SPECIFICATIONS FOR THE 2017 BIM COMPETITION

I- INTRODUCTION

II- DESCRIPTION OF THE SITE
1- Description
2- Information related to the site

III- PROJECT DESIGN PRINCIPLES
1- Program
2- Architectural, urban, and landscaping expectations
3- Technical expectations, BIM model

IV- DELIVERABLES
1- Time frames
2- Instructions
3- Languages
4- Renderings

V- CALENDAR

VI- AWARD OF PRIZES

VII- CONTACT

VIII- APPENDICES
1- Scope
2- Definition
3- OOP diagram
4- Excerpt from the Local Urbanization Plan regulation

I. INTRODUCTION

The 2016 BIM Competition's objective is to promote the indispensable method of BIM.

It is also the opportunity to engage in pedagogy: manufacturers, industry professionals, especially, as well as major players in the world of construction work alongside architects and architecture students in appropriating the BIM method.

II. DESCRIPTION OF THE SITE

1. Description

The site – with a surface area of 2.3 hectares – is located in the community of Saint-Prix (95). It is located at the approach to the point where rue d'Ermont and avenue Général Leclerc intersect. The urban fabric there is loose, occupied mainly by suburban constructions, intended for residential and commercial use.

Thus, buildings are built away from street alignment and at a distance from property lines, offering a morphology quite unlike that of central neighborhoods (such as an historic town center, where buildings are built in continuous order and in alignment with streets).

In the middle of this suburban fabric there is the E. Leclerc shopping center, which features a building that is low-lying and has a significant hold, surrounded by large parking areas.

The result is a space that is utilized, due to the concentration of businesses and activities, but lacks structure and urban coherence: public spaces are exclusively composed of roadways and parking areas, there are no city squares and the building types are not dense and do not provide any structure for public space.

There are several buildings at the site which offer an architectural interest, particularly the building known as the "Big Walnut", alongside avenue Général Leclerc, as well as the Notre Dame de la Vallée chapel on rue d'Ermont.

The character of the site's approaches equates to a suburban architectural style composed of houses spaced relatively far apart. These houses are composed of slanted roofs (generally saddle roofs) and are rather compact in volume The building materials frequently used are clear primer, stone, tile, and more rarely slate.

2. Information related to the site

The site has a surface area of 23,240m². Its expanse is as follows:

III. PROJECT DESIGN PRINCIPLES

1. Program

The 2017 edition of the BIM Competition offers candidates the opportunity to reflect on the center city of the community of Saint-Prix.

Candidates will need to design digital model informed with several residential and commercial buildings (refer to the "Architectural" section below) which will be integrated into a larger project for the creation of a new central area for the city (refer to the "Urban and Landscaping" section below).

The complete project should accommodate:

- 150 residences;
- businesses;
- facilities;
- parking areas;
- public spaces for pedestrian use;
- a small public square.

The **architectural part** is to be designed in an **informed digital model**. It will include residential and commercial buildings. The constructed area is approximately 15,000 m² ground surface area (12,000m² residences and associated spaces + 3,000 m² businesses) on the site destined for the project (2.3 Ha).

The **urban and landscaping part** involves reflecting on the organization of a new Saint-Prix town center (facilities, public spaces, various traffic routes) which will have to be **visible both in terms of general perspectives and a ground plan.**

The project in its totality should improve the urban functions of the neighborhood.

In the Local Urbanization Plan (LUP), this future town center is located within two sectors: a waiting area and an Orientation for Organization and Programming (OOP) (see definitions in the appendix).
The town center is designated a UAc zone in the LUP regulation (see appendix, excerpted from the regulation).

A. Architectural part

a) Residences

150 residences should be present within the project. They will be of various types and different sizes, divided into categories according to the table below:

TYPE	PERCENTAGE (%)	AVERAGE HABITABLE SURFACE AREA	NUMBER OF RESIDENCES	TOTAL HABITABLE SURFACE AREA (M^2)
1 ROOM	10	20	15	300
2 ROOMS	35	40	52	2080
3 ROOMS	35	60	53	3180
4 ROOMS	10	80	15	1200
5 ROOMS	10	100	15	1500
TOTAL	100	-	**150**	**8260**

The total floor space in the residences and the associated spaces is estimated to be about 12,000 m².

The building or buildings where residences are located should include the common spaces required for condominum habitation:

- One or more garbage collection sites,
- A space reserved for the concierge,
- One or more areas for storing strollers, separated or not from a space for parking bicycles,
- Utility areas for managing building energy and plumbing,
- Possible green spaces belonging to the condominium common areas,
- Spaces that can be utilized to address new practices for living and residing in shared spaces,
- Parking areas, ideally below ground, are to be provided to accommodate the needs of residents.

b) Businesses

The businesses will be intended to provide vitality for the new town center. They will be varied and will address the needs of the inhabitants (local businesses).

On site there are a certain number of small businesses and liberal professions that are already present. It will therefore be necessary to reintegrate them in order to preserve the life of the neighborhood:

- bakery
- pharmacy
- bank
- hair stylist
- garage
- restaurant
- doctors' offices
- veterinarian practice
- physiotherapy offices

In order to make the site more dynamic, candidates are strongly encouraged to include the following:

- a tobacconist/news agent
- a café/bar.

Other businesses may also be added to this non-exhaustive list.

Ideally, businesses will be located on ground level in order to ensure easy access and to ensure that there will be a distance between the parts of the program intended for more private usage, such as residences.

They will be more or less connected to the small public square according to the destination they represent, and they will be accessible to pedestrians or to motor vehicles according to their purpose.

The surface area to be devoted to businesses is estimated to represent about 3000 m², but this may be reduced or increased according to the ambitions of the project.

B. Urban and landscaping part

a) Small public square

The square should respond to the needs of the new central area of the city of Saint-Prix. It will provide space for interaction and for meeting to benefit the residents of the community.

It will be able to accommodate spaces like waiting areas, urban signage, water management, green spaces that may or may not be accessible, etc.

b) Facilities

The facility or facilities will be the subject of a reflection on the identity of the place, its placement within the site, and its programmatic coherence. Projects will be judged essentially on the perspectives achieved by the participants.

The program remains undefined and free in terms of proposals in order to render the new city center dynamic and attractive. Because the community already has a wealth of facilities, particularly sports facilities, the proposal should respond to a real need on the part of the inhabitants to avoid replicating existing programs.

Depending on their purpose, they may be intended for use by inhabitants directly on the site, or more generally for the residents of the town of Saint-Prix.

2. Expectations regarding architecture, urbanization, and landscaping

A. Expectations on the part of the jury – Criteria for evaluation

The jury will be composed of architects, representatives from the BIM world, and sponsors:

- Bertrand Delcambre, President of the Digital Transition Plan for the Construction Field;
- Pierre Mit, President of Mediaconstruct and Member of the Digital Transition Plan for the Construction Field;
- Jacques Lévy Bencheton, BIM Project Management Expert for the Sightline Group and Associate Architect and BIM Manager for the Brunet Saunier firm;
- Hélène Alonso, Marketing Supervisor for Sika;
- Nicolas Land, Agency Supervising Architecte for Louis Paillard Architecture and Urban Design;
- Jérôme Bonnet, BIM Group Manager for AIA associates;
- Éric Lebègue, Supervisor of CSTB Information Technologies Partnerships;
- Itaï Cellier, Architect, Founder and CEO of Polantis

The work submitted by each candidate will be evaluated according to **4 criteria**:

- **Program compliance** and expectations on the part of the city;
- **Architectural quality** and **mastery of project integration within the site**;
- That the **BIM methodology** is complied with and demonstrated;
- The integration of the **sponsors' products** in the digital model.

B. Architecture

The project should take into consideration the following architectural aspects:

- The construction will take into account the direct environment by integrating within it and by engaging in a dialogue with what currently exists there;
- In its architecture, it should be in accordance with the points of reference, such as the "Big Walnut" building (below), reflecting the historical character of the city as well as the “Hélène de Mongeroult” building, and its more recent architecture (below).

Therefore, it will be possible to borrow from or reinterpret their architectural language while creating a specific identity for the project.

- Building heights will not exceed three stories + attics
- An open architectural style will be preferred, allowing for visual and physical throughways.

To enrich the project and to prevent architecture that is too compact or monotone, candidates may utilize landscaping, leveling, excavation, embankments, backfilling, filling/emptying

C. Urban design and landscaping

The project design will focus on:

- The optimization of the property;
- The qualitative treatment of outdoor spaces, limits (transitional spaces between built and non-built areas and transitions between public and private spaces) and parking areas.

The layout of the site will allow for:

- The creation of a unifying public space in the heart of the sector;
- The integration of a landscaped space within this public space;
- The creation of planted boulevards, particularly along avenue du Général Leclerc, and along the new pedestrian axis created by rue d'Ermont and rue Albert 1e, and the connection of the valley's leisure space, which offers a large area of green space;
- Emphasis on the view of the Notre Dame de la Vallée chapel;
- The preservation of the buildings identified as having architectural interest in the graphic documents of the regulation (see "Big Walnut" and "Hélène de Mongeroult" buildings);
- The optimization of pedestrian traffic, bicycle traffic, and bus access (specifically, the "Général Leclerc" stop).

D. Environment

The goal of the project will be to ensure a healthy living environment by:

- Reinforcing or creating a greenway (aligning trees, landscaped areas) and water features (water management);
- The buildings should be designed to address sustainable development standards
- Innovative construction techniques to ensure the comfort of the inhabitants and users will be valued.

3. Technical expectations, BIM model

A. Basic mandatory information

Because the objective of the BIM competition is to create an informed digital model and to evaluate in particular the proper creation and usage of the possibilities that BIM offers, candidates will be asked to provide a certain number of quantitative information/nomenclature according to the following batches:

Batch number	Name
Lot 01.	Civil works, demolition, masonry
Lot 02.	Roofing – Sealing - Covering
Lot 03.	Wainscoting – Insulation – Dropped ceiling
Lot 04.	Exterior woodwork – Interior woodwork
Lot 05.	CVC - CFO CFA– Home automation
Lot 06.	Plumbing
Lot 07.	Locks – Metalworking
Lot 08.	Painting – Floor covering

Room nomenclature will also be requested.

See: Basic information to be included in the deliverables.

B. Integration of sponsor objects

Lumicène	**10% of residences**
Akzonobel	500 m²
La Toulousaine	10 m
Reckli	500 m² facade
Horizal	100 m
Lafarge	100 m
Coferming	10 objects
Isover	50 m
Placo	50 m
Weber	20 m
Velux	20%
Sika	1000 m²

IV. DELIVERABLES

1. Time Frames:

Renderings required before March 15, 2017 at midnight (Paris time) via wetransfer at this address: bimcontest@polantis.fr

2. Restrictions:

Non-compliance with the prescriptions presented below may in such cases and by decision of the jury, result in a default elimination of the team. Also, candidates are strictly forbidden from revealing elements of the project (including visual elements, models, digital models, and notes of intention) prior to revealing the names of winners on the evening that prizes are awarded.

Respect for anonymity and required notations. The title of the project should be included on the panels and on the explanatory note. A code is assigned at the time of registration. The jury will identify the project by use of this code.

3. Languages:

The panels and the explanatory note may be written in French or in English.

4. Renderings:

- 2 A0 panels
- 1 note of intention with respect to the project
- 1 digital model in IFC format
- 1 "Informational" data base to be completed (based on the matrix provided)

A. Details on 2 A0 panels:

Please note: candidates should ensure that the size of the PDF is not excessively large: do not exceed 10 mo per panel.

2 A0 horizontal project panels

- The first panel is composed of the following graphic illustrations: Ground Plan, Axonometric view(s) representing the project, Major Plan(s), Elevation(s), and Cross-Section(s)

- The second panel is composed of four images (synthesis, rendering, or collage) of the project. All of the graphic and presentational documents should possess a graphic scale. The orientation should be specified on all plans.

Technical characteristics:
PDF Format;
Horizontal A0: L 1189 mm x H 841 mm
Resolution : 150 dpi
In the upper left corner: a box of L 60 mm x H 40 mm includes the code assigned to the candidates during the registration of the team.
In the upper right corner: numbering from 1 to 2;
The placement of the proposal title and the formatting are up to the candidate's choice.
It is the responsibility of each candidate or team of candidates to ensure that the graphic representation of his/her project states that it willingly authorizes its reproduction in subsequent publications.

B. Note of Intention specifics:

1 explanatory A4 note.
A 2500 sign text (including spaces) which presents the content of the projects while highlighting the innovative nature of the program proposed, the BIM company procedure, and the project for the rest of the terrain.
Technical characteristics:
PDF format;
Horizontal A4: L 297 mm x H 210 mm
In the upper left corner of the page: a L 60 mm x H 40 box with the registration number.

Technical characteristics:
PDF Format;
A4 L 297 mm x H 210 mm
In the upper left corner of the page: a L 60 mm x H 40 mm box with the registration number.

C. Digital model details:

Level of details (LOD): 200.
Mandatory IFC format.

D. "Information" Base details:

An "information" base in .xls format to be completed according to the matrix provided.
It is of capital importance that this base of information is fully completed in order for the jury to analyze the quality of the model, the building's performances, and comprehension of the BIM methodology.

V- CALENDAR

- Official launch of the competition and opening of registration: October 17, 2016.
- Closing of registrations: 5 March, 2017 at midnight.
- Project rendering: 15 March, 2017 before midnight.
- Preselection of files and verification of files of those preselected by the CSTB, study of the files by the jury for consultation and final deliberations, from March 16 to March 22, 2016.

- Evening when prizes are announced: April 27, 2016

VI- AWARDS

The winning project will receive a prize in the amount of €10,000
The second-place project will win €5,000
The third-place project will win €2,500.
The 3 prize-winning teams will each receive 1 "BIM and Digital Monitoring" (Eyrolles Publishing - CSTB).
The 3 prize-winning teams will also each receive 1 FinalCAD software program.

PROVISIONS THAT ARE SPECIFIC TO THE UA ZONE

The UA zone is divided into five sectors: UAa UAb UAc UAd and UAe.

The UAc sector includes:

- The Orientations for Organization and Programming, no°1, 2 and 3, presented in part n°4 of the LUP file and spelled out in the graphic documents of the regulation. The occupation and use of the surface area of this perimeter will need to comply with the LUP rules and the orientations contained in the OOP;

UA2. OCCUPATIONS AND USES OF THE SURFACE AREA

Any program to construct housing that includes more than 12 residences, or greater, will include a minimum of 30% of subsidized housing, acknowledged as such by legislation in force.

Constructions intended for commercial use, provided they are located on the ground floor of a building featuring residences or offices on upper floors and:

- That their surface area does not exceed 300 m²;
- That they allow from the front a direct access to these residences or offices.

Constructions intended for artisanal activities, provided they are a work space for an artisan and they are situated on the ground level and:

- That their floor surface area does not exceed 150 m²;
- That dangers and annoyances can be dealt with in a satisfactory fashion with respect to the current environment of the area where they are located

UA3 - ACCESS

ACCESS

To be eligible for construction, a land area should have access to a route open for automobile traffic and should be properly viable, of a minimal width of 5 meters.

UA4 - NETWORK SERVICES

SPACES SET ASIDE FOR HOUSEHOLD WASTE

These spaces and areas set aside for waste should have access to public space or should be accessible via a usable pathway.

For buildings intended to include 2 or more residences, one or more spaces should be created for household waste, including a minimum floor space of 10 m² for 10 residences. This surface area will be increased by 4 m² for every 10 additional residences.

For buildings intended for mixed use of activities and residences, an independent trash site should be organized for the areas of activity. This location will be sized according to the activity which produces the most waste.

UA6 - INSTALLATION WITH RESPECT TO ROADWAYS AND PUBLIC ACCESS

In the UAc sector:

Constructions will be placed in the graphic indentation on the graphic document, document 5.2 of the LUP on all or part of the construction facade or gable or set back from it.

If there is no graphic indentation, constructions will be located in alignment with roads and public access along all or part of the construction facade or gable, or set back from them. If they are set back, they will be set back at a distance at least equal to 3 meters.

UA7· LOCATION WITH RESPECT TO THE SEPARATION BOUNDARIES

In the UAc sector:

Constructions will be located on one of the two separation boundaries ending at the service access space (roadway or public access) or set back.

With respect to other separation boundaries, constructions will be set back.

When constructions are to be set back, the margin of distance with respect to all of the separation boundaries will be at least equal to the height of half of the construction facade (L=H/2), with a minimum of:

- 3 meters if the construction facade includes an opening;

- 2.5 meters if the facade is blind, includes an inside window, or an access entry,

Facilities and constructions necessary for public services or municipal needs will be located at the separation boundaries or set back at a minimum by 1 meter,

Annexes to the main construction will be located on the separation boundary or set back at a minimum by 2.5 meters.

The margin of distance for construction of an outdor pool will be at a minimum 3.5 meters with respect to the separation boundaries.

UA8· POLICY WITH RESPECT TO HOW CONSTRUCTIONS ARE BUILT NEXT TO ONE ANOTHER ON A SINGLE PROPERTY

There are no rules with respect to installations and constructions required for public services and municipal needs,

UA9. GROUND LEVEL ACCESS

In sectors **UAa, UAb and UAc**:

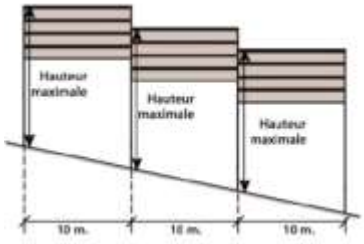
Ground level access for all types of construction shall not exceed 50% of the surface area of the land unit.

Throughout the entire zone:

No rules are set for:

Installations and constructions required for public services and municipal needs;

The layout of a building existing on the date of approval of the present LUP exceeding authorized access to ground level.



UA10 - MAXIMUM HEIGHT

Construction height is measured from the natural ground up to the highest point of the building, not including technical works, chimneys, and other superstructures.

In the event the land is sloped, the maximum height will be measured from the natural ground perpendicular to the construction up to the highest point, by 10 meter sections, in compliance with the diagram opposite.

In the **UAc sector**:

The maximum height of the constructions is set at:

10 meters at the roof ridge for roofs whose slope is greater than or equal to 35°;

8 meters at the parapet for terrace roofs or at the roof ridge for roofs whose slope is less than 35°.

In sectors that are the object of the n°1, n°2, and n°3 organizational orientations listed in document n°4 of the LUP file and defined in the graphic documents of the regulation:

The maximum height of the constructions is set at:

13 meters at the roof ridge for roofs whose slope is greater than or equal to 35°;

11 meters at tge parapet for terrace roofs or at the roof ridge for roofs whose slope is less than 35°.

Throughout the zone:

An occasional increase in height, not to exceed 10% of the construction, will be authorized for architectural reasons.

Any extension due to an increase in height of an existing construction will be realized in harmony with the urban landscaping in which it will take place.

The maximum height of construction annexes separated from the main construction will be set at:

4 meters at the ridge roof in case of a two-slope roofing that is greater than or equal to 35°;

2.50 meters at the parapet for terrace roofs or roofs whose slope is less than 35°.

Perpendicular to the separation boundaries, the height of the annexes is limited to 2.30 meters.

In addition, when there are two constructions, whether or not they are adjoining, the height of one of the constructions as compared to other should not create a level change that is too abrupt, and it should harmonize with the overall setting.

Height should be defined provided that it integrates with the immediate and distant surroundings.

The rules above do not apply for:

Constructions and facilities that are necessary for public services and municipal needs when technical specifications require them;

The layout and extension of an existing construction provided that its height remains unchanged.

A11 - EXTERIOR APPEARANCE AND LAYOUT

2 – LAYOUT OF THE CONSTRUCTIONS' SURROUNDINGS

Fences

Throughout the zone

Should fences be included, the total height of the fence should not exceed 2 meters.

There should be full garage doors, in wood or painted metal.

Throughout the UA zone:

There are no rules set for constructions and facilities required for public services or municipal needs.

UA12 - PARKING

1· PRINCIPLES:

Parking for vehicles corresponding to construction and facility needs will be provided off the public roadways.

Parking areas will be built for any construction or facility on the operation's own land and according to the standards set forth in this article.

When the permit holder or the holder of the certificate of non-opposition to a prior declaration can not satisfy such obligations on its own land, it may apply the provisions of article L. 123-1-12 of the urban development code.

These requirements apply to any transformations or changes of destination with or without extension.

Average parking surface will measure 25 m² per space, including clearance. Each space in a parking lot will adhere to the following minimal characteristics:

- Length: 5 meters
- Width: 2.50 meters and 3.30 meters for spots reserved for People with Reduced Mobility
- Clearance: 6 x 2.50 meters

2- NUMBER OF SPACES

Constructions intended for habitation:

In the scope of the OOPs

2 parking places minimum will be created per residence larger than 3 rooms.

1 parking place per residence will be created for residences less than or equal to 3 rooms.

Bicycle parking in constructions intended for habitation:

For multi-family residences up to two main rooms, a surface area of 0.75 m^2 per residence will be reserved and laid out for bicycle parking, with a minimum surface area of 3m².

For multi-family residences with more than two main rooms, a surface area of 1.5 m^2 per residence will be reserved and laid out for bicycle parking, with a minimum surface area of 3m².

The space reserved for secured bicycle parking should be enclosed, covered, and lit. The space should provide direct access to roadways or to a path for use by bicycles, or should open directly onto the hall, with a ramp whose maximum slope is 12%. Use of this space will be strictly limited to bicycles.

Constructions intended for commercial use:

For constructions less than or equal to 100 m² floor space, no rules are set.

For constructions between 100 and 200 m² floor space, at least 2 parking spaces will be created.

For constructions greater than or equal to 200 m² floor space, at least 3 parking places per 50 m^2 section of floor space will be created.

Bicycle parking:

For constructions exceeding 500 m² floor space, an area reserved and laid out for bicycle parking will feature 1 parking space for every 10 employees.

The space reserved for secured bicycle parking should be enclosed, covered, and lit. The space should provide direct access to roadways or to a path for use by bicycles, or should open directly onto the hall, with a ramp whose maximum slope is 12%. Use of this space will be strictly limited to bicycles.

UA13 - OPEN SPACES - PLAY AND LEISURE AREAS - ORNAMENTAL HORTICULTURE

1- OPEN SPACES:

In the UAa and UAc sectors:

Spaces of open ground will represent a minimum of 10% of the real estate.

Planted areas will represent a minimum of 30% of the real estate.

These rules do not apply to constructions intended for commercial purposes, offices, and artisanal activities.

In the sectors that are the subject of the layout orientations and programming orientation no. 1, 2, and 3 located in the graphic documents, document n05 of the LUP:

The principles for creating landscaped spaces and public space listed in the organizational diagrams must be respected.

2- ORNAMENTAL HORTICULTURE:

Throughout the zone:

Open spaces that are not built on and are not occupied by parking areas or by play and leisure areas will have ornamental horticultural features on a minimum of 70% of their surface areas and will include at least one tall standard tree for every 50 m².

Horticultural features existing prior to the approval of the building permit, outside of the ground area of the construction project will be maintained or replaced by indigenous horticultural features that are adapted to the bioclimatic conditions, in a number and surface area that is at least equivalent.

Parking areas including more than four spaces will have at least one tall standard tree planted per 50 m² of the surface area assigned for this usage.