National Underground Asset Register (NUAR)

NUAR Data Model Publication

Representation of Data Currency and Quality Information

Publication History

Date	Version	Description
12/08/2024	0.1	First publication of the NUAR Data Model
10/03/2025	1.0	Publication of the NUAR Data Model – V2.1.3

Purpose of this document

This document summarises the elements of the NUAR Harmonised Data Model which are used to describe temporal, currency and data quality information about entities in the data model.

Date and Data Currency fields in the Data Model

Feature Type	Attribute Name	Description
NUARObject	dateLastUpdated	The date upon which this data item was last updated at source. This may be specified at the feature level in some datasets (e.g. a LastModifiedDate field), otherwise this should reflect the date upon which this data item was last supplied to the NUAR submission process (i.e. it should have the same value as the dateOfSubmission for the submission event during which this data item was supplied). dateLastUpdated will be updated to the current date and time for an individual feature in the event that it is explicitly identified as being unchanged since the last update.
NUARObject	dateOfLastLifecycleStatusChange	The date upon which the Lifecycle Status of the data item was last changed (e.g. if an asset is retired, this date should reflect the date of retirement). This should be NULL if this information is not known.
NUARObject	systemLoadDate	The date upon which this data item was loaded into the NUAR staging database (i.e. the date of initial ingestion).
NUARSubmission	submissionDate	The date upon which a data submission was initiated.
NUARSubmissionEvent	dateOfSubmission	The date upon which a data submission event was initiated.
NUARSubmissionEvent	dateofCompletion	The date upon which a data submission event was completed.

Feature Type	Attribute Name	Description
MUDDIObject	dateDataCollected	The date when a feature was last surveyed in the field. If this survey was carried out according to the PAS128 standard, the Quality Level assigned to the feature should be recorded in the qualityLevel field. If the survey on this date was not carried out according to PAS128, the qualityLevel field must be left unpopulated.
MUDDIObject	dateofextract	The date when a feature was last extracted from the source system for provision to NUAR.
MUDDIObject	dateOfLastStatusChange	The date upon which the Operational Status of the data item was last changed (e.g. if an asset is abandoned, this date should reflect the date of abandonment).
MUDDIObject	expectedRefreshPeriod (TimePeriodType)	An indication of the update frequency of the dataset containing this data item.
MUDDIObject	originalDateDataCollected	The date upon which a feature was originally surveyed and captured for digitisation.
NetworkAsset	dateOfInstallation	The date upon which a feature was originally installed.
Observation	dateOfLastVisibilityScopeChange	Who can see an Observation is governed by its visibility scope, and this attribute represents the date upon which this was last changed.
Observation	estimatedBackfillDate	For an observation based on an excavation in the field, an indication of when the excavation will be complete (and therefore when an exposed feature which is the subject of the observation will be covered).

Feature Type	Attribute Name	Description
Observation	expiryDate	The date beyond which an Observation is no longer valid and should not be visible.

Data Quality Metadata fields in the Data Model

Feature Type	Attribute Name	Description
MUDDIObject	dataProvenance	An indication of where the data for this item originated, from: • Asset Owner Records • Contractor As-laid Drawings • Field Observation • Non-PAS128 Survey • Other • PAS128 Utility Survey • Sensor Record • Unknown The default value is currently "Asset Owner Records" except for Feature Types in the "NUARUserCreatedData" sub-package for which the default value is currently "Field Observation".
MUDDIAsset	depthMethod	The method by which the value for depth was determined for this asset, from: • Assumed • Estimated • Inferred • Sensed • Standard • Surveyed

Feature Type	Attribute Name	Description
MUDDIAsset	horizontalAccuracy	Expressed as a distance with a unit of measurement. This value should only be populated if objective data about horizontal accuracy is available. If the last survey of the asset was carried out according to the PAS128:2022 standard, this value should represent the horizontal "Location accuracy" associated with the Quality Level assigned to this feature. If the last survey was not carried out according to the PAS128:2022 standard, this value should represent the worst-case "margin of error" reported by the surveying equipment used for the measurement.
MUDDIAsset	horizontalMeasurementMethod	The method by which the horizontal position of the asset was captured, from: • Assumed • Estimated • Inferred • Sensed • Surveyed

Feature Type	Attribute Name	Description
MUDDIAsset	qualityLevel	Quality Level in accordance with the PAS128:2022 standard. This value should only be populated if the value of the ***MUDDIObject:dateDataCollected*** attribute is populated with the date of a PAS128:2022-compliant utility survey. This value should reflect the Quality Level assigned to this asset during that survey. Valid values are: - QL-A - QL-B1 - QL-B1P - QL-B2 - QL-B2P - QL-B3 - QL-B3P - QL-B4 - QL-B4P - QL-C - QL-D
MUDDIAsset	verticalAccuracy	Expressed as a distance with a unit of measurement. This value should only be populated if objective data about vertical accuracy is available. If the last survey of the asset was carried out according to the PAS128:2022 standard, this value should represent the vertical "Location accuracy" associated with the Quality Level assigned to this feature. If the last survey was not carried out according to the PAS128:2022 standard, this value should represent the worst-case "margin of error" reported by the surveying equipment used for the measurement.

Feature Type	Attribute Name	Description
Depth	depthMethod	The method by which the value for depth was determined for a specific point or segment of an asset, from: • Assumed • Estimated • Inferred • Sensed • Standard • Surveyed
QualityLevel	qualityLevel	Quality Level recorded for a specific point or segment of an asset in accordance with the PAS128:2022 standard. This value should only be populated if the value of the ***MUDDIObject:dateDataCollected*** attribute is populated with the date of a PAS128:2022-compliant utility survey. This value should reflect the Quality Level assigned to the point or segment of an asset during that survey. Valid values are: • QL-A • QL-B1 • QL-B1P • QL-B2 • QL-B2P • QL-B3 • QL-B3P • QL-B4 • QL-B4P • QL-C • QL-D

Feature Type	Attribute Name	Description
HorizontalMeasurementMethod	horizontalMeasurementMethod	The method by which the horizontal position of a specific point or segment of an asset was captured, from: • Assumed • Estimated • Inferred • Sensed • Surveyed