



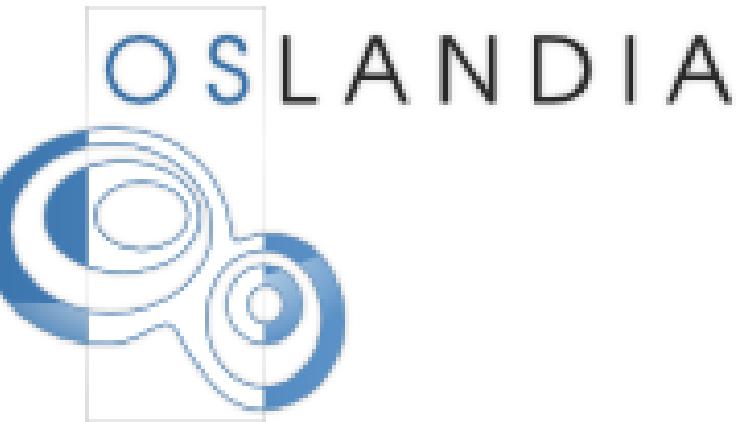
qWAT

Water distribution network management

Vincent Picavet
Oslandia



Oslandia



- «Pure player» OpenSource
- Since 2009 (O. Courtin + V. Picavet)
- 10 people (+30% / year)
- French company
- Various OS contributions :
PostGIS, SFCGAL, QGIS, Tempus,
TinyOWS, GDAL/OGR, PgPointCloud,
iTowns...



¿ qWAT ?

Water distribution network management
tool based on **QGIS** and **PostGIS**



What for ?

Manage assets for water network

Deal with maintenance

Manage evolution scenarios

Network analysis

Simulation



History..

Initial development by

Denis Rouzaud = 3nids = “el padre”
← End of Autocad / Topobase 2 support



Collaboration with other Swiss entities

Strategic decision : QGIS & tailored apps

Collaboration w/ Oslandia

Who's who ?

Project's pilots :



SIGE : Syndicat Intercommunal de GEstion
Water supply water, wastewater
~70K inh. // 600km water supply

Lausanne : ~100K inh.

Pully : 17K inh.

Morges : 15K inh



Oslandia :

Industrialization, tech expertise, dev,
Support, Community relations, consulting

Organization

Persons in charge in each city

QWAT org. Informal for now

Agile methodology

Monthly meetings

Denis Rouzaud = release manager

Informal PSC

Formalization whenever needed

Philosophy

Transparency & Openness

Genericity

Mutualization

Allow for specificities : adaptable

Pragmatism



Components

PostGIS

Data model
(Analysis)

QGIS desktop

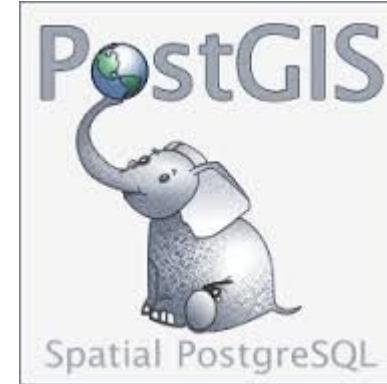
Strong use of native features
Project configuration(s)

QGIS Plugins

For anything specific
Prototyping & rapid development

Migration / import-export scripts

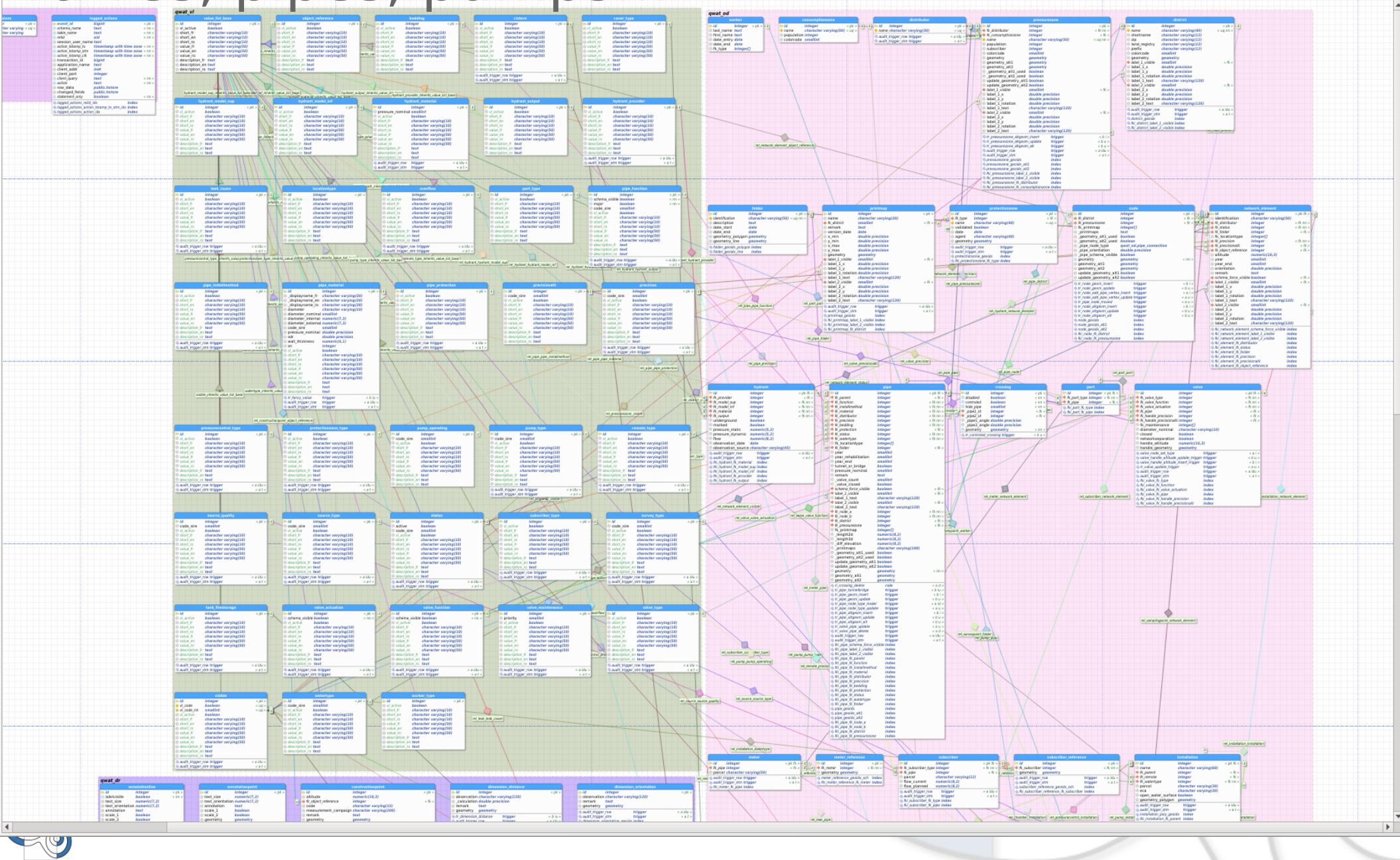
Topobase
SIRE



Data model

Node / arc

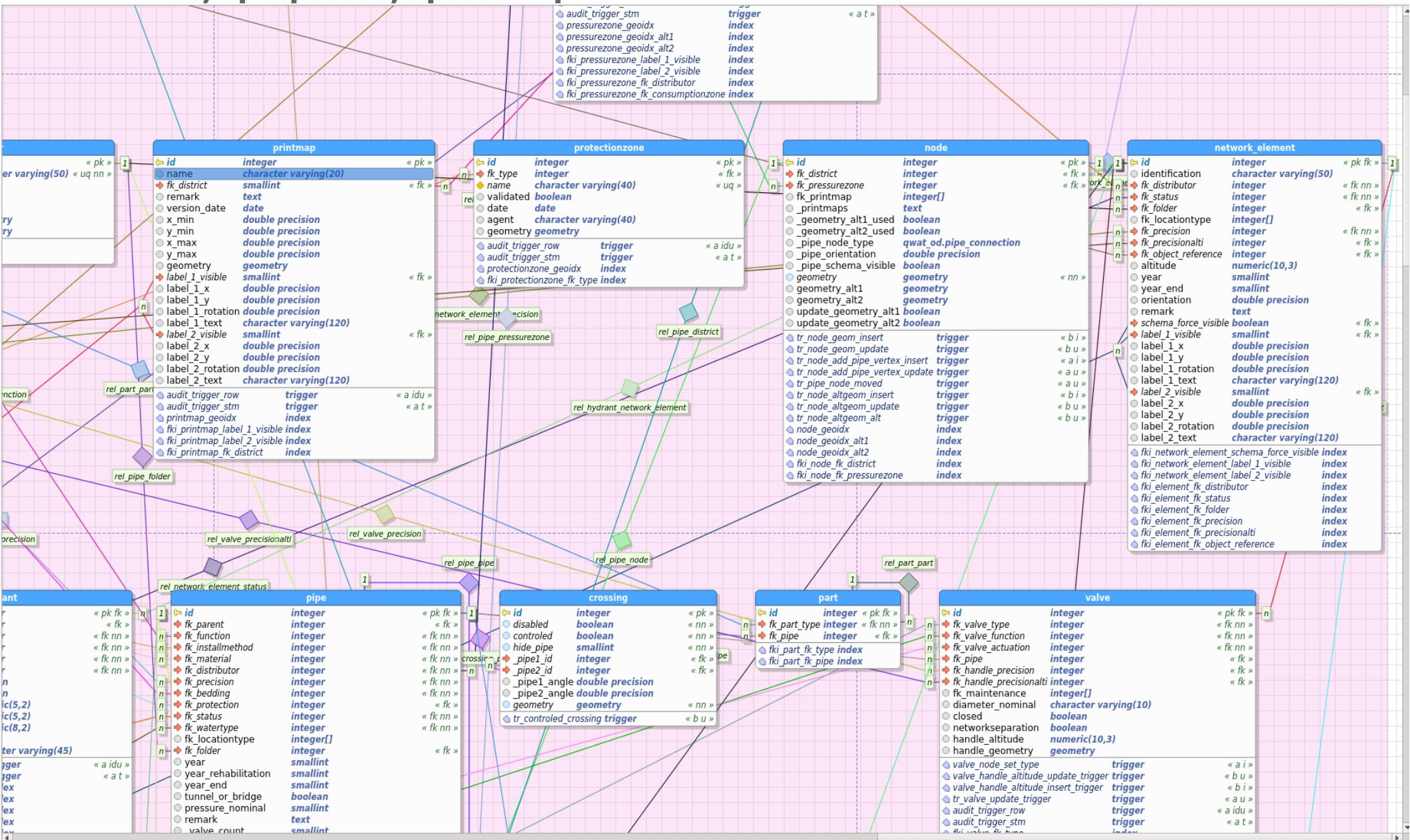
Valves, pipes, pumps...



Data model

Node / arc

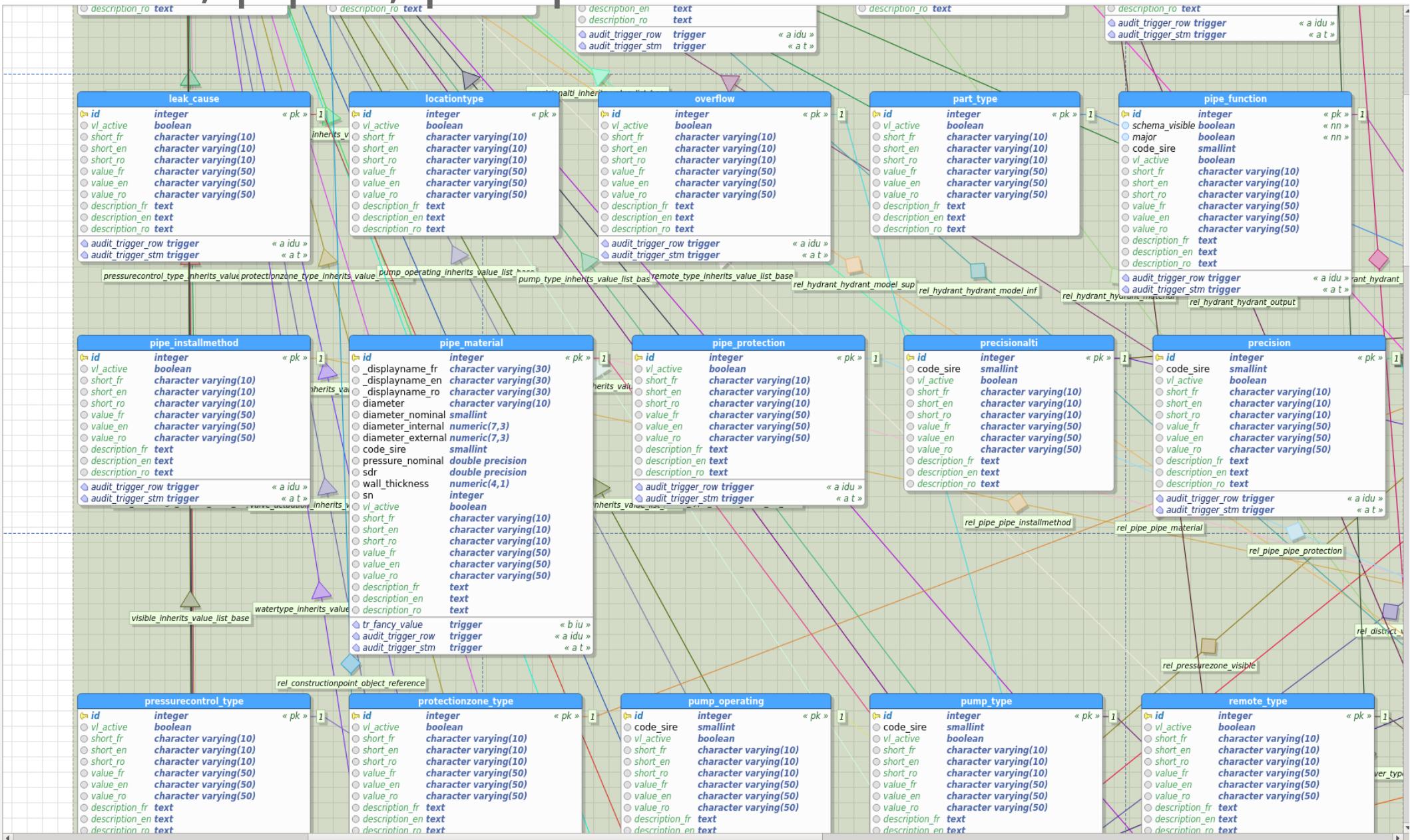
Valves, pipes, pumps...



Data model

Node / arc

Valves, pipes, pumps...



Data sample

Extract of a water distribution network

« Anonymapized » :

No divulgation of true location of things
.. but still usable for demo

All object types
PostGIS dump (for now)



Project Edit View Layer Settings Plugins Vector Raster Database Web Help

Layers Panel

- vannes
- hydrantes
- Pièces d'installations
- télécommande
- croisements
- ouvrage 5000
 - fuite
 - point de prélèvement
- Contrôle
- Schématique
 - impression
 - hydrantes 5000 (pression)
 - conduite impression 5000
 - vannes 5000
 - télécommande 5000
 - edition
 - conduites edition 5000
 - Flèche conduite enfant -> parent
- Annotations
- Côtes
- cadastre sigs

Identify Results

Feature	Value

Mode Current layer Auto open form

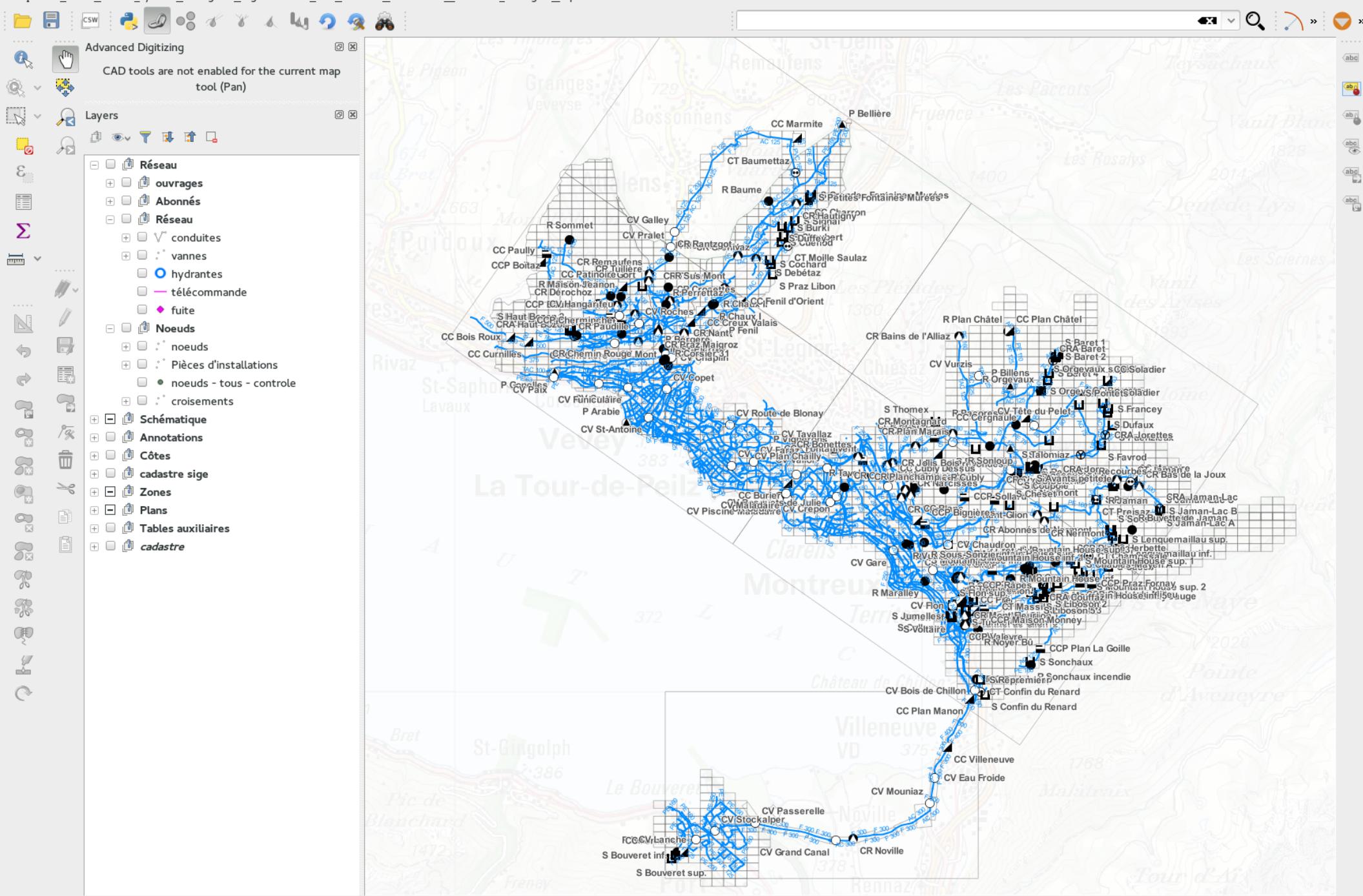
View Tree Help

Identify Results Browser Panel

Coordinate 541354,152482 Scale 1:5 439 Rotation 0,0 Render EPSG:21781 (OTF)

Some screenshots...







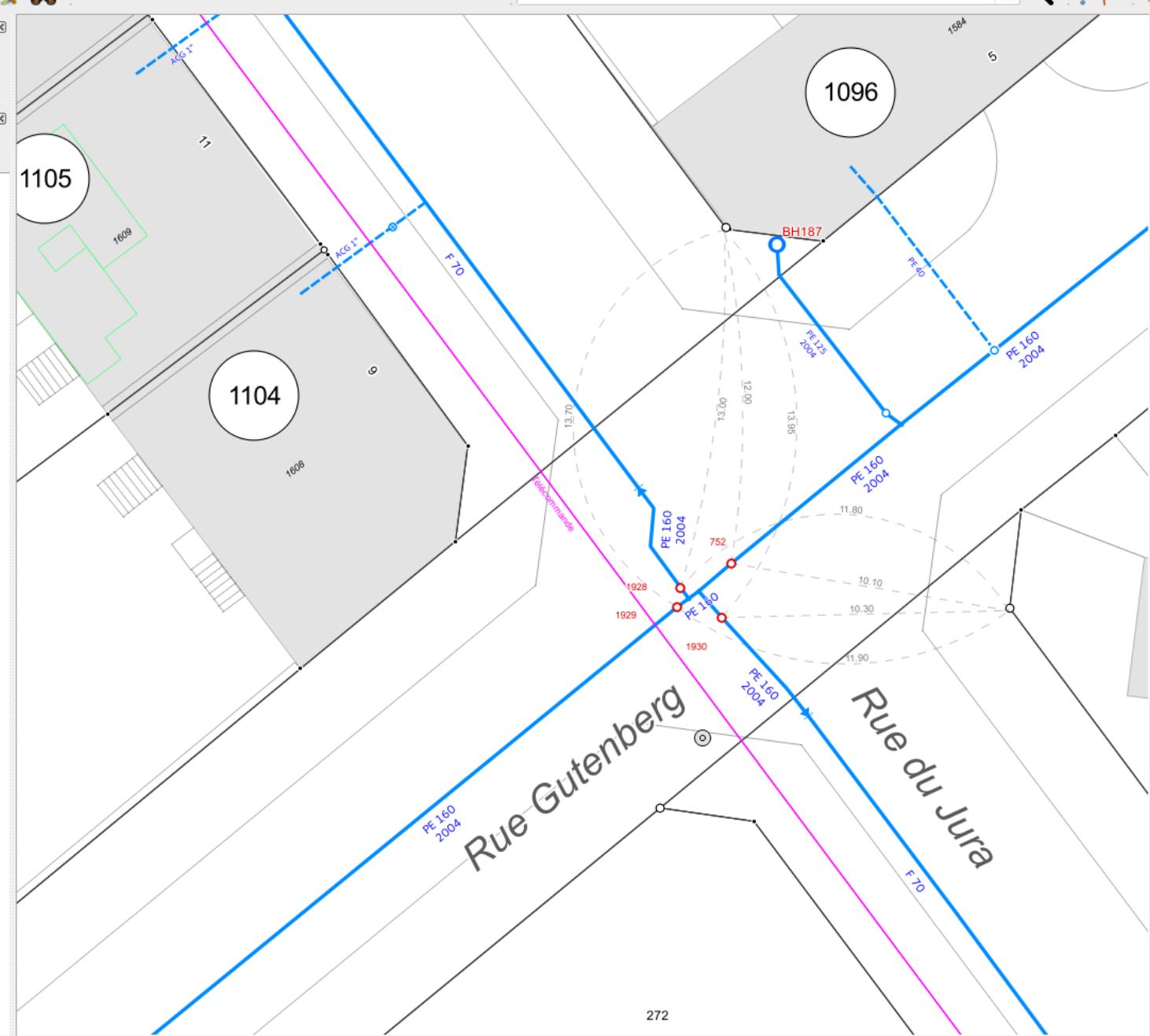
Advanced Digitizing

CAD tools are not enabled for the current map tool (Pan)



Layers

- Réseau
 - + ouvrages
 - + Abonnés
- Réseau
 - + conduites
 - + vannes
 - hydrantes
 - télécommande
 - fuite
- Noeuds
 - + noeuds
 - + Pièces d'installations
 - noeuds - tous - contrôle
 - + croisements
- + Schématique
- + Annotations
- + Côtes
- + cadastre sige
- + Zones
- + Plans
- + Tables auxiliaires
- cadastre



Actions

Général

Hydraulique

Géometrie

Rendu

Abonnés

Fuites

ID

12338

Distributeur

SIGE

Dossier technique

NULL

Année

NULL

Tunnel ou pont

Fonction

Conduite de distribution

Statut

en service

Matériau

F

70

0

Mode de pose

En fouille

Protection

(no selection)

Lit de pose

inconnu

Cancel

OK

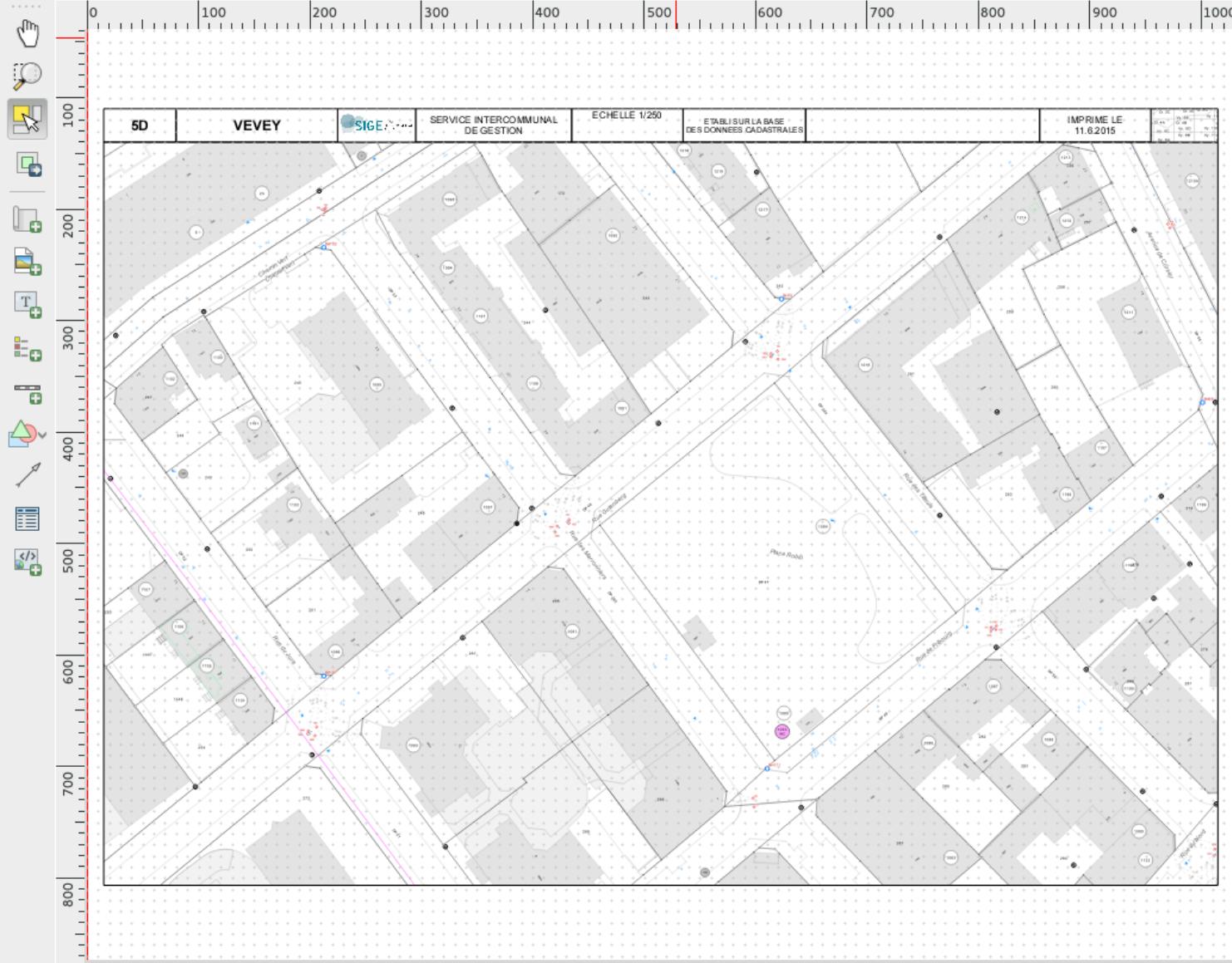


	id	identification	fk_distributor	type	fonction	fk_status	fk_precision	fk_precisionalt	entretien	amètre nomin:	année	fermée	tworkseparati	altitude	re
3367	18338	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	1.25"	2010 f		NULL	NULL	NULL
6581	8218	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	125	2003 f		NULL	NULL	NULL
7062	16649	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	1.25"	2006 f		NULL	NULL	NULL
7574	18566	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	NULL	2011 f		NULL	NULL	NULL
7575	18567	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	NULL	2011 f		NULL	NULL	NULL
8004	13616	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	NULL	1899 f		NULL	NULL	NULL
8124	18157	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	1.25"	2010 f		NULL	NULL	NULL
10228	15048	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	NULL	2005 f		NULL	NULL	NULL
12148	19077	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	2"	2012 f		NULL	NULL	NULL
13921	17657	NULL	SIGE	sprinkler	vanne bran...	en service	Inconnu	Inconnue	Ø	150	2009 f		NULL	NULL	NULL
14844	20004		SIGE	sprinkler	vanne bran...	en service	Précis	Inférieure à ...	Ø	1.25"	2014 f		NULL	NULL	NULL

fk_type v vanne clayton

Apply Case sensitive

Composer Edit View Layout Atlas Settings



x: 528.14 mm y: 0 mm page: 1 24.7% ▾

Atlas feature 1857 of 2052

Items Command history

Command history

<empty>

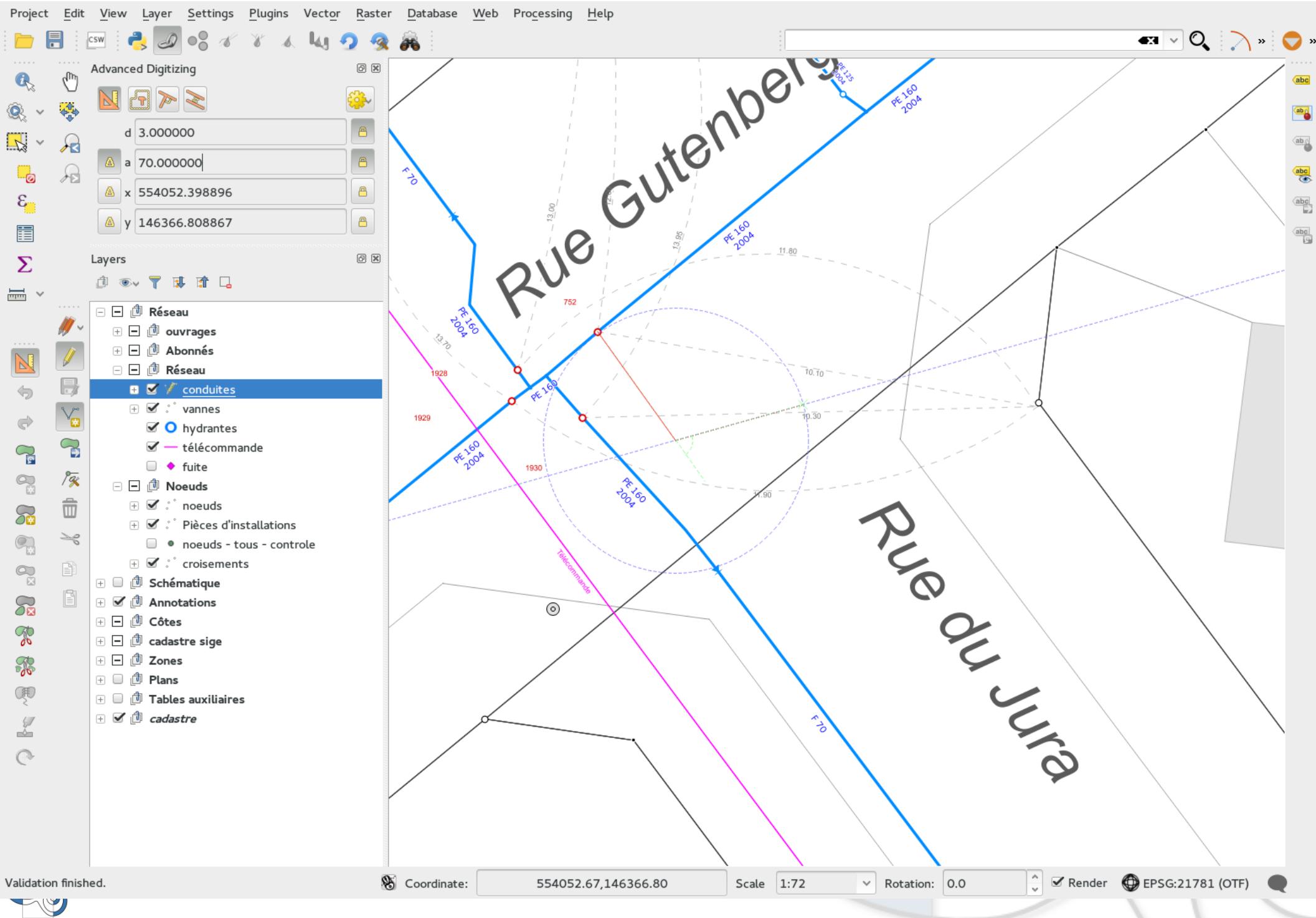
Composition Item properties Atlas generation

Composition

▼ Paper and quality

Presets	Custom
Width	1030.00
Height	914.00
Units	mm
Number of pages	1
Orientation	Landscape
Page background	Change...
Export resolution	300 dpi
<input checked="" type="checkbox"/> Print as raster	
<input type="checkbox"/> World file on	Map 1

► Guides and Grid



Rue du Jura

Contribution to QGIS core

Magnifier (DPI setting) // 2.16

Paul Blottière

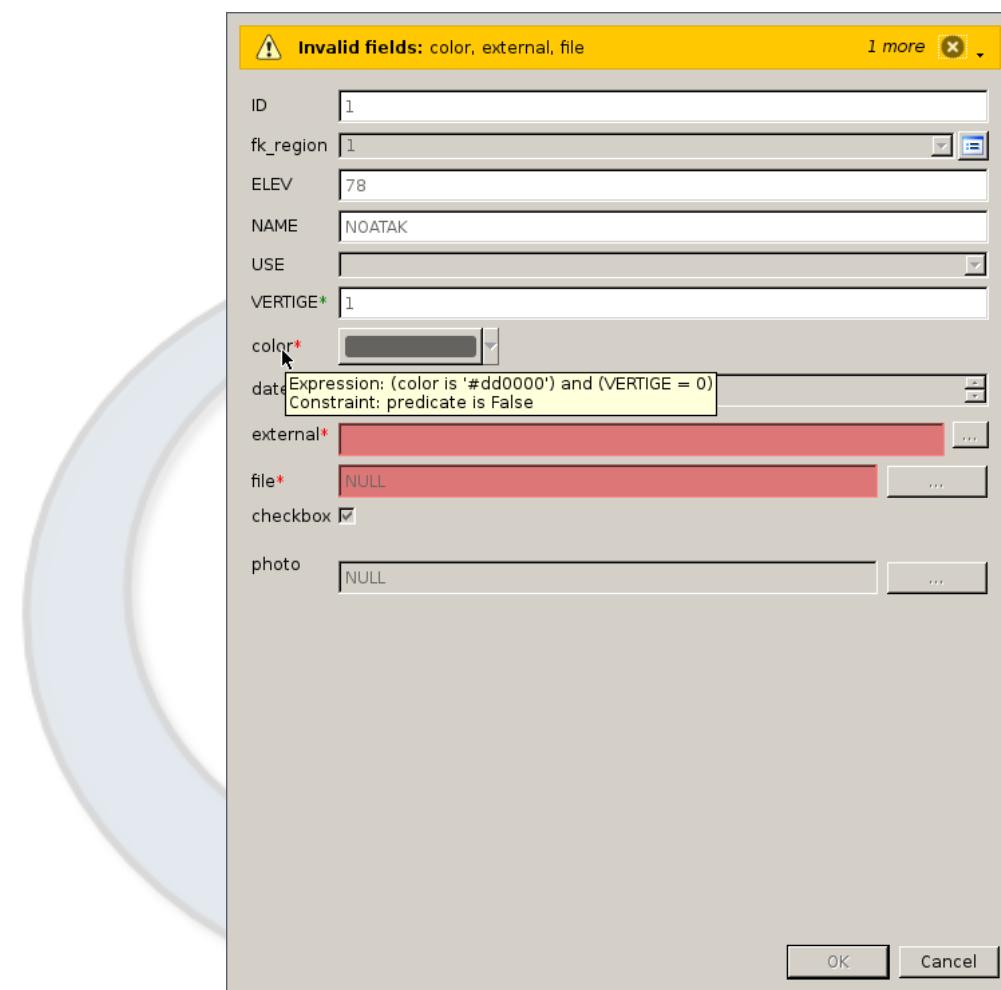
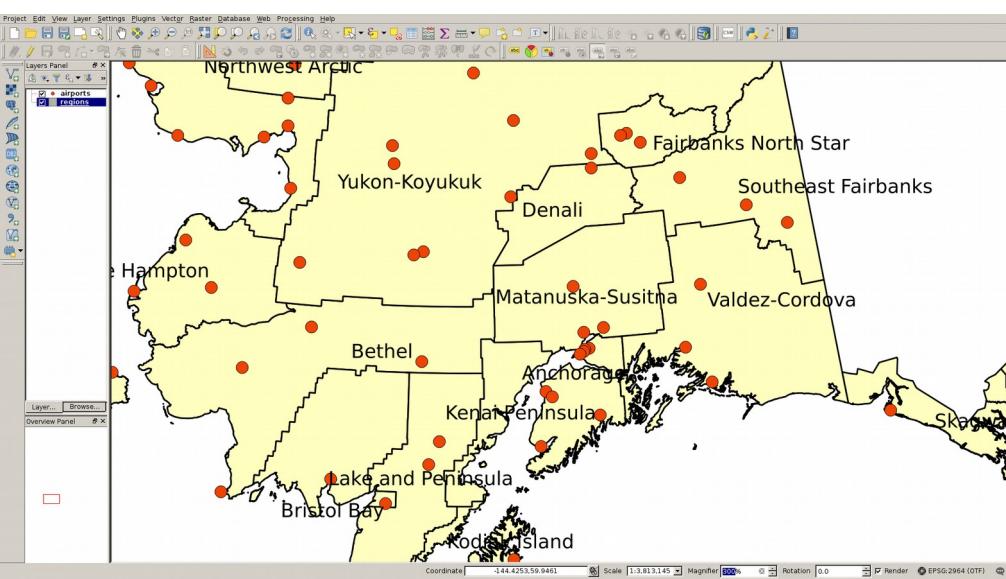
Constraints on fields // 2.16

Paul Blottière

DXF exports // 2.16

Jürgen Fischer

Bugfixes // 2.14, 2.16



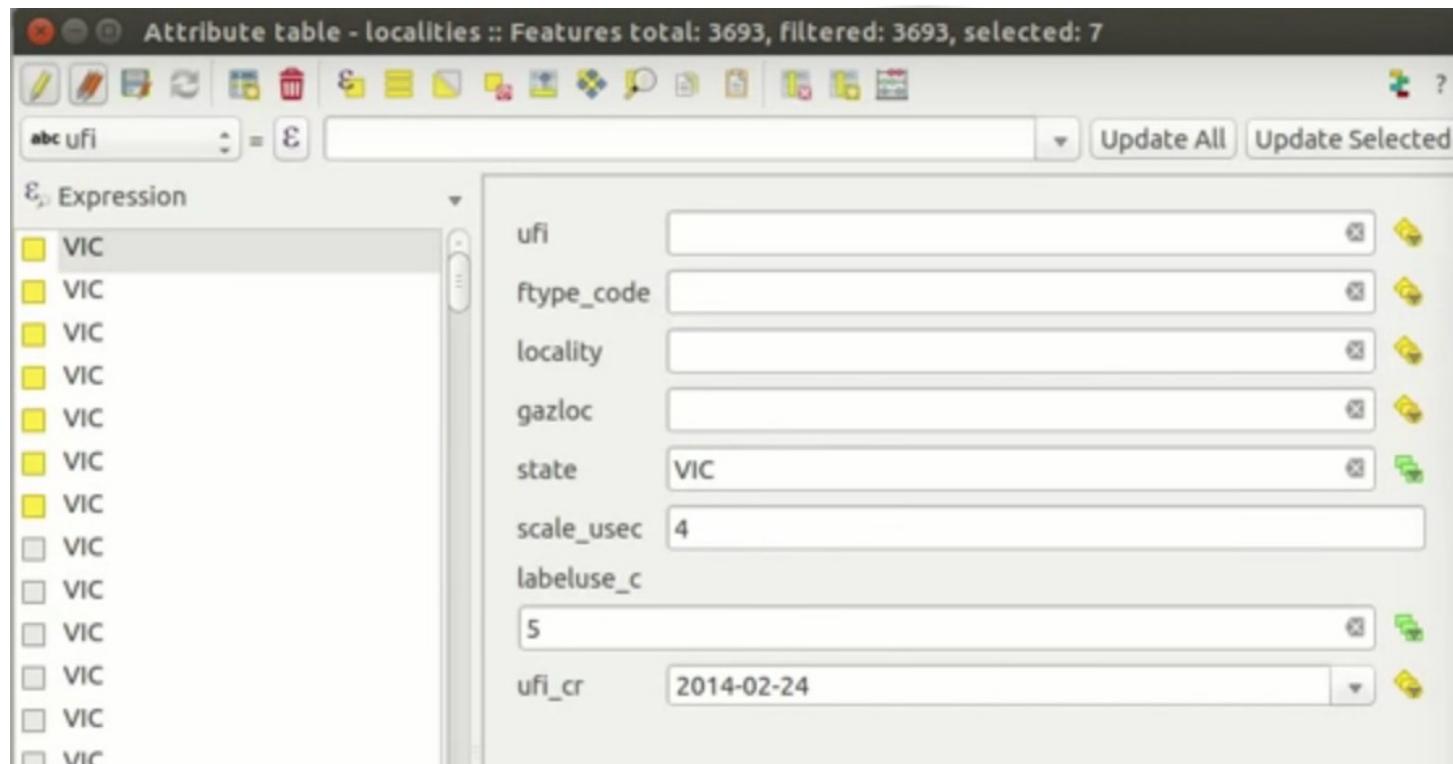
Other contributions

« Click-click » editing (Martin Dobias)

- different behaviour for nodes editing
- aka “freehand”
- starting point for constrained edits
- Plugin for now (core for 3.0 ?)

Other developments we use..

Mass-editing of features
Multi-attribute filtering
CAD/DWG support
Bugfixes



Current state

Version 1.0 released soon

Production at SIGE

Production at Pully

Core features ok for 2016

Lack some plugins and polish



What's next for qWAT ?

Improving robustness

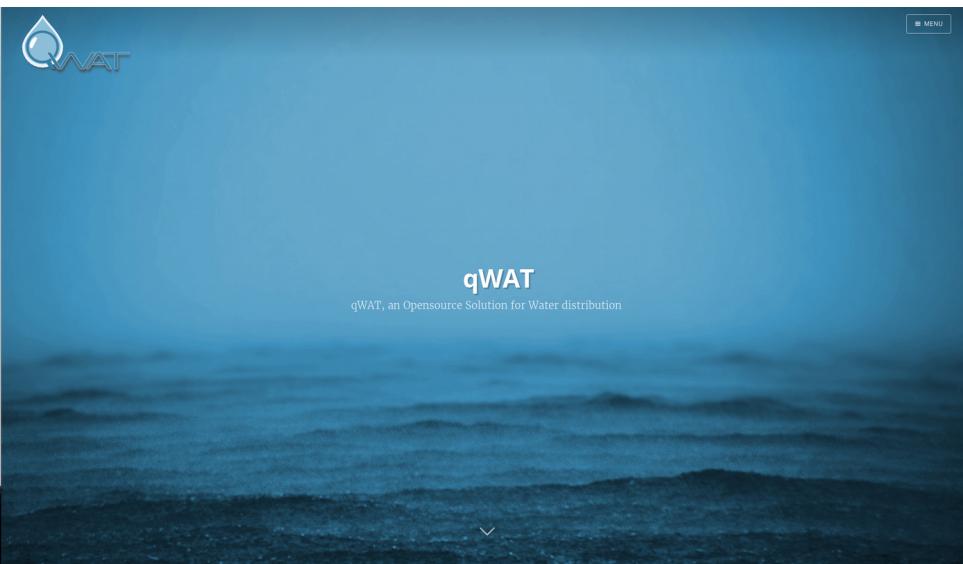
Simplify model rules

Metaproject

Tests & documentation

Website & Communication

Connection to other systems



A screenshot of the qWAT website. At the top, there is a navigation bar with a "MENU" button. The main content area features the qWAT logo and a background image of pipes. Below this, there are two sections: "Tools and functionalities" and "Components used". The "Tools and functionalities" section includes a "QGIS" icon and a brief description of QGIS as an open-source desktop GIS application. The "Components used" section includes icons for "PostgreSQL / PostGIS" and "PostGIS", with a detailed description of PostGIS as an open-source object-relational database system. A watermark of a green checkmark is visible across the page.

And after qWAT ?

Waste-water → QGEP

Gas distribution → TODO

Electricity network → TODO

.. others ?

Custom app dev should ease with time

Get in touch !



**Gràcies,
Gracias,
Merci,
Thanks,
Questions ?**



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<https://github.com/qwat/QWAT>

<http://www.oslandia.com>

Titulo

Primera parte
Otro punto

