

Catalog of Hardcoded Values

Purpose

This document catalogs all significant hardcoded values found in the Cook County property tax extension COBOL codebase. These values represent business rules, regulatory thresholds, system limits, and configuration parameters that are embedded directly in source code rather than in external configuration. Any modernization effort must account for these values and determine whether they should be externalized into configuration, database tables, or parameter files.

1. Exemption Amounts

1.1 Non-Primary Homeowner Exemption (NPHE) Values

Source: [ASHMA839.cb1](#)

Variable	Current Value	Description	Historical Changes
NPHE-LO-VAL	10,000	Minimum NPHE amount (all regions)	4,500 -> 5,000 -> 5,500 -> 6,000 -> 7,000 -> 10,000
NPHE-HI-VAL	10,000	Generic high NPHE amount	Changed multiple times
NPHE-HI-VAL-CITY	10,000	Max NPHE for City of Chicago	Was previously different from other regions
NPHE-HI-VAL-NRWS	10,000	Max NPHE for Northwest suburbs	Was previously different from other regions
NPHE-HI-VAL-SWWS	10,000	Max NPHE for Southwest suburbs	Was previously different from other regions
WS-PRIOR-MINIMUM	7,000	Prior year minimum value	
PREV-MULTIPLY	1.07	Prior year multiplication factor	Used in year-over-year assessment adjustment

Code reference:

```

05 WS-PRIOR-MINIMUM PIC 9(5) VALUE 7000.
05 PREV-MULTIPLY    PIC 9V99 VALUE 1.07.
05 NPHE-LO-VAL      PIC 9(5) VALUE 10000.
05 NPHE-HI-VAL      PIC 9(5) VALUE 10000.
05 NPHE-HI-VAL-CITY PIC 9(5) VALUE 10000.
05 NPHE-HI-VAL-SWWS PIC 9(5) VALUE 10000.
05 NPHE-HI-VAL-NRWS PIC 9(5) VALUE 10000.

```

Update risk: HIGH -- These values are changed by legislative action and have been modified at least 6 times historically. They should be externalized.

1.2 Homestead Improvement Exemption (Class 288) Thresholds

Source: [ASREA003.cbl](#)

Year Range	Threshold Amount	Description
Pre-1979	\$15,000	Subtracted from reproduction cost for class 288
1979-1983	\$25,000	Subtracted from reproduction cost for class 288
1984-1997	\$30,000	Subtracted from reproduction cost for class 288
1998-2003	\$45,000	Subtracted from reproduction cost for class 288
Post-2003	\$75,000	Subtracted from reproduction cost for class 288

Code reference (ASREA003.cbl):

```
* Pre-1979: subtract 15,000 from reproduction cost
* 1979-1983: subtract 25,000
* 1984-1997: subtract 30,000
* 1998-2003: subtract 45,000
* Post-2003: subtract 75,000
```

Update risk: HIGH -- This threshold is set by statute (35 ILCS 200/15-180) and has been increased five times. The current \$75,000 value (post-2003) may have been superseded by more recent legislation.

2. Geographic Boundary Codes

2.1 Township Number Assignments

Source: [ASHMA839.cbl](#)

Region	Township Numbers	Count
City of Chicago	70, 71, 72, 73, 74, 75, 76, 77	8
Northwest Suburbs	10, 16, 17, 18, 20, 22, 23, 24, 25, 26, 29, 35, 38	13
Southwest Suburbs	11, 12, 13, 14, 15, 19, 21, 27, 28, 30, 31, 32, 33, 34, 36, 37, 39	17

Code reference:

```
88 CITY-TOWN VALUE 70 71 72 73 74 75 76 77.
88 NORTHWEST VALUE 10 16 17 18 20 22 23 24 25 26 29 35 38.
88 SOUTHWEST VALUE 11 12 13 14 15 19 21 27 28 30 31 32 33 34 36 37 39.
```

Update risk: LOW -- Township boundaries in Cook County are well-established, but any reclassification of townships between quadrennial cycles or geographic divisions would require code changes.

2.2 Township Number Ranges

Source: [CLRTM750.cb1](#)

Category	Range	Offset Calculation
Suburban	10-39	town_number - 9
City of Chicago	70-77	town_number - 39

Code reference:

```
88  SUBURBAN  VALUE 10 THRU 39.
...
IF SUBURBAN SUBTRACT 9 FROM SAVE-TOWN GIVING SUB
ELSE SUBTRACT 39 FROM SAVE-TOWN GIVING SUB.
```

Update risk: LOW -- Used for report formatting (town name lookup). The offset calculation is dependent on the TWNINFOTBL copybook structure.

3. Property Classification Codes

3.1 Residential Property Class Conditions

Source: [ASHMA850.cb1](#)

Condition Name	Class Codes	Meaning
RESD-IMPV	202-213, 218, 219, 220, 221, 234, 278, 294, 295, 297, 299	Residential improvements
RESD-LAND	200, 241	Residential land
FARM-LAND	239	Farm land
MIXED-USE	236	Mixed-use property
HIMP	288	Homestead Improvement Exemption

Code reference:

```
88 RESD-IMPV  VALUE 202 THRU 213, 218, 219, 220, 221,
                234, 278, 294, 295, 297, 299.
88 RESD-LAND  VALUE 200, 241.
88 FARM-LAND  VALUE 239.
```

```
88 MIXED-USE VALUE 236.
88 HIMP VALUE 288.
```

Update risk: MEDIUM -- Cook County's property classification system may have been revised since the code was written. New classes may have been added or existing classes redefined.

3.2 Residential Range Check

Source: [ASHMA839.cb1](#)

Check	Range	Context
NPHE eligibility	200-299	Properties outside this range get minimum NPHE

Update risk: LOW -- The 200-299 range for residential is well-established in Cook County's classification system.

3.3 Class 288 Indicators

Source: [ASREA740.cb1](#)

Condition	Value	Meaning
WS-CLS-288	288	Identifies Homestead Improvement Exemption class
WS-288-IND-1	'1'	Flag indicating class 288 property

Update risk: LOW -- Class 288 is a specific statutory classification.

4. Year and Date Values

4.1 Senior Freeze Base Year Counters

Source: [ASHMA850.cb1](#)

Item	Value	Description
Earliest base year	1993	First year of Senior Freeze program
Latest base year	2018	Most recent base year counter
Number of year counters	26	Individual counters for 1993-2018

Update risk: CRITICAL -- The system cannot process new Senior Freeze applicants with base years after 2018. Each new tax year requires a code change to add a counter. This was last updated 04/24/2019 by programmer GKW.

4.2 Y2K Windowing Threshold

Source: [ASREA003.cb1](#), [ASREA740.cb1](#), [ASHMA855.cb1](#)

Threshold	Rule	Result
Year > 60	Century = 19	Maps to 1961-1999
Year <= 60	Century = 20	Maps to 2000-2060

Code reference:

```

IF WS-YR > 60
  MOVE 19 TO WS-CC
ELSE
  MOVE 20 TO WS-CC
END-IF

```

Update risk: LOW (until 2060) -- This windowing approach will fail after 2060, producing incorrect century values. For modernization, all dates should be stored and processed as full 4-digit years.

5. System Limits

5.1 Agency Limits

Source: Multiple CLRTM programs

Limit	Value	Programs
Max agencies per tax code	40	CLRTM752, CLRTM753, CLRTM755, CLRTM759
Disconnect/Annex table entries	50	CLRTM755

Code reference (CLRTM752):

```

PERFORM 070-MOVE-AGENCIES VARYING SUB FROM 1 BY 1
  UNTIL SUB GREATER 40

```

Code reference (CLRTM755):

```

DISC-TABLE-ENTRY OCCURS 50 TIMES INDEXED BY DISC-INDEX.
ANNEX-TABLE-ENTRY OCCURS 50 TIMES INDEXED BY ANNEX-INDEX.

```

Update risk: LOW -- 40 agencies per tax code has been sufficient historically. However, if new taxing districts are created, this limit could be reached. The disconnect/annex tables have a higher limit (50) providing some headroom.

5.2 Record Size Limits

Source: [ASREA740.cb1](#)

Limit	Value	Description
Assessment Master min record	122 characters	Minimum record size
Assessment Master max record	18,706 characters	Maximum record size (variable length)

Update risk: LOW -- This is a structural constraint of the Assessment Master file format.

5.3 Equalization Factor Table Size

Source: [ASREA864.cb1](#)

Limit	Value	Description
Equalization factor table entries	320	Indexed by year+quad composite key

Update risk: LOW -- 320 entries covers many decades of factors (80 years x 4 quads).

5.4 Report Line Limits

Source: Multiple programs

Limit	Value	Program
Lines per page	55-62	Various (LN-CTR > 55/57/58/60/62 triggers page break)
Report page counter	varies	PIC S9(4) to S9(5)

Update risk: NONE for modernization -- These are print formatting values, not business rules.

6. Return Codes and Status Values

6.1 Program Return Codes

Source: All programs

Code	Meaning	Usage
0	Success	Normal completion
16	Fatal error	File errors, sequence errors, invalid parameters

Update risk: NONE -- These are standard IBM mainframe conventions.

6.2 VSAM File Status Codes

Source: CLRTM755, CLRTM756, ASREA740

Code	Meaning	Usage
00	Success	Normal read/write/rewrite
10	End of file	Sequential read past last record

Code	Meaning	Usage
23	Record not found	Random read, key not in file
97	Acceptable status	VSAM open (used in CLRTM755)

Update risk: NONE -- Standard VSAM status codes.

6.3 COE Processing Status and Type Codes

Source: [ASHMA855.cb1](#)

Field	Values	Meaning
C515-STAT	6, 7, 8	COE status codes that trigger SF recalculation
C515-TYPE	20, 21	COE type codes that trigger SF recalculation

Update risk: LOW -- These filter which COE records are processed for Senior Freeze recalculation.

6.4 NPHE Status Codes

Source: [ASHMA839.cb1](#)

Code	Meaning
'SF'	Senior Freeze override -- property has SF benefit
'LN'	Landmark property override

Update risk: LOW -- Internal status codes used for NPHE processing.

7. Calculation Constants

7.1 Equalization Factor Format

Source: [CLREB020.cb1](#)

Constant	Value	Description
Factor format	9V9999	1 integer digit, 4 decimal places
Factor record length	21 characters	year(2) + quad(1) + factor(5) + filler(13)
Input card length	80 characters	Standard IBM card image

Update risk: LOW -- The 9V9999 format (max 9.9999) is adequate for Cook County equalization factors.

7.2 Quad Values

Source: [CLREB020.cb1](#)

Value Range	Meaning
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Value Range	Meaning
1-4	Valid quadrennial reassessment cycle values

Update risk: LOW -- Cook County uses a triennial (3-year) reassessment cycle divided into 4 quads (groups of townships). The quad values are well-established.

7.3 Percentage Change Format

Source: [CLRTM755.cb1](#)

Constant	Description
DA-PCTCHG = 100.0	Default percentage change for disconnect/annex records
Division by 100	$(\text{value} * \text{DA-PCTCHG}) / 100$ in computation

Code reference (CLRTM753):

```
MOVE +100.0 TO DA-PCTCHG.
```

Update risk: LOW -- This is a calculation methodology, not a regulatory value.

8. High-Value Sentinels

Source: Multiple programs

Value	Purpose	Programs
HIGH-VALUES	End-of-file key sentinel in match/merge	CLRTM751, ASHMA855
999999999999999 (15 nines)	End-of-file key sentinel	CLRTM753
99999999999999 (14 nines)	End-of-file key sentinel	CLRTM755

Update risk: NONE -- Standard match/merge programming technique.

9. IMS/Database Constants

9.1 IMS PCB References

Source: [ASHMA850.cb1](#)

Item	Value	Description
IMS entry point	ENTRY 'DLITCBL'	Standard IMS batch entry point
PCBs used	IO-PCB, PI-PCB1	I/O PCB and program isolation PCB
CICV checkpoint	Parameter in PARAM-REC	IMS checkpoint value

Update risk: HIGH for modernization -- IMS-dependent programs require significant adaptation for non-IMS environments. See runtime-requirements.md for IMS adaptation strategies.

10. ASHMA850 Parameter Record Values

Source: [ASHMA850.cb1](#)

Parameter	Format	Description
CICV	Varies	IMS checkpoint value
Processing Year	4 digits	Current tax year being processed
Equalization Factor	Varies	Current year equalization factor
From Year	4 digits	Start of processing year range
To Year	4 digits	End of processing year range
From Base Year	4 digits	Start of base year range
To Base Year	4 digits	End of base year range

Update risk: LOW -- These are runtime parameters, not hardcoded values. They represent the system's parameterization approach for ASHMA850 (which is more configurable than most programs).

Summary: Values Requiring Externalization for Modernization

Critical Priority (must externalize before deployment)

1. **Senior Freeze base year range** (ASHMA850) -- Currently 1993-2018, requires annual code changes
2. **NPHE exemption amounts** (ASHMA839) -- All five geographic values, changed multiple times by legislation
3. **Class 288 thresholds** (ASREA003) -- Five historical tiers, may need updating

High Priority (should externalize)

4. **Property classification codes** (ASHMA850, ASHMA839) -- Class definitions may change
5. **Township geographic assignments** (ASHMA839) -- City/NW/SW groupings
6. **COE status/type filters** (ASHMA855) -- May need updating for new COE types

Medium Priority (desirable to externalize)

7. **Agency limit per tax code** (40) -- Structural limit that could become a constraint
8. **Y2K windowing threshold** (60) -- Should be replaced with 4-digit years
9. **Prior year minimum and multiplier** (ASHMA839) -- 7000 and 1.07

Low Priority (stable values, low change risk)

10. **Equalization factor format** -- 9V9999
11. **Quad valid values** -- 1-4

12. **Return code conventions** -- 0/16
13. **VSAM file status codes** -- 00/10/23/97