDPV Stage II file contains technology that disables access to outdated U.S. Postal Service data in accordance with *DMM*® 708.3. When used interactively, this product does not allow automated selection of an individual record from a list of multiple candidates. Users of this software are advised that any modification voids DirectDPV certification.

DirectDPV certification scores are confidential information and the applicant agrees not to disclose scores achieved on their passing test for the purpose of marketing their software or hardware product.

I have read and understand the requirements above and realize that any misrepresentation or failure to comply with these requirements will result in decertification.

Company Official Contact Signature	Date

NCSC Use Only

Customer Number	Date	PRDT Code

Product Information

If the software has optional parameters, you **MUST** return a list of the parameters used to process the DirectDPV file with this form.

DirectDPV™ Software

Fill in all software information:

Product: _____

Version: _____

Configuration: _____

Platform: _____

Mail or Fax Completed Form To

DIRECTDPV CERTIFICATION
NATIONAL CUSTOMER SUPPORT CENTER
UNITED STATES POSTAL SERVICE
6060 PRIMACY PKWY STE 101
MEMPHIS TN 38188-0001

Telephone Number: 800-642-2914
Fax Number: 901-681-4440