

# ASSAINISSEMENT DE FENÊTRES

APPROCHE ARTISANALE & NOUVELLES TECHNIQUES

FORUM ENERGIE + PATRIMOINE

catarina.wall@epfl.ch

EPFL

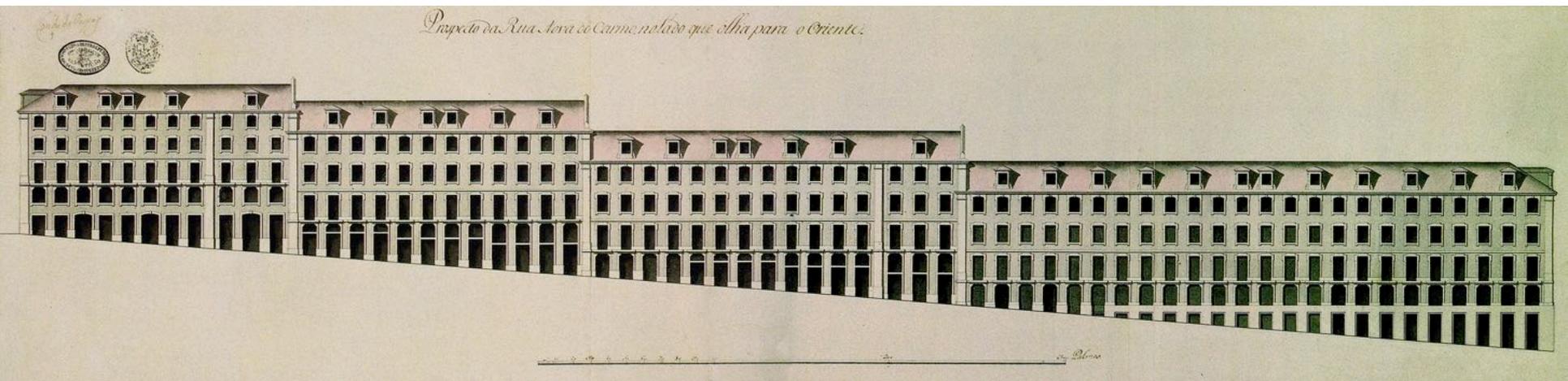




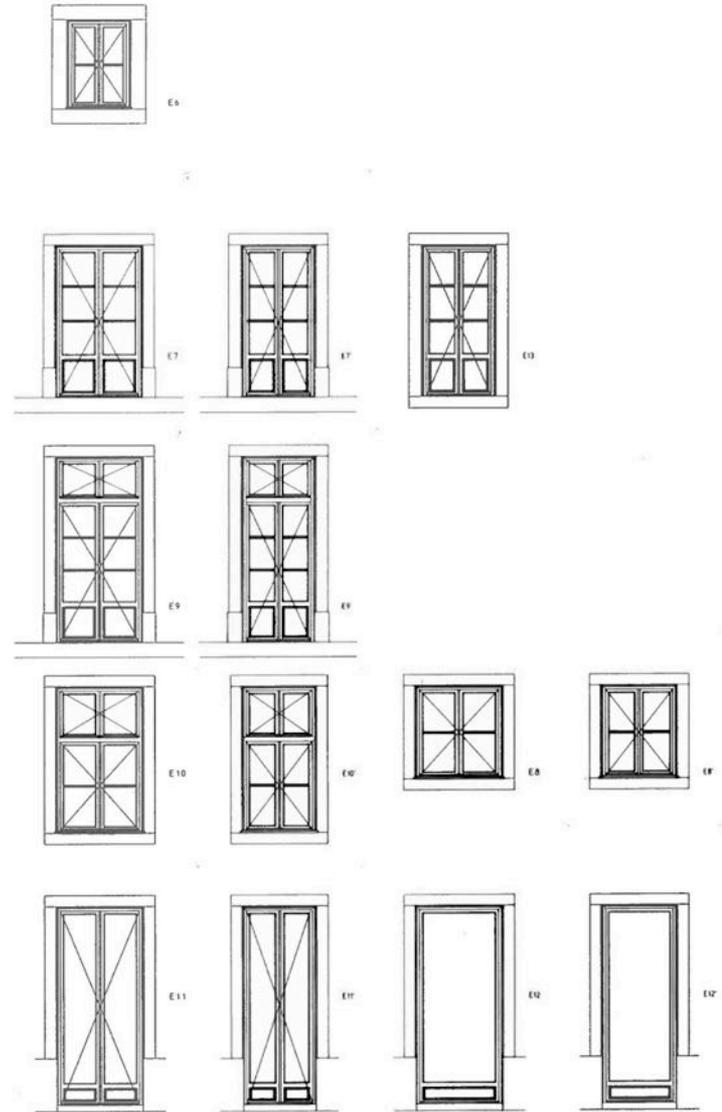
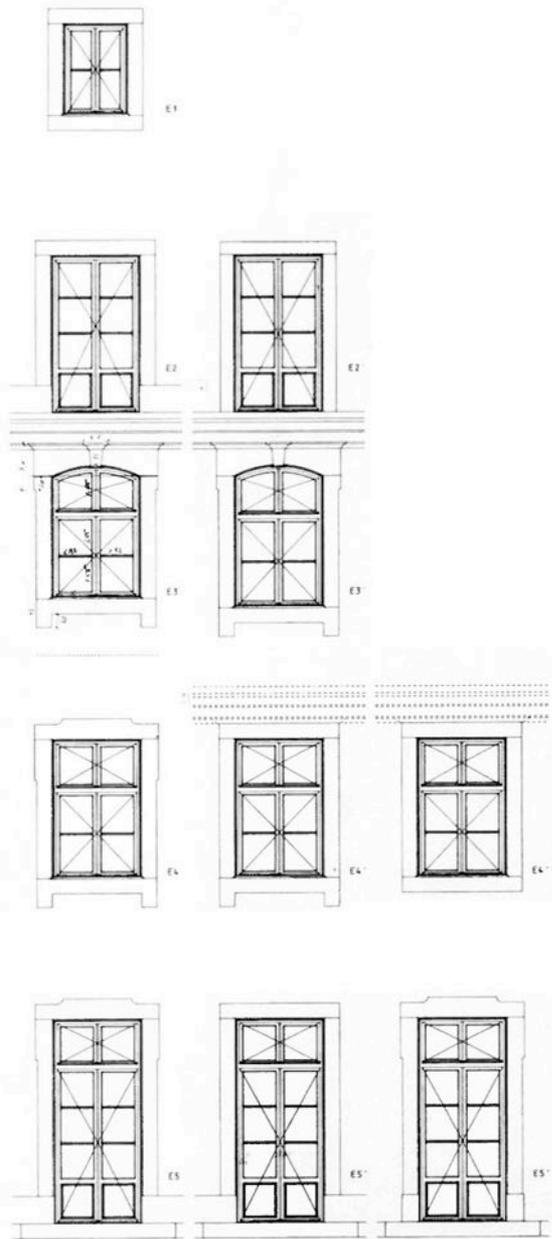
*Incendio, Chiado, Lisboa, 1988*  
(In Siza (2013))



*Chiado, Lisbonne, XIXème siècle*  
(In Tostões, Rossa (2009))



*Chiado, Projet pour la Rua Nova do Carmo, ca 1760*  
(In Tostões, Rossa (2009))



*Proposition pour la rénovation, Chiado, 1989*  
 (In Siza (2013))



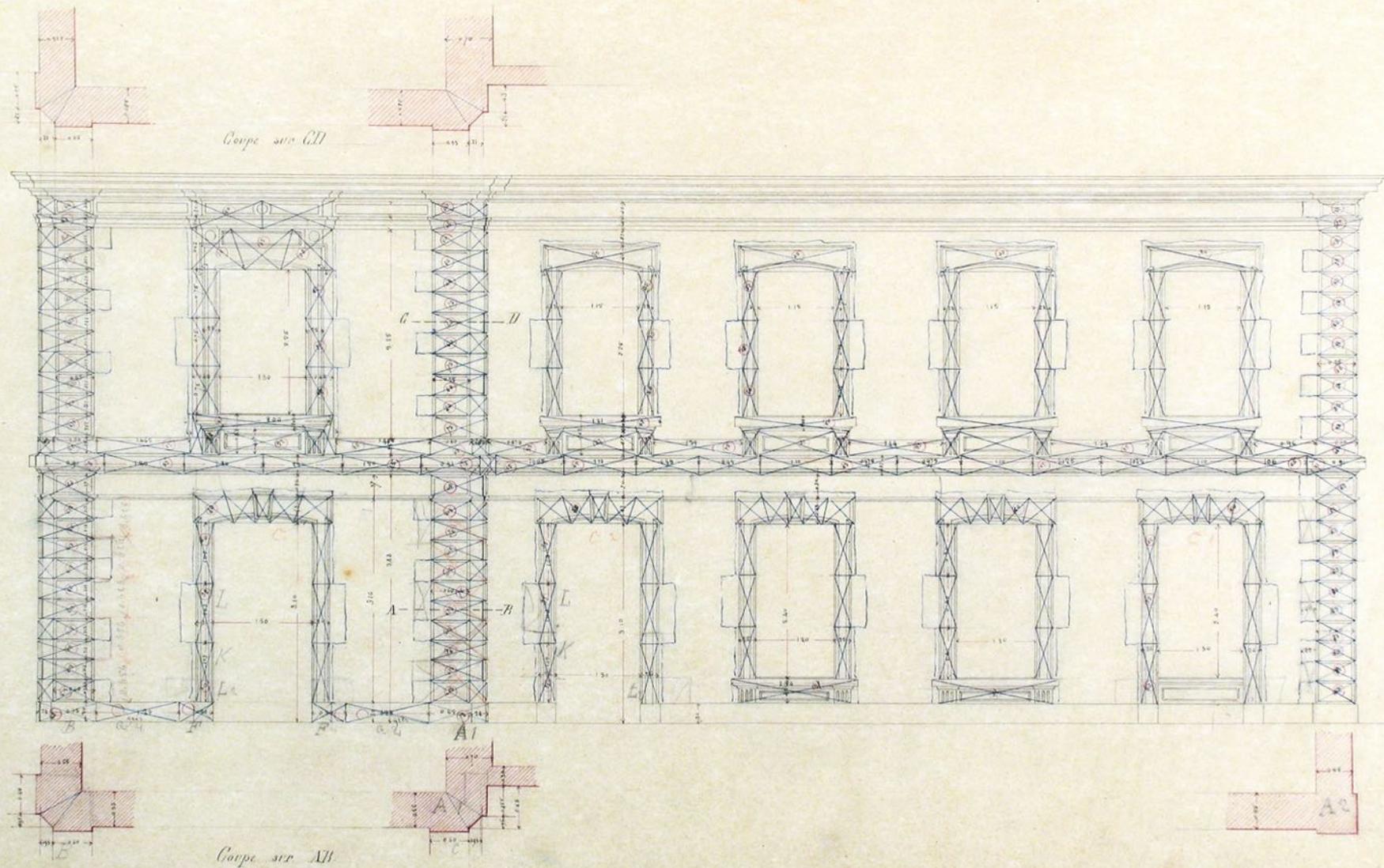
CHIADO  
EM DETALHE  
IN DETAIL  
ÁLVARO  
SIZA

*Proposition pour la rénovation des fenêtres, Chiado, 1989*  
(In Siza (2013))



1104 Genève Ecole des Beaux Arts & Musée du pont de St Antoine  
5 Décembre 1901  
primaire & emplacement du  
3835  
D.T.

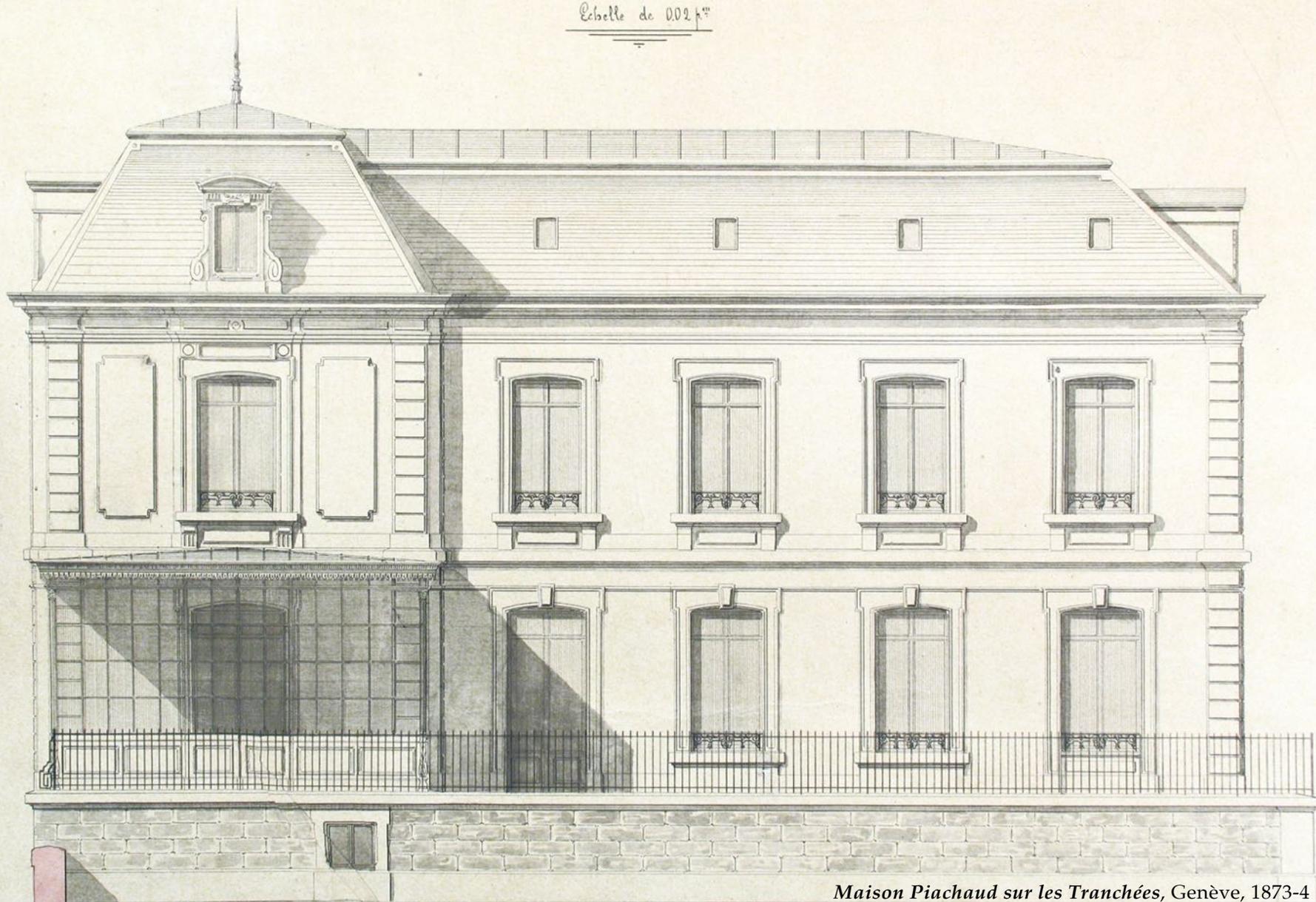
Chantier, boulevard Emile Jaques-Dalcroze, Genève, 1901  
(BGE CIG - VG 853)



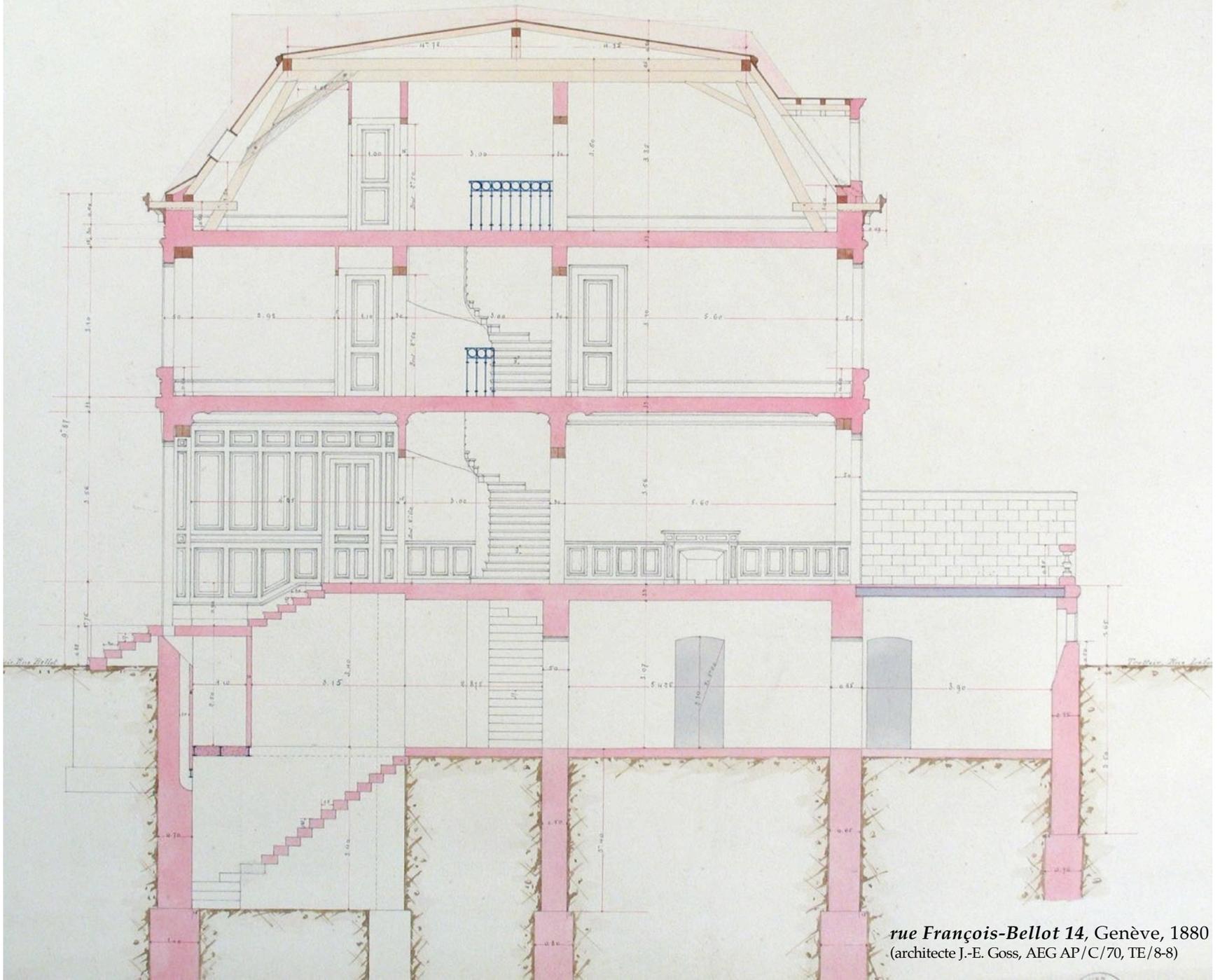
MAISON DE M<sup>r</sup> PIACHAUD

FACE SUR LA TERRASSE

Échelle de 0.02 m<sup>m</sup>



*Maison Piachaud sur les Tranchées, Genève, 1873-4*  
(J.E. Goss, AEG 194/A/39)



*rue François-Bellot 14, Genève, 1880*  
(architecte J.-E. Goss, AEG AP/C/70, TE/8-8)



*Intérieur d'appartement*, Genève, avant 1823  
(Auteur inconnu, BGE - CIG, VG 2564)



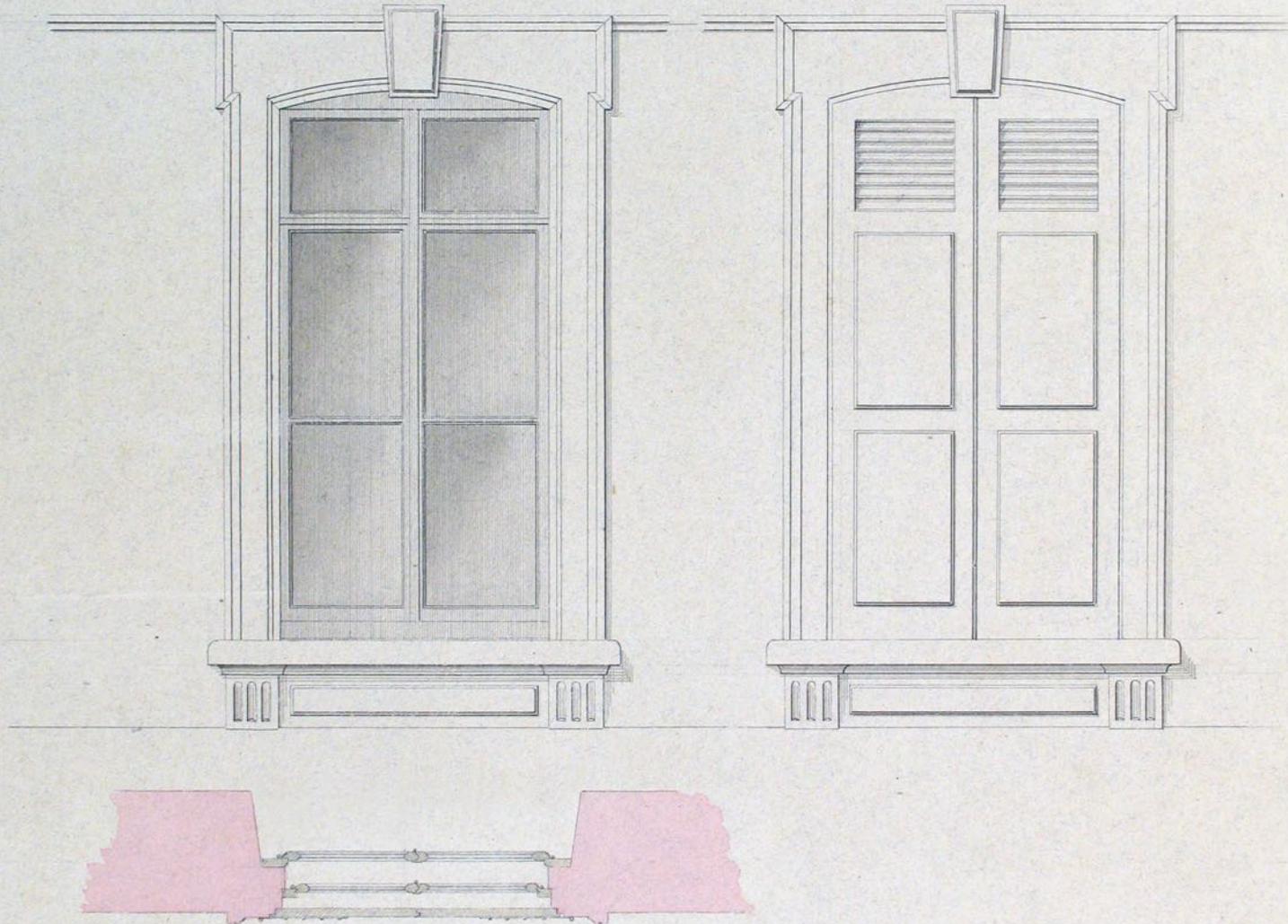
# ASSAINISSEMENT DE FENÊTRES

Immeubles d'habitation 1850 - 1920

*Assainissement de fenêtres: Immeubles d'habitation 1850-1920*  
Luca Ortelli, Pierre Zurbrügg, Catarina Wall Gago, Georgine Roch

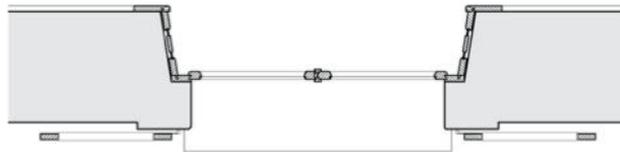
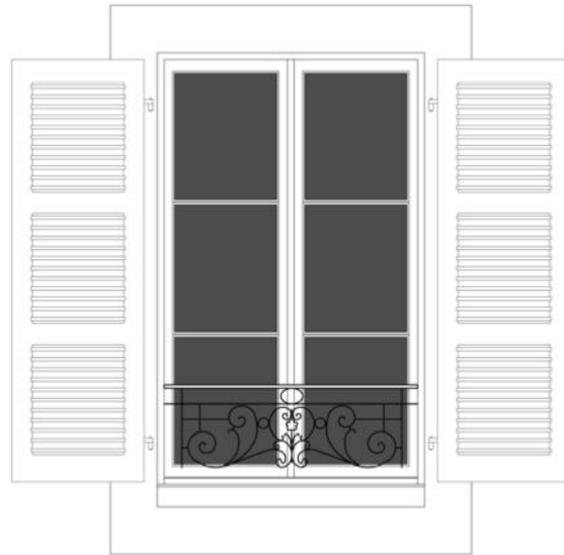
# 1

## Fenêtres anciennes



# FENÊTRES ANCIENNES

## 1 | Fenêtre simple

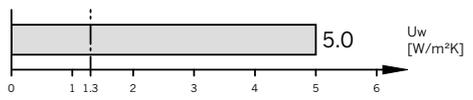
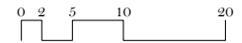
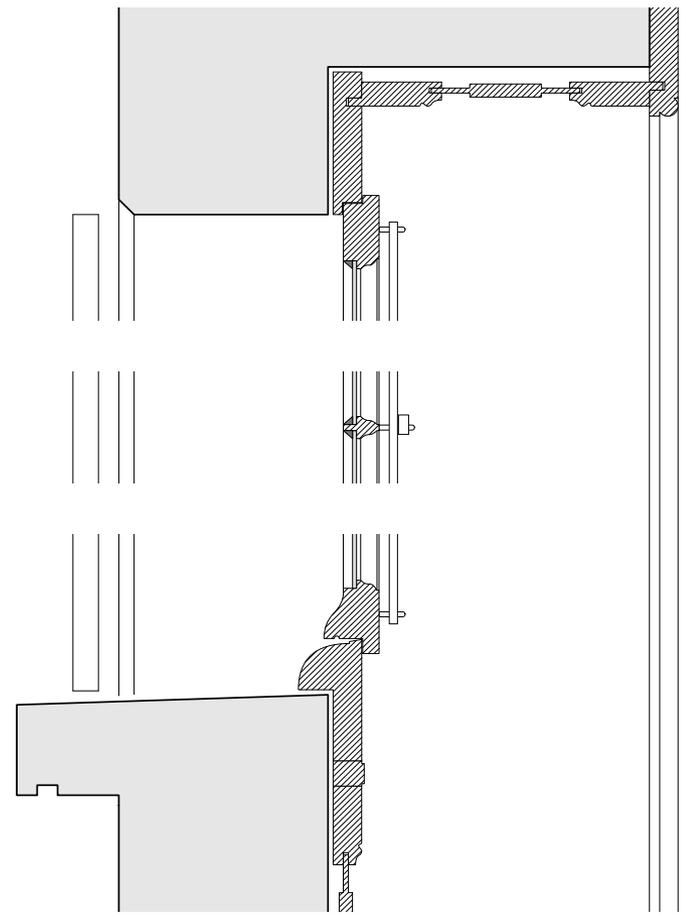
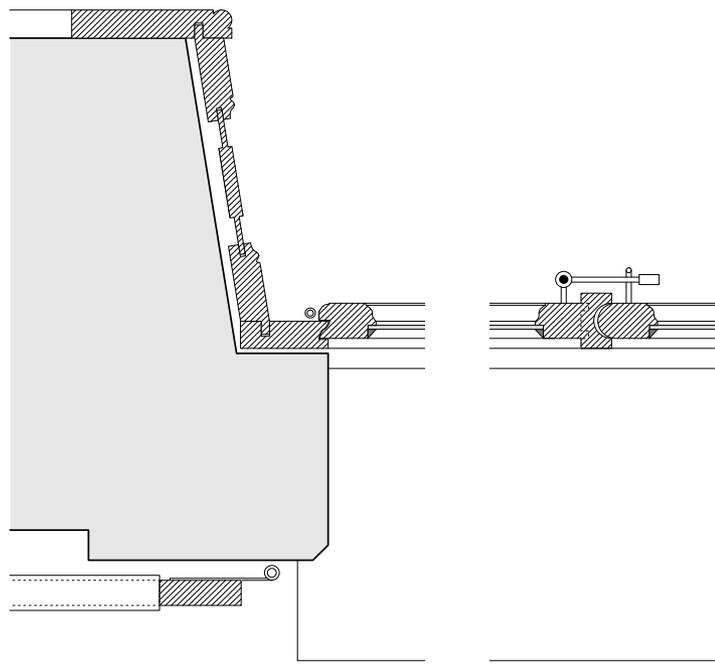


0 10 50 100 cm

(Ortelli, Zurbrügg, Wall Gago, Roch (2014))

# FENÊTRES ANCIENNES

## 1 | Fenêtre simple



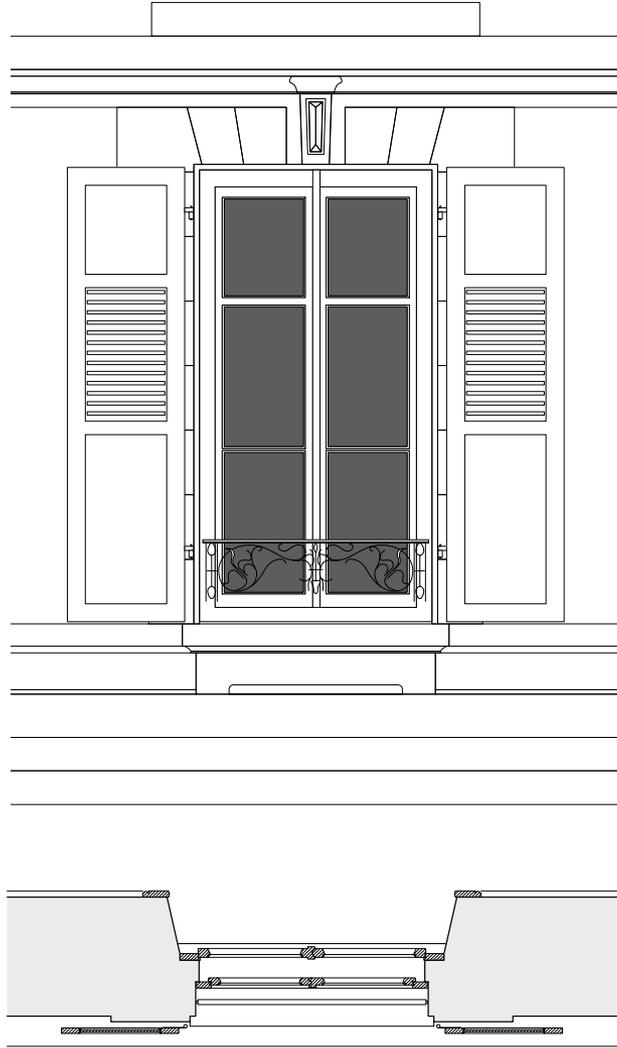
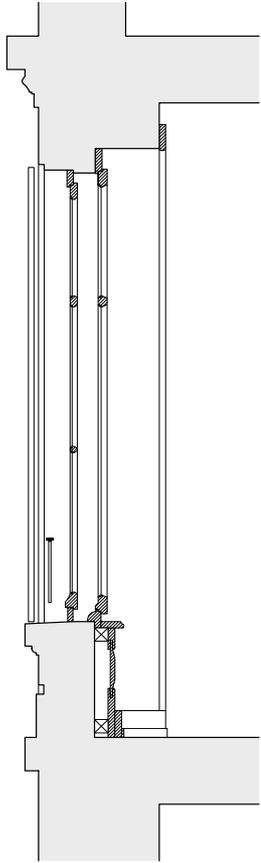
(Ortelli, Zurbrugg, Wall Gago, Roch (2014))



*rue Rousseau 7, Genève*  
Rénovation | Atelier MARCH | (photo: C. Wall Gago)

# FENÊTRES ANCIENNES

## 2 | Fenêtre avec contre-fenêtre

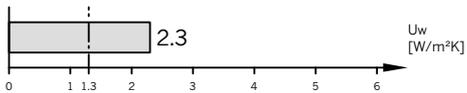
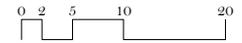
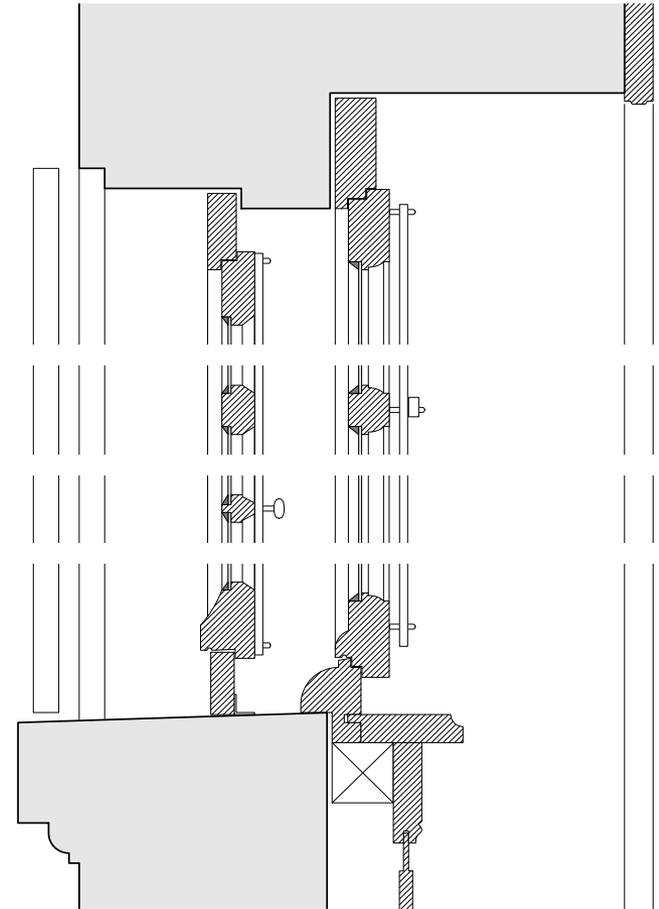
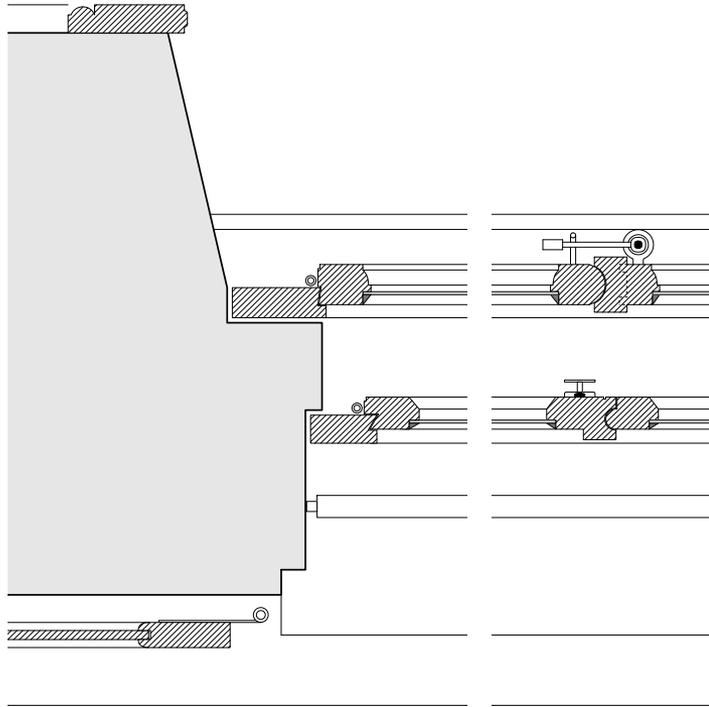


0 10 50 100 cm

(Ortelli, Zurbrügg, Wall Gago, Roch (2014))

# FENÊTRES ANCIENNES

## 2 | Fenêtre avec contre-fenêtre



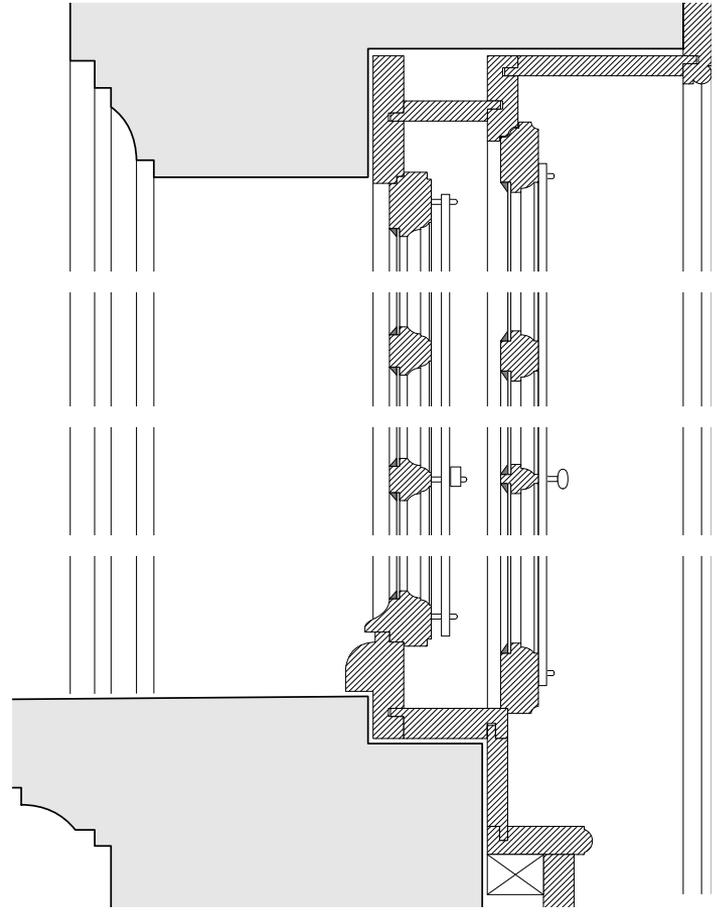
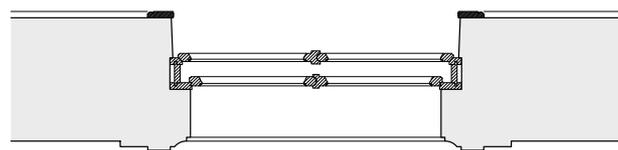
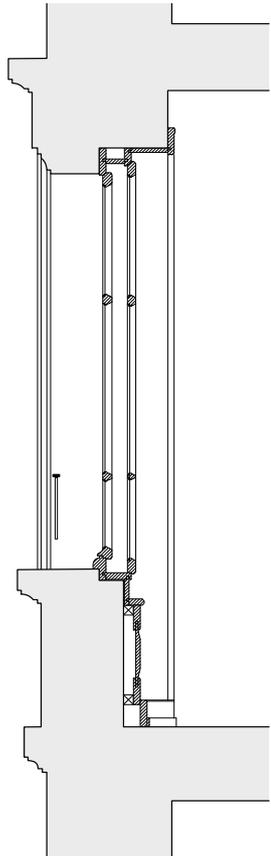
(Ortelli, Zurbrugg, Wall Gago, Roch (2014))



*rue Saint-Victor 8*, Genève, 1873  
architecte John Camoletti | (photo: C. Wall Gago)

# FENÊTRES ANCIENNES

## 3 | Fenêtre à caisson



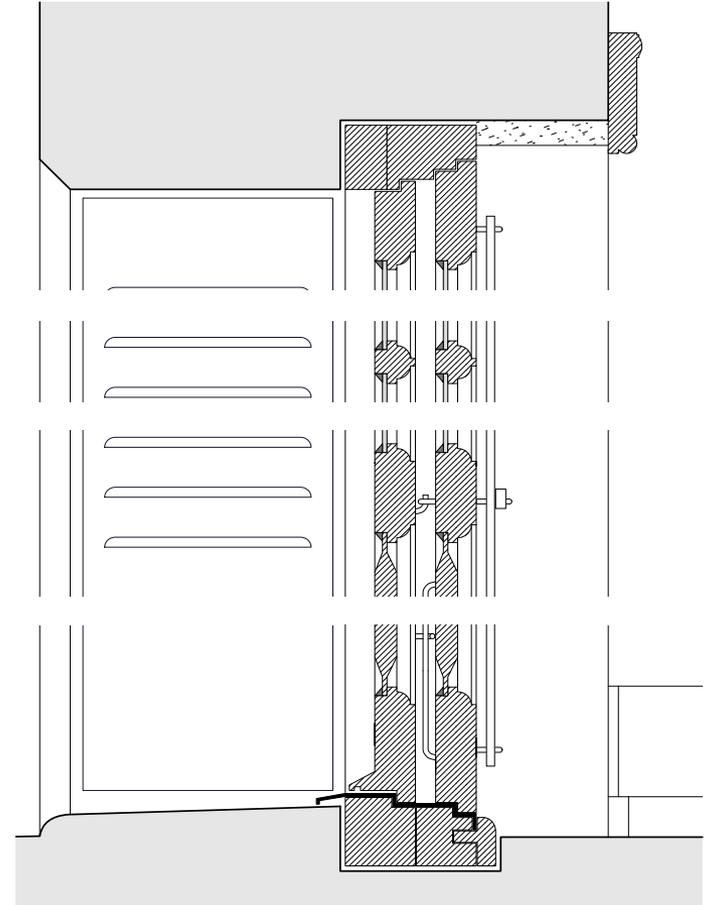
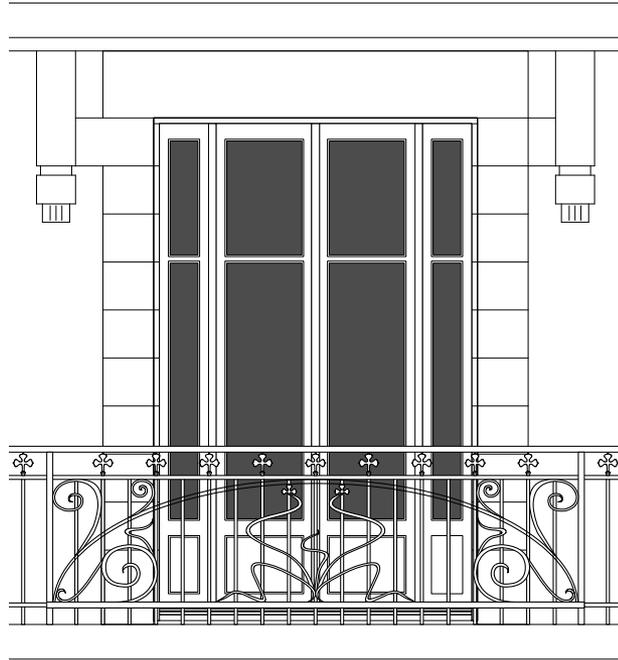
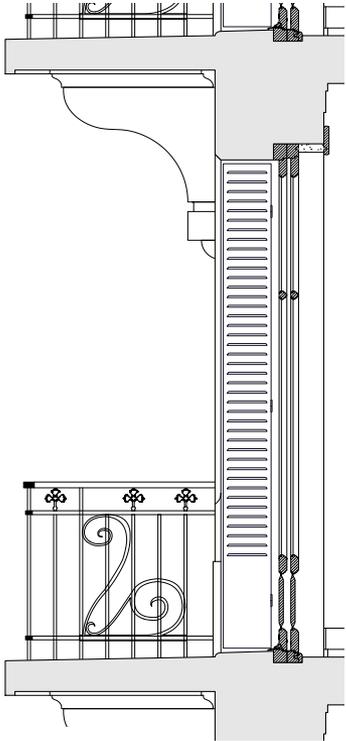
0 2 5 10 20

0 10 50 100 cm

(Ortelli, Zurbrugg, Wall Gago, Roch (2014))

# FENÊTRES ANCIENNES

## 4 | Fenêtre couplée



0 2 5 10 20

0 10 50 100 cm

(Ortelli, Zurbrugg, Wall Gago, Roch (2014))

# 2 Interventions

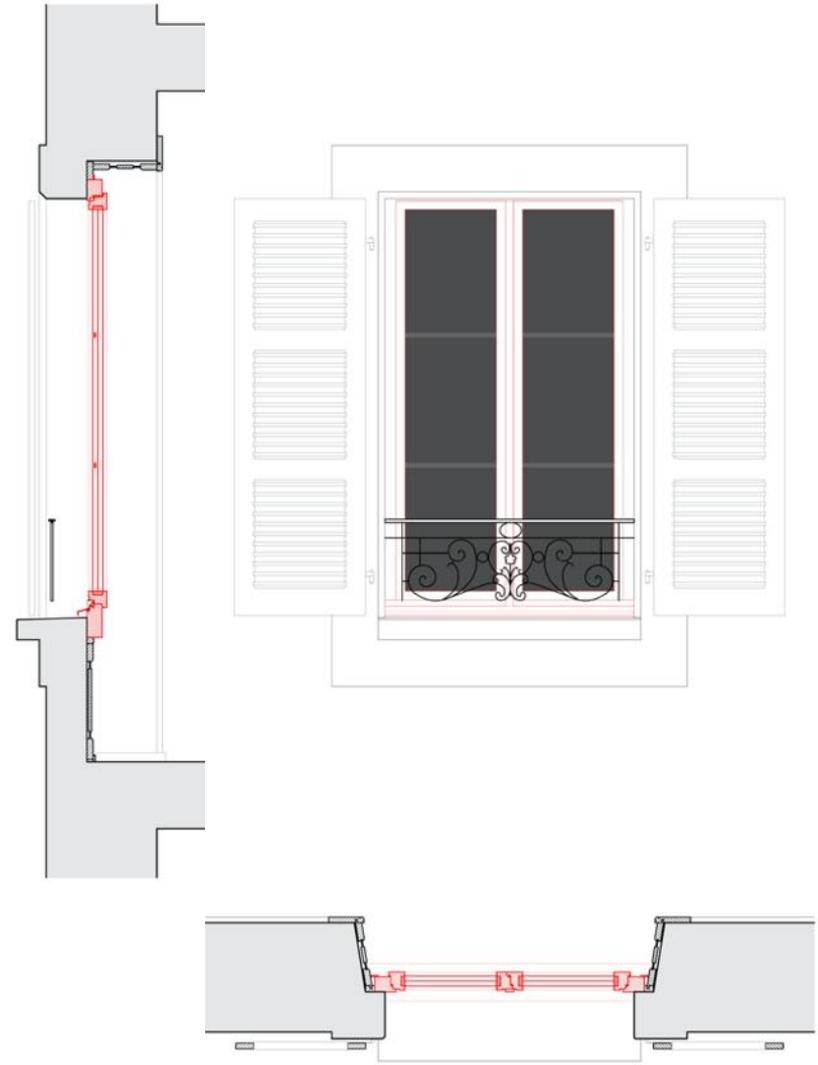
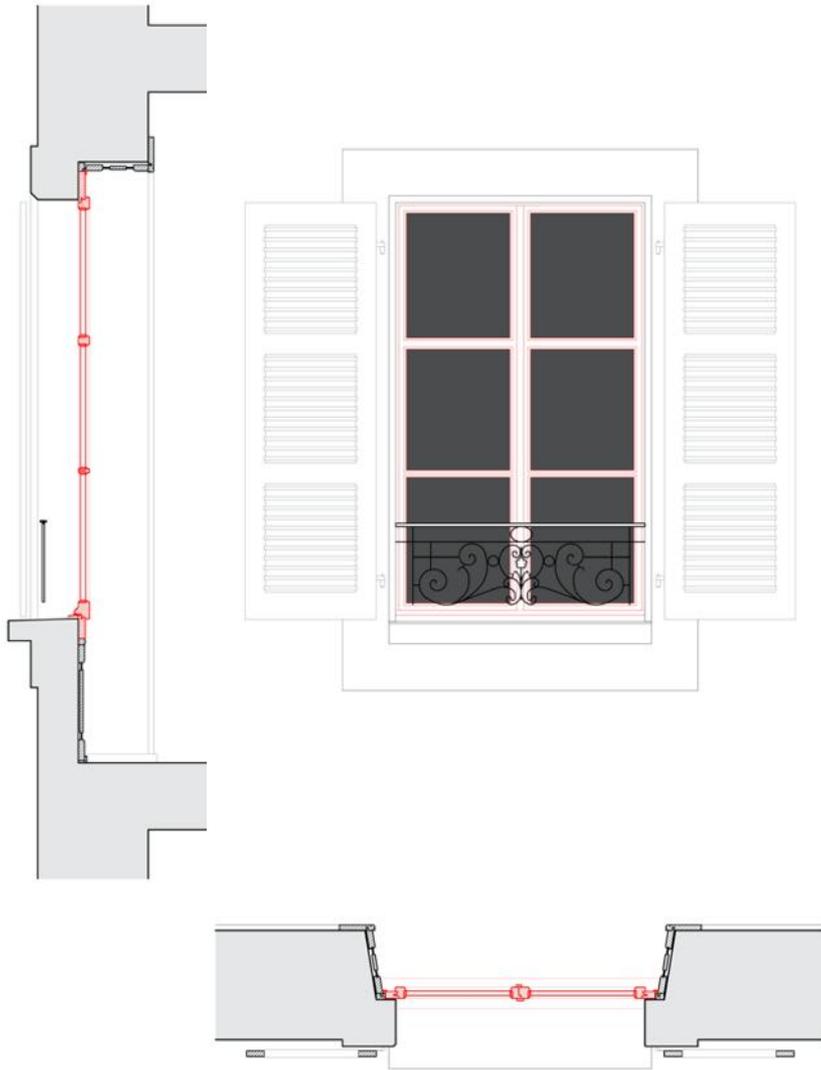


7

RUE ROUSSEAU 7, GENEVE  
Rénovation | Atelier MARCH  
(photo: C. Wall Gago)

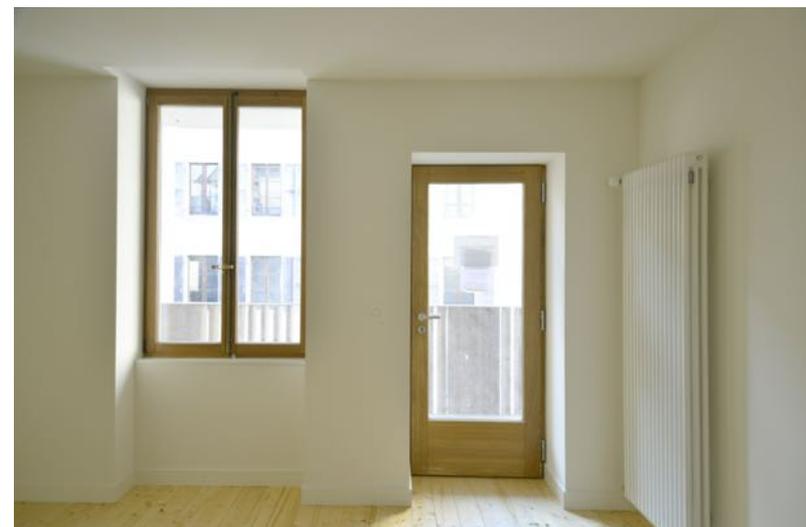
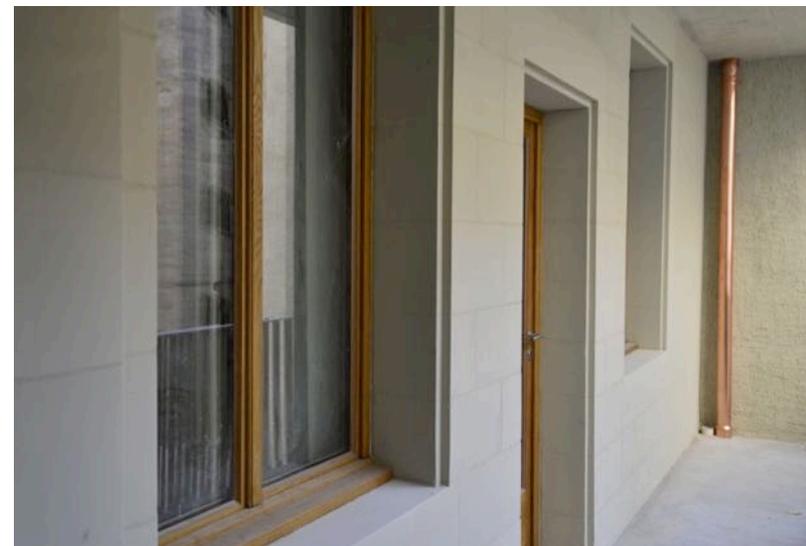
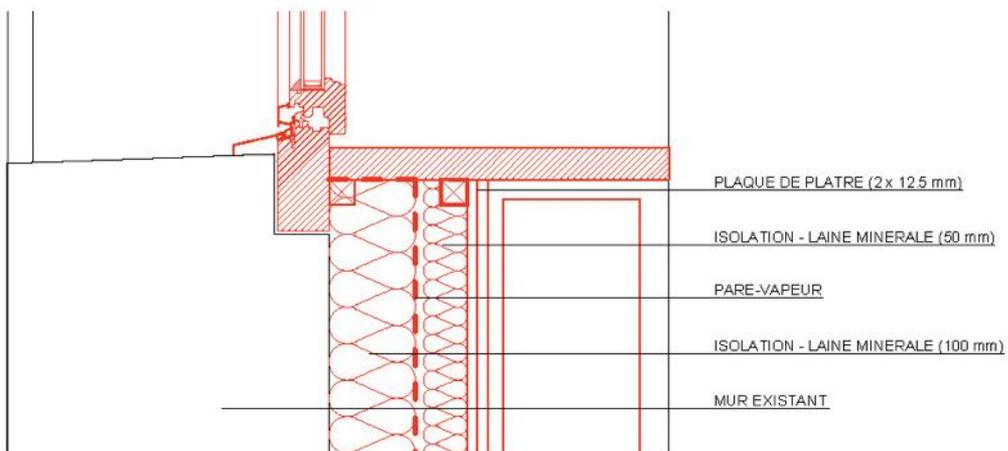
# REMPACEMENT

## 1 | Fenêtre neuve à l'ancienne    2 | Fenêtre industrielle en bois



0 10 50 100 cm

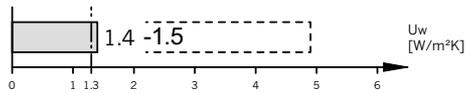
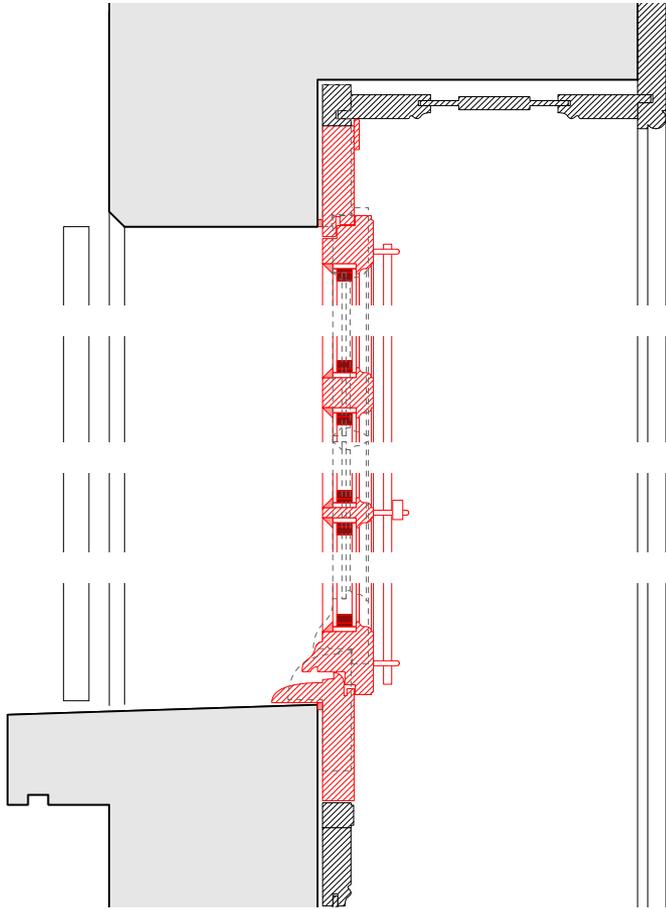
(Ortelli, Zurbrugg, Wall Gago, Roch (2014))



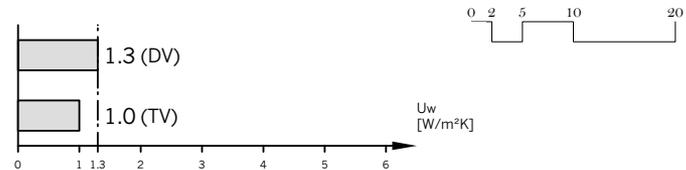
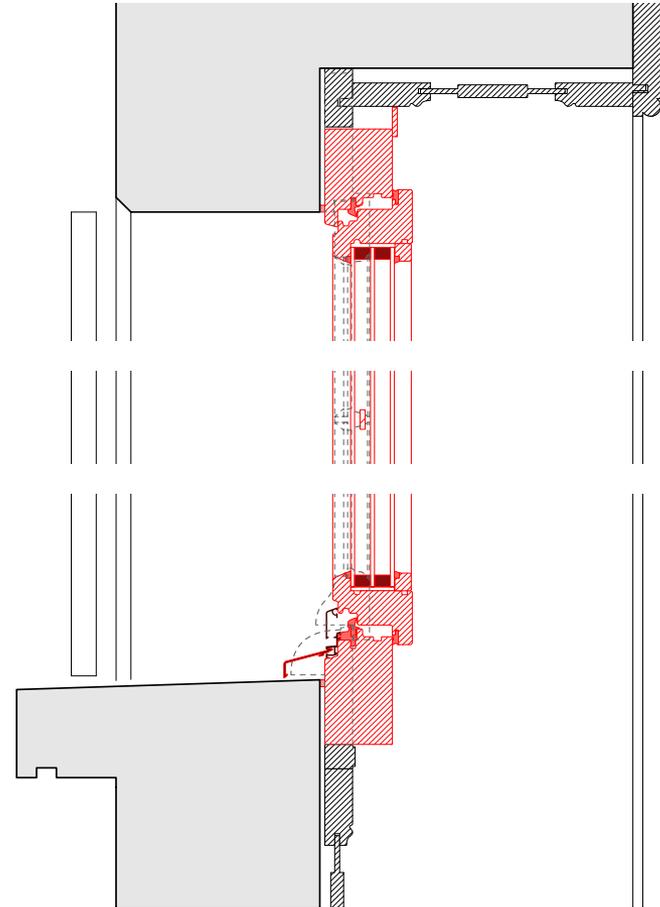
*rue Rousseau 7, Genève*  
Rénovation | Atelier MARCH  
(photos et adaptation dessin: C. Wall Gago, 2015)

# REPLACEMENT

## 1 | Fenêtre à l'ancienne 2 | Fenêtre en bois (standard)

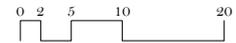
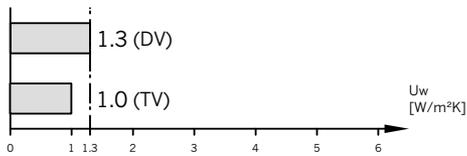
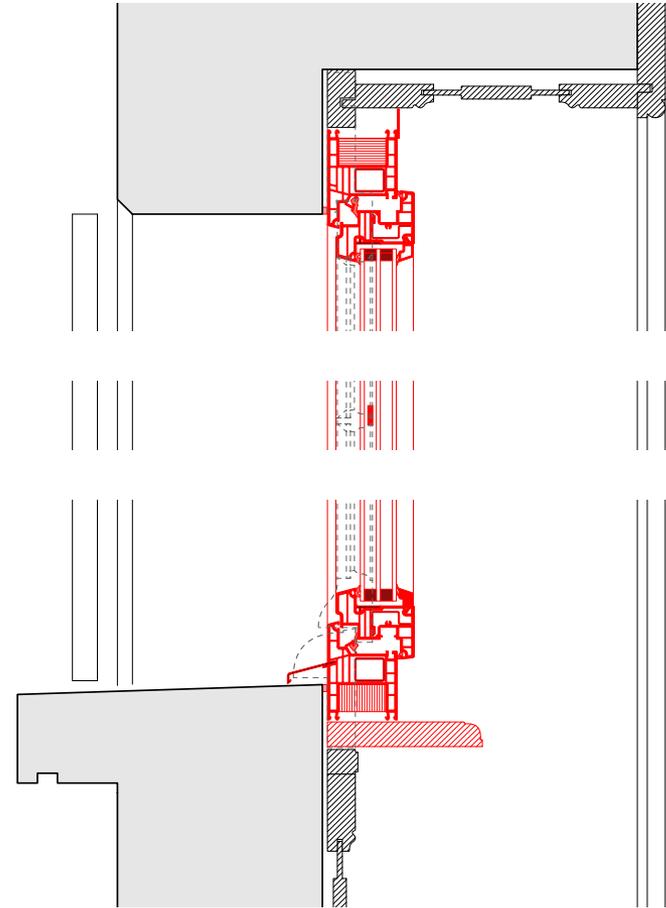
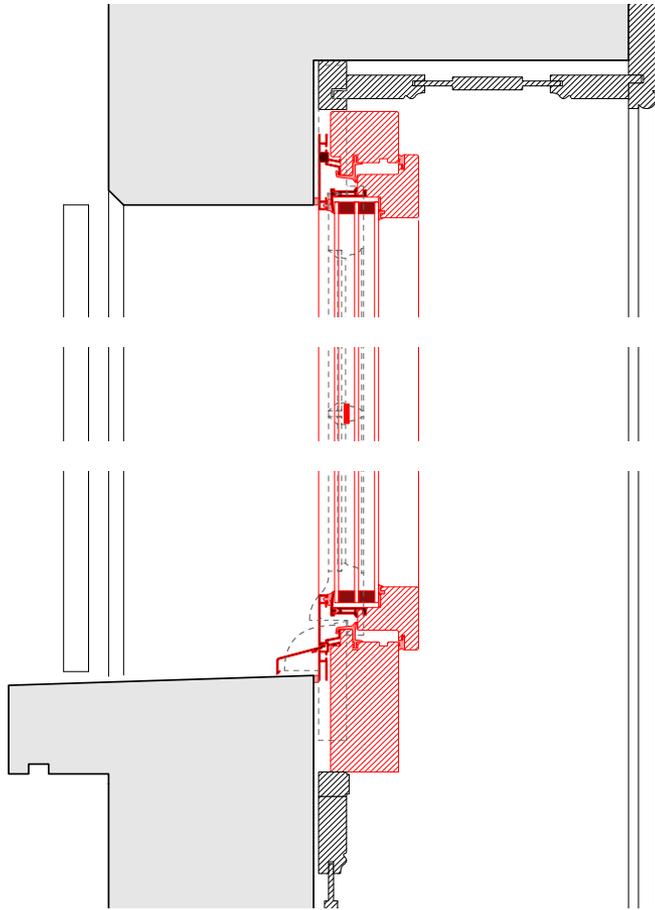


(Ortelli, Zurbrügg, Wall Gago, Roch (2014))



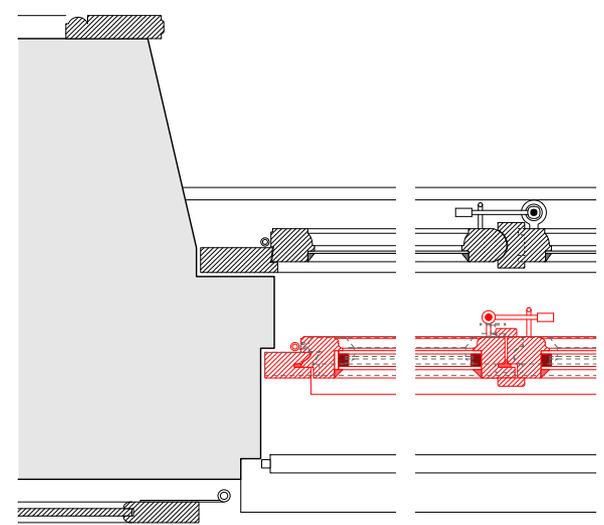
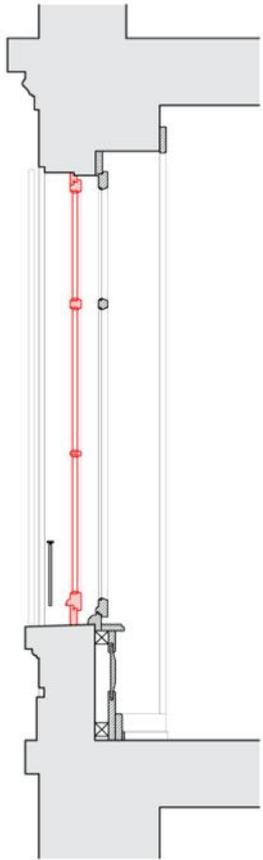
# REMPACEMENT

## 3 | Fenêtre en bois-métal    4 | Fenêtre en PVC

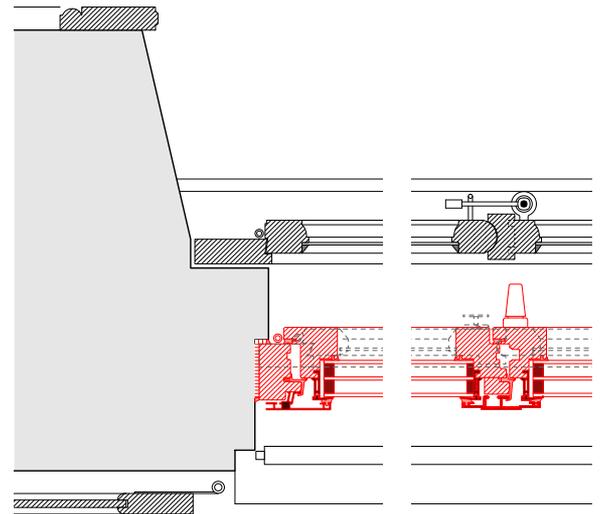


# DOUBLAGE

## 1 | Nouvelle contre-fenêtre



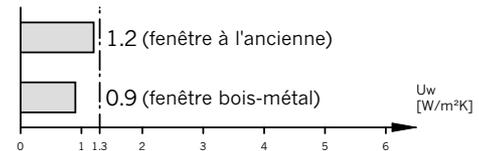
Contre-fenêtre à l'ancienne



Contre-fenêtre en bois-métal

0 10 50 100 cm

(Ortelli, Zurbrügg, Wall Gago, Roch (2014))

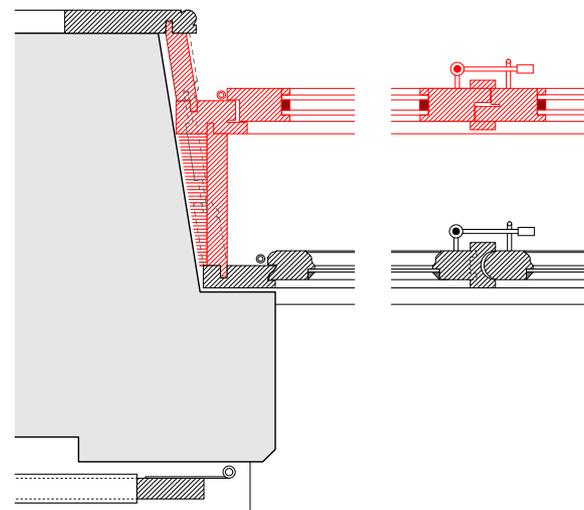
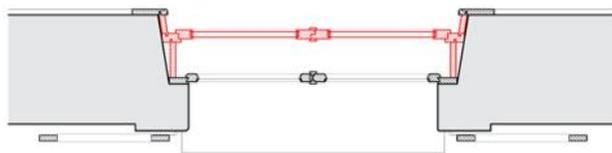
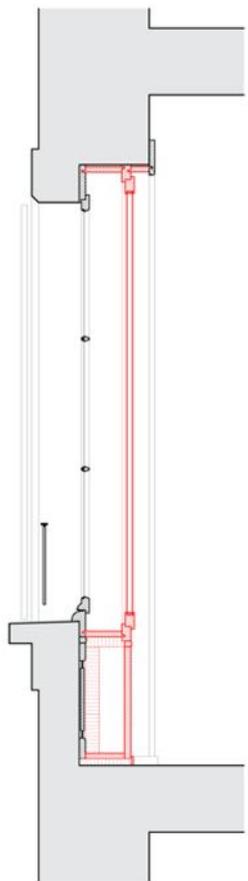




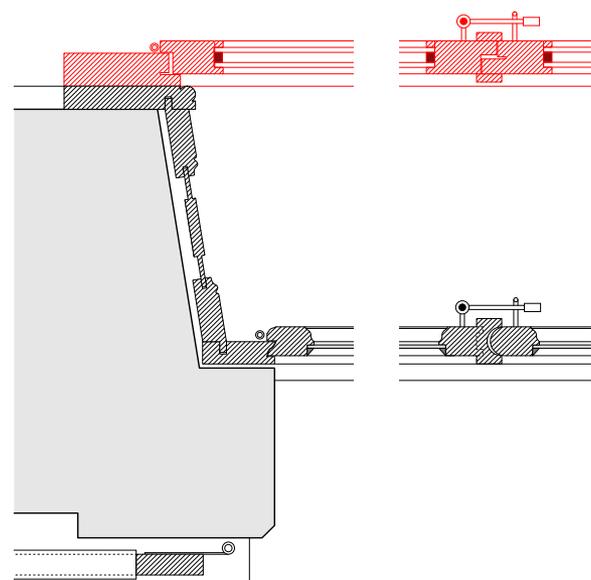
*rue Saint-Victor 10*, Genève  
Rénovation | MVT architectes | (photo: MVT architectes)

# DOUBLAGE

## 2 | Fenêtre à caisson 3 | Nouvelle fenêtre à l'intérieur



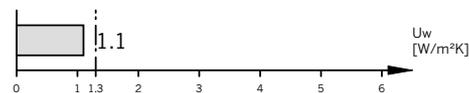
Fenêtre à caisson



Nouvelle fenêtre à l'intérieur

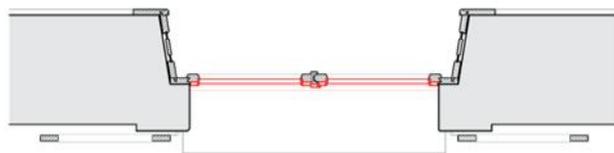
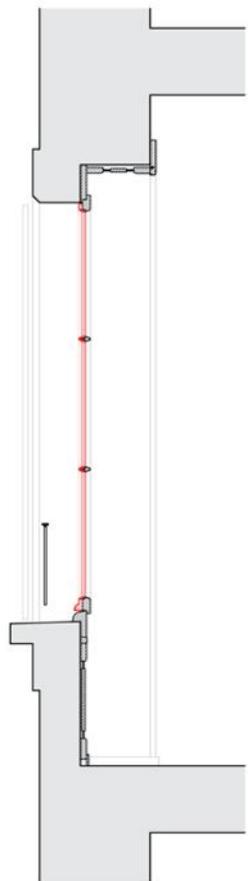
0 10 50 100 cm

(Ortelli, Zurbrügg, Wall Gago, Roch (2014))



# RENOVATION

## 1 | Remplacement par du double vitrage



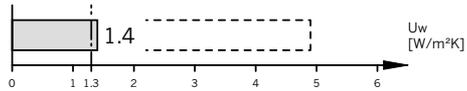
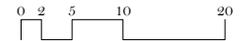
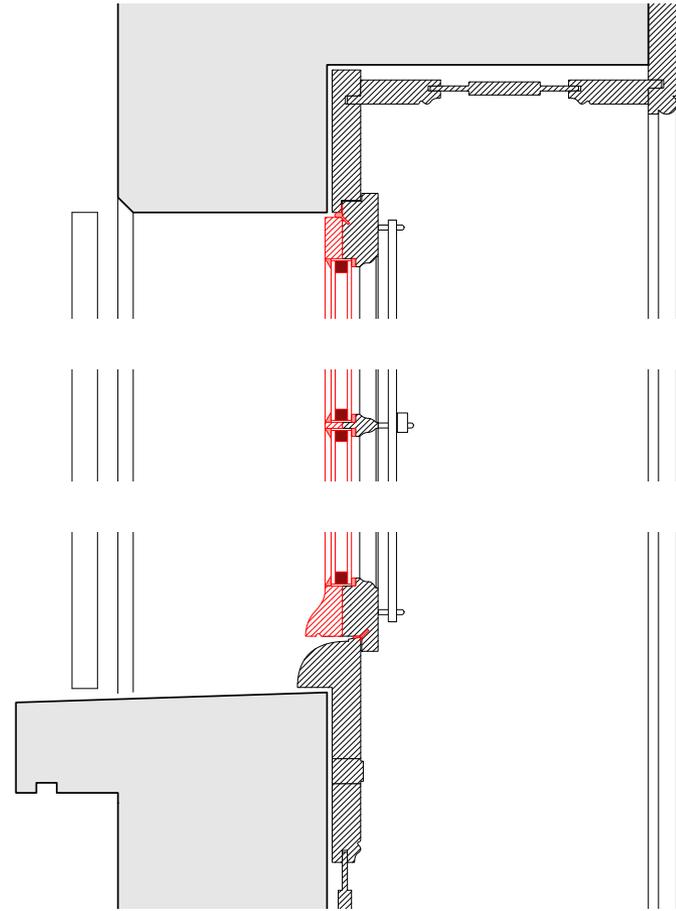
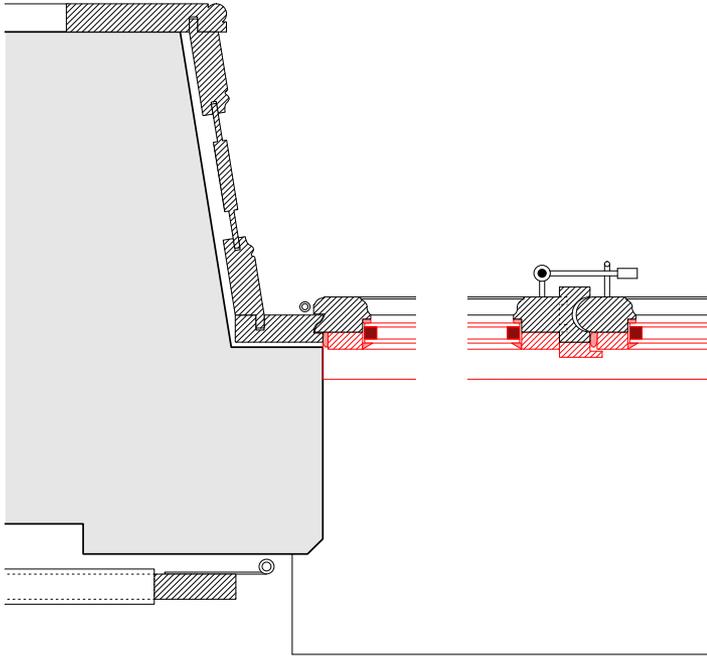
*Fenêtre rue Rousseau 7, Genève*  
Rénovation | Atelier MARCH | (photo: C. Wall Gago)

0 10 50 100 cm

(dessins: Ortelli, Zurbrügg, Wall Gago, Roch (2014))

# INTERVENTIONS

## 2 | Remplacement du vitrage



(Ortelli, Zurbrugg, Wall Gago, Roch (2014))



*rue de la Gabelle 20, Genève*  
Rénovation | Lopes & Périnet-Marquet architectes | (photo P. Zurbrügg)



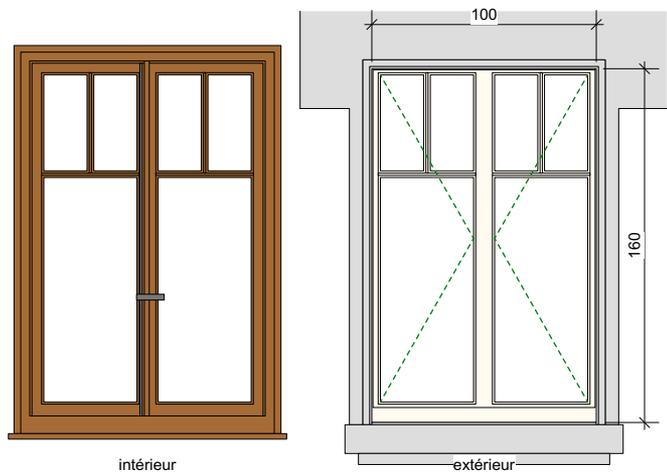
*rue Rousseau 7, Genève*  
Rénovation | Atelier MARCH | (photo: C. Wall Gago)



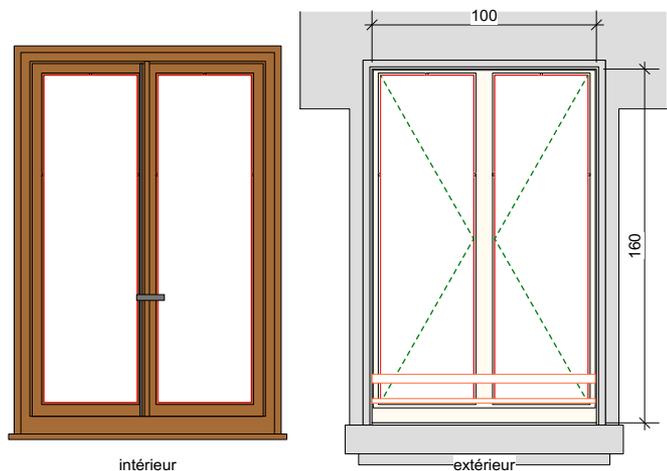
*rue Rousseau 7, Genève*  
Rénovation | Atelier MARCH | (photo: C. Wall Gago)

# RENOVATION

## 2 | Remplacement par du triple vitrage



fenêtre originale

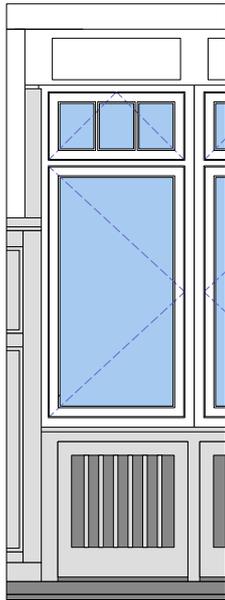


fenêtre assainie

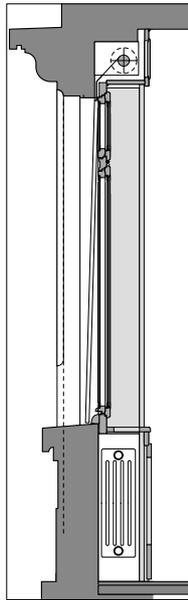


# RENOVATION

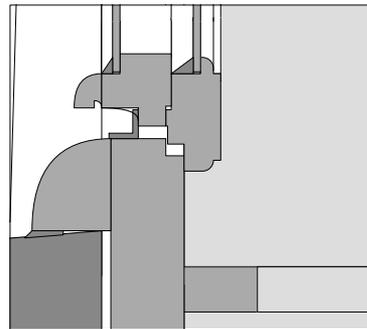
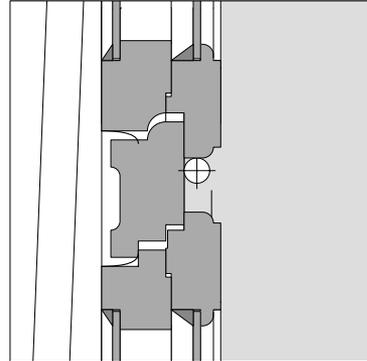
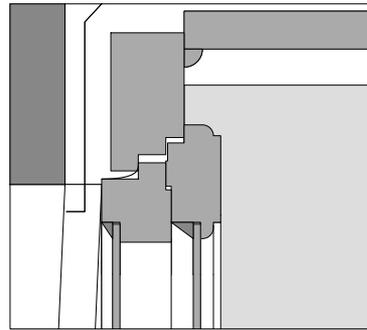
## 2 | Remplacement par du triple vitrage



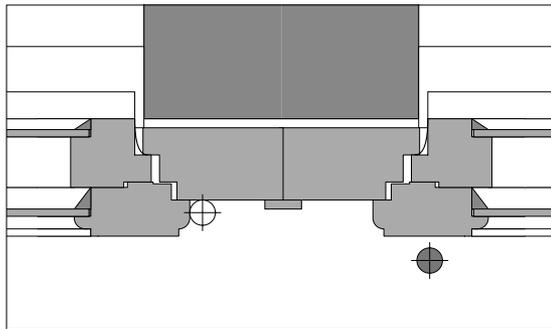
Elevation intérieure  
échelle 1/20



Coupe verticale  
échelle 1/20



Coupes verticales  
échelle 1/2

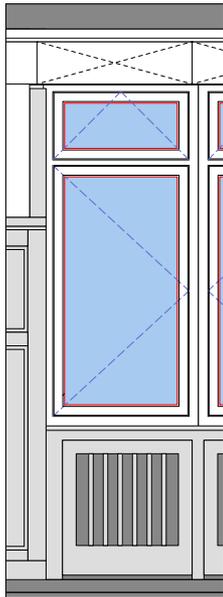


Coupe horizontale  
échelle 1/2

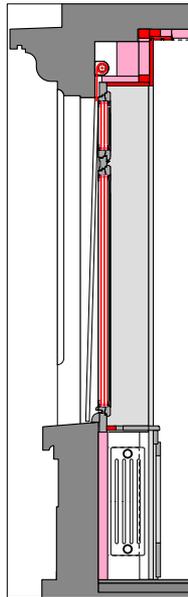


# RENOVATION

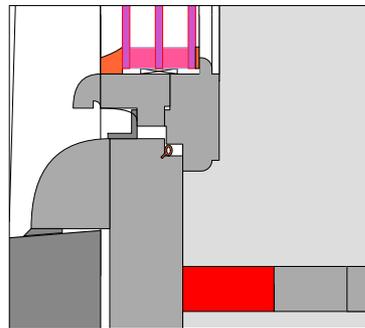
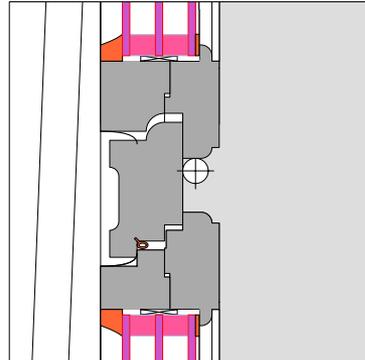
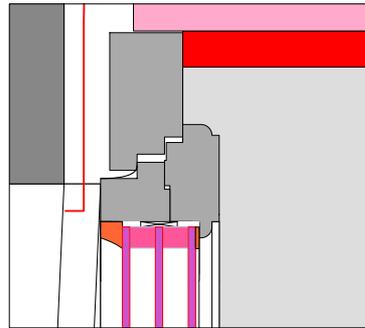
## 2 | Remplacement par du triple vitrage



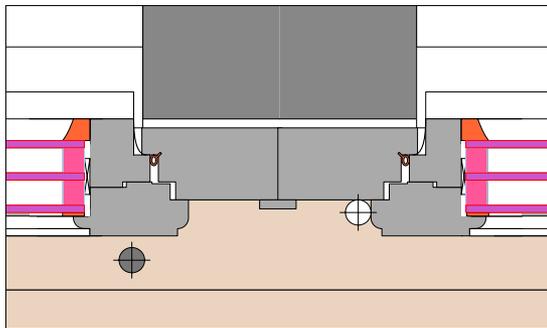
Elevation intérieure  
échelle 1/20



Coupe verticale  
échelle 1/20



Coupes verticales  
échelle 1/2



Coupe horizontale  
échelle 1/2





MAISON DE VILLE

Maison de Ville, PENTHALAZ

Rénovation et photo | Arch. Pierre Zurbrügg

# ASSAINISSEMENT DE FENÊTRES

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