# CASS™
# Technical Guide


## Cycle O

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 and deliverability of addresses for mail qualifying for postal discounts. The CASS software program provides hardware and software manufacturing, service bureaus, and commercial mailers a common measure by which to test the quality of address-matching software. Software tests for CASS certification are evaluated by the U.S. Postal Service® Addressing & Geospatial Technology (AGT), and the results are returned to the developer to provide useful diagnostics for correcting software deficiencies.

## Overview

The CASS certification process consists of two parts:

1. The Stage I file is optional and is used to measure and diagnose the performance of software that is being certified. This file is not returned to the CASS Department.

   The Stage I file can be downloaded from our website at https://postalpro.usps.com/certifications/cass.

2. The Stage II is the test file that is evaluated by the CASS Department and is used to acquire CASS certification. Developers are not permitted to allow another company or service bureau to process the Stage II file.

CASS certification includes DPV® or DSF²®, LACS$^{Link®}$, and Suite$^{Link®}$. RDI™ certification is optional so is eLOT® with DPV certification. Both can be included with a CASS certification test.

If more information is needed, contact the CASS Department at 800-642-2914 or via email at cassman.ncsc@usps.gov.

## Certification Fees

The fee for all CASS tests is listed in the Price List (Notice 123) in the Address Management Systems (AMS) section.

The exception will be multiple platform (operating system) testing for the same product, version, and configuration. In this case, only the first test that passes will be billed.

CASS customers are billed based on the number of separate software configurations certified, not the number of Stage II files ordered.

Customers are billed as certification is achieved. Billing procedures are coordinated with our Accounts Receivable Department. **All certification test fees are payable within 30 days of the billing date.**

# Products Needed for CASS Certification

## Address Information System (AIS) Products

- ZIP + 4®
- City/State
- ZIPMove
- eLOT® (optional when using DPV® licensed product)
- RDI™ (optional)
- Delivery Statistics (required with DSF²®  testing)

The AIS Products are available through Customer Care at AGT. Customer Care is available at 800-238-3150 option 0 or via email at aisproducts.ncsc@usps.gov.

## Licensed Products

- DPV® or DSF²®
- LACS$^{Link®}$
- Suite$^{Link®}$

The licensed products cannot be shipped outside of the United States. These products are available through the Licensing Department at AGT. The Licensing Department is available at 800-589-5766 or via email at ncoalink@usps.gov.

The USPS® also offers an Address Matching System Application Program Interface (AMS API) as an address matching engine through the Licensing Department at AGT. The API includes the AIS Products, DPV®, LACS$^{Link®}$ and Suite$^{Link®}$.

Documentation and guidelines for CASS certification is available through the CASS Department. The CASS Department also administers and evaluates the CASS certification process.

To establish a CASS account, customers must complete the Electronic Product Fulfillment Web Access Request Form (PS Form 5116). The form is available online at https://about.usps.com/forms/ps5116.pdf and in this guide. The form can be sent as an email attachment to cassman.ncsc@usps.gov or fax to 650-577-2509.

The CASS Department is available at 800-642-2914 or via email at cassman.ncsc@usps.gov.

## Data for Testing

CASS developers who write their own software must subscribe to the AIS and Link Products or the AMS API prior to requesting a CASS test.

USPS provides static data to all software developers for every product that is used for testing. This data must be used for all CASS and MASS tests. The static data is available via the EPF website at https://epf.usps.gov in the Product Type "CASS / MASS Test Files". For end user certification, the company that developed the software must provide the static data to all end users and must advise them to use this data for all certification tests. Failure to use the static data will result in test failure.

ZIP +4, City State, ZIPMove and DPV or DSF$^2$, LACS$^{Link}$ and Suite$^{Link}$ products are mandatory for all tests. End users are required to use all these products in a production environment.

## Certification Testing

The CASS certification process consists of the Stage I and Stage II files.

- Stage I is a file with answers provided by the CASS Department that is used to analyze your software.
- Stage II is the certification test that is required to achieve CASS certification.

### Stage I

Stage I is a self-administered 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 results of Stage I processing are not reviewed by the AGT and have no effect on CASS certification.

The Stage I file contains one copyright header record, three DSF$^{2®}$ header records and 150,000 test address records. The Stage I file is available on our website for organizations that are developing address matching software at https://postalpro.usps.com/certifications/cass. Contact the CASS Department at 800-642-2914 or via email at cassman.ncsc@usps.gov if there are questions about the file. Please provide the CASS key and the response from your software if there are questions about specific records.

### Stage II

The Stage II file is the test file used to certify address matching software performance. The Stage II file contains one copyright header record for a DPV test and 150,000 test records. The DSF$^2$ test will have three additional header records and 150,000 test address records. This test file is graded by the CASS Department. To attain CASS certification, address matching software must achieve the required score on the Stage II test. The file must be processed with static data that is provided by the USPS on the EPF website. End users who wish to CASS certify software purchased from another certified company must request the static test data from that company.

## Test Types

The CASS Department provides and evaluates several types of tests.

### Merge Test

Evaluates address matching software performance as it pertains to correcting and standardizing addresses for 5-digit, carrier route, ZIP + 4®, DPV®, LACS$^{Link®}$, and Suite$^{Link®}$. RDI™ can be added as an option for this test type.

### Merge/eLOT® Test

Evaluates address matching software performance as it pertains to correcting and standardizing addresses for 5-digit, carrier route, ZIP + 4®, DPV® or DSF$^{2®}$, LACS$^{Link®}$, and Suite$^{Link®}$ and eLOT. RDI™ can be added as an option for this test type.

### Utility Tests

These tests allow certification for these specific products. The certifications do not expire until changes are made to the product data.

- Z4Change (See Appendix 6)
- RDI (See Appendix 8)

## Licensed Products

### DPV®/DSF$^{2®}$

DPV or DSF$^2$ confirms whether an address is deliverable by the USPS and is mandatory for all users. Developers' certifying both DPV and DSF$^2$ are required to take two separate tests. See Appendix 5.

### LACS$^{Link®}$

LACS$^{Link}$ is mandatory for all users. When a new LACS converted address is found the new address must be returned. If the new address is not returned, only the 5-digit ZIP Code™ associated with the original input address can be returned. Developers should contact the Licensing Department at 800-589-5766 for more information. See Appendix 9.

### Suite$^{Link®}$

The Suite$^{Link}$ product should be queried when an address matches to a street or highrise default record. For CASS testing, when a business name match is found and a secondary number is returned, the new suite information **must be appended to the original address**. See Appendix 10.

## Certification Overview

CASS offers an address matching 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 an address matching software package. The requirement that each user of address matching software attain CASS certification is only necessary in certain situations.

Manufacturer certification is available only to companies that develop address matching software. The manufacturer box on the front of the CASS order Forms must be checked.

All user modifications to a CASS Certified™ product must be certified separately by the end user and information about the new drivers or APIs must be listed on the CASS Order Form.

Customers who wish to integrate certified software with another product or software driver must certify the integrated product as new software with a different name from the original packaged software. These customers are classified as integrators.

Customers who wish to take a CASS test to be listed as a Vendor Service Bureau would take a User-Defined Certification test using the original CASS certified software name.

The USPS has a policy of revoking certification of any user-modified address matching software that has not been CASS Certified by the end user.

## Manufacturer Certification

### New Customers

Customers must subscribe to all products that will be used for certification.

To receive access to the static test data and Stage II test files, complete and sign an Electronic Product Fulfillment Web Access Request Form (PS Form 5116). Email the completed form to cassman.ncsc@usps.gov or fax to 650-577-2509.

Before granting access to the data we will confirm you have subscribed and completed all documentation for all required products.

### All Customers

To obtain CASS certification, order a CASS Stage II file using the CASS Order Form, check the appropriate box on page one (1) for the certification type you are seeking. Identify how the software will be used, select all items that apply on the order form and complete page two (2). The order form must be signed and dated. An electronic signature is acceptable. A Terms and Conditions document must be completed for the first current certification requirement cycle test. An Electronic Product Fulfillment Web Access Request Form (PS Form 5116) must be on file to request access to an internet account to receive the Stage II files and upload the CASS test results and reports.

Requesting manufacturer certification ensures that the company will be listed as a software developer in USPS® documents and on PostalPro™ in the Products Guide at https://postalpro.usps.com/cass/SoftwareManufacturers_CurrentCycle unless the company chooses not the be listed.

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 Stage II file must be attached to the CASS Order Form.

The same software version number may be certified for multiple specific configurations and platforms (operating systems). A configuration is a three alphanumeric character identifier associated with a software name and version number that represents a specific set of parameter settings. The configuration is assigned by the software developer.

Static test data provided by the CASS Certification Department must be used for all testing. Software developers **must** provide the static data to all end users who wish to test their software or API. Failure to use static data will result in test failure.

The address matching software being certified must be capable of generating a facsimile of the CASS Summary Report (PS Form 3553) located in Appendix 1. The software must also contain technology that disables access to outdated or expired USPS data as described in *DMM® 602 Section 9.3.1* and should not print the PS Form 3553 if the software has undergone any modifications.

The PS Form 3553 must be computer generated from the CASS software. 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.

All CASS developers and MASS™ manufacturers are required to provide a hardcopy of the PS Form 3553 for evaluation to ensure the facsimile meets USPS® standards. The form may be faxed to 650-577-2509 or emailed to cassman.ncsc@usps.gov. The PS Form 3553 must be included in the answer file that is returned for grading in the first header record. The file layout for the header record is included in this guide.

## User Certification

Vendors, service bureaus, and mailers who have special requirements for using address matching software in a configuration that has been CASS Certified by a software developer must apply for user defined certification and select the appropriate check boxes on the CASS Order Form.

This certification can include an integration of additional drivers not included in the original software developers CASS Certified product. Select the Integrator/Manufacturer box and any other check boxes that apply for this request on the CASS Order Form. This product will have a different name from the originally CASS certified software.

Static test data must be provided by the software developer for the CASS Certified software used in the integrated product. This data must be used for all testing. Failure to use this data will result in test failure.

## Platform Certification

CASS requires that all separate platforms for a single product be individually CASS tested and certified. The term “platform” refers to any differently compiled operating system.

Multiple platforms with different configurations are subject to all testing fees.

Waivers will not be considered. There will be a ten (10) day turnaround period for each test submission. This timeframe may vary depending on the number of tests received for grading. Tests will be reviewed in the order they are received.

## Software Updates

For each required testing cycle software must increment the cycle field to the new cycle name. The software version number must change from the previous cycle with the left-most four numeric characters. See Appendix 2.

Since static data must be used for all testing, the product date will be 9999YYYY (cycle year). The ZIP + 4® file processed date will be the date the test is processed. The validation dates will be calculated based on the file processed date.

## Version Control

The CASS/MASS Products Guide will display the version number up to the cycle field value and all platforms certified for a specific software product.

When a CASS Certified product is modified for any reason, the software developer must contact the CASS Department to determine if 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 like a program ABEND, or to provide a customer a specific interface generally will not require recertification. However, all changes must be reported regardless of their purposes.

The CASS Department will review the proposed change and notify the developer whether they must submit for recertification within five (5) business days. If the CASS Department fails to respond within this time, the developer can assume approval. However, the CASS Department 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 customers 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 of notification may result in decertification of the modified product and rescinding of any postage discounts obtained while using the modified product.

*Note: Postage discounts may be rescinded retroactively.*

Developers must report modifications in writing via email notification to cassman.ncsc@usps.gov or fax to 650-577-2509. For more information, contact the CASS Department at 800-642-2914.

## Media Configurations

The CASS Stage II file is only available via Electronic Product Fulfillment.

## Electronic Fulfillment

| Attributes | | |
|---|---|---|
| Record Length | = | 900 Characters |

Add two bytes for CRLF.

# Stage File Description

## Copyright Header Record Layout

The header record on the CASS Stage I and Stage II test files is a copyright record. The CASS Summary Report (PS Form 3553) has been incorporated into the header record. Software developers must return the PS Form 3553 electronically. The following table also identifies header record components for DPV® and DSF²®. See Appendix 5.

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | Filler | 03 | 001 | 003 |
| 2 | File Version Month | 02 | 004 | 005 |
| 3 | File Version Day | 02 | 006 | 007 |
| 4 | File Version Year | 04 | 008 | 011 |
| 5 | Copyright Symbol | 11 | 012 | 022 |
| 6 | Sequence Number | 03 | 023 | 025 |
| 7 | Customer Name | 09 | 026 | 034 |
| 8 | System Name | 05 | 035 | 039 |
| 9 | Stage Number | 06 | 040 | 045 |
| 10 | 3553 A1 CASS Z4Change Company Name | 40 | 046 | 085 |
| 11 | 3553 A1 eLOT Company Name | 40 | 086 | 125 |
| 12 | 3553 A1 CASS Z4Change Configuration | 03 | 126 | 128 |
| 13 | 3553 A1 eLOT Configuration | 03 | 129 | 131 |
| 14 | 3553 A1 CASS Z4Change Software Name | 30 | 132 | 161 |
| 15 | 3553 A1 CASS Z4Change Software Version | 16 | 162 | 177 |
| 16 | 3553 A1 eLOT Software Name | 30 | 178 | 207 |
| 17 | 3553 A1 eLOT Software Version | 16 | 208 | 223 |
| 18 | 3533 B1 List Processor Name | 25 | 224 | 248 |
| 19 | 3553 B2 Master File Process Date | 08 | 249 | 256 |
| 20 | 3553 B2 Z4Change Process Date | 08 | 257 | 264 |
| 21 | 3553 B2 eLOT Process Date | 08 | 265 | 272 |
| 22 | 3553 B2 Carrier Route Process Date | 08 | 273 | 280 |
| 23 | 3553 B3 ZIP +4/DPV Database Date | 08 | 281 | 288 |
| 24 | Filler | 08 | 289 | 296 |
| 25 | 3553 B3 eLOT Database Date (9999YYYY) | 08 | 297 | 304 |
| 26 | 3553 B3 Carrier Route Database Date (9999YYYY) | 08 | 305 | 312 |
| 27 | 3553 B4 Address List Name | 25 | 313 | 337 |
| 28 | 3553 B5 Number Lists Processed | 03 | 338 | 340 |
| 29 | 3553 B6 Total Records Submitted | 06 | 341 | 346 |
| 30 | 3553 C1 Total Records ZIP +4/DPV Coded | 06 | 347 | 352 |
| 31 | 3553 C1 ZIP +4/DPV Valid From Date (MMDDYYYY) | 08 | 353 | 360 |
| 32 | 3553 C1 ZIP +4/DPV Valid To Date (MMDDYYYY) | 08 | 361 | 368 |
| 33 | 3553 C2 Total Records Z4Change Coded | 06 | 369 | 374 |
| 34 | Filler | 38 | 375 | 412 |

| | | | | |
|---|---|---|---|---|
| 35 | 3553 C4 Total Records 5-Digit Coded | 06 | 413 | 418 |
| 36 | 3553 C4 5 Digit Valid From Date (MMDDYYYY) | 08 | 419 | 426 |
| 37 | 3553 C4 5 Digit Valid To Date (MMDDYYYY) | 08 | 427 | 434 |
| 38 | 3553 C5 Total Records Carrier Route Coded | 06 | 435 | 440 |
| 39 | 3553 C5 Carrier Route Valid From Date (MMDDYYYY) | 08 | 441 | 448 |
| 40 | 3553 C5 Carrier Route Valid To Date (MMDDYYYY) | 08 | 449 | 456 |
| 41 | 3553 C6 eLOT Records eLOT Coded | 06 | 457 | 462 |
| 42 | 3553 C6 eLOT Valid From Date (MMDDYYYY) | 08 | 463 | 470 |
| 43 | 3553 C6 eLOT Valid To Date (MMDDYYYY) | 08 | 471 | 478 |
| 44 | Filler | 08 | 479 | 486 |
| 45 | Z4Change Date (MMDDYYYY) | 08 | 487 | 494 |
| 46 | 3553 Total High-rise Exact | 06 | 495 | 500 |
| 47 | 3553 Total High-rise Default | 06 | 501 | 506 |
| 48 | 3553 Total Rural Route Exact | 06 | 507 | 512 |
| 49 | 3553 Total Rural Route Default | 06 | 513 | 518 |
| 50 | 3553 Total LACS | 06 | 519 | 524 |
| 51 | 3553 Total EWS | 06 | 525 | 530 |
| 52 | 3553 Total Suite$^{Link}$ | 06 | 531 | 536 |
| 53 | Filler | 40 | 537 | 576 |
| 54 | DPV/ DSF$^{2}$ Data Used F=Full, L=Flat, S=Split | 01 | 577 | 577 |
| 55 | Filler | 308 | 578 | 885 |
| 56 | Platform for Test | 12 | 886 | 897 |
| 57 | Configuration for Test | 03 | 898 | 900 |

## Copyright Header Record

The header record on the CASS Stage I and Stage II test files is a copyright record. The CASS Summary Report (PS Form 3553) has been incorporated into the header record. Software developers must return the PS Form 3553 electronically. The following table also identifies header record components for DPV® and DSF$^{2}$®. See Appendix 5.

### Completing the PS Form 3553

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

## Copyright Header Records Data Element Definitions

A1, A4, A7: CASS/Z4Change/eLOT Certified Company Name

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

A2, A5, A8: 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 (Appendix 2) 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.

A3, A6, A9: CASS/Z4Change/eLOT Configuration

- A 3-character alpha-numeric identifier associated with a specific software name a version number that represents a set of software parameter settings.

A2-1: MASS-Certified Company Name

- The name of the company seeking MASS certification.

A2-2: MASS-Certified Software Name and Version

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

A2-3: MASS Configuration

- The configuration of the product certified by the system manufacturer.

A2-4: 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(a, b, c, d): Date List Processed

- Enter 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 field must indicate the date the entire master file was first processed. The Z4Change Date List Processed field 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.
    - Format: MM/DD/YYYY

B3(a, b, c, d): Date of Database

- The product release date of the USPS Address Information System (AIS) products. All certified software must contain technology that disables access to outdated Postal Service data as described I the *Domestic Mail Manual (DMM)* 602. Products may show the date in either MM/YY or MM/DD/YYYY format. Where and MM/YY format is used, the assumed DD value is 15.
    - Static Data 99/YY or 99/99/YYYY or MM/DD/YYYY (regular data date)
      Ex. 99/15 or 99/99/2017 or MM/15/2014

B4: List Name or ID No.

- 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#".

B5: Number of Lists

- Enter the number of lists used to produce the mailing. For CASS and MASS testing, the value should always be 1.

B6: Total Records submitted for Processing

- Number of records in the address file(s) or total number of mailpieces processed.

Ca1: ZIP +4/DPV Confirmed

- Total number of DPV confirmed records assigned a + 4 add-on

Ca2: ZIP +4/DPV Confirmed Validation Period "From" Date

- Must be the same date as B2/Date List Processed. This date is 30 days before the 15th of each month or bi-monthly or no late than 105 days after the file date.

Ca2: ZIP +4/DPV Confirmed Validation Period "To" Date

- 180 days after the ZIP + 4 "From" date

Cb1: Z4Change Processed

- Total number of Z4Change processed records when applicable is 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.

Cb2: Z4Change Processed "From" Date and "To" Date

- Blank unless a Z4Change file is processed

Cc1: 5-Digit Total Coded

- Total number of 5-digit assigned or retained from the input address during processing.

Cc2: 5-Digit Validation Period "From" Date

- Must be the same date as B2/Date List Processed. This date is 30 days before the 15th of each month or bi-monthly or no later than 105 days after the file date.

Cc2: 5-Digit Validation Period "To" Date

- 365 days after the 5-Digit "From" Date

Cd1 CRRT Total Coded
- Total number of records assigned a carrier route during processing.

Cd2: CRRT Validation Period "From" Date
- Must be the same date as B2/Date List Processed. This date is 30 days before the 15th of each month or bi-monthly or not late than 105 days after the file date.

Cd2: CRRT Validation Period "To" Date
- 90 days after the CRRT "From" Date

Ce1: eLOT Assigned Total Coded
- Total number of eLOT sequence number and an ascending or descending code assigned during processing

Ce2: eLOT Validation Period "From" Date
- Must be the same date as B2/Date List Processed. This date is 30 days before the 15th of each month or bi-monthly or no later than 105 days after the file date.

Ce2: eLOT Validation Period "To" Date
- 90 days after the eLOT "From" Date

## Qualitative Statistical Summary

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

## Configuration for Test

- The 3-character alpha-numeric configuration assigned by the software developer for the software that's being certified.

## 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 | Position From/Through | |
|---|---|---|---|---|
| 1 | Customer ID | 09 | 001 | 009 |
| 2 | CASS Key | 11 | 010 | 020 |
| 3 | Category Subcategory Indicator* | 02 | 021 | 022 |
| 4 | Original or Alternate Return Information* | 01 | 023 | 023 |
| 5 | Firm or Recipient Input | 40 | 024 | 063 |
| 6 | Primary Delivery Address Line Input | 64 | 064 | 127 |
| 7 | Second Delivery Address Line Input | 64 | 128 | 191 |
| 8 | Urbanization Input | 28 | 192 | 219 |
| 9 | Last Line Input | 42 | 220 | 261 |
| 10 | Filler Input | 50 | 262 | 311 |
| 11 | Firm Name Answer | 40 | 312 | 351 |
| 12 | Primary Delivery Address Line Answer | 64 | 352 | 415 |
| 13 | Second Delivery Address Line Answer | 64 | 416 | 479 |
| 14 | Urbanization Answer | 28 | 480 | 507 |
| 15 | City Name Answer | 28 | 508 | 535 |
| 16 | State Code Answer | 02 | 536 | 537 |
| 17 | ZIP Code Answer | 05 | 538 | 542 |
| 18 | ZIP + 4 Add-On Answer | 04 | 543 | 546 |
| 19 | Delivery Point Answer | 02 | 547 | 548 |
| 20 | Carrier Route Answer | 04 | 549 | 552 |
| 21 | Record Type Code | 01 | 553 | 553 |
| 22 | Default Flag | 01 | 554 | 554 |
| 23 | Locatable Address Conversion Indicator | 01 | 555 | 555 |
| 24 | PMB Designator | 04 | 556 | 559 |
| 25 | PMB Number | 08 | 560 | 567 |
| 26 | Non-Deliverable Record Indicator* | 01 | 568 | 568 |
| 27 | Early Warning System (EWS) | 01 | 569 | 569 |
| 28 | Enhanced line of Travel (eLOT) Sequence Number | 04 | 570 | 573 |
| 29 | Enhanced line of Travel (eLOT) A/D Answer | 01 | 574 | 574 |
| 30 | PO Box Only Flag | 01 | 575 | 575 |
| 31 | ZIP5 Valid Flag (ZIP Code Include in PS Form 3553) | 01 | 576 | 576 |
| 32 | Multiple Response ZIP + 4 Answer 1* | 09 | 577 | 585 |
| 33 | Multiple Response ZIP + 4 Answer 2* | 09 | 586 | 594 |
| 34 | Original Delivery Point* | 02 | 595 | 596 |
| 35 | Filler ZIP+4 | 48 | 597 | 644 |
| 36 | DPV Confirmation Indicator (A) | 01 | 645 | 645 |
| 37 | DPV CMRA Indicator (C) | 01 | 646 | 646 |
| 38 | DPV Drop Indicator (D) | 01 | 647 | 647 |
| 39 | DPV False Positive Indicator (F) | 01 | 648 | 648 |
| 40 | DPV Vacant Indicator (V) | 01 | 649 | 649 |

| | | | | |
|---|---|---|---|---|
| 41 | DPV NoStat Indicator (X) | 01 | 650 | 650 |
| 42 | DPV Non-Delivery Day Flag (Y) | 01 | 651 | 651 |
| 43 | DPV Non-Delivery Day Values (Z) | 07 | 652 | 658 |
| 44 | DPV NoStat Reason Code (R) | 02 | 659 | 660 |
| 45 | DPV No Secure Location (U) | 01 | 661 | 661 |
| 46 | DPV Door Not Accessible (N) | 01 | 662 | 662 |
| 47 | DPV Throwback Indicator (T) | 01 | 663 | 663 |
| 48 | DPV PBSA Indicator (P) | 01 | 664 | 664 |
| 49 | Enhanced DPV Return Code | 01 | 665 | 665 |
| 50 | DPV Footnote 1 | 02 | 666 | 667 |
| 51 | DPV Footnote 2 | 02 | 668 | 669 |
| 52 | DPV Footnote 3 | 02 | 670 | 671 |
| 53 | DPV Footnote 4 | 02 | 672 | 673 |
| 54 | DPV Footnote 5 | 02 | 674 | 675 |
| 55 | Filler DPV | 25 | 676 | 700 |
| 56 | DSF$^2$ Business Indicator (B) | 01 | 701 | 701 |
| 57 | DSF$^2$ Educational Indicator (E) | 01 | 702 | 702 |
| 58 | DSF$^2$ Drop Count (K) | 03 | 703 | 705 |
| 59 | DSF$^2$ LACS Indicator (L) | 01 | 706 | 706 |
| 60 | DSF$^2$ Seasonal Indicator (S) | 01 | 707 | 707 |
| 61 | DSF$^2$ Delivery Type (1,2,3,4) | 01 | 708 | 708 |
| 62 | DSF$^2$ Pseudo Sequence Number** | 04 | 709 | 712 |
| 63 | Filler DSF$^2$ | 25 | 713 | 737 |
| 64 | Residential Delivery Indicator | 01 | 738 | 738 |
| 65 | LACS$^{Link}$ Indicator | 01 | 739 | 739 |
| 66 | LACS$^{Link}$ Return Code | 02 | 740 | 741 |
| 67 | Suite$^{Link}$ Return Code | 02 | 742 | 743 |
| 68 | Filler | 157 | 744 | 900 |

* Fields populated within Stage I file only.
** Valid only for DSF$^2$ test.
( ) last letter of the DPV table

- DPV®/DSF$^{2®}$ - See Appendix 5
- LACS$^{Link®}$ - See Appendix 9
- Suite$^{Link®}$ - See Appendix 10

*Note: Add two bytes for CRLF.*

# Test Address Data Element Definitions

## Carrier Route Answer

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.

If 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 can be assigned only when all multiple response candidate records contain the same 5-digit ZIP Code and carrier routes. In all cases, when the ZIP Code 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.

## CASS Key

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

Field Description: Alphanumeric

Comments: Use this key to reference Stage file questions when discussing address with the CASS Department.

**Examples:** 9945684587

## Category/Subcategory Indicator

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

Field Description: See Appendix 3 “Translation of Error Codes and Special Flags”.

## City Name Answer

Contains an acceptable mailing name returned by the software.

Field Description: Alphanumeric

Comments: The 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 for the input city name or 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.

## Customer ID

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

**Example:** 00009ZAB3

## Default Flag Indicator

Indicated the record processed obtained a match to a highrise, rural route or street default record in the ZIP + 4 product.

| | | | |
|---|---|---|---|
| Field Description | Y | = | The default flag indicator is set |
| | N or Blank | = | Acceptable |

## Primary Delivery Address Answer /Second Delivery Address Line Answer

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

## Original or Alternate Return Information

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

| | | | |
|---|---|---|---|
| Field Description | A | = | Alternate answer (See Alternate Answer File) |
| | O | = | Original answer |
| | 1 | = | Different Address Line 1 Answer from Alternate Answer File |
| | 2 | = | Different Address Line 2 Answer from Alternate Answer File |
| | B | = | Different Address Line 1 & 2 Answer from Alternate Answer File |
| | L | = | Different Last Line Answer from Alternate Answer File |
| | F | = | Different Firm Answer from Alternate Answer File |
| | | | (Other codes may be added) |

## Primary Delivery Address Line Input/Second Delivery Address Line Input

Contains the test delivery address line information

Field Description Alphanumeric

Comments: Each element of 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 the *Postal Addressing Standards* (Publication 28).

## Delivery Point Answer

Contains the last two digits of the house/box number, or when an "H" record is matched the secondary unit number representing the delivery point information to form the 11-digit or delivery point code (DPC).

Field Description Numeric (0 through 9)

## DPV/DSF² Confirmation Indicator

DPV Return Code that indicates whether an address is a valid delivery: dph.hsa

See Appendix 5

## DPV/DSF² CMRA Indicator

Table should be queried based on the return codes Y, D, S, N or Blank returned from the dph.hsa table: dph.hsc

| DPH/HSA | Y | D | S | N | Blank |
|---|---|---|---|---|---|
| CMRA/HSC | Y or N | Y, N, or Blank | Y or N | Blank | Blank |

## DPV/DSF² Door Not Accessible

Flag indicates addresses where USPS cannot knock on a door to deliver mail: dph.hsn

Field Description
Y = Address was found in the table
N = Address was not found in the table
Blank = Address was not presented to the table

## DPV/DSF2 Drop Indicator

Flag indicates mail is delivered to a single receptable at a site: dph.hsd

Field Description
Y = Address was found in the table
N = Address was not found in the table
Blank = Address was not presented to the table

## DPV/DSF2 False Positive Indicator

Table should be queried based on the return codes Y, D, S, N or Blank returned from the dph.hsa table: dph.hsf

| DPH/HSA | Y | D | S | N | Blank |
|---|---|---|---|---|---|
| FALSEPOS/HSF | Blank | Blank | Blank | Y or N | Blank |

## DPV/DSF² Footnotes 1 through 5

Fields are used to return one or more footnotes that must be set in accordance with DPV/ DSF² License Requirements. See Appendix 5 and DPV/DSF² Licensing materials for footnote flag values.

## DPV/DSF² NoStat Indicator

Contains the results of the call to the DPV NoStat table: dph.hsx

Field Description
Y = Address was found in the table
N = Address was not found in the table
Blank = Address was not presented to the table

## DPV/DSF² NoStat Reason Code

Indicates the NoStat type: dph.hsr

1 – IDA (Internal Drop Address) – Addresses that do not receive mail directly from the USPS but are delivered to a drop address that services them.
2 – CDS NoStat – Addresses that have not yet become deliverable. For example, a new subdivision where lots and primary numbers have been determined, but no structure exists yet for occupancy.
3 – Collision – Addresses that do not actually DPV confirm. In this case, the 'Y' should be set to 'N' on the DPV 'A' table and all other table values should be blank.
4 – CMZ (College, Military and Other Types) – ZIP + 4 records USPS has incorporated into the data.
5 – Regular NoStat – Indicates addresses not receiving delivery and the addresses are not counted as possible deliveries.
6 – Secondary Required – The address requires secondary information.

## DPV/DSF² Non-Delivery Day Flag

Flag indicates mail delivery is not performed every day of the week: dph.hsy

Field Description
Y = Address was found in the table
N = Address was not found in the table
Blank = Address was not presented to the table

## DPV/DSF² Non-Delivery Day Values

Values of days that mail is not delivered: dph.hsz

## DPV/DSF² No Secure Location

Flag indicates door is accessible, but package will not be left due to security concerns: dph.hsu

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to the table |

## DPV/DSF2 PBSA Indicator

Table should be queried based on the return codes Y, D, S, N or Blank from the dph.hsa table: dph.hsp

| DPH/HSA | Y | D | S | N | Blank |
|---|---|---|---|---|---|
| PBSA/HSP | Y or N | Y, N, or Blank | Y or N | Blank | Blank |

## DPV/DSF² Throwback Indicator

Mail is not delivered to the street address: dph.hst

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to hash table |

## DPV/DSF² Vacant Indicator

Contains the results of the call to the DPV Vacant table: dph.hsv

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to hash table |

## DSF2 Business Indicator

Indicates a business address: dph.hsb

## DSF² 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 | dpn.hs2 |
| | 3 | = | Address was found in Centralized table | dph.hs3 |
| | 4 | = | Address was found in Other (Door Slot) table | dph.hd4 |
| | Blank | = | Address was not presented | |

## DSF² Drop Count

Number of customers sharing the same receptacle: dph.hsk

## DSF2 Educational Indicator

The delivery point is identified as an educational facility: dph.hse

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to hash table |

## DSF² LACS Indicator

Contains the results of the call to the DPV® LACS table: dph.hsl

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to the table |

## DSF² Educational Indicator

Contains the results of the call to the DPV Educational table: dph.hse

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |
| | N | = | Address was not found in the table |
| | Blank | = | Address was not presented to the table |

## DSF² Pseudo Sequence Number

Sequence number for order of delivery

## DSF² Seasonal Indicator

The seasonal indicator specifies whether a given address receives mail only during a specific season: dph.hss

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address was found in the table |

| | | |
|---|---|---|
| N | = | Address was not found in the table |
| Blank | = | Address was not presented to the table |

## Early Warning System (EWS) Flag

Indicates a match has been made to the Early Warning System file.

| | | | |
|---|---|---|---|
| Field Description | Y | = | Address found in EWS file which results in a ZIP + 4 no match |
| | N or Blank | = | Address not found in EWS file |

## eLOT® Asc/Dsc Flag

Contains the correct eLOT ascending/descending code assignment for the corresponding ZIP + 4/CRRT matched record on the Stage I file.

## eLOT Sequence

Reflects the correct eLOT sequence number assigned for the corresponding ZIP + 4 matched record in the Stage I file.

Field Description 4-digit numeric when populated, otherwise blank

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

## Enhanced DPV/DSF² Code

More than one DPV return code may be valid for a single address that provide additional description of address. See Appendix 5.

## Firm or Recipient Input

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 the Publication 28 or words that are not valid for that firm.

| | | |
|---|---|---|
| Example: | PLAZA OFFICE | PLAZA OFFICE |
| | BUILDING NUMBER ONE COMPANY | BLDG NO 1 CO |
| | INTERNAL BUSINESS MACHINES | IBM |

## Firm Name Answer

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 Business or Firm Name field; 2) abbreviated according to the Business Word Table in the *Postal Addressing Standards* (Publication 28); 3) as shown in the Firm or Recipient Input field.

Field Description Alphanumeric

## Last Line Input

Field contains the last line information, like the city name, state abbreviation, 5-digit ZIP Code™, and possibly a ZIP + 4 Code.

Field Description Alphanumeric

Comments: Field may contain a valid, standardized city name according to the City State Product or *Post Addressing Standards* (Publication 28).

## Locatable Address Conversion System Indicator

The LACS indicator identifies addresses in the ZIP + 4® file that may be converted to new addresses. These address conversions are city-style addresses so that emergency vehicles (e.g. ambulances, police cars etc.) can more easily find these locations. It may also be due to the renaming of streets or renumbering of addresses made by a local municipality. See Appendix 9.

Field Description L or Blank

Comments: In the 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. Software must query the LACS$^{Link®}$ product.

If a new address is found in LACS$^{Link}$, the LACS indicator "L" should not be returned.

## LACS$^{Link®}$ Indicator

LACS$^{Link}$ indicators are used for CASS testing and should 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 the 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: Testers are required to email the false positive records to DSF2Stop@usps.gov. See the LACS$^{Link}$ Software Developers Guide (SDG) for more information regarding the required format for the email.*

## LACS$^{Link®}$ Return Codes

LACS$^{Link}$ return code values are A, 00, 14, 92 or blank. See the LACS$^{Link}$ SDG 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 covert 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 the 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 Answer 1/Answer 2

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

Field Description: Numeric

Comments: Fields do not necessarily indicate all candidate records in the 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.

**Example:** 123456789

## Non-Deliverable Record Indicator

Field on the Stage I file indicates the address test question is a valid match to a record on the ZIP + 4® Product. However, the match is made to a non-deliverable (ND) type record.

| | | | |
|---|---|---|---|
| Field Description | Y | = | Record is an ND type record on the ZIP + 4 Product |
| | Blank | = | Record is not an ND type record on the ZIP + 4 Product |

Comments: The indicator assists in analyzing address matching software.

## PMB-Designator

The field is populated with the parsed PMB designator supplied by the customer's software. The 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 PMG designator.

## PMB-Number

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 confirms the ability of the software to accurately identify addresses containing the PMB number.

## PO Box Only Flag

Utilizes "P" as the Copyright Detail Code in the P. O. Box Only portion of the city/state file. The PO Box delivery Zones indicates there is only one ZIP Code for a given facility and the facility has no other form of postal delivery other than a PO Box.

| | | | |
|---|---|---|---|
| Field Description | Y | = | ZIP Code Classification code "P" identified in the PO Box Only portion of the City/State file. |
| | N or Blank | = | ZIP Code not found in PO Box Only portion of the City/State file. |

## Record Type Code

Software is required to return the record type in all ZIP + 4 matches that DPV confirm. The level match code facilitates identifying or confirming certain software matches when delivery point assignments are erroneous.

Field Description Single alpha

## Residential Delivery Indicator

Determines if a delivery point is a business or resident. See Appendix 8.

| | | | |
|---|---|---|---|
| Field Description | Y | = | Residential Delivery |
| | N | = | Not Residential Delivery |

Blank = Did not query RDI

## State Code Answer

The two alpha character state abbreviation.

## SuiteLink Return Code

Indicator is only populated when the SuiteLink tables are queried. The return codes are A, 00 and blank. See Appendix 10.

## Urbanization Answer

Field must contain the correct standardized urbanization name. Guidelines for urbanization standardization can be found in the *Postal Addressing Standards* (Publication 28).

| | |
|---|---|
| Field Description | Alphanumeric |
| Comments: | The Stage I file contains and urbanization answer where applicable<br><br>When applicable, address matching software must return the correct standardized urbanization name. 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 policy and retain input urbanization to avoid data loss. |

## Urbanization Input

Field contains either the real or fictitious name of an urban development within a geographic area.

| | |
|---|---|
| Field Description | Alphanumeric |
| Comments: | Field may contain information with a correct spelling. Information may be abbreviated or spelled out, and some common urbanization prefixes could be dropped. |

## ZIP Code™ Answer

Field contains a code that identified 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: | Customer seeking CASS certification must place the correct ZIP Code provided by their matching software for the test address in this field when the address DPV confirms or return the ZIP Code when it corresponds with the input city and state. |

## ZIP5 Valid Flag (ZIP Code Include in PS Form 3553)

Field specifies whether to increment the 5-digit coded total column on PS Form 3553.

| | | | |
|---|---|---|---|
| Field Description | Y | = | Increment the total coded column for records 5-digit coded on PS Form 3553 |
| | N | = | Do not increment the total coded for records 5-digit coded on PS Form 3553 |

## ZIP + 4® Add-On Answer

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

| | |
|---|---|
| Field Description | Number or spaces |

## CASS Electronic Report Record

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | Customer ID | 09 | 001 | 009 |
| 2 | CASS Key | 08 | 010 | 017 |
| 3 | Category Subcategory Indicator* | 02 | 018 | 019 |
| 4 | Original or Alternate Return Information* | 010 | 020 | 020 |
| 5 | Firm or Recipient Input | 40 | 021 | 060 |
| 6 | Primary Delivery Address Line 1 Input | 64 | 061 | 124 |
| 7 | Secondary Delivery Address Line Input | 64 | 125 | 188 |
| 8 | Urbanization Input | 28 | 189 | 216 |
| 9 | Last Line Input | 42 | 217 | 258 |
| 10 | City Input | 28 | 259 | 286 |
| 11 | State Input | 02 | 287 | 288 |
| 12 | ZIP Code Input | 10 | 289 | 298 |
| 13 | Filler Input | 50 | 299 | 348 |
| 14 | Firm Name | 40 | 349 | 388 |
| 15 | Primary Delivery Address Line | 64 | 389 | 452 |
| 16 | Secondary Delivery Address Line | 64 | 453 | 516 |
| 17 | Urbanization | 28 | 517 | 544 |
| 18 | City Name | 28 | 545 | 572 |
| 19 | State Code | 02 | 573 | 574 |
| 20 | ZIP Code | 057 | 575 | 579 |
| 21 | ZIP + 4 Add-On | 04 | 580 | 583 |
| 22 | Delivery Point | 02 | 584 | 585 |
| 23 | Carrier Route | 04 | 586 | 589 |
| 24 | Record Type Code | 01 | 590 | 590 |
| 25 | Default Flag | 01 | 591 | 591 |
| 26 | LACS Indicator | 01 | 592 | 592 |
| 27 | PMB Designator | 04 | 593 | 596 |
| 28 | PMB Number | 08 | 597 | 604 |
| 29 | Early Warning System (EWS) | 01 | 605 | 605 |
| 30 | eLOT Sequence Number | 04 | 606 | 609 |
| 31 | eLOT Ascending/Descending | 01 | 610 | 610 |
| 32 | PO Box Only Flag | 01 | 611 | 611 |
| 33 | ZIP5 Valid Flag (ZIP Code include in Form 3553) | 01 | 612 | 612 |
| 34 | Finance Number | 06 | 613 | 618 |
| 35 | Filler Answer | 50 | 619 | 668 |
| 36 | DPV Confirmation Indicator – A | 01 | 669 | 669 |
| 37 | DPV CMRA Indicator – C | 01 | 670 | 670 |
| 38 | DPV Drop Indicator - D | 01 | 671 | 671 |
| 39 | DPV False Positive Indicator – F | 01 | 672 | 672 |
| 40 | DPV Vacant Indicator – V | 01 | 673 | 673 |
| 41 | DPV NoStat Indicator – X | 01 | 674 | 674 |
| 42 | DPV Non-Delivery Day - Y | 01 | 675 | 675 |
| 43 | DPV Non-Delivery Days – Z | 07 | 676 | 682 |
| 44 | DPV NoStat Reason Code – R | 03 | 683 | 685 |
| 45 | DPV No-Secure Location – U | 01 | 686 | 686 |
| 46 | DPV Door Not Accessible – N | 01 | 687 | 687 |
| 47 | DPV Throwback Indicator – T | 01 | 688 | 688 |

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 48 | DPV PBSA Indicator – P | 01 | 689 | 689 |
| 49 | Enhanced DPV Return Code | 01 | 690 | 690 |
| 50 | DPV Footnote 1 | 02 | 691 | 692 |
| 51 | DPV Footnote 2 | 02 | 693 | 694 |
| 52 | DPV Footnote 3 | 02 | 695 | 696 |
| 53 | DPV Footnote 4 | 02 | 697 | 698 |
| 54 | DPV Footnote 5 | 02 | 699 | 700 |
| 55 | Filler DPV | 21 | 701 | 721 |
| 56 | DSF$^2$ Business Indicator – B | 01 | 722 | 722 |
| 57 | DSF$^2$ Educational Indicator – E | 01 | 723 | 723 |
| 58 | DSF$^2$ Drop Count – K | 03 | 724 | 726 |
| 59 | DSF$^2$ LACS Indicator – L | 01 | 727 | 727 |
| 60 | DSF$^2$ Seasonal Indicator – S | 01 | 728 | 728 |
| 61 | DSF$^2$ Delivery Type – 1,2,3,4 | 01 | 729 | 729 |
| 62 | DSF$^2$ Pseudo Sequence Number (not applicable) | 04 | 730 | 733 |
| 63 | Filler DSF$^2$ | 25 | 734 | 758 |
| 64 | RDI | 01 | 759 | 759 |
| 65 | LACS$^{Link}$ Indicator | 01 | 760 | 760 |
| 66 | LACS$^{Link}$ Return Code | 02 | 761 | 762 |
| 67 | Suite$^{Link}$ Return Code | 02 | 763 | 764 |
| 68 | Filler | 60 | 765 | 824 |
| 69 | Firm Name | 40 | 825 | 864 |
| 70 | Primary Delivery Address Line | 64 | 865 | 928 |
| 71 | Secondary Delivery Address Line | 64 | 929 | 992 |
| 72 | Urbanization | 28 | 993 | 1020 |
| 73 | City Name | 28 | 1021 | 1048 |
| 74 | State Code | 02 | 1049 | 1050 |
| 75 | ZIP Code | 05 | 1051 | 1055 |
| 76 | ZIP + 4 Add-On | 04 | 1056 | 1059 |
| 77 | Delivery Point | 02 | 1060 | 1061 |
| 78 | Carrier Route | 04 | 1062 | 1065 |
| 79 | Record Type Code | 01 | 1066 | 1066 |
| 80 | Default Flag | 01 | 1067 | 1067 |
| 81 | LACS Indicator | 01 | 1068 | 1068 |
| 82 | PMB Designator | 04 | 1069 | 1072 |
| 83 | PMB Number | 08 | 1073 | 1080 |
| 84 | Early Warning System (EWS) | 01 | 1081 | 1081 |
| 85 | eLOT Sequence Number | 04 | 1082 | 1085 |
| 86 | eLOT Ascending/Descending | 01 | 1086 | 1086 |
| 87 | PO Box Only Flag | 01 | 1087 | 1087 |
| 88 | ZIP5 Valid Flag (ZIP Code include in Form 3553) | 01 | 1088 | 1088 |
| 89 | Finance Number (not applicable for customer answer) | 06 | 1089 | 1094 |
| 90 | Filler Answer | 50 | 1095 | 1144 |

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 91 | DPV Confirmation Indicator – A | 01 | 1145 | 1145 |
| 92 | DPV CMRA Indicator – C | 01 | 1146 | 1146 |
| 93 | DPV Drop Indicator – D | 01 | 1147 | 1147 |
| 94 | DPV False Positive Indicator – F | 01 | 1148 | 1148 |
| 95 | DPV Vacant Indicator – V | 01 | 1149 | 1149 |
| 96 | DPV NoStat Indicator – X | 01 | 1150 | 1150 |
| 97 | DPV Non-Delivery Day – Y | 01 | 1151 | 1151 |
| 98 | DPV Non-Delivery Days - Z | 07 | 1152 | 1158 |
| 99 | DPV NoStat Reason Code - R | 02 | 1159 | 1160 |
| 100 | DPV No Secure Location – U | 01 | 1161 | 1161 |
| 101 | DPV Door Not Accessible – N | 01 | 1162 | 1162 |
| 102 | DPV Throwback Indicator – T | 01 | 1163 | 1163 |
| 103 | DPV PBSA Indicator – P | 01 | 1164 | 1164 |
| 104 | Filler | 01 | 1165 | 1165 |
| 105 | DPV Footnote 1 | 02 | 1166 | 1167 |
| 106 | DPV Footnote 2 | 02 | 1168 | 1169 |
| 107 | DPV Footnote 3 | 02 | 1170 | 1171 |
| 108 | DPV Footnote 4 | 02 | 1172 | 1173 |
| 109 | DPV Footnote 5 | 02 | 1174 | 1175 |
| 110 | DPV Filler | 22 | 1176 | 1197 |
| 111 | DSF$^2$ Business Indicator – B | 01 | 1198 | 1198 |
| 112 | DSF$^2$ Educational Indicator – E | 01 | 1199 | 1199 |
| 113 | DSF$^2$ Drop Count – K | 03 | 1200 | 1202 |
| 114 | DSF$^2$ LACS Indicator – L | 01 | 1203 | 1203 |
| 115 | DSF$^2$ Seasonal Indicator – S | 01 | 1204 | 1204 |
| 116 | DSF$^2$ Delivery Type 1,2,3,4 | 01 | 1205 | 1205 |
| 117 | DSF$^2$ Pseudo Sequence Number (not applicable) | 04 | 1206 | 1209 |
| 118 | Filler DSF$^2$ | 25 | 1210 | 1234 |
| 119 | RDI | 01 | 1235 | 1235 |
| 120 | LACS$^{Link}$ Indicator | 01 | 1236 | 1236 |
| 121 | LACS$^{Link}$ Return Code | 02 | 1237 | 1238 |
| 122 | Suite$^{Link}$ Return Code | 02 | 1239 | 1240 |
| 123 | Error Codes | 30 | 1241 | 1270 |
| 124 | Filler | 60 | 1271 | 1330 |

## Early Warning System (EWS) File Layout

The EWS file consists of records containing partial address information limited to the street name, pre-directionals and post-directionals, and a ZIP Code™. EWS records are culled from a weekly generated ZIP +4 file. URB info will not be added to the EWS file. Also, the EWS file should be checked before going to an Alias record.

For an address record to be EWS eligible, the address is not present on the most recent monthly production ZIP + 4® file. As an input address is processed through address matching software and an inexact match is made, the EWS file should be queried to see if an exact match is available. If an exact match is found on the EWS file CASS expects software to return a no match and set a flag in the Stage II test address record. For CASS testing an exact match is defined as a match to all components of the EWS record including the ZIP Code.

Note: EWS supercedes Alias records.

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | ZIP Code | 05 | 01 | 05 |
| 2 | Pre-Directional Abbreviation | 02 | 06 | 07 |
| 3 | Street Name | 28 | 08 | 35 |
| 4 | Suffix Abbreviation | 04 | 36 | 36 |
| 5 | Post Directional Abbreviation | 02 | 40 | 41 |
| 6 | Filler | 46 | 42 | 87 |

## Grading, Scoring, and Certification

CASS Stage II files are graded, scored and analyzed to determine CASS certification status. The test scores may vary based on such factors as address matching software performance and the usage of static test data that is provided by the CASS Department to all software developers.

Software developers must use the static test data for all tests and must also provide this data to any end user who will take a CASS or MASS test using their software. Failure to use this data will result in test failure.

If software attempts to code optional categories and the answers are incorrect, the incorrect match will be counted as an error against the total of 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. Delivery Point Barcode, eLOT, Perfect Address, DPV®/DSF²®, RDI™ and SuiteLink® categories require a 100% score. All other categories require a score of 98.5% accuracy. If one of the mandatory categories score is less than 98.5% the entire test fails. If a mandatory category is bypassed or not answered, the test is also considered as a failed test. Subcategories within a mandatory category cannot be bypassed.

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

The CASS Department will compare and analyze the hardcopy and electronic PS Form 3553 against the answer field information returned in the State II file. Computation of the PS Form 3553 values must be based on the answers returned during the matching process. In normal operations, if a user chooses to overwrite input fields with output information, production of the PS For 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 via email attachment to cassman.ncsc@usps.gov.

## Grading Requirements

DPV® or DSF²®, LACS$^{Link®}$ and Suite$^{Link®}$ are mandatory for CASS certification. They are not standalone certifications.

### Suite$^{Link®}$

For CASS testing, when a secondary value is returned from Suite$^{Link}$, the new suite number must be displayed contiguous to the delivery address line. See Appendix 10.

### 5-Digit Validation

CASS software must validate the city, state and ZIP Code™.

If the output city, state and ZIP Code correspond, the 5-digit ZIP Code can be counted on the PS Form 3553.

A new flag will be populated to determine when the 5-digit ZIP Code is counted on the PS Form 3553.

| | | | |
|---|---|---|---|
| Field Description | Y | = | ZIP Code validates for city and state. Increment the total 5-Digit Coded on PS Form 3553 |
| | N | = | ZIP Code is not valid for the city and state. Do not increment the 5-Digit Coded on PS Form 3553 |

### PBSA (Post Officed Box Street Address)

The PBSA table is now a separate table in the DPV® and DSF²® products. CASS software is required to query the PBSA table (dph.hdp) in the same manner as the CMRA table.

PBSA addresses can be identified by the unique carrier route numbers C770-C779 in the PBSA table. The new footnote code “PB” must be returned when the address is found in the PBSA table.

PB – Input address matched to a post office box street address

**Example:** AABBPB

When a PBSA is presented to CASS software with a pound sign (#) designator the" #" may be returned in the output or the secondary value on the ZIP + 4 product.

Input: 555 S B B KING BLVD # 18
Memphis TN 38103

Output: 555 S B B KING BLVD ST # 18
MEMPHIS TN 38103-0387

Input: 555 S B B KING BLVD # 18
Memphis TN 38103

Output: 555 S B B KING BLVD UNIT 18
MEMPHIS TN 38103-0387

DPV Return Code: Y
PBSA Table: Y
DPV Footnote: AABBPB

When a PBSA is presented with any secondary designator other than "#" CASS software must return the designator as it is on the ZIP + 4 product.

Input: 555 S B B KING BLVD APT 18
Memphis TN 38103

Output: 555 S B B KING BLVD UNIT 18
MEMPHIS TN 38103-0387

Input: 555 S B B KING BLVD STE 18
Memphis TN 38103

Output: 555 S B B KING BLVD UNIT 18
MEMPHIS TN 38103-0387

DPV Return Code: Y
PBSA Table: Y
DPV Footnote: AABBPB

**CMRA/PMB**

When an input address contains "PMB", the PMB number must be ignored for DPV confirmation.

A DPV footnote of "RR" or "R1 must be returned when the address is found in the CMRA table.

| | |
|---|---|
| RR | Input address matched to CMRA and PMB designator present (PMB 123 or # 123) |
| R1 | Input address matched to CMRA and PMB designator not present (PMB 123 or # 123) |

When a CMRA contains secondary information for the address of the CMRA, “PMB” must be used to denote box information when it is returned on the same line as the primary address (i.e. # is not allowed). Reference: *DMM 508.1.8.2g*

Input: 6 University Dr Apt 500 Ste 206
Amherst MA 01002

Output 1: 6 University Dr STE 206 PMB 500
Amherst MA 01002 -2265

Output 2: STE 206 PMB 500
6 University Dr STE 206 PMB 500
Amherst MA 01002 -2265

DPV Return Code: Y
CMRA Table: Y
DPV Footnotes: AABBRR

When a CMRA contains two (2) distinct secondary values are presented with “#” sign and neither ZIP +4/DPV confirms, assign the rightmost secondary designator to “PMB” (line 3 or line 4). “#” may be retained for the other invalid secondary value.

Input: 800 VILLAGE WALK # 1 # 101
Guilford CT 06437

Output: PMB 101 (or # 1 PMB 101)
800 VILLAGE WALK # 1
GUILFORD CT 06437-2762

DPV Return Code: Y
CMRA Table: Y
DPV Footnotes: AABBRR

When a confirmed CMRA does not contain secondary information for the address of the CMRA, box information can be designated using “PMB” (preferred) or “#” (optional).

Input: 800 VILLAGE WALK # 1
Guilford CT 06437

Output 1: 800 VILLAGE WALK PMB 1
GUILFORD CT 06437-2762

Output 2: 800 VILLAGE WALK # 1
GUILFORD CT 06437-2762

DPV Return Code: S
Enhanced DPV Return Code: Y
CMRA Table: Y
DPV Footnotes: AABBRR

When an unconfirmed secondary designator is input it must be change to PMB (line 3 or line 4). When a confirmed CMRA address record contains two (2) distinct secondary values and neither ZIP+4/DPV confirms, assign the rightmost designator to PMB.

Input: 111 HIGHLAND ST UNIT 2 STE 1
MEMPHIS TN 38111

Output: PMB 1 (or UNIT 2 PMB 1)
111 HIGHLAND ST UNIT 2 PMB 1
MEMPHIS TN 38111-4640

DPV Return Code: S
CMRA Table: Y
DPV Footnotes: AACCRR

## PO Box™ Only Delivery Zones

There is a portion of the City State product that contains PO Box Only Delivery Zones.

The file layout utilizes “P” as the Copyright Detail Code which is different from the existing ZIP Classification code “P” located in the thirteenth (13) position of the City State detail record that indicates there are PO Box and other types of delivers to the community.

These zones have no other form of postal delivery.

A PO Box only flag will be added to CASS testing. Software must return a “Y” when a record is in a PO Box only Delivery Zone.

## R777 and R779 Route Matching

Physical addresses that are assigned to phantom routes R777 and R779 **are not** eligible for street delivery or postage discounts.

- Flagged as a NoStat record
- The ZIP + 4 cannot be returned by CASS software
- Cannot be counted on the PS Form 3553 in the ZIP + 4 Coded /DPV Confirmed fields
- The ZIP + 4 should not be printed on the mailpiece

DPV Footnote **“R7”** must be returned when an address matches to an R777/R779 route and the address DPV confirms. The R7 footnote will correspond with the Enhanced DPV return code “R”.

R7 – Input address matched to a physical address that does not receive delivery from the USPS (R777 or R779)

| | | | |
|---|---|---|---|
| Input: | 40 FLETCHER DR<br>PLEASANT HILL TN 38578 | Output: | 40 FLETCHER DR<br>PLEASANT HILL TN 38578 |

DPV Return Code: Y
Enhanced DPV: R
DPV Footnotes: AABBR7
PS Form 3553: N

When the primary number doesn’t DPV confirm the R7 footnote should not be returned. In this case the Enhanced DPV return code is “N”.

R777 and R779 carrier routes should be returned on non-DPV confirmed addresses.

| | | |
|---|---|---|
| Input: | 314 S HOPSON ST<br>LYON MA 38645 | 312 S HOPSON ST<br>LYON MA 38645 |
| Output: | 314 S HOPSON ST<br>LYON MS 38645 | 312 S HOPSON ST<br>LYON MS 38645 |
| DPV Return Code: | N | Y |

| | | |
|---|---|---|
| Enhanced DPV Return Code: | N | R |
| DPV Footnotes: | AAM3 | AABBR7 |
| PS Form 3553: | N | N |

## Single Trailing Alpha on Primary Number

When a primary number is numeric with a Single Trailing Alpha Exception (no secondary present on input) and it does not DPV confirm as returned from the ZIP + 4 match, the Single Trailing Alpha should be dropped for DPV confirmation. If the number then DPV confirms, software must return an "S" for DPV confirmation.

"S" indicates that the secondary information or a trailing alpha was dropped to make a match to DPV.

The returned primary number must be the one returned from the ZIP + 4 match (which includes the trailing alpha).

| | **Current Rule** | **New Rule** |
|---|---|---|
| Input: | 341A JAMES AVE<br>COVINGTON TN 38019 | 341A JAMES AVE<br>COVINGTON TN 38019 |
| EMDP (w/alpha) | 3801933280000341A | 3801933280000341A |
| DPV (w/alpha) | N | N (Try w/o Trailing Alpha) |
| EMDP (w/o Alpha) | NOT ALLOWED | 3801933280000341 |
| DPV (w/o Alpha) | | |
| Output: | 341A JAMES AVE<br>COVINGTON TN 38019 | 341A JAMES AVE<br>COVINGTON TN 38019-3328 |
| | Output address must be what was returned from ZIP + 4 Lookup (not what was used in DPV lookup) | 341 JAMES AVE # A (not allowed)<br>COVINGTON TN 38019-3328 |

Valid single trailing alpha primary number /**No alpha exception*** on the match - The primary number of 13430A matched a pattern on ZIP + 4 data.

| | **Current Rule** | **New Rule** |
|---|---|---|
| Input: | 13430A 35TH AVE<br>FLUSHING NY 11354 | 13430A 35TH AVE<br>FLUSHING NY 11354 |
| DPV Return Code: | N | N (do not query DPV w/o trailing alpha) |
| Output: | 13430A 35TH AVE<br>FLUSHING NY 11354 | 13430A 35TH AVE<br>FLUSHING NY 11354 |

***The alpha was used to make the match to ZIP + 4.

## Deliverable Street/Highrise Default

Addresses in a highrise that have a valid delivery point at the primary number without second are known as deliverable street records. There are also highrise specific addresses at the same primary number.

Currently, an input address without secondary would match to the highrise default, appearing to need secondary information.

To accommodate this type of address, we have modified the matching logic. These types of addresses have been modified. If you have an input address without secondary information that matches to a highrise default and DPV does not show it as a NoStat, drop to the street level match and return the associated information.

This should not be done on addresses that match a highrise default when invalid secondary is included in the input.

SuiteLink® should be queried before making this check.

| Source | Rec Type | Prim Number | Street Indicia | Unit | Sec Range | ZIP Code | ZIP + 4 Range | CRID | No Stat |
|---|---|---|---|---|---|---|---|---|---|
| DSF | S | 36 | CAPITAL WAY | | | 38004 | 7924 | R006 | N |
| ZIP + 4 | H | 36 | CAPITAL WAY | | | 38004 | 7985 | R006 | N/A |
| ZIP + 4 | H | 36 | CAPITAL WAY | STE | B-E | 38004 | 7986 | R006 | N/A |

| | **Current Rule** | **New Rule** |
|---|---|---|
| Input: | 36 CAPITAL WAY<br>ATOKA TN 38004 | 36 CAPITAL WAY<br>ATOKA TN 38004 |
| Output: | 36 CAPITAL WAY<br>ATOKA TN 38004-7985 | 36 CAPTIAL WAY<br>ATOKA TN 38004-7924 |
| Record Type: | H | S |
| DPV Return Code: | D | Y |
| Enhanced DPV Return Code: | N/A | Y |
| DPV Footnotes: | AAN1 | AABB |
| DPV NoStat | N | N |

There are multiple highrise specific records for this primary number. The street record is a stated record.

| | **Current Rule** | **New Rule** |
|---|---|---|
| Input: | 36 CAPTIAL WAY STE A<br>ATOKA TN 38004 | 36 CAPITAL WAY STE A<br>ATOKA TN 38004 |
| Output: | 36 CAPITAL WAY STE A<br>ATOKA TN 38004-7985 | 36 CAPTIAL WAY STE A<br>ATOKA TN 38004-7985 |
| Record Type: | H | H |
| DPV Return Code: | S | S |
| Enhanced DPV Return Code: | N/A | S |
| DPV Footnotes: | AACC | AAC1 |

| | | |
|---|---|---|
| DPV NoStat | N | N |

There are multiple highrise specific records for this primary number. There is no STE A. The street record is not a NoStat record.

## Military Addressing

Two new military abbreviations as indicated below with the asterisks have been added to the postal database.

- CMR – Consolidated mail Room
- PSC – Postal Service Center
- UNIT
- UMR – United Mail Room **
- OMC – Official Mail Center **

| Rec Type | Prim Range | Street Indicia | Unit | Sec Range | ZIP Code | ZIP + 4 Range | CRID |
|---|---|---|---|---|---|---|---|
| S | 1 – 99 | UMR 6 | | | 09599 | 0001 | C001 |

| | |
|---|---|
| Input: | UMR 6 BOX 1<br>FPO 09599 |
| Output: | UMR 6 BOX 1<br>FPO AE 09599-0001 |
| DPV Return Code: | Y |
| DPV Footnotes: | AAF1 |

| Rec Type | Prim Range | Street Indicia | Unit | Sec Range | ZIP Code | ZIP + 4 Range | CRID |
|---|---|---|---|---|---|---|---|
| S | 1 – 99 | OMC 8 | | | 09599 | 0002 | C002 |

| | |
|---|---|
| Input: | OMC 8 BOX 1<br>FPO 09599 |
| Output: | OMC 8 BOX 1<br>FPO AE 09599-0002 |
| DPV Return Code: | Y |
| DPV Footnotes: | AAF1 |

## Fatal Add-On Error

The return of add-on ‘0000’ in the ZIP + 4 or the return or an invalid add-on ‘9999’ in the ZIP + 4 continues to be cause for CASS/MASS certification failure and will require retesting.

## Stage II File Evaluation

Address matching software evaluation is based on the CASS product answer requirement and USPS® *DMM*®, "CASS" section 602.

An address record answer 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 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.

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 these records are coded incorrectly, they are counted towards the total number of incorrectly coded records. If these records are coded correctly by address matching software, they are counted towards the total number of correctly coded records. If the records 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 sing asterisk on the "Customer No Match Translation of Error Codes & Special Flags" in Appendix 3.
3. Return input record and not assign an add-on code unless the address DPV confirms. In some cases, DPV can be used as a tiebreaker. When a multiple response exists and DPV cannot break the tie, and if all candidate record shares 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.
4. DPV® or DSF$^{2}$®, LACS$^{Link}$® and Suite$^{Link}$® are mandatory for all tests and production use for all end users. DPV/DSF$^{2}$ return codes and confirmation codes must be returned for each address record. The new LACS$^{Link}$® converted address must be returned to qualify for postal discounts. If a mailer does not return the new address from LACS$^{Link}$ only the 5-digit ZIP Code™ can be returned. The appended Suite$^{Link}$® secondary must be returned when available for testing. The mailer may continue to use the input address with the 5-digit ZIP Code associated with the input address. This address does not qualify for automation discounts.
5. Grading for standardization records may or may not contain an input ZIP Code may have a misspelled city name and may contain a non-mailing 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® add-on code, and delivery point code. CASS accepts and grades the answer as correct in the standard abbreviated format, completely spelled out, exactly as presented in the USPS Address Information Systems (AIS) Products 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.

6. Normalization is 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 to the proper format. 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 | HC1 |

| Record Type | Answer = AGT 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 |
| LACS$^{Link®}$ | 98.5% or higher |
| DPBC | 100% |
| eLOT | 100% |
| Perfect Address | 100% |
| DPV® | 100% |
| DSF$^{2®}$ | 100% |
| RDI™ | 100% |
| Suite$^{Link®}$ | 100% |

*Note: Merge and Merge/eLOT require the same scores as above. However, the delivery point code must be correctly assigned for 100% of all ZIP + 4/DPV confirmed records*. If a passing score is not achieved in any single category the entire test fails.

## Analysis

A grading output analysis report is provided when the required minimum score is not achieved. The report contains the following reports:

- *CASS Statistical Summary* – Divided into two parts
  - Part 1 contains percentage-based information on address matching software by CASS product categories
  - Part 2 contains percentage-based information by special flag categories 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 provided the original CASS input.

## Certification

When the required minimum scoring levels are achieved, the address matching software will be certified. The CASS Department issues a certification letter acknowledging certification has been achieved for a certified software product. In addition, the certified company's name will be included in the CASS MASS Certified Products Guide unless the company doesn't want to be listed.

# 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, or highway contract route number).

**3. Single Digits**

Address: 8 MIAN 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 ½ MAIN ST (PO BOX 1 ½. RR 1 BOX 2 ¾, HC 1 BOX 10 ¼)
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 12644AA)
DPBC: 34 (04, 54, 640

Ignoring 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. Spaces and Alphas**

Address: 1234 A MAIN ST (PO BOX 4 AA, RR 1 BOX 154 A, HC1 BOX 1264 AA)
DPBC: 34 (04, 54, 64)

Ignoring 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, RR 1 Box X, HC 1 Box AB)
DPBC: 99 (99, 99, 99)

Ignore alphas and se 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 MAINS ST)
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 (PO BOX ¼, RR 1 BOX 123/124/125, HC BOX 11/13)
DPBC: 99 (99, 99, 99)

Print code characters in DPBC representing 99 whenever a slash appears directly next to numeric 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 matches require delivery point values be assigned based on the input box number when one is present. When an input box number is not present, the delivery point value is “99”.

## Unique ZIP Code Matrix

| CONDITION | CRID/RECORD TYPE | DPC |
|---|---|---|
| **Normal Matching (No input ZIP or No input + 4 or Input ZIP + 4 corresponds to Matched record)** | **Use CRID/Record Type associated With ZIP + 4 record** | **Assign Based on Normal DPC Derivation Rules** |
| **Input of Assigned ZIP + 4 Valid (doesn’t correspond to matched Record)** | **Use CRIS/Record Type Associated With Input ZIP + 4** | **Assign Based on the Primary Street Number** |
| **Input or Assigned ZIP + 4 invalid** | **Default CRID to ‘C000’ and Record Type matches the style of input address** | **Assign Based on the Primary Street Number** |

*Note: Set the Default flag when the assigned ZIP + 4 Code matches to a highrise default or a default add-on ‘0001’ (default for Unique).*

## Delivery Point Barcode Rules (Secondary)

### Special Characters and Fractions in Secondary Address Values

When the input secondary address contains embedded special characters like 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 can 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 on page 45 for secondary addresses consisting of only a fraction.

Examples:

| Secondary Address Value | Secondary Range Matched | DPC | Rule |
|---|---|---|---|
| 5 ½ | 1-10 | 05 | 1 |
| 2 1/3 C | 2 1/3A-2 1/3D | 02 | 1 |
| A8 ¼ | A6 ¼-A12 ¼ | 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 in the ZIP + 4® product. For example, an input address may be shown as “APT 5A” and matched to a secondary range of “1-10” in the 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 DPB 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 the 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 the ZIP + 4 product. A leading alpha character may not be swapped to make 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 the 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 |

## Secondary Numbers Used as Primary Number Values

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

| | | | |
|---|---|---|---|
| Input: | 1800 IDS TOWER<br>MINNEAPOLIS MN 55402 | Output: | 80 S 8TH ST STE 1800<br>MINNEPOLIS 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."

The input address matches to a highrise default record. DPV® returns a "D" which indicated that secondary is missing. Software must query SuiteLink®. If no match is found, return the original ZIP + 4 match.

**Example:**

| ZIP Code | Rec Type | DPV | Prim Range | Street Indicia | Unit | Sec Range | City |
|---|---|---|---|---|---|---|---|
| 78840 | S | Y | 2201-2299 | VETERANS BLVD | | | DEL RIO |
| 78840 | H | Y | 2205 | VETERANS BLVD | STE | D1-D9 | DEL RIO |

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 DPC value will be based upon the primary address value since the match is made to a street record.

**Example:**

| | | |
|---|---|---|
| Input: | D5-DALYS GOLD N CHAIN<br>2205 VETERANS BLVD<br>DEL RIO TX 78840 | |
| Output: | D5-DALYS GOLD N CHAIN<br>2205 VETERANS BLVD STE D5<br>DEL RIO TX 78840-3137 | Appended Secondary |

SuiteLink return code: A

This policy applies when a street or highrise default record is present in the ZIP + 4® product. The highrise default or street default match must be queried with SuiteLink®.

For CASS testing, the secondary number must be appended to the address. For production mail, if the mailer does not append the secondary number to their original address when one is available from SuiteLink, the new secondary number must be included in the Intelligent Mail® Barcode to qualify for postal discounts. Otherwise, the address does not qualify for automation discounts.

**Rule 1: Numeric Simple Rule**

The Numeric Simple Rule applies to situation 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 equal zero. The last two digits of the secondary number must become the DPC. See Rule 5, if the numeric value in either the hundreds or thousands place if greater than zero.

| 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 |
| 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 ½ | 95 |
| MEZZ | 95 |

**Rule 3: Alphanumeric Rule – Trailing Alpha**

The Alphanumeric Numeric Rule – Trailing 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)/100)

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 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.

| | | | | |
|---|---|---|---|---|
| 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 | STEP 4 MOD (STEP 3 ANS/100) | DPC |
|---|---|---|---|---|---|
| 1A | A = 1 | 10 · 1 = 10 | 1 + 10 = 11 | 11/100 = 0 R11 | 11 |
| 10D | D = 4 | 10 · 0 = 0 | 4 + 0 = 4 | 4/100 = 0 R4 | 04 |
| 99Q | Q = 27 | 10 · 9 = 90 | 27 + 90 = 117 | 117/100 = 0 R17 | 17 |
| A4K | K = 21 | 10 · 4 = 40 | 21 + 40 = 61 | 61/100 = 0 R61 | 61 |
| 2-4M | M = 23 | 10 · 4 = 40 | 23 + 40 = 63 | 63/100 = 0 R63 | 63 |
| A78Z | Z = 46 | 10 · 8 = 80 | 46 + 80 = 126 | 126/100 = 1 R26 | 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 · 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.
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 = 2 R82 | 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 |
| 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, if the value in the hundreds and thousands place equals 0.*

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

DPC = 25 · (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 tens and ones places. Within the formula "MOD" refers to the remainder derived from the division process.

1. Extract the numeric digits found in the thousands and hundreds 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.

| 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 R0 = 0 | 0 · 25 = 0 | 74/25 = 2 R2 = 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 ½ | 12/4 = 3 R1 =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 product):**

| 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: JANE DOE
123 MAIN AVE OFFICE
WEST BLOOMFIELD MI 48322

Output: JANE DOE
123 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 does not have any 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 product):**

| 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: JOE DOE
101 MAIN ST APTE 405
AUBURN HILLS MI
48321

Output: JOE DOE
101 MAIN ST APTE 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 (Not needed in IMB)

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 |

## TotalDPS

TotalDPS relates to an alternative method of Delivery Point Sequencing (DPS) by computing delivery point codes for address records and more particularly to those records that would otherwise have a conflicting 11-digit ZIP Code.

### Brief Summary

The objective is to provide a more concise method of computing delivery point codes for address records that by current computation would produce a conflict (two addresses with the same code). Only record types of “R” and “S” are eligible for the TotalDPS calculation. All other record types should retain their calculated delivery point using existing rules.

### Detailed Description

When the same delivery point on a street record is used to identify multiple deliveries, the USPS cannot correctly sequence the mail for all deliveries.

Software will be required to calculate the new delivery point for these addresses.

## Setup

There will be up to 6 fields used to hold information from the primary number, unit designator, or secondary number fields. They will be referred to as A1, A2, A3, N1, N2, and N3. The A1 through A3 fields are the 3 right-most alphabetic characters and N1 through N3 are the 3 right-most numeric characters. There will also be a field to hold the temporary string to perform the calculations on, referred to as WS.

## Initial Checks

**NOTE: The primary number should have at least confirmed in order to enter this algorithm. If a primary number confirms by dropping a trailing alpha, the trailing alpha should NOT be used in the calculation.**

If there is a secondary number, follow the secondary number calculation.
If there is not a secondary number, but a unit designator is present, follow the unit designator calculation.

**NOTE: For the unit designator/secondary number sections, the address MUST DPV confirm with the secondary information for it to be used in the calculation. If the secondary information does not DPV confirm, it should not be used in the calculation.**

In all other cases, follow the primary number calculation.

**Primary Number Calculation**

If the primary number is all numeric, there is nothing to do. The delivery point will remain as is.

***Example of all numeric:*** ***123***
***489***

Starting at the right-most character of the primary number, find the first non-space character and continue until you find an alpha or numeric (or you get to the beginning of the primary number, which should technically never happen). If it's a numeric, skip to the Right-Most Numeric Section. If it's an alpha, skip to the Right-Most Alpha Section.

**Right-Most Numeric Section**

Starting at the left-most character of the primary number, find the first space and then copy the rest of the primary number to WS.

***Example:*** ***123 1/2***

The part that would be copied to WS would be 1/2.

**Right-Most Alpha Section**

Copy the right-most alpha to WS.

***Example: 123A***

The part that would be copied to WS would be A.

***Example: 123AB***

The part that would be copied to WS would be B (only the right-most first alpha).

***Example: A***

The part that would be copied to WS would be A.

***Example: AB***

The part that would be copied to WS would be B (only the right-most first alpha).

Follow the Final Calculation.

**Unit Designator Calculation**

Copy the unit designator to WS.
Follow the Final Calculation.

**Secondary Number Calculation**

Copy the secondary number to WS.
Follow the Final Calculation.

**Final Calculation**

If WS is blank, you are done. The delivery point will remain as is.

If WS is a single character numeric, convert by using the following:
1 = Z, 2 = Y, 3 = X, 4 = W, 5 = V
6 = U, 7 = T, 8 = S, 9 = R, 0 = Q

Using A1 through A3 and N1 through N3 as holders for values, start at the right-most value of WS and fill in A3, A2, and A1 for each individual alpha found (each one will hold a different alpha character) and fill in N3, N2, and N1 for each individual numeric found (each one will hold a different numeric character).

A1, A2, and A3 should be converted to a numeric value by using the following:

[Blank] = 0, A = 1, B = 2, C = 3, …., Z = 26

Perform the following calculation:

((27^2) * (10^3) * (A1)) +
((27^1) * (10^3) * (A2)) +
((27^0) * (10^3) * (A3)) +

((27^0) * (10^2) * (N1)) +
((27^0) * (10^1) * (N2)) +
((27^0) * (10^0) * (N3))

Divide the sum above by 47 and keep the remainder (REM).

Finish the calculation
(REM * 2) + Original DP + 1

If the value is greater than 100, keep only the right-most two digits (or divide by 100 and keep the remainder). There should always be two digits (even if the first is a zero).

**NOTE: Adding 1 will guarantee a different parity for the delivery point than previous (i.e., even number original delivery points will now be odd and vice-versa).**

The Stage I file will include:

- Rural Route/Highway Contract Box numbers with all alphas, trailing alpha and trailing fractions
- Street records with all alphas, trailing alpha, trailing fractions and street secondary
- TotalDPS will also be included in the Cycle O Stage files

| | |
|---|---|
| RR 1 BOX 135**A** | RR 1 BOX 135**D** |
| RR 1 BOX 11075 | RR 1 BOX 11075**D** |
| HC 83 BOX 34 | HC 83 BOX 34A**A** |
| 444 S MAIN ST APT **1** | 444 S MAIN ST APT **2** |
| 305 S MAIN ST APT **A** | 305 S MAIN ST APT **B** |
| 1608 SHARON RD | 1608 SHARON RD **BSMT** |
| 104**A** KNOBLEY RD | 104**B** KNOBLEY RD |
| 301 D ST | 301 **½** D ST |

| **Enumerated Values (Alpha to Numeric)** | | | | |
|---|---|---|---|---|
| **0** | | | | |
| **A** | **1** | | **N** | **14** |
| **B** | **2** | | **O** | **15** |
| **C** | **3** | | **P** | **16** |
| **D** | **4** | | **Q** | **17** |
| **E** | **5** | | **R** | **18** |
| **F** | **6** | | **S** | **19** |
| **G** | **7** | | **T** | **20** |
| **H** | **8** | | **U** | **21** |
| **I** | **9** | | **V** | **22** |
| **J** | **10** | | **W** | **23** |
| **K** | **11** | | **X** | **24** |
| **L** | **12** | | **Y** | **25** |
| **M** | **13** | | **Z** | **26** |

## Primary Number with Trailing Alpha

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| RR1 BOX 135A | 35 | *62* | | | A | | | | | 0 | 0 | 1 | 0 | 0 | 0 |
| RR1 BOX 135D | 35 | *46* | | | D | | | | | 0 | 0 | 4 | 0 | 0 | 0 |

| Address | Factor | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
| RR1 BOX 135A | 0 | 0 | 1,000 | 0 | 0 | 0 | 13 | 62 | 62 | *62* |
| RR1 BOX 135D | 0 | 0 | 4,000 | 0 | 0 | 0 | 5 | 46 | 46 | *46* |

1000/47=21, R13,13*2+35+1=62, 62/100=R62

4,000/47=85 R5, 5*2+35+1=46, 46/100=R46

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| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| RR1 BOX 11075 | 75 | *75* | ***This address returns the same DP*** | | | | | | | | | | | | |
| RR1 BOX 11075D | 75 | *86* | | | D | | | | | 0 | 0 | 4 | 0 | 0 | 0 |

| Address | Factor | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
| RR1 BOX 11075 | | | | | | | | | | 75 |
| RR1 BOX 11075D | 0 | 0 | 4,000 | 0 | 0 | 0 | 5 | 86 | 86 | 86 |

4,000/47=85 R5, 5*2+75+1=86, 86/100=R86

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| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| HC 83 BOX 34 | *34* | *34* | ***This address returns the same DP*** | | | | | | | | | | | | |
| HC 83 BOX 34AA * | *34* | *61* | | | *A* | | | | | *0* | *0* | *1* | *0* | *0* | *0* |

* Only the right-most alpha is coded

| Address | Factor | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
| HC 83 BOX 34 | | | | | | | | | | 34 |
| HC 83 BOX 34AA | 0 | 0 | 1,000 | 0 | 0 | 0 | 13 | 61 | 61 | 61 |

1,000/47=21 R13, 13*2+34+1=61, 61/100=R61

For single numeric, you must first convert them to alpha and then through the process:

| **Enumerated Values (Numeric to Alpha)** | |
|---|---|
| **1** | **Z** |
| **2** | **Y** |
| **3** | **X** |
| **4** | **W** |
| **5** | **V** |
| **6** | **U** |
| **7** | **T** |
| **8** | **S** |
| **9** | **R** |
| **0** | **Q** |

## Secondary Number Present – Single Numeric

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 444 S MAIN ST APT 1 | *44* | *63* | | | Z | | | | | 0 | 0 | *26* | 0 | 0 | 0 |
| 444 S MAIN ST APT 2 | *44* | *31* | | | *Y* | | | | | 0 | 0 | *25* | 0 | 0 | 0 |

| Address | Factor | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | |
| 444 S MAIN ST APT 1 | 0 | 0 | 26,000 | 0 | 0 | 0 | 9 | 63 | 63 | 63 |
| 444 S MAIN ST APT 2 | 0 | 0 | 25,000 | 0 | 0 | 0 | 43 | 131 | 31 | 31 |

26,000/47=553 R9, 9*2+44+1=63, 63/100=R63

25,000/47=531 R43, 43*2+44+1=131, 131/100=1 R31

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## Secondary Number Present – Not Single Numeric

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 305 S MAIN ST APT A | *05* | *32* | | | A | | | | | 0 | 0 | *1* | 0 | 0 | 0 |
| 305 S MAIN ST APT B | *05* | *58* | | | *B* | | | | | 0 | 0 | *2* | 0 | 0 | 0 |

| Address | Factor | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | |
| 305 S MAIN ST APT A | 0 | 0 | 1,000 | 0 | 0 | 0 | 13 | 32 | 32 | 32 |
| 305 S MAIN ST APT B | 0 | 0 | 2,000 | 0 | 0 | 0 | 26 | 58 | 58 | 58 |

1,000/47=21 R13, 13*2+5+1=32, 32/100=R32, 32/100=32

2,000/47=42 R26, 26*2+5+1=58, 58/100=R58, 58/100=58

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## Unit Designator Present

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 1608 SHARON RD | *08* | *08* | ***This address returns the same DP*** | | | | | | | | | | | | |
| 1608 SHARON RD BSMT | *08* | *79* | *S* | *M* | *T* | | | | | *19* | 13 | *20* | 0 | 0 | 0 |

| Address | Factor | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | |
| 1608 SHARON RD | | | | | | | | | | 08 |
| 1608 SHARON RD BSMT | 13,851,000 | 351,000 | 20,000 | 0 | 0 | 0 | 35 | 79 | 79 | 79 |

14,222,000/47=302,595 R35, 35*2+8+1=79, 79/100= R79

---

## Primary Number with Trailing Alpha

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 104A KNOBLEY RD | *04* | *31* | | | A | | | | | 0 | 0 | *1* | 0 | 0 | 0 |
| 104B KNOBLEY RD | *04* | *57* | | | *B* | | | | | 0 | 0 | *2* | 0 | 0 | 0 |

| Address | Factor | | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | | |
| 104A KNOBLEY RD | 0 | 0 | 1,000 | 0 | 0 | 0 | | 13 | 31 | 31 | 31 |
| 104B KNOBLEY RD | 0 | 0 | 2,000 | 0 | 0 | 0 | | 26 | 57 | 57 | 57 |

1,000/47=21 R13, 13*2+4+1=31, 31/100=R31

2,000/47=42 R26, 26*2+4+1=57, 57/100=R57, 57/100=57

---

## Primary Number with Trailing Fraction

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 301 D ST | *01* | *01* | ***This address returns the same DP*** | | | | | | | | | | | | |
| 301 1/2 D ST | *01* | *26* | | | | | *1* | *2* | | *0* | *0* | *2* | *0* | *0* | *0* |

| Address | Factor | | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | | |
| 301 D ST | | | | | | | | | | | 01 |
| 301 1/2 D ST | 0 | 0 | 0 | 0 | 10 | 2 | | 12 | 26 | 26 | 26 |

12/47=0 R12, 12*2+1+1=26, 26/100=R26

---

### Street Address with All Numeric Primary Number, Zero in Secondary Number

| Address | Previous DP | *New DP* | Alpha | | | Numeric | | | | Enumerated Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A1 | A2 | A3 | N1 | N2 | N3 | | A1 | A2 | A3 | N1 | N2 | N3 |
| 123 MAIN ST | *23* | *23* | ***This address returns the same DP*** | | | | | | | | | | | | |
| 123 MAIN ST APT 0 | *23* | *90* | | | *Q* | | | | | *0* | *0* | *17* | *0* | *0* | *0* |

| Address | Factor | | | | | | | MOD 47 | * 2 + Previous DP + 1 | MOD 100 | *New DP* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 729,000 | 27,000 | 1,000 | 100 | 10 | 1 | | | | | |
| 123 MAIN ST | | | | | | | | | | | 01 |
| 123 MAIN ST APT 0 | 0 | 0 | 17000 | 0 | 0 | 0 | | 33 | 90 | 90 | 90 |

17000/47 R33, 33*2+23+1=90, 90/100=R90

# Cross State

The City/State Product will allow multiple states to be assigned within the same ZIP Code.

## Acceptable Mailing Name

### Current Rule

If the input city name is not the default city for the ZIP Code and the input city name is a valid mailing name for the ZIP Code of the match and the last line key for the ZIP + 4 is the default, the input city name can be retained.

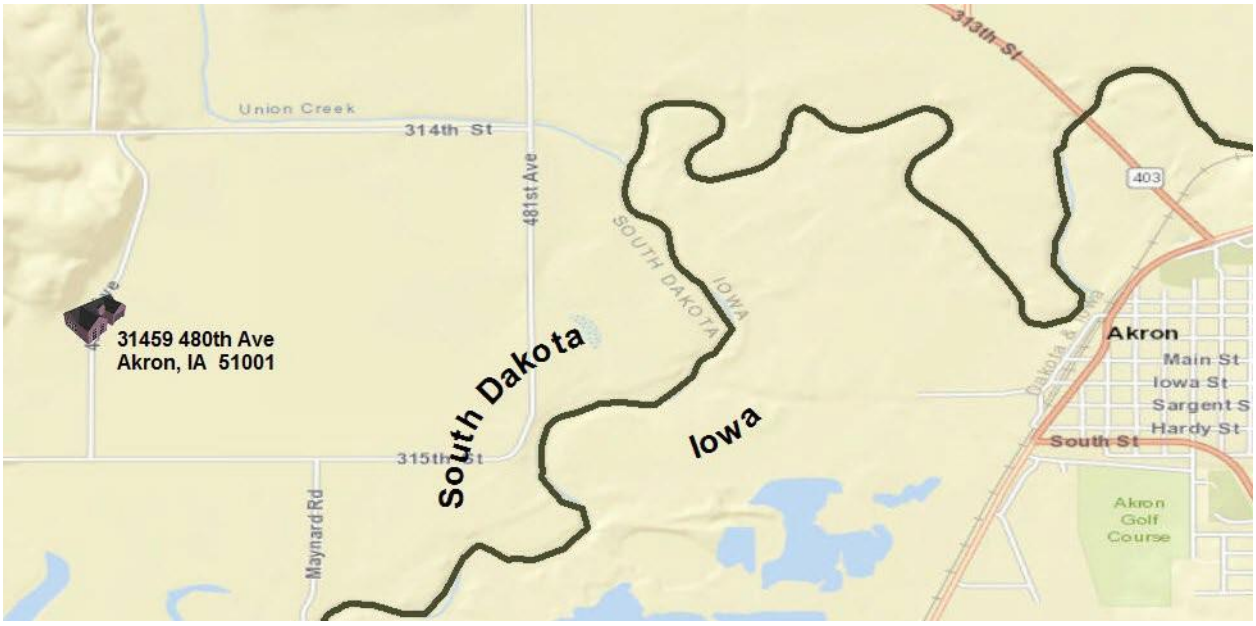
Otherwise, the city name that corresponds to the last line key for the ZIP + 4 record must be returned.

### New Rule

If the input city name is not the default city for the ZIP Code and the input city name is a valid mailing name for the ZIP Code of the match and the last line key for the ZIP + 4 record is the default and the input state matches the ZIP + 4 record state, the input city name can be retained.

Otherwise, the city/state that corresponds to the last line key for the ZIP + 4 record must be returned.

The City/State Product will allow multiple states to be assigned with the same ZIP Code.




Cross State Addresses – Rules

CASS – must use the city state key on the ZIP + 4 record (Override)

## Cross State Addresses – City State File

| Field Ref # | Field Description | Logical Length | Relative Position From/Thru | Content Notes (currently) | Content Notes (Cross State) |
|---|---|---|---|---|---|
| 1 | Copyright Detail Code | 01 | 01-01 | D=Detail | D=Detail |
| 2 | ZIP Code | 05 | 02-06 | 51001 | **51001** |
| 3 | City state Key | 06 | 07-12 | W10013 | 018975 |
| 4 | ZIP Class Code | 01 | 13-13 | | |

| | | | | | |
|---|---|---|---|---|---|
| 5 | City State Name | 28 | 14-41 | AKRON | SPINK TOWNSHIP |
| 6 | City Name Abbrev | 13 | 42-54 | | SPINK TWP |
| 7 | CtySt Name Fac Code | 01 | 55-55 | P | N |
| 8 | CtySt Mailing Name | 01 | 56-56 | Y | Y |
| 9 | Prfd Last Line CtySt Key | 06 | 57-62 | W10013 | XSTASD |
| 10 | Prfd Last Line CtySt Name | 28 | 63-90 | AKRON | CROSS STATE |
| 11 | City Delv Ind | 01 | 91-91 | N | N |
| 12 | CRRT Rate Sort Ind | 01 | 92-92 | D | D |
| 13 | Unique ZIP Name Inc | 01 | 93-93 | | |
| 14 | Finance No | 06 | 94-99 | 180090 | 180090 |
| 15 | State Abbrev | 02 | 100-101 | IA | SD |
| 16 | County No | 03 | 102-104 | 149 | 127 |
| 17 | County Name | 25 | 105-129 | PLYMOUTH | UNION |

## Cross State Addresses - Rules

**CASS – must use the city state key on the ZIP+4 record (Override)**

| Source | ZIP Code | Rec Type | Street Indicia | Prim Range | O/E/B | ZIP+4 | State | LL Key |
|---|---|---|---|---|---|---|---|---|
| **ZIP+4** | **51001** | **S** | **480th AVE** | **31400-31499** | **B** | **7515** | **SD** | **018975** |

| | **Cross State Address** |
|---|---|
| Input: | 31459 480TH AVE<br>AKRON IA 51001 |
| Output 1: | 31459 480TH AVE<br>SPINK TOWNSHIP SD 51001-7515 |
| Output 2: | 31459 480TH AVE<br>SPINK TWP SD 51001-7515 |

| | | | | | |
|---|---|---|---|---|---|
| D51001W10013 | AKRON | | PYW10013AKRON | ND | 180090IA149PLYMOUTH |
| D51001W11351 | RUBLE | | NNW10013AKRON | ND | 180090IA149PLYMOUTH |
| **D51001018975** | **SPINK TOWNSHIP** | **SPINK TWP** | **NYXSTASDCROSS STATE** | **ND** | **180090SD127UNION** |

*Note: This cross street address is only provided as any example and is not available for testing.*

## Informed Addressing (IA)

The following rules are determined based on proposed requirements for mailing to an informed address.

CASS processing must be performed on the list prior to submitting to the USPS to receive Informed Address records. IA processing will assist with determining if an 11-digit is already represented on the list. IA records that represent 11-digits that are not already on the list will be added.

IA identified address records must not be submitted for CASS address matching.

If an IA record is retained on a list that is processed through CASS, the software must recognize the record is not a normal address. The following prefixes are initially indicated but may not be final.

- 99*
- IA Code
- USPS Code

When recognized by the IA indicators, CASS software must return DPV = Blank and Footnote A1IA.

Include the number of IA records identified from the list in the count on the PS Form 3553 section B-6 Total Records Submitted for Processing.

If a city, state and ZIP Code is present, CASS software must follow the 5-digit validation guidelines. If the 5-digit validation flag is returned, add to the count in section C-c on the PS Form 3553.

CASS Tech Guide will be updated when and if the IA identifiers or requirements for mailing are updated/changed.

## Ordering CASS Tests

All required information must be completed on the CASS Order Form. The order form must be signed and dated. An electronic signature is acceptable.

A Terms and Conditions document must also be completed for the first required certification test for the new cycle. The documents are available at https://postalpro.usps.com/certifications/cass under the Featured Resources section.

- Software developers must complete the Terms and Conditions document for CASS Developers.
- Service Bureaus and mailers who use other CASS certified software or a certified interface without changes to the software should complete the Terms and Conditions document for CASS end-users.

CASS Stage II files are obtained through the Electronic Product Fulfillment (EPF) system.

Software testers are required to complete an Electronic Product Fulfillment Web Access Request Form (PS Form 5116). The form is available in this guide.

The completed order form and terms and conditions document can be sent as an email attachment to cassman.ncsc@usps.gov or fax to 650-577-2509.

Orders cannot be taken over the phone.

Optional parameter settings, configuration designators indicating the settings to be used when processing customer and/or client address files must be provided to the CASS Department.

All test files are downloaded and returned via the EPF website. When an EPF account is established, Stage II files can be downloaded directly from the EPF system. An email will be sent when the Stage II test file is available. One ZIPped file per test requested will be provided that includes all files needed for that test.

## CASS Test Files

Test files must be downloaded, processed and returned via the EPF website. An EPF form must be on file for a specific customer or group email account to grant access to this website. Follow the instruction below after access to the EPF website is granted.

**Assign or reset password**

Go to https://epf.usps.gov/.

- Type email address in the Reset Password box and select Reset Password button
- An email with a link will be sent that will allow you to setup the password
- Record the password, it will be used for both EPF downloads and uploads.

**Downloading files**

- Type email address and password in the Login section. Click on “Enter Application”.
- Select from the Product Type dropdown box “CASS / MASS Products” to download CASS Stage File.

The ZIPped file will contain the Stage II file, an EWS static data file, RDI static data if test includes RDI, and PSE and SEQ files when a DSF$^2$ test is requested.

## National and State Files

Stage II National and Puerto Rico files are available.

**National File –** All states in the United States and its territories including Puerto Rico.

**State File –** Since we haven’t had any requests for any state other than Puerto Rico, we no longer offer other state file requests.

| State | Code |
|---|---|
| Puerto Rico | PR42 |

## Media Configuration

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

## Platforms

Since CASS certification is no longer an annual requirement, each platform (operating system) must be certified individually. No waivers will be granted.

## 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 setting used by the address matching software. The version number must comply with CASS Certified™ address matching software version formats. See Appendix 2.

## Stage II File Processing

1. Download the Stage II File from EPF at https://epf.usps.gov.
    - All stage files are compressed using the WinZip Utility. The ZIPped file includes all files needed for the test type ordered.
2. Process the Stage II File
    - Process the file in a batch processing mode. If applicable, report any false/positive hits by following the License Performance Requirements (LPR) guidelines.
3. Return Stage II File via the EPF upload website and email the CASS Summary Report (PS Form 3553) to cassman.ncsc@usps.gov.

    The processed Stage II answer file must be returned as a ZIPped file with the same filename as the original ZIPped file. The answer file is uploaded separately. The grading system will not recognize the file if the filename is not correct or if more than one file is returned with the answer file. If a DSF$^2$ file is being returned the PSE and SEQ files should be ZIPped but renamed with extensions PSE and SEQ then uploaded to the EPF website.

    - Upload the CASS test results to https://epfup.usps.gov/up/upload.html.
    - Login using the email address and password that was setup on the https://epf.usps.gov/ site.
    - Select File Type: CASS File Uploads
    - Browse for test files on your system
    - Select Upload Selected File

- A hardcopy of the PS Form 3553 must can be sent via email attachment to cassman.ncsc@usps.gov or fax to 650-577-2509.

## Evaluating the Stage II File

The file will be graded and evaluated within ten business days. The review may be delayed if there are many files that require review. Files will be reviewed in the order they are received and graded. When the evaluation is complete an email will be sent with the status of the test. When the file achieves certification, a certification letter and invoice (when applicable) will be sent to the mailing address on the account.

If the file does not meet the certification requirement, an email will be sent with information pertaining to the reason for failure. Sometimes we will allow a retest of the same file if the errors are not extreme. If the error file is requested, a new test will be processed.

## Helpful Hint

Always attempt to read the processed Stage II file before returning it to AGT for evaluation to ensure that there are no problems with the header files, data records, carriage return line feed and verify that all and records are populated and returned in the answer file.

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
- ❑ 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*® 602.9. 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.

**Required Field** **Required Field**

Company Official Contact Signature | Date

## AGT 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. If state or area, please specify:
   ❑ National ❑ Puerto Rico

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

   2A. DPV® Certification: ❑ Yes ❑ No

   28. RDI™ Certification: ❑ Yes ❑ No

   2C. DSF²® Certification: ❑ Yes ❑ No

   2D. LACS^Link® Certification: ❑ Yes

   2E. Suite^Link® Certification: ❑ Yes

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 |
|---|---|---|---|---|---|
| | | | | | |
| | _BB_____B___ | | | | |

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

   5A. Product Usage - Please describe how your software will be marketed. Check all that apply:

| Distribution | Application Program Interface* | Service Provider |
|---|---|---|
| ❑ Sell | ❑ Driver | ❑ Internal Processing |
| ❑ Lease | ❑ Application Interface | ❑ External Processing |

* For use as an add-on or address matching engine for other software

   58. 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 |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

## Mail or Fax Completed Form To

CASS DEPARTMENT
ADDRESSING & GEOSPATIAL TECHNOLOGY
UNITED STATES POSTAL SERVICE
225 N HUMPHREYS STE 501
MEMPHIS TN 38188-1001

Telephone Number: 800-642-2914
Fax Number: 650-577-2509

UNITED STATES POSTAL SERVICE®

# Electronic Product Fulfillment Web Access Request Form

This form is used to create a Web-based account with the Addressing & Geospatial Technology (AGT) which will be used to download files electronically from the Electronic Product Fulfillment (EPF) website. Multiple users within a single organization can download the product(s), excluding AIS Viewer; however, each user must have a separate EPF account.

Please allow 24 hours from receipt of payment before notification of product availability.

## AIS Products

- ☐ Carrier Route national
- ☐ Carrier Route by state
- ☐ City State
- ☐ Delivery Statistics
- ☐ eLOT® national
- ☐ eLOT by state
- ☐ Five-Digit
- ☐ RDI™
- ☐ Z4Change
- ☐ ZIP + 4® national
- ☐ ZIP + 4 by state
- ☐ ZIPMove
- ☐ AIS Viewer

## CDS Products

- ☐ Bi-Monthly
- ☐ Weekly

## AEC Products

- ☐ AEC / AECII®

## GIS

- ☐ Post Office Location
- ☐ Blue Collection Box Location

## BMA Products

- ☐ MAC Batch
- ☐ PAVE

## Other Products

- ☐ Labeling Lists
- ☐ National Zone Charts
- ☐ County Project
- ☐ _____

## Licensing/Certification Products

- ☐ ACS (acct. # _____)
- ☐ AMS API
- ☐ CASS™/MASS™ (cust # _____)
- ☐ DPV®
- ☐ DSF²®
- ☐ NCOA$^{Link®}$
- ☐ LACS$^{Link®}$
- ☐ Suite$^{Link®}$
- ☐ Other *(Specify)*: _____

## Customer Information

| Name | Email Address |
|---|---|
| Company Name | Telephone Number *(include area code)* |
| Business Address | Corporate HQ Location *(if different from your Business Address)* |

## Customer Computer Access Authorization

**User Responsibility Agreement Statement:** I am responsible for Logon/Logoff, all actions pertaining to the use of my assigned logon ID, and will not provide my logon ID to another person. I agree that access to computer data or files not authorized to me is prohibited. I understand my logon ID may be suspended indefinitely if I violate security procedures or fail to provide updated information for the information listed above whenever I change job positions. I agree that misuse of a USPS® computer system may result in disciplinary action and/or criminal prosecution. I understand that any detected misuse of a computer system will be reported to the Inspection Service.

| Requester's Signature | Date |
|---|---|

**Manager Responsibility Agreement Statement:** I agree that this logon ID will be used for authorized USPS work within the scope of my organization. I also agree that upon termination or transfer of the user, I will advise the Computer Systems Security Officer in writing as to the disposition of the computer files and/or data and logon ID. I will periodically review the use of the assigned logon ID and computer files and/or data.

| Name | Date |
|---|---|
| Signature | Telephone Number *(include area code)* |

## Support and Return Information

If you have any questions regarding this Web access request form, please contact support at 800-331-5747 or devsupport.ncsc@usps.gov; otherwise, mail or fax this completed form to:

ADDRESS QUALITY PROGRAMS
ADDRESSING & GEOSPATIAL TECHNOLOGY
UNITED STATES POSTAL SERVICE
225 N HUMPHREYS BLVD STE 501
MEMPHIS TN 38188-1001
FAX: 901-681-4582

DO NOT SEND PAYMENT WITH THIS FORM

**USPS Use Only**

# Appendix 1:
# CASS Summary Report (PS Form 3553)

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 602 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. eLOT® Certified Company Name | 8. eLOT Certified Software Name & Version | 9. Configuration |
| MASS A2 | 1. MASS™ Certified Company Name | 2. MASS Certified Software Name, Version & Model No. | 3. Configuration<br>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. eLOT | c. eLOT |
| | d. CRIS | d. 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 | c. 5-Digit Coded ▶ | | From To |
| b. Z4Change Processed ▶ | | | d. CRRT Coded ▶ | | From To |
| | | | e 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 602.

| 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:** Coding must be done using a product release that is within the USPS Product Cycle, as provided in the table below:

| Product Name | From Date | To Date |
|---|---|---|
| **ZIP + 4 / DPV Confirmed** | The date the file was processed, which is 10 - 15 days before the Product (Publish) Date and no later than the file Expiration Date (last permissible use date). | Last day of the month following the Expiration Date (last permissible use date) of the Date of Database Product used (identified in Section B.3). |
| **Five-Digit Coded** | The date the file was processed, which is 10 - 15 days before the ZIP + 4, Carrier Route Product Publish Date and no later than the ZIP + 4, Carrier Route Product Expiration Date (last permissible use date) or 180 days before the Five-Digit ZIP product file date. | 180 days after the Expiration Date (last permissible use date) of the Product Date used. NOTE: This is different than the other dates. This one is calculated, not hard-coded. |
| **Total Carrier Route Coded** | The date the file was processed, which is 10 - 15 days before the Product (Publish) Date and no later than the file Expiration Date (last permissible use date). | Last day of the month following the Expiration Date (last permissible use date) of the Product Date used. |
| **eLOT® Sequence No. Assigned** | The date the file was processed, which is 10 - 15 days before the Product (Publish) Date and no later than the file Expiration Date (last permissible use date). | Last day of the month following the Expiration Date (last permissible use date) of the Product Date used. |

| Release Date (Posted) | Product Date | Required Use Date | Expiration Date (Last permissible use date) | Last Permissible Mailing Date |
|---|---|---|---|---|
| **Use of file released in...** | **(Publish Date)** | **Must begin no later than...** | **And must end no later than...** | |
| Mid-November | December 1 | January 1 | February 28/29 | March 31 |
| Mid-December | January 1 | February 1 | March 31 | April 30 |
| Mid-January | February 1 | March 1 | April 30 | May 31 |
| Mid-February | March 1 | April 1 | May 31 | June 30 |
| Mid-March | April 1 | May 1 | June 30 | July 31 |
| Mid-April | May 1 | June 1 | July 31 | August 31 |
| Mid-May | June 1 | July 1 | August 31 | September 30 |
| Mid-June | July 1 | August 1 | September 30 | October 31 |
| Mid-July | August 1 | September 1 | October 31 | November 30 |
| Mid-August | September 1 | October 1 | November 30 | December 31 |
| Mid-September | October 1 | November 1 | December 31 | January 31 |
| Mid-October | November 1 | December 1 | January 31 | February 28/29 |

## 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. Although these addresses remain eligible for postal automation rate discounts, significant number of Highrise default/rural route default matches increases the costs and reduces the efficient delivery of this mail. Mailers 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.

**LACS$^{Link®}$ System**
Entries in this box show the number of addresses which have been converted through the LACS$^{Link}$ process. LACS$^{Link}$ is a data product provided by the Postal Service to allow addresses that have been converted due to addresses that have been renamed or renumbered, 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.

**Suite$^{Link®}$ System**
Entries in this box show the number of ZIP+4/DPV confirmed addresses that matched to a highrise default, and the Suite$^{Link}$ process returned the appropriate suite number. Only Suite$^{Link}$ 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

## CASS Version Control

| Fields | 06.03 | .05 | .O | .08.07 |
|---|---|---|---|---|
| | **A** Version Number | **B** Revision Number | **C** CASS Cycle | **D** Manufacturer Number |

### Field A

Software version number - The manufacturer assigns a two-byte number-decimal-two-byte number to this 4-byte field. If address matching logic is changed or updated for an existing address matching software product, the version number must be changed. All changes must be reported to the CASS Department in writing prior to releasing the new software. 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

Software revision number – The manufacturer assigns a decimal-two-byte number to this 3-byte field. Revisions are changes that do not affect address matching logic of the certified product and does not require recertification.

### Field C

Cycle Indicator – The CASS Department assigns the indicator for each cycle 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

Manufacturer Number – This field may be used by the developer to indicate internal tracking information such as bimonthly database releases that will not be published in the *CASS Certified Products Guide*. **This information should not be printed on the PS Form 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

# Customer No Match Record Translation of Error Codes & Special Flags

**All categories except those with asterisks (*) are required. Address matching software must obtain a minimum accuracy rate of 98.5% in each required category to obtain CASS Certification.**

## 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 LACSLink Indicator
17 LACSLink Return Code
18 SuiteLink 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

| | |
|---|---|
| ! Enhanced Confirm* | P PBSA* |
| A Confirm* | R No Stat RC (##)* |
| B Business* | S Seasonal* |
| C CMRA* | T Throwback* |
| D Drop* | U No Secure Location* |
| E Educational* | V Vacant* |
| F False Positive* | X No Stats* |
| K Drop Count (###)* | Y Non-Day Delivery* |
| L LACS* | Z Days (YYYYYYY)* |
| N No Door Delivery* | # Delivery Type * |

FT Footnote Code

*Error code will have a D if different or B if Blank as the first character

## Record Type

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

## 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 5-digit misspelled city
* A9 Dropped 5-digit with misspelled city

## Standard Address

**(Includes reversed alphanumeric primary/secondary number, 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

## 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 with misspelled street & 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 character abbreviation alias

## Alias/Multiple 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/ZP Code correspond; input city is non-mailing name, exact match in ZIP Code
JC Input city/ZIP Code 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.
JJ Cross State
J0 5-digit
J1 Dropped 5-digit
*J2 5-digit with misspelled street
*J3 Dropped 5-digit 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 & misspelled street
** K7 Dropped 5-digit and/or incorrect component & 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

**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**

OA Input contains double secondary. One is valid and the other is a PMB
OB Input contains double "#". One is valid sec the other is PMB
OC Input contains a sec and"#". One is valid sec the other is PMB
OD "#" or valid or invalid sec designator for PBSA
O0 5-digit
O1 Dropped 5-digit
O2 PMB on address line
O3 PMB on secondary address line
O4 Valid Secondary with
O5 PMB number is valid PO Box number – no match
O6 Invalid sec 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 the other is invalid

**Syndrome**

P0 Seattle Syndrome with 5-digit on input
P1 Seattle Syndrome dropped 5-digit on input
*** P2 Salt Lake Syndrome with 5-digit on input
*** P3 Salt Lake Syndrome 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 number
R1 Invalid 5-digit
R2 Incorrect 5-digit within finance number and incorrect +4
R4 Incorrect 5-digit within finance number and blank city/state
R5 Incorrect 5-digit not within finance number

**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 Sec 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 sec values into one – exact match only

**APO/DPO/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 and ZIP – Match in ZIP
**W4 City and ZIP Code from different finance numbers
W5 City and state does not agree with ZIP Code – match to ZIP Code
W6 City and ZIP Code agree, state from different finance number

**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 works off street name
Y2 Drop suffix words off street name
Y3 Drop suffix words off multi-word street name
Y4 Combine suffix with street name
Y5 Combine suffix with 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 – match
Z2 Valid ZIPMove match; invalid in new finance number no match

**Out of Range/Overlapping**

**10 Bad PO Box for finance no/ZP
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 LACSLink
**24 LACSLink no match
25 SuiteLink
26 SuiteLink no match
27 Match to R777 – do not count as valid ZIP+4 on 3553
28 Single Trailing Alpha – DPV w/o trailing alpha
29 Single Trailing Alpha –not allowed to drop trailing alpha because of address pattern

**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 Input Unique ZIP Code – can make an exact match in non-unique if no match found in Unique – match
4E No correlation between city and ZIP Code – match to city
**4F No correlation between city and ZIP Code – no match and delete ZIP Code
4G Input address line taken from unique ZIP+4 record, match into non-unique unless there is an exact match in a unique
4H No input ZIP can make exact match to unique – firm name only
4I Valid city and ZIP Code with invalid add-on – retain ZIP+4
4J Input ZIP+4 with add-on "0000" or invalid "9999" do return the input + 4. If no match is found, delete the input +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", "Casa" 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
7B Multiple field addresses with split indicia
7C TDPS
*7D Informed Addressing
70 Perfect Address

* No answer will be bypassed
** Return input record unless using DPV to break a tie
*** No grading for standardization
**** Normalization required

# Appendix 4: Statistical & Error Message Summaries

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



CUSTOMER NAME: USPS
CUSTOMER DENTIFICATION: 00421GABC
S_TAGE: NATIONAL

LAST ZAP DATE: 99/99/2013
TRANS DATE: 03/99/9910
POOL DATE: 99/99/2013

| | 5-DIGIT | | | | ZIP+4 | | | | CARRIER ROUTE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ADDRESSES WHICH ARE GRADED & SCORED | | ADDRCSSES 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 ADDR[SSES | 149,041 | 99.365% | | | 148,237 | 98.992% | | | 147,758 | 98.996% | | |
| IN :oRRECTLY CODED ADDRESSES | 948 | 0.635% | 5 | | 1,503 | 1.008% | 6 | | 1,493 | 1.004% | 6 | |
| Rf,:OROS BYPASSED | 11 | 0.000% | | | 260 | 0.000'-" | | | 749 | 0.000% | | |
| TOTAL RECORDS | 150,DOO | | | | 150,000 | | | | 150,000 | | | |

| | OPBC | | ELOT | | PERFECT ADDRESS | | DPV BASIC | | ROI | | FATALADDON | | LACSUNK | | 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 AFFRESSES | 147,335 | 9:l.9BS'K | 84,884 | 9!1.323% | 752 | 99.339% | 124,178 | .9G5% | H6,249 | 99.840% | ld9,998 | 99.999% | 2,016 | 78.719% | 4,576 | 98.962% |
| INCORRECTLY CODED ADDRESSES | 17 | 0.012% | 579 | 0.677% | S | 0.661% | 44 | 0.035% | 235 | 0.160% | 2 | 0.001% | 545 | 21.281% | 48 | 1.038% |
| RECORDS BYPASSED | 2,648 | 0.000% | 64,537 | 0.000% | 0 | 0.000% | 25,778 | 0.000% | .3,516 | 0.000% | 0 | 0.000% | 662 | 0.000% | 116 | 0.000% |
| TOTAL ADDRESSES | 150,000 | | 150,000 | | 7S7 | | 150,000 | | 150,000 | | 150,000 | | 3,223 | | 4,740 | |

ERROR CODES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 01 | 5-0!GITZIP | 08 | UNIQUE NOTFINESTOF CODE | 15 | FATALADDON | 22 | DEFAULT FLAG |
| 02 | ZIP+4 | 09 | LACS INDICATOR | 16 | LACSLINK INDICATOR | 30 | HISTORY PENALTY |
| 03 | CARRIER ID | 10 | PERFECT ADDRESS | 17 | LACSUNK RETURN CODE | 00 | CONFIRMATION |
| 0ll | CITY NAME | 11 | GENCRAL STANDARDIZATION | 18 | SUITELINK | DC | CMRA |
| OS | STATE ABBREVIATION | u | ELOT SEQUENCE | 19 | OPBC (NON-FATAL) | OF | FALSE-POSITIVE |
| 06 | OUT OF RANGE | 13 | ELOTASC/DES | 20 | OPBC | OT | DELIVERY TYPE |
| 07 | ADDRESS NON-DELIVERABLE | 14 | RDI | 21 | PMB PARSE | ON | NO STATS |

| | |
|---|---|
| 08 | BUSINESS |
| DD | DROP |
| DK | DROP COUNT |
| OW | 1HROWBACK |
| OS | SEASONAL |
| DV | VACANT |
| DL | LACS |

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



**ADDRESSES WHICH ARE GRADED & SCORED**

| | | 5 DIGIT | | | ZIP+4 | | | CARRIER ROUTE | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CATEGORY | TOTAL ADDRESSES | TOTAL CORRECT | TOTAL INCORRECT | PERCENT CORRECT | TOTAL CORRECT | TOTAL INCORRECT | PERCENT CORRECT | TOTAL CORRECT | TOTAL INCORRECT | PERCENT CORRECT |
| A | 15,569 | 15,501 | **68** | 99.563 | 15,462 | 105 | 99.325 | 15,455 | 114 | 99.267 |
| B | 16,813 | 16,780 | 33 | 99.803 | 16,767 | 46 | 99.726 | 16,774 | 39 | 99.768 |
| C | 8,254 | 8,252 | 2 | 99.975 | 8,253 | 1 | 99.987 | 8,245 | 9 | 99.890 |
| D | 9,751 | 9,741 | 10 | 99.897 | 9,746 | 5 | 99.948 | 9,732 | 19 | 99.805 |
| E | 9,128 | 9,114 | 14 | 99.846 | 9,119 | 9 | 99.901 | 9,099 | 29 | 99.682 |
| F | 4,248 | 4,248 | 0 | 100.000 | 4,248 | 0 | 100.000 | 4,248 | 0 | 100.000 |
| G | 3,715 | 3,504 | 211 | 94.320 | 3,505 | 210 | 94.347 | 3,439 | 275 | 92.595 |
| H | 176 | 176 | 0 | 100.000 | 176 | 0 | 100.000 | 176 | 0 | 100.000 |
| I | 2,159 | 2,156 | 3 | 99.861 | 2,156 | 3 | 99.861 | 2,156 | 3 | 99.861 |
| J | 1,734 | 1,712 | 21 | 98.788 | 1,732 | 0 | 100.000 | 1,695 | 23 | 98.661 |
| K | 996 | 992 | 3 | 99.497 | 990 | 5 | 99.095 | 991 | 4 | 99.296 |
| L | 1,770 | 1,770 | 0 | 100.000 | 1,770 | 0 | 100.000 | 1,770 | 0 | 100.000 |
| M | 4,456 | 3,533 | 923 | 79.286 | 3,533 | 922 | 79.304 | 3,518 | 937 | 78.967 |
| N | 1,069 | 1,069 | 0 | 100.000 | 1,066 | 3 | 99.719 | 1,069 | 0 | 100.000 |
| 0 | 8,186 | 8,176 | 10 | 99.877 | 8,170 | 16 | 99.804 | 8,164 | 22 | 99.731 |
| p | 4,382 | 4,373 | 9 | 99.794 | 4,381 | 1 | 99.977 | 4,367 | 15 | 99.657 |
| R | 4,136 | 4,108 | 28 | 99.323 | 4,124 | 12 | 99.709 | 4,108 | 28 | 99.323 |
| S | 3,059 | 3,051 | 8 | 99.738 | 3,042 | 17 | 99.444 | 3,050 | 9 | 99.705 |
| T | 4,389 | 4,374 | 15 | 99.658 | 4,330 | 34 | 99.220 | 4,337 | 44 | 98.995 |
| U | 7,200 | 7,200 | 0 | 100.000 | 7,191 | 9 | 99.875 | 7,200 | 0 | 100.000 |
| V | 1,200 | 1,200 | 0 | 100.000 | 1,198 | 2 | 99.833 | 1,197 | 3 | 99.750 |
| W | 4,037 | 4,002 | 35 | 99.133 | 4,024 | 13 | 99.677 | 3,989 | 48 | 98.810 |
| X | 1,755 | 1,754 | 1 | 99.943 | 1,752 | 3 | 99.829 | 1,754 | 1 | 99.943 |
| y | 4,680 | 4,672 | 8 | 99.829 | 4,672 | 8 | 99.829 | **4,666** | 14 | 99.700 |
| Z | 1,178 | 1,176 | 2 | 99.830 | 1,176 | 2 | 99.830 | 1,176 | 2 | 99.830 |
| l | 1,006 | 1,006 | 0 | 100.000 | 1,006 | 0 | 100.000 | 1,006 | 0 | 100.000 |
| 2 | 5,091 | 5,030 | 58 | 98.860 | 4,454 | 443 | 90.953 | 4,135 | 291 | 93.425 |
| 4 | 4,703 | 4,471 | 222 | 95.269 | 4,416 | 209 | 95.481 | 4,421 | 233 | 94.993 |
| 5 | 9,277 | 9,094 | 183 | 98.027 | 9,009 | 268 | 97.111 | 9,057 | 220 | 97.628 |
| 6 | 3,634 | 3,618 | 16 | 99.559 | 3,618 | 16 | 99.559 | 3,607 | 27 | 99.257 |
| 7 | 2,249 | 2,219 | 30 | 98.666 | 2,214 | 35 | 98.443 | 2,219 | 30 | **98.666** |
| TOTAL | 150,000 | 148,072 | 1,913 | 0.000 | 147,300 | 2,397 | 0.000 | 146,820 | 2,439 | 0.000 |





****CONFIDENTIAL****

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 HATCH | 2 ZIP4 NOT HATCH | 3 CARR ID NOT HATCH | 4 CITY NOT MATCH | 5 STATE NOT HATCH | 6 OUT OF RANGE |
|---|---|---|---|---|---|---|---|
| | 15,569 | 16 | 53 | 62 | 133 | 0 | 0 |
| A<br>B | 16,813 | 3 | 16 | 9 | 271 | 0 | 0 |
| C | 8,254 | 2 | 1 | 9 | 94 | 0 | 0 |
| D | 9,751 | 9 | 4 | 18 | 86 | 0 | 0 |
| E | 9,128 | 12 | 7 | 27 | 244 | 0 | 0 |
| F | 4,248 | 0 | 0 | 0 | 32 | 0 | 0 |
| G | 3,715 | 9 | 8 | 73 | 0 | 0 | 0 |
| H | 176 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 2,159 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 1,734 | 21 | 0 | 23 | 0 | 0 | 0 |
| K | 996 | 2 | 4 | 3 | 0 | 0 | 0 |
| L | 1,770 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 4,456 | 4 | 3 | 18 | 0 | 0 | 0 |
| N | 1,069 | 0 | 3 | 0 | 0 | 0 | 0 |
| 0 | 8,186 | 5 | 11 | 17 | 0 | 0 | 0 |
| p | 4,382 | 8 | 0 | 14 | 0 | 0 | 0 |
| R | 4,136 | 16 | 0 | 16 | 0 | 0 | 0 |
| S | 3,059 | 0 | 9 | 1 | 0 | 0 | 0 |
| T | 4,389 | 1 | 20 | 30 | 0 | 0 | 0 |
| u | 7,200 | 0 | 9 | 0 | 0 | 0 | 0 |
| V | 1,200 | 0 | 2 | 3 | 0 | 34 | 0 |
| W | 4,037 | 30 | 8 | 43 | 0 | 0 | 0 |
| X | 1,755 | 0 | 2 | a | 0 | a | 0 |
| y | 4,680 | 0 | 0 | 6 | 0 | 0 | 0 |
| z | 1,178 | 2 | 2 | 2 | 0 | 1 | 0 |
| I | 1,006 | a | 0 | a | 0 | 0 | 0 |
| 2 | 5,091 | 6 | 391 | 239 | 0 | 11 | 0 |
| 4 | 4,703 | 120 | 107 | 131 | 0 | 0 | a |
| 5 | 9,277 | 1 | 86 | 38 | 0 | 0 | 0 |
| 6 | 3,634 | 3 | 3 | 14 | a | 0 | 0 |
| 7 | 2,249 | 0 | 5 | 0 | 0 | 0 | 0 |
| TOTAL | 150,000 | 270 | 754 | 796 | 860 | 46 | a |

**GRADED & SCORED ONLY**

| CATEGORY | TOTAL ADDRESSES | 9 LACS INDICATOR | 10 PERFECT ADDRESS | 11 GENERAL STANDARD ERROR | 12 INCORRECT ELOT-SEQ JI | 13 INCORRECT ELOT-ASC-DEC | |
|---|---|---|---|---|---|---|---|
| A | 15,569 | 0 | 0 | 52 | 0 | 0 | |
| B | 16,813 | 1 | 0 | 29 | 0 | 0 | |
| C | 8,254 | 0 | 0 | 0 | 0 | 0 | |
| D | 9,751 | I | 0 | 0 | 0 | 0 | |
| E | 9,128 | I | 0 | 2 | 0 | 0 | |
| F | 4,248 | 0 | 0 | 0 | 28 | 0 | |
| G | 3,715 | 0 | 0 | 202 | 101 | 0 | |
| H | 176 | 0 | 0 | 0 | 0 | 0 | |
| I | 2,159 | 0 | 0 | 3 | 0 | 0 | |
| J | 1,734 | 0 | 0 | 0 | 0 | 0 | |
| K | 996 | l | 0 | 0 | 0 | 0 | |
| L | 1,770 | 0 | 0 | 0 | 0 | 0 | |
| 11 | 4,456 | 0 | 0 | 919 | 0 | 0 | |
| N | 1,069 | 0 | 0 | 0 | 0 | 0 | |
| 0 | 8,186 | 1 | 0 | 4 | 0 | 0 | |
| p | 4,382 | 0 | 0 | 1 | 0 | 0 | |
| R | 4,136 | 1 | 0 | 12 | 0 | 0 | |
| S | 3,059 | 0 | 0 | 8 | 0 | 0 | |
| T | 4,389 | 3 | 0 | 10 | 0 | 0 | |
| U | 7,200 | 0 | 0 | 0 | 0 | 0 | |
| V | 1,200 | 0 | 0 | 0 | 0 | 0 | |
| W | 4,037 | 2 | 0 | 3 | 0 | 0 | |
| X | 1,755 | 1 | 0 | 0 | 0 | 0 | |
| y | 4,680 | O | O | 8 | O | O | |
| Z | 1,178 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 1,006 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 5,091 | 3 | 0 | 50 | 440 | 0 | |
| 4 | 4,703 | 1 | 0 | 101 | l | 0 | |
| 5 | 9,2:77 | 0 | 0 | 168 | 0 | 0 | |
| 6 | 3,634 | 0 | 0 | 13 | 0 | 0 | |
| 7 | 2,249 | 3 | 7 | 26 | 0 | 0 | |
| TOTAL | 150,000 | 19 | 7 | 1,611 | 570 | 0 | |

**GRADED & SCORED ONLY**

| CATEGORY | TOTAL ADDRESSES | 17 INCORRECT SECONDARY UNIT | 19 INCORRECT DPBC NON-FATAL | 20 INCORRECT DPBC | 21 INCORRECT PHB PARSE | 22 INCORRECT DEFAULT FLAG | 30 HISTORY PENALTY |
|---|---|---|---|---|---|---|---|
| A | 15,569 | 0 | 0 | 0 | 0 | 39 | 0 |
| B | **16,813** | 2 | 0 | 0 | 0 | **29** | 0 |
| C | 8,254 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 9,751 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 9,128 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 4,248 | 0 | 0 | 0 | D | 0 | D |
| G | 3,715 | 1 | 0 | 0 | 0 | 0 | 0 |
| H | 176 | 1 | 0 | D | D | 0 | 0 |
| I | 2,159 | 0 | D | 0 | D | 0 | D |
| J | 1,734 | 0 | D | D | 0 | 0 | D |
| K | **996** | D | 0 | 0 | D | 0 | 0 |
| L | 1,770 | 0 | D | D | 0 | 0 | 0 |
| M | 4,456 | 1 | 0 | D | 0 | **39** | 0 |
| N | 1,069 | D | 0 | 0 | 0 | 0 | 0 |
| O | **8,186** | 0 | 0 | 0 | 0 | D | 0 |
| P | 4,382 | D | 0 | 0 | 0 | D | 0 |
| R | 4,136 | 0 | 0 | 0 | 0 | 12 | 0 |
| S | 3,059 | 0 | 0 | 0 | 0 | 0 | 0 |
| T | **4,389** | 1 | 4 | 1 | D | 5 | 0 |
| U | 7,200 | 0 | 0 | 0 | 0 | D | 0 |
| V | 1,200 | 0 | 0 | 0 | 0 | 0 | 0 |
| W | 4,037 | 0 | D | 3 | 0 | 3 | 0 |
| X | 1,755 | D | 0 | 0 | 0 | 0 | 0 |
| Y | **4,680** | 0 | D | 8 | 0 | 8 | 0 |
| Z | 1,178 | 5 | D | 0 | 0 | 0 | 0 |
| 1 | 1,006 | **8** | 0 | 0 | 0 | 0 | 0 |
| 2 | 5,091 | 1 | 2 | 1 | 0 | 35 | 0 |
| 4 | 4,703 | 0 | 0 | 0 | 0 | 100 | 0 |
| 5 | 9,277 | 502 | 0 | 14 | 0 | 5 | 0 |
| 6 | **3,634** | 0 | 0 | 0 | 0 | 3 | 0 |
| 7 | 2,249 | 2 | 0 | 1 | D | 0 | 0 |
| TOTAL | 150,000 | 524 | 6 | 28 | 0 | 278 | 0 |

# Appendix 5: DPV® & DSF²® Products

## DPV® and DSF²®

Move "Y" to the DPV confirmation indicator when a ZIP + 4 match is made to a military, general delivery, or a unique address. Spaces should be moved to all other DPV/DSF² fields and one of the footnotes listed below should be used. In these cases, a ZIP + 4 match is 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 can be made to the inexact record.

### DPV/DSF² Hash Changes

The PBSA records have been removed from the CMRA table. The PBSA table will be queried the same as the CMRA table.

The following table shows acceptable answer combinations in the DPV Stage II answer fields for queries to the DPV, CMRA, PBSA and False Positive Hash tables.

| DPH/HSA | Y | D | S | N | Blank |
|---|---|---|---|---|---|
| CMRA/HSC | Y or N | Y, N, or *Blank | Y or N | Blank | Blank |
| PBSA/HSP | Y or N | Y, N, or *Blank | Y or N | Blank | Blank |
| FALSEPOS/HSF | Blank | Blank | Blank | Y or N | Blank |

***** NOTE: Blank can only be valid for one or the other but not both. If the CMRA table is queried and is a 'Y', the PBSA table would not need to be queried (and vice-versa).

### New tables added to DPV

- DNA – Door not accessible (dph.hsn)
- NSL – No secure location (dph.hsu)
- NDD – Non-Delivery Days (dph.hsy)
    - Value (dph.hsz)
- PO Box Throwback (dph.hst)
- NSR – NoStat Reason Code (Full (dph.hsr) and Split (dph.hsr. zall)
    - Reason Codes

1 – IDA (Internal Drop Address) – Addresses that do not receive mail directly from the USPS but are delivered to a drop address that services them.
2 – CDS NoStat – Addresses that have not yet become deliverable. For example, a new subdivision where lots and primary numbers have been determined, but no structure exists yet for occupancy.
3 – Collision – Addresses that do not actually DPV confirm. In this case, the 'Y' should be set to 'N' on the DPV 'A' table and all other table values should be blank.
4 – CMZ (College, Military and Other Types) – ZIP + 4 records USPS has incorporated into the data.
5 – Regular NoStat – Indicates addresses not receiving delivery and the addresses are not counted as possible deliveries.
6 – Secondary Required - The address requires secondary information.

## DPV/DSF² Flat Changes

The LACS only table is being added to the DSF² flat product. When the LACS flag is set on a record this table will be queried using the SHA value.

The presence of a record in this table means the address does not DPV confirm. In these cases, the DPV return code should be set to “N”.

## Secondary Required

If DPV footnote BB (input address matched to all components) or footnote CC (secondary not required), footnote N1 should be used instead of BB and footnote C1 should be used instead of CC when either of the following is true:

1. The NoStat Reason Code is 6
2. A match is made to a highrise default record.

## Footnote code:

N1 – Input address primary number matched to DPV but address missing required secondary number.

C1 – Input address primary matched but secondary number not confirmed. Secondary required. This can be determined by either a match to a highrise default record or a match to a street record where the NoStat Return Code is 06 .

NOTE: PO Box, Rural Route and Highway Contract records should not be included.

## Test Address Data Element Definitions

DPV/DSF² fields are populated by software that is licensed or is in the process of applying for a license to perform DPV/ DSF² confirmation.  For more details, see DPV/ DSF² licensing material.

## DPV Return Codes Clarified

Field contains the results of the call to the DPV confirmation hash table (dph.hsa).

| DPV® | Current Definition | New Definition |
|---|---|---|
| **Y** | Address was DPV confirmed for both primary and (if present) secondary numbers | No Change |
| **D** | Address was DPV confirmed for the primary number only, and the secondary number information was missing. | No Change |
| **S** | Address was DPV confirmed for the primary number only, and the secondary number information was present but not confirmed | Address was DPV confirmed for the primary number only and the secondary number information was present but invalid, or a single trailing alpha on a primary number was dropped to make a DPV match. |
| **N** | Both primary and (if present) secondary number information failed to DPV confirm | Primary number failed to DPV confirm. |
| **Blank** | Address not presented to DPV | No Change |

## Enhanced DPV Return Codes

Enhanced DPV return codes accommodate an industry request for additional address information. Provide them as an option for those mailers wanting the additional delineation of reasons for DPV® Status.

| DPV® | Definition |
|---|---|
| **Y** | Address was DPV confirmed for primary and secondary numbers necessary to determine a valid delivery point. |
| **D** | Address was DPV confirmed for the primary number only. Secondary information was missing. |
| **S** | Address was DPV confirmed for the primary number only, the secondary number information was present but not confirmed or a single trailing alpha on a primary number was dropped to make a DPV match and secondary information required. |
| **N** | Primary number failed to DPV confirm. |
| **R** | Address confirmed but assigned to phantom route R777 and R779 and USPS delivery is not provided. |
| **Blank** | Address not presented to DPV. |

These enhanced return codes will be required for CASS testing, but can be provided optionally to end users wanting the additional delineation of reasons for DPV status.

The following standard footnotes are returned based on the output from DPV and $DSF^2$ tables.

| | | |
|---|---|---|
| AA | | Input address matched to the ZIP + 4 product |
| A1 | | Input address not matched to the ZIP + 4 product |
| BB | | Input address matched to DPV to both primary and secondary numbers necessary to determine a valid delivery point |
| CC | | Input address primary number matched, secondary number not matched; secondary number not required |
| C1 | | Input address primary number matched, secondary number not matched; secondary number required |
| F1 | | Input address matched to a military address |
| G1 | | Input address matched to a general delivery address |
| IA | | Informed address identified |
| N1 | | Input address primary number matched to DPV but address missing required secondary number |
| M1 | | Input address primary number missing |
| M3 | | Input address primary number invalid |
| PB | | Identified PO Box Street Address |
| 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 but PMB designator present (PMB 123 or # 123) |
| R1 | | Input address matched to CMRA but PMB designator not present (PMB 123 or # 123) |
| R7 | | Addresses that are assigned to a phantom route of R777 or R779 |
| TA | | Input address primary number matched by dropping trailing alpha |
| U1 | | Input address matched to a unique ZIP Code |

## DPV Footnotes Redefined and New

| DPV | Current Definition | New Definition |
|---|---|---|
| **CC** | Input address primary number matched to DPV but secondary not matched (present but invalid) | Input address primary number matched, secondary number not matched, secondary number not required |
| **N1** | Input address primary number matched to DPV but address missing secondary number | Input address primary number matched to DPV but address missing required secondary number |
| **C1** | NEW | Input address primary number matched, secondary number not matched; secondary number required |
| **IA** | NEW | Informed Address identified |
| **TA** | NEW | Input address primary number matched to DPV by dropping trailing alpha |
| **PB** | NEW | Identified PO Box Street Address |
| **R7** | NEW | Addresses that are assigned to a phantom route of R777 or R779 |

## DPV Error Codes

| | |
|---|---|
| DB | Business |
| DC | CMRA |
| DD | Drop |
| DE | Educational |
| DF | False Positive |
| DK | Drop Count |
| DL | LACS |
| DN | NoStat |
| DO | Confirmation |
| DP | PBSA |
| DS | Seasonal |
| DT | Delivery Type |
| DV | Vacant |
| DW | Throwback |
| FT | Footnote Code |
| SL | No Secure Location (NSL) |
| ND | Non-Delivery Days (NDD) |
| NA | Door Not Accessible (DNA) |

## Multiple Enhanced DPV Return Codes

There may be instances where more than one Enhanced DPV Return Code may be valid for a single address. When this occurs, the Enhanced DPV Return Code of “R” takes precedence over the other DPV Return Code.

**Example:**

| Rec Type | Prim Number | Street Indicia | Unit | Sec Low | Sec High | ZIP Code | ZIP + 4 Range | CRID |
|---|---|---|---|---|---|---|---|---|
| H | 211 | E STATE RD | APT | A | B | 60042 | 9581 | R777 |

| | |
|---|---|
| Input: | 211 E STATE RD<br>ISLAND LAKE IL 60042 |
| Output: | 211 E STATE RD<br>ISLAND LAKE IL 60042 |
| DPV: | D |
| Enhanced DPV: | R |
| DPV Footnotes: | AAN1R7 |

Both “R” and “D” are valid Enhanced DPV Return Codes for this address. Return “R” for this case.

The maximum number of DPV footnotes have changed from three (3) to five (5).

Example:

| Rec Type | Prim Number | Street Indicia | Unit | Sec Low | Sec High | ZIP Code | ZIP + 4 Range | CRID |
|---|---|---|---|---|---|---|---|---|
| H | 211 | E STATE RD | APT | A | B | 60042 | 9581 | R777 |

| | |
|---|---|
| Input: | 211 E STATE RD APT C<br>ISLAND LAKE IL 60042 |
| Output: | 211 E STATE RD<br>ISLAND LAKE IL 60042 |
| DPV: | S |
| Enhanced DPV: | R |
| DPV Footnotes: | AAC1R7 |

Both “R” and “S” are valid Enhanced DPV Return Codes for this address. Return “R” in this case.

## DSF²® False Positive Header Record

False positive records may be included in the test. Software testers are required to email the false positive records to DSF2Stop@usps.gov. The subject line for the email should be CASS Test. For more information, developers should check the License Performance Requirement document or contact the Licensing Department at 800-589-5766. End users who are testing should contact their software provider for these guidelines

| 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 Code | 09 | 129 | 137 |
| 6 | Total Records Processed | 09 | 138 | 146 |
| 7 | Total Records DPV Matched | 09 | 147 | 155 |
| 8 | % Match Rate to DSF² | 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 |

## DSF²® 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 Number | 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 |

## DSF² Header Record 1

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | Filler | 03 | 001 | 003 |
| 2 | DSF² Header ID, must be DSF1 | 04 | 004 | 007 |
| 3 | DSF² Licensee Name | 40 | 008 | 047 |
| 4 | DSF² License Number | 04 | 048 | 051 |
| 5 | DSF² Report Date – YYYYMMDD | 08 | 052 | 059 |
| 6 | DSF² File Received Date – YYYYMMDD | 08 | 060 | 067 |
| 7 | DSF² File Processed Date – YYYYMMDD | 08 | 068 | 075 |
| 8 | Field Description DSF² Access Mode* | 01 | 076 | 076 |
| 9 | Filler | 02 | 077 | 078 |
| 10 | DSF² Customer Name | 40 | 079 | 118 |
| 11 | DSF² Customer Tax ID Number | 12 | 119 | 130 |
| 12 | DSF² Customer NAIC | 06 | 131 | 136 |
| 13 | DSF² Customer Number | 06 | 137 | 142 |
| 14 | Filler | 758 | 143 | 900 |

* Processing Mode

- O = Online Inquiry Processing
- B = Batch Processing (use for CASS test)

## DSF²® Header Record 1 Data Element Definitions:

| | | |
|---|---|---|
| 4 | DSF² – License Number | Assigned by Licensing Department upon receipt of approval |
| 5 | DSF² – Report Date | Date monthly report is prepared |
| 6 | DSF² – Received Date | Date licensee received customer file |
| 7 | DSF² – Processed Date | Date licensee processed customer file |

## DSF² Header Record 2

The DSF² header records 2 and 3 contain counts for records that were ZIP + 4 coded and flagged for LACS conversions, along with those counts tallied by ZIP + 4 record type. In addition, there are counts broken down by the 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. All numeric fields are right justified and zero filled.

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | Filler | 03 | 001 | 003 |
| 2 | DSF² Header ID, must be DSF² | 04 | 004 | 007 |
| 3 | Total Records Presented | 11 | 008 | 018 |
| 4 | Total LACS | 11 | 019 | 029 |
| 5 | Total Records ZIP + 4 Coded | 11 | 030 | 040 |
| 6 | Total Street Records ZIP + 4 Coded | 11 | 041 | 051 |
| 7 | Total Street Records LACS | 11 | 052 | 062 |
| 8 | Total Highrise Records ZIP + 4 Coded | 11 | 063 | 073 |
| 9 | Total Highrise Records LACS | 11 | 074 | 084 |
| 10 | Total PO Box Records ZIP + 4 Coded | 11 | 085 | 095 |
| 11 | Total PO Box Records LACS | 11 | 096 | 106 |
| 12 | Total RR Records ZIP + 4 Coded | 11 | 107 | 117 |
| 13 | Total RR Records LACS | 11 | 118 | 128 |
| 14 | Total Firm Records ZIP + 4 Coded | 11 | 129 | 139 |
| 15 | Total General Delivery Records ZIP + 4 Coded | 11 | 140 | 150 |
| 16 | Total Records DPV Validated | 11 | 151 | 161 |
| 17 | Total Street Records DPV Validated | 11 | 162 | 172 |
| 18 | Total Street Records Business Validated | 11 | 173 | 183 |
| 19 | Total Street Records CMRA Validated | 11 | 184 | 194 |
| 20 | Total Street Records Drop Validated | 11 | 195 | 205 |
| 21 | Total Street Records Educational Validated | 11 | 206 | 216 |
| 22 | Total Street Records Secondary Required | 11 | 217 | 227 |
| 23 | Total Street Records No Door Delivery | 11 | 228 | 238 |
| 24 | Total Street Records PBSA | 11 | 239 | 249 |
| 25 | Total Street Records Seasonal Validated | 11 | 250 | 260 |
| 26 | Total Street Records Throwback Validated | 11 | 261 | 271 |
| 27 | Total Street Records Vacant Validated | 11 | 272 | 282 |
| 28 | Total Street Records NoStat Validated Vacant | 11 | 283 | 293 |
| 29 | Total Street Records Curb Validated | 11 | 294 | 304 |

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 30 | Total Street Records NDCBU Validated | 11 | 305 | 315 |
| 31 | Total Street Records Centralized Validated | 11 | 316 | 326 |
| 32 | Total Street Records Other Validated | 11 | 327 | 337 |
| 33 | Total Street Records NoStat Reason Code 1 | 11 | 338 | 348 |
| 34 | Total Street Records NoStat Reason Code 2 | 11 | 349 | 359 |
| 35 | Total Street Records NoStat Reason Code 4 | 11 | 360 | 370 |
| 36 | Total Street Records NoStat Reason Code 5 | 11 | 371 | 381 |
| 37 | Total Street Records NoStat Reason Code 6 | 11 | 382 | 392 |
| 38 | Future – Total Street Records | 11 | 393 | 403 |
| 39 | Future – Total Street Records | 11 | 404 | 414 |
| 40 | Future – Total Street Records | 11 | 415 | 425 |
| 41 | Future – Total Street Records | 11 | 426 | 436 |
| 42 | Total Highrise Records DPV Validated | 11 | 437 | 447 |
| 43 | Total Highrise Records Business Validated | 11 | 448 | 458 |
| 44 | Total Highrise Records CMRA Validated | 11 | 459 | 469 |
| 45 | Total Highrise Records Drop Validated | 11 | 470 | 480 |
| 46 | Total Highrise Records Educational Validated | 11 | 481 | 491 |
| 47 | Future – Total Highrise Records | 11 | 492 | 502 |
| 48 | Total Highrise Record No Door Delivery | 11 | 503 | 513 |
| 49 | Total Highrise Records PBSA | 11 | 514 | 524 |
| 50 | Total Highrise Records Seasonal Validated | 11 | 525 | 535 |
| 51 | Total Highrise Records Throwback Validated | 11 | 536 | 546 |
| 52 | Total Highrise Records Vacant Validated | 11 | 547 | 557 |
| 53 | Total Highrise Records NoStat Validated | 11 | 558 | 568 |
| 54 | Total Highrise Records Curb Validated | 11 | 569 | 579 |
| 55 | Total Highrise Record NDCBU Validated | 11 | 580 | 590 |
| 56 | Total Highrise Record Centralized Validated | 11 | 591 | 601 |
| 57 | Total Highrise Records Other Validated | 11 | 602 | 612 |
| 58 | Total Highrise Records NoStat Reason Code 1 | 11 | 613 | 623 |
| 59 | Total Highrise Records NoStat Reason Code 2 | 11 | 624 | 634 |
| 60 | Total Highrise Records NoStat Reason Code 4 | 11 | 635 | 645 |
| 61 | Total Highrise Records NoStat Reason Code 5 | 11 | 646 | 656 |
| 62 | Total Highrise Records NoStat Reason Code 6 | 11 | 657 | 667 |
| 63 | Future – Total Highrise Records | 11 | 668 | 678 |
| 64 | Future – Total Highrise Records | 11 | 679 | 689 |
| 65 | Future – Total Highrise Records | 11 | 690 | 700 |
| 66 | Future – Total Highrise Records | 11 | 701 | 711 |
| 67 | Filler | 189 | 712 | 900 |

## DSF²® Header Record 3

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 1 | Filler | 03 | 001 | 003 |
| 2 | DSF² Header ID, must be DSF3 | 04 | 004 | 007 |
| 3 | Total PO BOX Records DPV Validated | 11 | 008 | 018 |
| 4 | Total PO BOX Records Business Validated | 11 | 019 | 029 |
| 5 | Total PO BOX Records Educational Validated | 11 | 030 | 040 |
| 6 | Future – Total PO Box Records | 11 | 041 | 051 |
| 7 | Filler | 11 | 052 | 062 |
| 8 | Total PO BOX Records Vacant Validated | 11 | 063 | 073 |
| 9 | Total PO BOX Records NoStat Validated | 11 | 074 | 084 |
| 10 | Future – Total PO Box Records | 11 | 085 | 095 |
| 11 | Future – Total PO Box Records | 11 | 096 | 106 |
| 12 | Future – Total PO Box Records | 11 | 107 | 117 |
| 13 | Future – Total PO Box Records | 11 | 118 | 128 |
| 14 | Future – Total PO Box Records | 11 | 129 | 139 |
| 15 | Total RR Records DPV Validated | 11 | 140 | 150 |
| 16 | Total RR Records Business Validated | 11 | 151 | 161 |
| 17 | Total RR Records CMRA Validated | 11 | 162 | 172 |
| 18 | Total RR Records Drop Validated | 11 | 173 | 183 |
| 19 | Total RR Records Educational Validated | 11 | 184 | 194 |
| 20 | Future – Total RR Records | 11 | 195 | 205 |
| 21 | Total RR Records No Door Delivery Validated | 11 | 206 | 216 |
| 22 | Total RR Records PBSA Validated | 11 | 217 | 227 |
| 23 | Total RR Records Seasonal Validated | 11 | 228 | 238 |
| 24 | Total RR Records Throwback Validated | 11 | 239 | 249 |
| 25 | Total RR Records Vacant Validated | 11 | 250 | 260 |
| 26 | Total RR Records NoStat Validated | 11 | 261 | 271 |
| 27 | Total RR Records Curb Validated | 11 | 272 | 282 |
| 28 | Total RR Records NDCBU Validated | 11 | 283 | 293 |
| 29 | Total RR Records Centralized Validated | 11 | 294 | 304 |
| 30 | Total RR Records Other Validated | 11 | 305 | 315 |
| 31 | Total RR Records NoStat Reason Code 1 | 11 | 316 | 326 |
| 32 | Total RR Records NoStat Reason Code 2 | 11 | 327 | 337 |
| 33 | Total RR Records NoStat Reason Code 4 | 11 | 338 | 348 |
| 34 | Total RR Records NoStat Reason Code 5 | 11 | 349 | 359 |
| 35 | Total RR Records NoStat Reason Code 6 | 11 | 360 | 370 |
| 36 | Future – Total RR Records | 11 | 371 | 381 |
| 37 | Future – Total RR Records | 11 | 382 | 392 |
| 38 | Future – Total RR Records | 11 | 393 | 403 |
| 39 | Future – Total RR Records | 11 | 404 | 414 |
| 40 | Total Firm Records DPV Validated | 11 | 415 | 425 |
| 41 | Total Firm Records Business Validated | 11 | 426 | 436 |
| 42 | Total Firm Records CMRA Validated | 11 | 437 | 447 |

| Field Sequence Number | Field Description | Length | Position From/Through | |
|---|---|---|---|---|
| 43 | Total Firm Records Drop Validated | 11 | 448 | 458 |
| 44 | Total Firm Records Educational Validated | 11 | 459 | 469 |
| 45 | Future – Total Firm Records | 11 | 470 | 480 |
| 46 | Total Firm Records No Door Delivery Validated | 11 | 481 | 491 |
| 47 | Total Firm Records PBSA Validated | 11 | 492 | 502 |
| 48 | Total Firm Records Seasonal Validated | 11 | 503 | 513 |
| 49 | Total Firm Records Throwback Validated | 11 | 514 | 524 |
| 50 | Total Firm Records Vacant Validated | 11 | 525 | 535 |
| 51 | Total Firm Records NoStat Validated | 11 | 536 | 546 |
| 52 | Total Firm Records Curb Validated | 11 | 547 | 557 |
| 53 | Total Firm Records NDCBU Validated | 11 | 558 | 568 |
| 54 | Total Firm Records Centralized Validated | 11 | 569 | 579 |
| 55 | Total Firm Records Other Validated | 11 | 580 | 590 |
| 56 | Total Firm Records NoStat Reason Code 1 | 11 | 591 | 601 |
| 57 | Total Firm Records NoStat Reason Code 2 | 11 | 602 | 612 |
| 58 | Total Firm Records NoStat Reason Code 4 | 11 | 613 | 623 |
| 59 | Total Firm Records NoStat Reason Code 5 | 11 | 624 | 634 |
| 60 | Total Firm Records NoStat Reason Code 6 | 11 | 635 | 645 |
| 61 | Future – Total Firm Records | 11 | 646 | 656 |
| 62 | Future – Total Firm Records | 11 | 657 | 667 |
| 63 | Future – Total Firm Records | 11 | 668 | 678 |
| 64 | Future – Total Firm Records | 11 | 679 | 689 |
| 65 | Total GEN DEL Records DPV Validated | 11 | 690 | 700 |
| 66 | Total Records w/Primary Number Errors | 11 | 701 | 711 |
| 67 | Total Street Records w/Primary Number Errors | 11 | 712 | 722 |
| 68 | Total Highrise Records w/Primary Number Errors | 11 | 723 | 733 |
| 69 | Total PO Box Records w/Primary Number Errors | 11 | 734 | 744 |
| 70 | Total RR Records w/Primary Number Errors | 11 | 745 | 755 |
| 71 | Total Firm Records w/Primary Number Errors11 | 11 | 756 | 766 |
| 72 | Total Records w/Secondary Number Errors | 11 | 767 | 777 |
| 73 | Total Street Records w/Secondary Number Errors | 11 | 778 | 788 |
| 74 | Total Highrise Records w/Secondary Number Errors | 11 | 789 | 799 |
| 75 | Total Firm Records w/Secondary Number Errors | 11 | 800 | 810 |
| 76 | Total Records False Positive Validated | 11 | 811 | 821 |
| 77 | Future | 79 | 822 | 900 |

**Primary Number Errors correspond to DPV Footnotes M1, M3, P1, P3.**

**Secondary Number Errors correspond to DPV Footnotes C1 and N1.**

# 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®/DPV® confirmed 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 or a firm record is added, this product also shows a transaction for the supporting street ZIP + 4. 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 Post Service® regulations such as maintenance of current updates and pooper 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.

- Reduce 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 *DMM*® for matching address lists with current CASS Certified software within one year of the date of mailing.
- Allow 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 product used the previous time an address list was processed with CASS Certified software. The customer must also know the cycle date of the ZIP + 4® product that was used for the current reprocessing. The CASS Certified software vendor should be able to provide this information.

The Z4Change product is offered as a monthly or bimonthly update. Therefore, customers must know the update cycle for their CASS Certified™ software vendor. If a customer receives monthly updates of the ZIP + 4® product they should subscribe to the monthly Z4Change product.

Load the Z4Change product that corresponds with the same cycle date of the ZIP+4 product. Calculate the difference in months between the ZIP + 4 product last used to process your address list and the one that is currently being used.

Customers must develop their own Z4Change file access software. In addition, Z4Change certification must be obtained to take advantage of the continuous qualification for the automation postage rates. However, a customer does not have to be certified to purchase or use the Z4Change product.

## File Description

Each record in the Z4Change products 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 “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 product is dated November the first flag represents November, the second flag represents October and the third flag represents September, etc.

**Illustrations**

Figure 1 uses ZIP+4 Code 38018-7740 to illustrate the second flag is set to “Y” indicating 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, the record must be reprocessed with CASS Certified™ software.

## Using Z4Change

To use the Z4Change product, the cycle date must be known for the ZIP + 4® product that was used for address matching and the 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 the last address matching cycle used the March ZIP+4 product. Find the appropriate ZIP+4 Code. In the example, the ZIP + 4 is 12345-0009. Figure 2 indicates that a change has occurred to the ZIP + 4 Code since March. Therefore, the address requires processing through CASS Certified software.

| **Current Month** | November | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ZIP + 4 Code** | 12345-0009 | | | | | | | | | | | |
| | 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 Code 12345-0009 has a transaction in August**

**Figure 2** – ZIP + 4 Code Transaction in August, the record must be reprocessed with CASS Certified software.

Figure 3 focuses on the ZIP + 4® Code 12345-0010 which no changes occurred. This address does not require processing through CASS Certified software.

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

**ZIP + 4 Code 12345-0100 has no new transactions**

**Figure 3** – The record does not have to be reprocessed with CASS Certified software.

The Stage II file consists of ZIP + 4 records. Each of the ZIP + 4 records must be compared to the Z4Change file. A flag of “Y” or “N” must be returned in the answer filed to indicate whether the ZIP + 4 Code experienced a change.

## Processing the Stage II File

Process the Z4Change Stage II 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 Z4Change Stage II file cannot be completely processed, a new file must be ordered.

When the Z4Change Stage II file has been processed, return the file for grading. A completed facsimile of the PS Form 3553 must be returned with the Stage II file.

## Z4Change Certification

When the Stage II file achieves certification, a certification letter and invoice (when applicable) will be sent to the customer’s mailing address.

Z4Change certification does not expire until a change is made to the certification process or data structure of the product file.

## Test File Format

The Z4Change Stage II file is available through EPF processing.

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 |

## Scoring

The required passing score for Z4Change is 100%. If a passing score is not achieved on any single category, the entire test fails.

When the Stage II files does not meet the certification requirement an email will be sent with information pertaining to the reason for failure. If the errors are not extreme, we may allow the same test file to be corrected and resubmitted. A new file will be sent when an Error Report has been sent.

## Reprocessing the Address File

The entire address file must be reprocessed through CASS Certified software at the end of the third year following the date of the Z4Change certification.

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
- ☐ RDIM 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*® 602.9. 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 *(Signature Required)* | Date *(Date Required)*

## AGT 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

Fill in all software information:

Product: _____

Version: _____

Configuration: _____

Platform: _____

## Mail or Fax Completed Form To

Z4CHANGE CERTIFICATION
ADDRESSING & GEOSPATIAL TECHNOLOGY
UNITED STATES POSTAL SERVICE
225 N HUMPHREYS BLVD STE 501
MEMPHIS TN 38188-1001

Telephone Number: 800-642-2914
Fax Number: 650-577-2509

# Appendix 7: eLOT®

## Certification Procedures

All the necessary address fields are populated to reflect the normal assignment by a CASS Certified™ ZIP + 4® engine (i.e. ZIP Code™, Carrier Route, 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 or highest DPC. The sort sequence will then be ZIP Code, Carrier Route, 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 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
- If items 1 through 3 above are found, software assigns the eLOT Sequence Number and eLOT Ascending/Descending Flag. Otherwise, the input data element was not located, and software assigns the default of "0000D".
- In cased 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.

**Example**

| eLOT | ZIP Code | CRID | +4 LOW | +4 HIGH | DPC LOW | DPC HIGH | A/D | SEQ |
|---|---|---|---|---|---|---|---|---|
| | 38111 | C002 | 0500 | 1000 | 10 | 20 | A | 0002 |

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

38111-0009

38111-0500

38111-0888

Assuming the DPC is the same; the mailpieces would be assigned the same eLOT 0002A and sorted according to the eLOT sorting rule.

| | |
|---|---|
| 38111-0500 | 0002A |
| 38111-0888 | 0002A |
| 38111-0999 | 0002A |
| 38111-1000 | 0002A |

## Stage II Processing Quick Reference

Processing Steps

Developers seeking eLOT® certification can process a Merge/eLOT Stage II file.

## Scoring

The required passing score for eLOT is 100%. If a passing score is not achieved on any single category, the entire test fails.

When the Stage II files does not meet the certification requirement an email will be sent with information pertaining to the reason for failure. If the errors are not extreme, we may allow the same test file to be corrected and resubmitted. A new file will be sent when an Error Report has been sent.

# Appendix 8: RDI™ Utility

# RDI™ Utility

The RDI product allows customers to determine whether an address is classified as residential or business in the USPS® Address Management System (AMS) database. Addresses processed using RDI data return an indicator denoting if an address is business or residential.

RDI product updates are provided on a monthly basis.

Additional information can be found online at https://postalpro.usps.com/address-quality-solutions/residential-delivery-indicator-rdi.

## Overview

RDI is designed to be used in conjunction with CASS Certified™ software or an address matching lookup tool. RDI data is supplied as hash tables. The hash algorithm is only determined for the 9-digit and 11-digit ZIP Code™.

The hash tables provide information regarding business deliveries. The residential status of an input address that a ZIP Code is assigned is recognized by the fact that it does not match to a record in either RDI table.

The RDI data files are the following approximate sizes.

| | | |
|---|---|---|
| 9-Digit | = | 8mb |
| 11-Digit | = | 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 a Disk Lookup.

Developers seeking RDI certification can process a Stage II file with RDI or test RDI as a separate utility. If tested with a Stage II file, RDI must be recertified whenever the address matching software is certified. The RDI utility certification does not expire until a change is made to the product data.

| | | | |
|---|---|---|---|
| Field Description | Y | = | Residential Delivery |
| | N | = | Not Residential Deliver |
| | Blank | = | Did not query RDI |

## Scoring

The required score for RDI is 100% to achieve certification.

When the Utility test does not meet the certification requirement an email will be sent with information pertaining to the reason for failure. If the errors are not extreme, we may allow the same test file to be corrected and resubmitted. A new file will be sent when an Error Report has been sent.

## Order and Process Quick Reference

1. Complete RDI™ Utility order form.
2. Stage II or RDI utility files must be processed and returned to the CASS Department within ten (10) business days from the date of receipt.

When certification is achieved a certification letter will be emailed.

This utility certification does not expire until a change is made to the product data.

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*® 602.9. 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 Required Field | Date Required Field |
|---|---|

## AGT 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

Fill in all software information:

Product: _____

Version: _____

Configuration: _____

Platform: _____

## Mail or Fax Completed Form To

CASS DEPARTMENT
ADDRESSING & GEOSPATIAL TECHNOLOGY
UNITED STATES POSTAL SERVICE
225 N HUMPHREYS BLVD STE 501
MEMPHIS TN 38188-1001

Telephone Number: 800-642-2914
Fax Number: 650-577-2509

# Appendix 9: LACS$^{Link®}$ Product

# LACS$^{Link}$® Product

LACS$^{Link}$ is a data product that allows addresses that have been converted due to 911 emergency systems to be linked to 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 Licensing Department at 800-589-5766.

## LACS$^{Link}$ Requirements

False positive records may be included in the CASS test. Software testers are required to email the false positive records to DSF2Stop@usps.gov. The subject line should be **CASS Test LACS$^{Link}$**. For more information, developers should check the License Performance Requirement (LPR) document or contact the Licensing Department at 800-589-5766. End users who are testing should contact their software provider for these guidelines.

LACS$^{Link}$ is mandatory for all end-users. It is not available as a utility certification.

If a mailer does not return the new address when one is available from LACS$^{Link}$, they cannot use the ZPP + 4 associated with the new address. The mailer may continue to use the input address with the 5-digit ZIP Code associated with the input address. This address does not qualify for automation discounts.

## LACS$^{Link}$ Indicator

LACS$^{Link}$ indicators are used for CASS testing and should 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 the 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

LACS[Link®] Return Codes

LACS[Link] return code values are A, 00, 14, 92 or blank. See the LACS[Link] SDG 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 covert 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 the 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.

LACS[Link] return code values are A, 00, 14, 92 or blank. See the LACS[Link] Software Developer's

## LACS[Link] Indicator Value and Return Code Value Combinations

| LACS[Link] Indicator | LACS[Link] Return Codes | Condition |
|---|---|---|
| Y | A | New address furnished |
| S | 92 | Secondary dropped from input address |
| N | 00 | No Match |
| Y | 14 | LACS record found; new address not available |
| F | Blank | False positive – send email |
| Blank | Blank | Not queried |

# Appendix 10: SuiteLink® Product

## SuiteLink® Product

SuiteLink improves business addresses by adding secondary suite numbers to candidate records where there is a known secondary deficiency. Given a business name and an associated ZIP + 4 coded address that matches to a highrise or street default, the SuiteLink process returns the appropriate suite number when available.

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

The SuiteLink product should be queried when an address matches to a street or highrise default record. For CASS testing if a business name match is found and a secondary number is returned the new suite information **must be appended to the original address.**

The new suite number does not have to be appended to the address for production mail but must be included in the barcode that is sprayed on the mailpiece to qualify for automation rates.

The USPS will allow developers to return SuiteLink addresses in several optional manners.

## SuiteLink® Indicators and Return Codes

| | | | |
|---|---|---|---|
| Indicator Values | **Y** | = | **SuiteLink Record Match**<br>Business address improved. The input record matched to a record in the master file. An improved business address could be furnished. |
| | **N** | = | **No Match**<br>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** | = | **SuiteLink Record Match**<br>Business address improved. The input record matched to a record in the master file. An improved business address could be furnished. |
| | **00** | = | **No Match**<br>Business address not improved. The input record COULD NOT be matched to a record in the |

**Example: New Secondary Available**

| Rec Type | Firm | DPV | Prim Range | Street Indicia | Unit | Sec Range | City | ZIP Code | Unique | ZIP+4 Range | CRID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | | Y | 910 | MADISON | | | MEMPHIS | 38103 | N | 3403 | C029 |
| H | | Y | 910 | MADISON | STE | 823-826 | MEMPHIS | 38103 | N | 3435 | C029 |

**Example:**

Input:
UT Animal Research
910 Madison Ave
Memphis TN 38103

Output:
UT ANIMAL RESEARCH
910 MADISON AVE STE 823
MEMPHIS TN 38103-3435
Appended Secondary

Based on the input address, CASS software can return invalid extraneous information in several optional formats.

We encourage mailers to append the secondary SuiteLink matched information to the mailpiece to help ensure the mail reaches the intended recipient. However, this is optional. The mailer can choose not to append the valid secondary information to the mailpiece. However, the 11-digit barcode must match the appended SuiteLink address.

**Example:**

| | |
|---|---|
| Input: | UT Animal Research<br>910 Madison Ave<br>Memphis TN 38103 |
| Output: | UT ANIMAL RESEARCH<br>910 MADISON AVE STE 823<br>MEMPHIS TN 38103-3435 |
| SuiteLink Return Code: | A |

**Extraneous Output Options**

Input:
UT ANIMAL RESEARCH
910 MADISON AVE STE 9
MEMPHIS TN 38103

Output 1:
UT ANIMAL RESEARCH
STE 9
910 MADISON AVE STE 823
MEMPHIS TN 38103-3435
Move Input Secondary to second address line

Output 2:
UT ANIMAL RESEARCH
910 MADISON AVE STE 823 Ste 9
MEMPHIS TN 38103-3435
Append Input Secondary to end of address line

The extraneous info can also be changed to a pound sign.

| | | |
|---|---|---|
| Output 3: | UT ANIMAL RESEARCH<br># 9<br>910 MADISON AVE STE 823<br>MEMPHIS TN 38103-3435 | Move Input Secondary to second address line (change invalid secondary descriptor to #) |
| Output 4: | UT ANIMAL RESEARCH<br>910 MADISON AVE STE 823 # 9<br>MEMPHIS TN 38103-3435 | Append Input Secondary to end of address line (change invalid secondary descriptor to #) |

**Suite$^{Link}$ Return Code: A**

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