



1 **Overview**

2 All feature layer attributes in either an **ArcMap Map Document** or an **ArcGIS Pro Project** that are
3 published to **ArcGIS Online** (AGOL) as a hosted feature layer (i.e. share as web layer in **ArcGIS Pro**) will
4 become part of the **Collector** data collection web map (and data entry screen) unless the GIS Specialist
5 adopts a workflow that controls the **Read-Only** status of specific attributes. The **ArcCatalog**, **ArcGIS Pro**,
6 and **AGOL** workflow (i.e. steps) to accomplish this are discussed in this document.


7 **UFST Attribute Properties for Post-Processing**

8 In **ArcCatalog**, attributes needed for post-processing
9 can be added to the UFST tree feature class and then
10 published with the hosted feature layer to **AGOL** from
11 either a **Map Document** or **Project**.

12 The standard UFST attributes (*PublicTree, Species,*
13 *DBH, TreePart, FEMAGuide, Failure_LOF, Impact_LOI,*
14 *Conseq_COFI, Mitigation, PreStormDefect, Hangers, and StumpLength*) are all set as required and editable
15 (*Allow NULL Values = No* and *Read-Only = No* respectfully).

In this document, the following are synonymous:

- *attribute* and *field*
- *editable* equates to and *Read-Only = No*
- *required* equates to *Allow NULL Values = No*

In ArcGIS Pro, the menu symbol is 

16 For **new** attributes being added that are not intended for field data collection, set *Allow NULLS = Yes* in the
17 feature class properties, and *Read-Only = No* in the feature layer properties.

18 When set in this manner, the web map in **Collector** will prompt users for data entry for the standard and
19 added attributes that are not read-only.

20 **Note:**

21 **Prior to publishing**, *Read-Only* **can** be set at the *Table of Contents* in a *Map*
22 *Document* or *Contents* in a *Project* by right-clicking on the layer and opening
23 the fields properties (in **ArcMap** *PROPERTIES* → *FIELDS*, or in **ArcGIS Pro**
24 *DESIGN* → *FIELDS*), but this approach will not result in the most flexibility for
25 post-processing attributes when the hosted feature service is later added to a
26 *Map Document* or *Project*.

27 The control of the *Read-Only* characteristic for attributes should be
28 accomplished **after publishing** the hosted feature layer in **AGOL** to be most
29 effective. This technique can also be used to control other standard attributes
30 in the current UFST database schema that may not be needed for data
31 collection during any particular deployment (e.g. Stump Length).

32 The following attributes are the minimum required for the current UFST post-processing:

- 33 For US National Grid calculation...
- 34 ▪ xDD_Longitude Float
 - 35 ▪ yDD_Latitude Float
 - 36 ▪ USNG Text 24 (18 minimum)

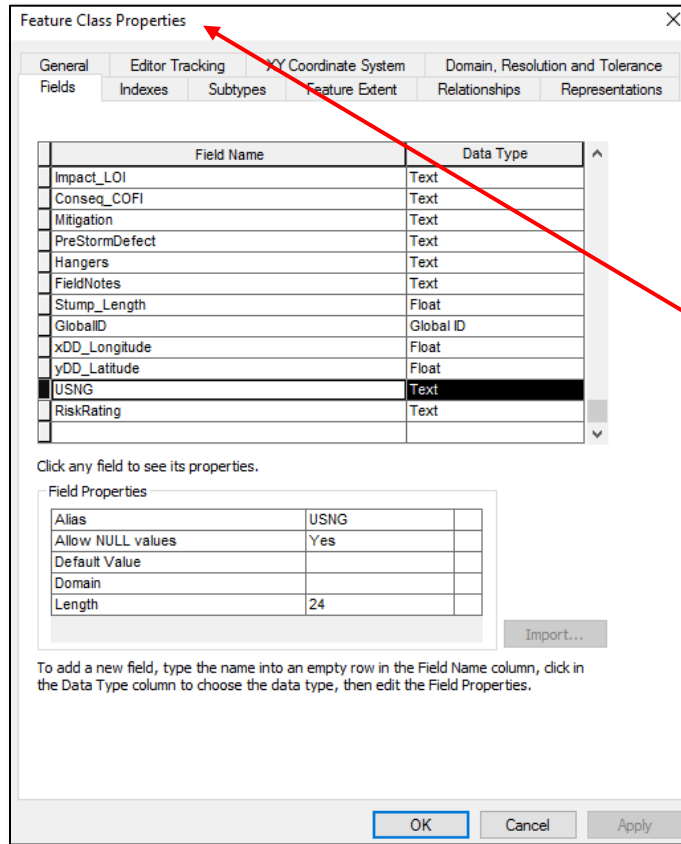
- 37 For Risk Rating calculation...
- 38 ▪ RiskRating Text 18

- 39 Optional for lists accompanying maps...
- 40 ▪ MapID Short Integer For values (trees) numbering to 32,767

41 See Figure 1 where I have added 4 of these new attributes.

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In *ArcCatalog*, add any additional attributes you need.



Feature Class properties from *ArcCatalog*

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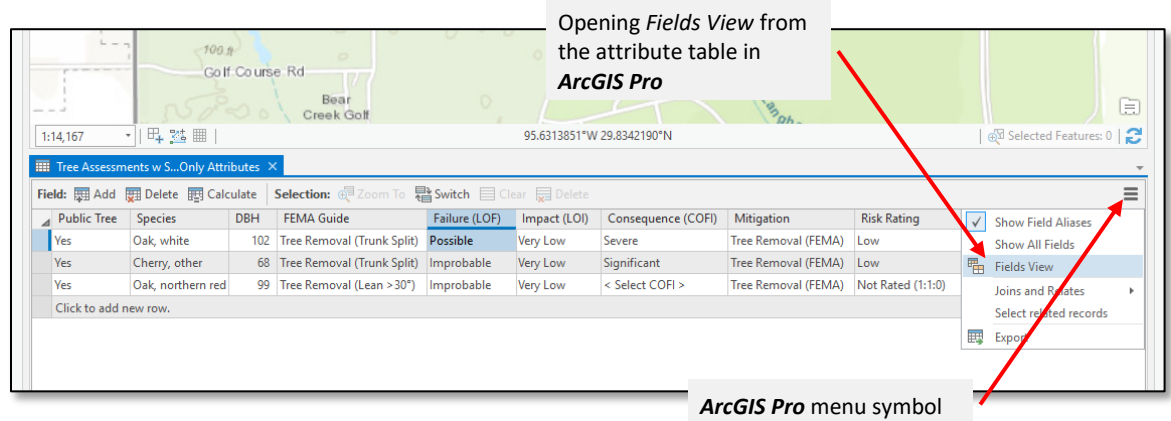
Figure 1: ArcCatalog – Feature Class Properties Dialog

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In this example the *xDD_Longitude*, *xDD_Latitude*, *USNG*, and *RiskRating* attributes have all been added with *Allow NULL Values = Yes*. All other attributes are set as *Allow NULL Values = No* so that data entry is required in **Collector**; as you'll see in following screen shots and discussion, some of the required fields will also be assigned a default value. *Read-Only* status and necessary changes to fully support required fields will be addressed after publication in the hosted feature layer.

51 **Preparing for Hosted Feature Service Publication from ArcGIS Pro or ArcMap**

52 In your **ArcGIS Pro Project**, add the feature class and open the attribute table and select **Fields**
53 **View** (Figure 2) or from **Contents**, right-click on the layer and select **DESIGN** → **FIELDS**.



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55 Figure 2: ArcGIS Pro Design → Fields

56 When the field properties table appears (Figure 3) verify that **Read-Only** is **NOT** checked for any
57 attributes except **ObjectID** and **GlobalID**. The **Visible** characteristic controls whether users see
58 the attribute in the table; **Read-Only** controls whether users see and are prompted for the
59 attribute in **Collector**. You will publish this feature layer with all field editable except **ObjectID**
60 and **GlobalID**.

Attributes (i.e. fields)
should **Not** be Read-Only
prior to publication

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Domain	Default	Length
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SHAPE	SHAPE	Geometry	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PublicTree	Public Tree	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Public	Yes	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Species	Species	Text	<input type="checkbox"/>	<input type="checkbox"/>		EcoSpecies_VDOF	< Select a species >	8
<input checked="" type="checkbox"/>	<input type="checkbox"/>	DBH	DBH	Short	<input type="checkbox"/>	<input type="checkbox"/>	Numeric	DBH_Integer		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	TreePart	Tree Part	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_PAPPG_PartAssessed_WholeTree		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FEMAGuide	FEMA Guide	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_PAPPG_Guide_Bracing		42
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Failure_LOF	Failure (LOF)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_LOF		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Impact_LOI	Impact (LOI)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_LOI		32
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Conseq_COFI	Consequence (COFI)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_COFI		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mitigation	Mitigation	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_PAPPG_Mitigation_Bracing		30
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PreStormDefect	PreStorm Defect	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_ResidualDefect	< Indicate Residual >	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hangers	Hangers	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Hangers	< Estimate Hangers >	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FieldNotes	Field Notes	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				36
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stump_Length	Stump Length (Ft)	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric	StumpLength_Real		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GlobalID	GlobalID	Global ID	<input type="checkbox"/>	<input type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	xDD_Longitude	xDD_Longitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	yDD_Latitude	yDD_Latitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	USNG	USNG	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	RiskRating	Risk Rating	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				18
<input checked="" type="checkbox"/>	<input type="checkbox"/>	MapID	MapID	Short	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			

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62 Figure 3: ArcGIS Pro Design → Fields



63 Revised ArcGIS Pro v2.1 – Design → Fields

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Domain	Default	Length
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SHAPE	SHAPE	Geometry	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	MapID	MapID	Short	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PublicTree	Public Tree	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Public	Yes	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Species	Species	Text	<input type="checkbox"/>	<input type="checkbox"/>		EcoSpecies_Houston_AltCommon		8
<input checked="" type="checkbox"/>	<input type="checkbox"/>	DBH	DBH	Short	<input type="checkbox"/>	<input type="checkbox"/>	Numeric	DBH_Integer		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	TreePart	Tree Part	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Houston_PartAssessed		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FEMAGuide	FEMA Guide	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Houston_FEMA_Guide		42
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Failure_LOF	Failure (LOF)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_LOF		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Impact_LOI	Impact (LOI)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_LOI		32
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Conseq_COFI	Consequence (COFI)	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_COFI		24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mitigation	Mitigation	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Houston_Mitigation		30
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PreStormDefect	PreStorm Defect	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_ResidualDefect	None/NA	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hangers	Hangers	Text	<input type="checkbox"/>	<input type="checkbox"/>		UFST_Hangers	None/NA	24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FieldNotes	Field Notes	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				48
<input type="checkbox"/>	<input type="checkbox"/>	StumpLength	Stump Length	Float	<input type="checkbox"/>	<input type="checkbox"/>	Numeric	StumpLength_Real		
<input type="checkbox"/>	<input type="checkbox"/>	RiskRating	Risk Rating	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				18
<input type="checkbox"/>	<input type="checkbox"/>	yDD_Latitude	yDD_Latitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input type="checkbox"/>	xDD_Longitude	xDD_Longitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input type="checkbox"/>	USNG	USNG	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GlobalID	GlobalID	Global ID	<input type="checkbox"/>	<input type="checkbox"/>				

Click here to add a new field.

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Figure 3: ArcGIS Pro Design → Fields (25May18 Revision & Tested)



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Publish the feature layer to your organizational account. In **AGOL** edit the hosted feature layers details page to set the desired characteristics.

Feature Layer (hosted)

Editing

- Enable editing.
- Keep track of created and updated features.
- Keep track of who created and last updated features.
- Enable Sync (disconnected editing with synchronization).

• Who can edit features?
Share the layer to specific groups of people, the organization or publicly via the Share button on the Overview tab. This layer is currently shared with: [UFST - Houston - TFS](#), [UFST - GIS Specialists](#)

• What kind of editing is allowed?

- Add, update, and delete features
- Add and update features
- Add features
- Update features
- Update attributes only

• What features can editors see?

- Editors can see all features
- Editors can only see their own features (requires tracking)
- Editors can't see any features, even those they add

• What features can editors edit?

- Editors can edit all features
- Editors can only edit their own features (requires tracking)

• What access do anonymous editors (not signed in) have?

- The same as signed in editors
- Only add new features, if allowed above (requires tracking)

• Who can manage edits?

- You
- Administrators
- Data curators with the appropriate privileges

Manage Spatial Indexes [Rebuild Indexes](#)

If your data changes frequently, rebuilding the spatial index can increase performance when drawing features on the map.

Export Data

- Allow others to export to different formats.

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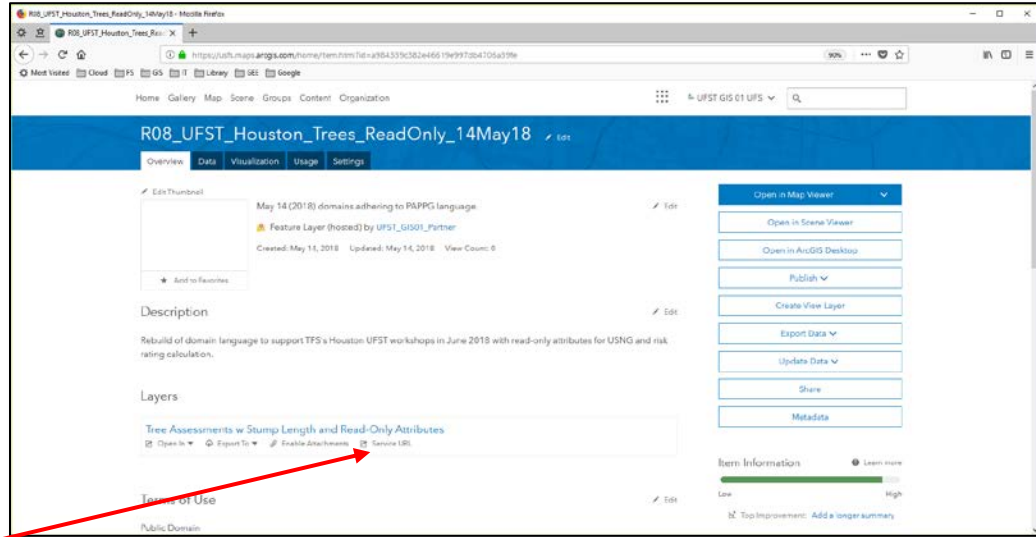
Figure 4: ArcGIS Online Hosted Feature Layer Details

If you have designated required fields (i.e. *Allow NULL Values = No*) then follow the **/ADMIN** instructions in that follow to set correct default values for those attributes.

If you enable **Keep track of created and updated features**, you cannot subsequently [overwrite](#) the hosted feature layer.

75 **ArcGIS Online Service [Definition] URL (/ADMIN Instructions)**

76 After publishing to **ArcGIS Online** (AGOL), open the layer definition from the hosted feature layer
77 details page and the layer *Service URL* link.



Service URL link

Figure 5: Service URL Link on Details Page

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80 When the URL opens, change the URL in your browser by adding **/ADMIN** between **/REST** and
81 **/SERVICES** to enable updating for required fields and to review *Read-Only* status.
82 e.g. https://services1.arcgis.com/gGHDlz6USftL5Pau/arcgis/rest/ADMIN/services/R08_UFST_Houston_Trees_ReadOnly_14May18/FeatureServer/0



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The service definition for the feature layer at AGOL indicates that the five added attributes have been set to **editable:true** (i.e. *Read-Only = No*). Templates are created for all attributes that have domains.

Type ID Field:

Fields:

- OBJECTID (type: esriFieldTypeOID, alias: OBJECTID, SQL Type: sqlTypeOther, length: 0, nullable: false, editable: false)
- PublicTree (type: esriFieldTypeString, alias: Public Tree, SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- Species (type: esriFieldTypeString, alias: Species, SQL Type: sqlTypeOther, length: 8, nullable: false, editable: true)
- DBH (type: esriFieldTypeSmallInteger, alias: DBH, SQL Type: sqlTypeOther, nullable: false, editable: true)
- TreePart (type: esriFieldTypeString, alias: Tree Part , SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- FEMA Guide (type: esriFieldTypeString, alias: FEMA Guide, SQL Type: sqlTypeOther, length: 42, nullable: false, editable: true)
- Failure_LOF (type: esriFieldTypeString, alias: Failure (LOF), SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- Impact_LOI (type: esriFieldTypeString, alias: Impact (LOI), SQL Type: sqlTypeOther, length: 32, nullable: false, editable: true)
- Conseq_COFI (type: esriFieldTypeString, alias: Consequence (COFI), SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- Mitigation (type: esriFieldTypeString, alias: Mitigation, SQL Type: sqlTypeOther, length: 30, nullable: false, editable: true)
- PreStormDefect (type: esriFieldTypeString, alias: PreStorm Defect, SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- Hangers (type: esriFieldTypeString, alias: Hangers, SQL Type: sqlTypeOther, length: 24, nullable: false, editable: true)
- FieldNotes (type: esriFieldTypeString, alias: Field Notes, SQL Type: sqlTypeOther, length: 36, nullable: true, editable: true)
- Stump_Length (type: esriFieldTypeSingle, alias: Stump Length (Ft), SQL Type: sqlTypeOther, nullable: true, editable: true)
- GlobalID (type: esriFieldTypeGlobalID, alias: GlobalID, SQL Type: sqlTypeOther, length: 38, nullable: false, editable: false)
- xDD_Longitude (type: esriFieldTypeSingle, alias: xDD_Longitude, SQL Type: sqlTypeOther, nullable: true, editable: true)
- yDD_Latitude (type: esriFieldTypeSingle, alias: yDD_Latitude, SQL Type: sqlTypeOther, nullable: true, editable: true)
- USNG (type: esriFieldTypeString, alias: USNG, SQL Type: sqlTypeOther, length: 24, nullable: true, editable: true)
- RiskRating (type: esriFieldTypeString, alias: Risk Rating, SQL Type: sqlTypeOther, length: 18, nullable: true, editable: true)
- MapID (type: esriFieldTypeSmallInteger, alias: MapID, SQL Type: sqlTypeOther, nullable: true, editable: true)

- xDD_Longitude (type: esriFieldTypeSingle, alias: xDD_Longitude, SQL Type: sqlTypeOther, nullable: true, editable: true)
- yDD_Latitude (type: esriFieldTypeSingle, alias: yDD_Latitude, SQL Type: sqlTypeOther, nullable: true, editable: true)
- USNG (type: esriFieldTypeString, alias: USNG, SQL Type: sqlTypeOther, length: 24, nullable: true, editable: true)
- RiskRating (type: esriFieldTypeString, alias: Risk Rating, SQL Type: sqlTypeOther, length: 18, nullable: true, editable: true)
- MapID (type: esriFieldTypeSmallInteger, alias: MapID, SQL Type: sqlTypeOther, nullable: true, editable: true)

- user_4481.TREES_EDITATTRIBUTES_TREES_ADDED_FIELDS__Shape_sidx (Fields: SHAPE, IsAscending: True, IsUnique: False, Description:)
- FDO_GlobalID (Fields: GlobalID, IsAscending: True, IsUnique: True, Description:)
- CreationDateIndex (Fields: CreationDate, IsAscending: True, IsUnique: False, Description: CreationDate Field index)
- CreatorIndex (Fields: Creator, IsAscending: False, IsUnique: False, Description: Creator Field index)
- EditDateIndex (Fields: EditDate, IsAscending: True, IsUnique: False, Description: EditDate Field index)
- EditorIndex (Fields: Editor, IsAscending: False, IsUnique: False, Description: Editor Field index)

Templates:

Name: Trees (Added Fields)
Description:
Drawing Tool: esriFeatureEditToolPoint
Prototype:

Attributes:

- PublicTree: Yes
- Species: AGOLSS
- DBH: 0
- TreePart:
- FEMA Guide:
- Failure_LOF:
- Impact_LOI:
- Conseq_COFI:
- Mitigation:
- PreStormDefect: None Selected
- Hangers: None Selected

Is Data Versioned: false

Supports Rollback On Failure Parameter: true

Last Edit Date: 5/16/2018 8:21:54 PM

Supported Operations: [Refresh](#) [Add To Definition](#) [Update Definition](#) [Delete From Definition](#)

Update Definition

editable:true

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Figure 6: Hosted Layer Definition

Click on the *Update Definition* link at the bottom of the page to allowing editing of required fields.

While in *Definition Update*, set required fields to **NULL** and update the layer definition.

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"PublicTree" : "Yes",
"Species" : "AGOLSS",
"DBH" : 0,
"TreePart" : " ",
"FEMAGuide" : " ",
"Failure_LOF" : " ",
"Impact_LOI" : " ",
"Conseq_COFI" : " ",
"Mitigation" : " ",

```

```

"templates" : [
{
"name" : "Trees (Added Fields)",
"description" : "",
"drawingTool" : "esriFeatureEditToolPoint",
"prototype" : {
"attributes" : {
"RiskRating" : null,
"MapID" : null,
"PublicTree" : "Yes",
"Species" : null,
"DBH" : null,
"TreePart" : null,
"FEMAGuide" : null,
"Failure_LOF" : null,
"Impact_LOI" : null,
"Conseq_COFI" : null,
"Mitigation" : null,
"PreStormDefect" : "None/NA",
"Hangers" : "None/NA",
"FieldNotes" : null,
"Stump_Length" : null,
"USNG" : null,
"xDD_Longitude" : null,
"yDD_Latitude" : null
}
}
}
]

```

Update Layer Definition:

ASync: True False

Format: HTML

Update Layer Definition

Figure 7: Hosted Layer Definition – Required Fields after Changes

Important updates are to replace “DBH” : 0 with “DBH” : null, and “Species” : “AGOLSS” and all attributes with “ ” to null so that the required fields will function correctly. *PublicTree*, *PreStormDefect*, and *Hangers* may have a default.

What exactly is this doing?

The AGOL publication process does not properly configure required fields.

For fields that have not been assigned a default value, the publication process adds a “ ” (i.e. blank string) for text fields and a 0 (i.e. zero) for numeric fields.

Default values in the feature definition, whether they are desired (like “PublicTree” : “Yes”) or the blank string or zero satisfy the “required” criteria and users are able to open the data form (in **Collector**) and save the form without entering **ANY** data!

Placing the **NULL** after every required field in the definition will create a data form in **Collector** that **WILL** require an actual drop-down selection or entry before the tree (i.e. point feature) can be saved.

The **Collector** symbol on Android devices and the word **Required** on iOS devices indicates that the field has been properly configured.



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Before saving your definition changes, set the keyword *lastEditDate* to " " (you'll find it near the top of the definition code) Replace any number that appears after the colon (:).

Update Layer Definition:	<pre> "editFieldsInfo" : { "creationDateField" : "CreationDate", "creatorField" : "Creator", "editDateField" : "EditDate", "editorField" : "Editor" }, "editingInfo" : { "lastEditDate" : " " </pre>
--------------------------	--

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Figure 8: Hosted Layer Definition – lastEditDate Changed

	<pre> "USNG" : null, "xDD_Longitude" : null, "yDD_Latitude" : null </pre>
ASync:	<input type="radio"/> True <input checked="" type="radio"/> False
Format:	<input type="text" value="HTML"/>
<input type="button" value="Update Layer Definition"/>	

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Figure 9: Hosted Layer Definition – Update Layer Definition Button (i.e. Save Changes)

CTRL-F can be used to search for *Templates* and *lastEditDate* while in *Update Definition*.

After changing the last edit date, click on the *Update Layer Definition* link at the bottom of the page.

See *EnforceRequiredFields_CollectorForArcGIS (Highlight).pdf* for the complete definition update process if you are not familiar with it.

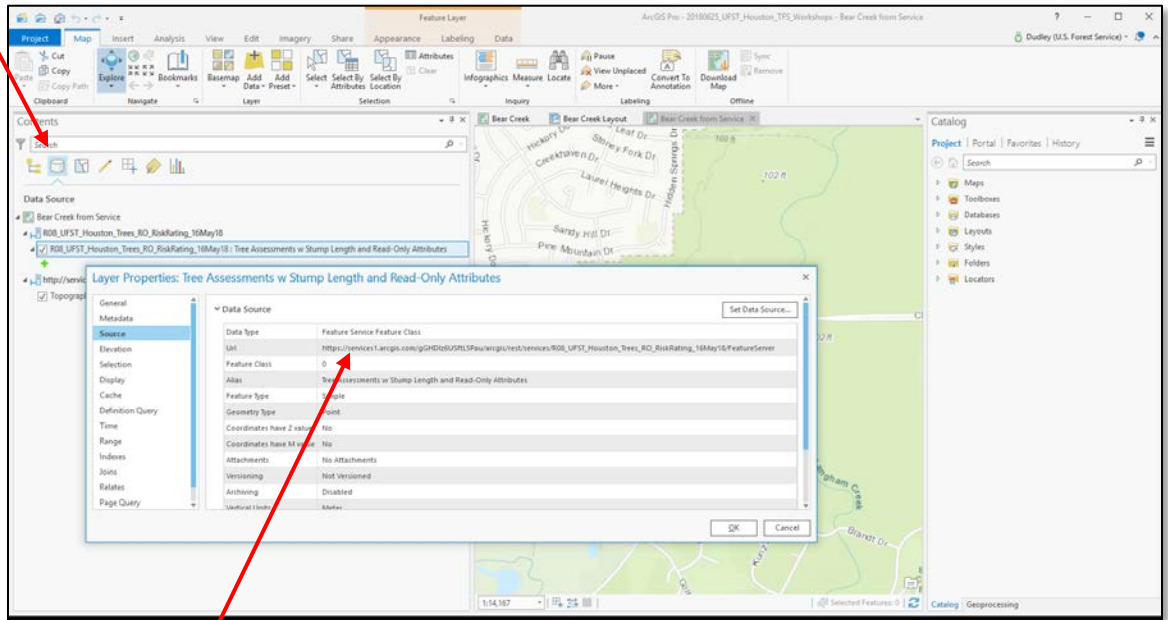
106 **Setting Read-Only through AGOL after Hosted Service Layer Publication**

107 Your feature layer has been published from either **ArcMap** or **ArcGIS Pro** and you have made the
108 necessary changes in the hosted feature layer details page. Now add that feature layer to a web
109 map and configure it as desired. Share and save the web map for use in **Collector**.

110 In **ArcGIS Pro**, create a new **Map (Not a Layout; in ArcMap these are Dataframes)** and add the
111 hosted feature layer as a service; that is, you are connecting to the **Cloud** version of the feature
112 layer (not the one on your local desktop).

Open the layer properties from the **Data Source** tab.

Data Source Tab

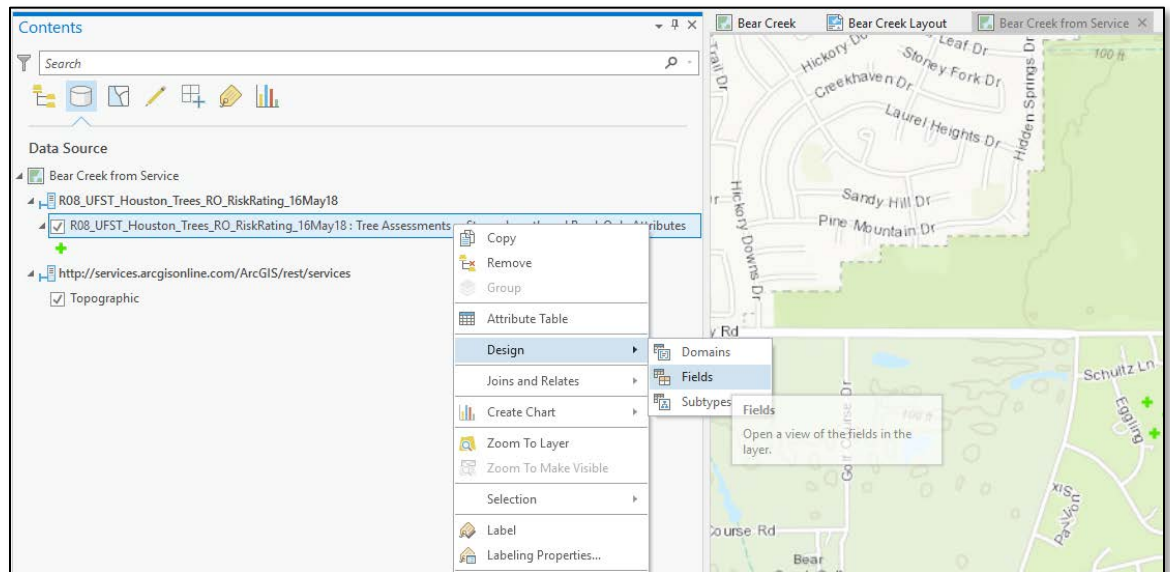


114 Figure 10: Hosted feature Layer added as Service in ArcGIS Pro
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Confirm/investigate the URL source for the service

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Again, from the *Data Source* tab in *Contents*, right-click on the layer name and click on *Design* → *Fields*.



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Figure 11: Accessing the Fields Properties for the Hosted Layer Service



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This will open the *Fields* properties for the hosted feature layer.

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Domain	Default	Length
<input type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PublicTree	Public Tree	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Species	Species	Text	<input type="checkbox"/>	<input type="checkbox"/>				8
<input checked="" type="checkbox"/>	<input type="checkbox"/>	DBH	DBH	Short	<input type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input type="checkbox"/>	TreePart	Tree Part	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FEMAGuide	FEMA Guide	Text	<input type="checkbox"/>	<input type="checkbox"/>				42
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Failure_LOF	Failure (LOF)	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Impact_LOI	Impact (LOI)	Text	<input type="checkbox"/>	<input type="checkbox"/>				32
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Conseq_COFI	Consequence (COFI)	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mitigation	Mitigation	Text	<input type="checkbox"/>	<input type="checkbox"/>				30
<input type="checkbox"/>	<input type="checkbox"/>	PreStormDefect	PreStorm Defect	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input type="checkbox"/>	<input type="checkbox"/>	Hangers	Hangers	Text	<input type="checkbox"/>	<input type="checkbox"/>				24
<input type="checkbox"/>	<input type="checkbox"/>	FieldNotes	Field Notes	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				36
<input type="checkbox"/>	<input type="checkbox"/>	Stump_Length	Stump Length (Ft)	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GlobalID	GlobalID	Global ID	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	xDD_Longitude	xDD_Longitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	yDD_Latitude	yDD_Latitude	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	USNG	USNG	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				24
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RiskRating	Risk Rating	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				18
<input type="checkbox"/>	<input checked="" type="checkbox"/>	MapID	MapID	Short	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CreationDate	CreationDate	Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Creator	Creator	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				128
<input type="checkbox"/>	<input checked="" type="checkbox"/>	EditDate	EditDate	Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Editor	Editor	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				128
<input type="checkbox"/>	<input type="checkbox"/>	Shape	Shape	Geometry	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

121

Figure 12: Set Read-Only with

122

123 The *Creator*, *CreationDate*, *Editor*, and *EditorDate* were added to your original attribute list when
124 you changed the hosted feature layer details (See Figure 4, Page 4) and are read-only by default.

125 Set the following attributes to read-only with a check to prevent prompting in the **Collector**
126 web map.

- 127 xDD_Longitude
- 128 yDD_Latitude
- 129 USNG
- 130 RiskRating
- 131 MapID

132 The feature now has all attributes needed for basic FEMA reporting (i.e. documentation) by the
133 community (i.e. *USNG* and *RiskRating*) and **Collector** will only use the *Read-Only = No* attributes
134 in the data form. If you are not collecting stump data, then *StumpLength* can also be set to read-
135 only to remove it from the dataform.

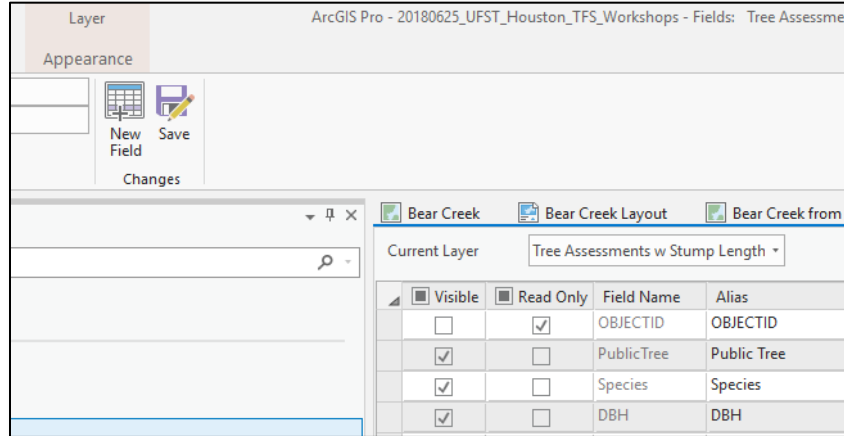
136 When you want to calculate *MapID*, *USNG*, and *RiskRating*, you will return to this properties
137 screen and set *Read-Only = No*, make calculations and then reset *Read-Only = Yes* with a check .

138 The Visible controls what fields appear in the attribute table, **NOT** what appears in the **Collector**
139 data form.



140

Make certain you save the fields properties changes in the ribbon.



141
142

Figure 13: Save Field Properties Changes



143

Risk Rating Calculation

144

The risk rating attribute can be assigned with the following Python code in **FIELD CALCULATOR**¹:

145

```
# RiskRatingCalculationHouston_16May18.py
```

146

```
# UFST Risk Rating Calculation
```

147

```
# Dudley R. Hartel
```

148

```
# Urban Forestry South
```

149

```
# 16 May 2018
```

150

```
# dhartel@fs.fed.us
```

151

```
# (706) 410-5568 cell
```

152

```
#
```

153

```
# For use in ArcMap v 10.5.1 or ArcGIS Pro v 2.1.0 Field Calculator; an ESRI .CAL file is also available for import in Field Calculator.
```

154

```
#
```

155

```
# Parameters passed: Text strings (Failure_LOF, Impact_LOI, Conseq_COFI) from ArcMap FGDB domains
```

156

```
# Example domain codes for Failure_LOF
```

157

```
# 0.None Selected
```

158

```
# 1.Improbable
```

159

```
# 2.Possible
```

160

```
# 3.Probable
```

161

```
# 4.Imminent
```

162

```
#
```

163

```
# Returns: Maximum 18 character text "Not Rated" with the tree passed arguments so that the missing data is apparent (QA)
```

164

```
# Call: RiskRating = ClassRisk (!Failure_LOF!, !Impact_LOI!, !Conseq_COFI!)
```

165

```
#
```

166

```
# Define the function
```

167

```
def ClassRisk(LOF,LOI,COFI):
```

168

```
#
```

169

```
# Convert first text character to integer for calculation
```

170

```
nLOF = int(LOF[0])
```

171

```
nLOI = int(LOI[0])
```

172

```
nCOFI = int(COFI[0])
```

173

```
#
```

174

```
# Any single zero value returns a "Not Rated" with the three components passed (QA) e.g. Not Rated (0:0:3)
```

175

```
if (nLOF == 0 or nLOI == 0 or nCOFI == 0):
```

176

```
missingData = "(" + LOF[0] + ":" + LOI[0] + ":" + COFI[0] + ")"
```

177

```
return "Not Rated " + missingData
```

178

```
#
```

179

```
# ISA BMP Matrix #1 calculation
```

180

```
matrix_1 = nLOF * nLOI
```

181

```
#
```

182

```
if (matrix_1 <= 6):
```

183

```
matrix_1 = 1
```

184

```
elif (matrix_1 >= 8 and matrix_1 <=9):
```

185

```
matrix_1 = 2
```

186

```
elif (matrix_1 == 12):
```

187

```
matrix_1 = 3
```

188

```
elif (matrix_1 == 16):
```

189

```
matrix_1 = 4
```

190

```
#
```

191

```
# ISA BMP Matrix 2 calculation
```

192

```
matrix_2 = matrix_1 * nCOFI
```

193

```
#
```

194

```
# Reclassify and assign Risk Rating
```

195

```
if (matrix_2 <= 4):
```

196

```
return "Low"
```

197

```
elif (matrix_2 >= 6 and matrix_2 <=8):
```

198

```
#
```

199

¹ The file **RISK RATING CALCULATION HOUSTON_16MAY18.CAL** can be loaded into Field Calculator. File **RISK RATING CALCULATION HOUSTON_14MAY18.PY** is commented.



```
200         return "Moderate"  
201     elif (matrix_2 >= 9 and matrix_2 <=12):  
202         return "High"  
203     elif (matrix_2 == 16):  
204         return "Extreme"
```

205 See **20170901 UFST FGDB AND AGOL SUPPORT FOR DATA AND REPORTING (23OCT17 REVISION v1.7).PDF** for
206 calculation of Risk Rating (Page 13) and USNG (Page 15).