Regal Place Hotel
Cost-Effective Heritage Façade Rehabilitation

Brenden David, Project Engineer, Building Sciences
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Project Team

Primary Author

— Brenden David, Project Engineer, Building Sciences (WSP)

Co-Authors

— Paul Creighton, Project Manager, Building Sciences (WSP)

— David Norman, Architect (DNAI)

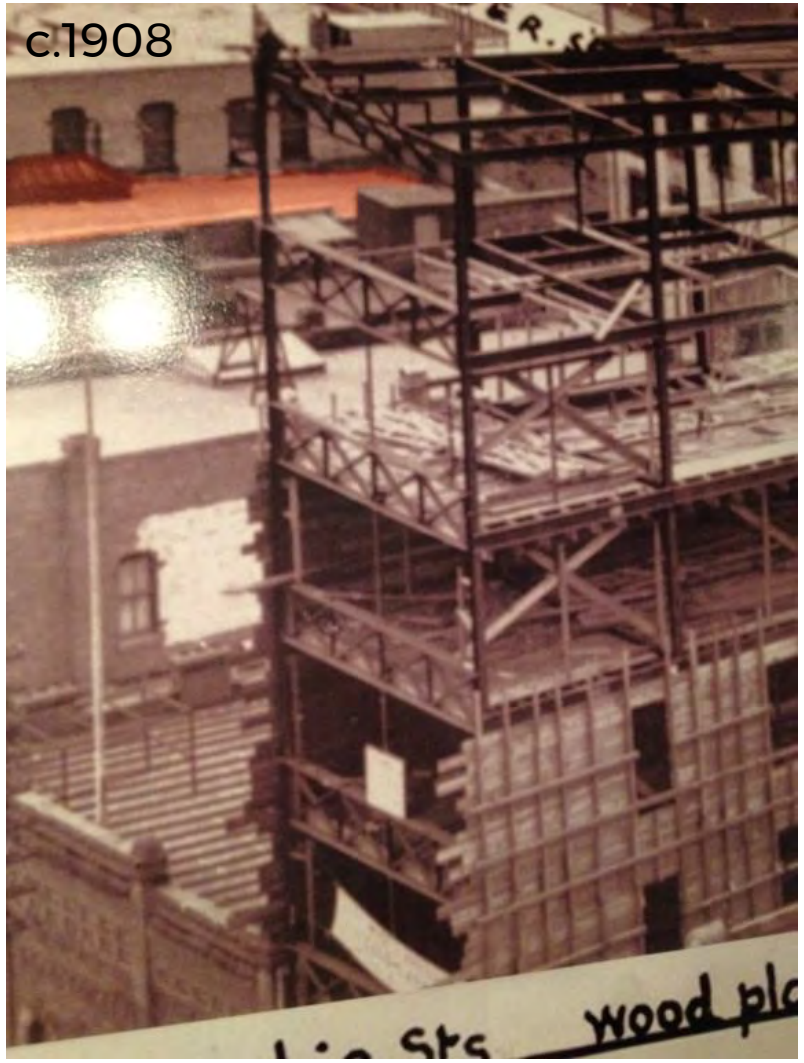
My Objective

Provide a young engineers account of a complex rehabilitation project with multiple stakeholders and an emphasis on cost-effective repair strategies.

Regal Place Hotel – A Brief History

- Constructed c. 1908 as the Vancouver Stock Exchange
- In the West Hastings Business District
- Edwardian Commercial Architecture

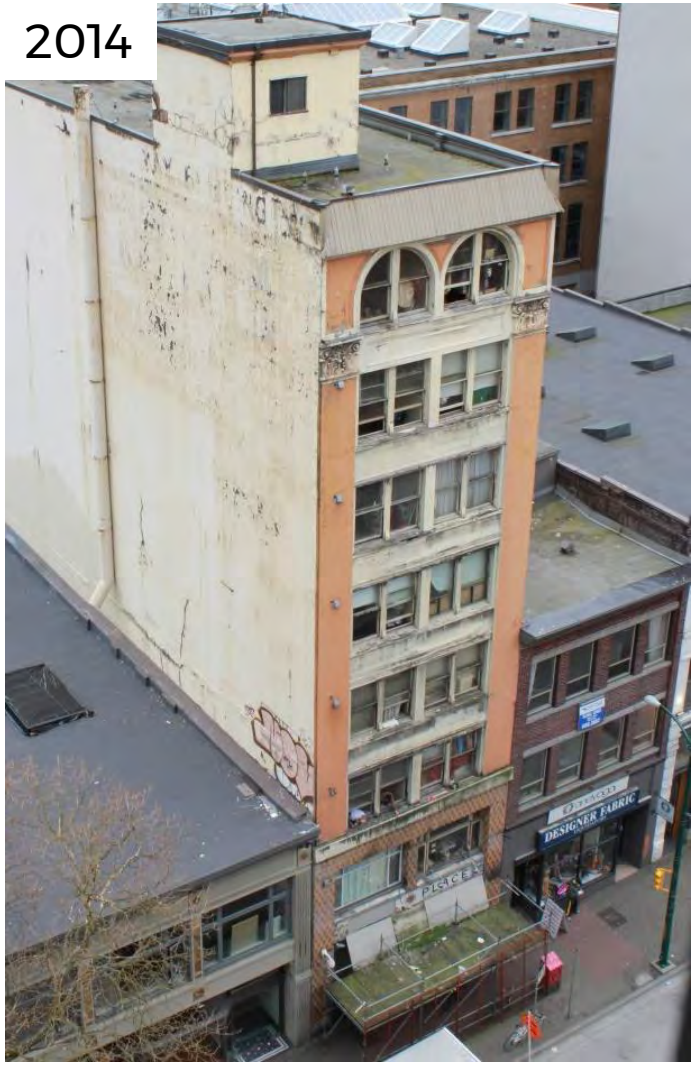
Regal Place Hotel – Under Construction



- Featured Advances in Concrete and Steel Structural Design
- Concrete Mass Walls & Floor Slabs
- Steel Columns & Girders
- Lateral Steel Trusses
- Double-Hung Windows
- Stone Detailing

Regal Place Hotel – Change of Use

Regal Place Hotel – 2014 Condition (Before Rehab.)



<u>Primary Areas of Concern</u>

1. Spandrel Panel Deterioration
2. Concealed Steel Truss Deterioration
3. Window Frame Deterioration & Operation
4. Storefront Functionality
5. Intermittent Leakage Across East Elev.

Regal Place Hotel – 2014 Condition (Before Rehab.)

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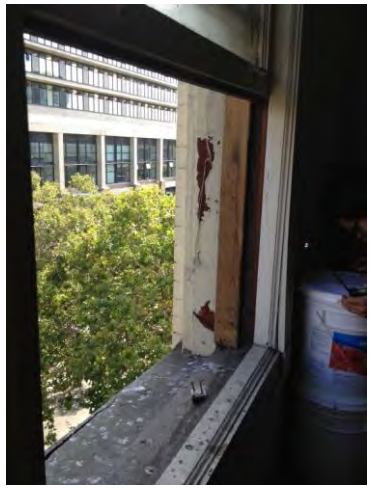


Rehabilitation vs. Restoration

Client Goals

- Maintain a Safe & Secure Bldg.
- Minimize Capital Costs
- Restore Tenant Comfort

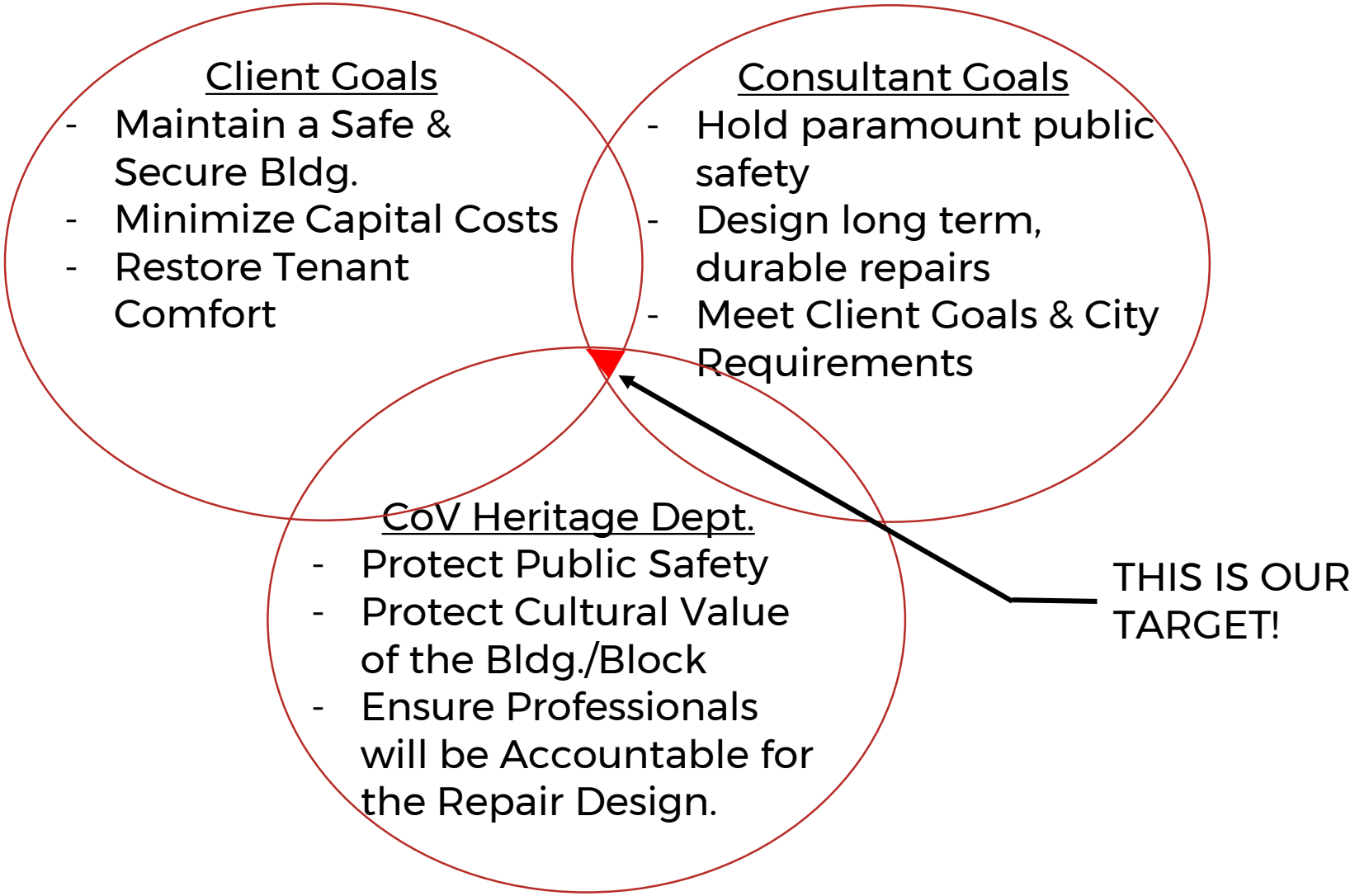
Consultant Goals

- Hold paramount public safety
- Design long term, durable repairs
- Meet Client Goals & City Requirements

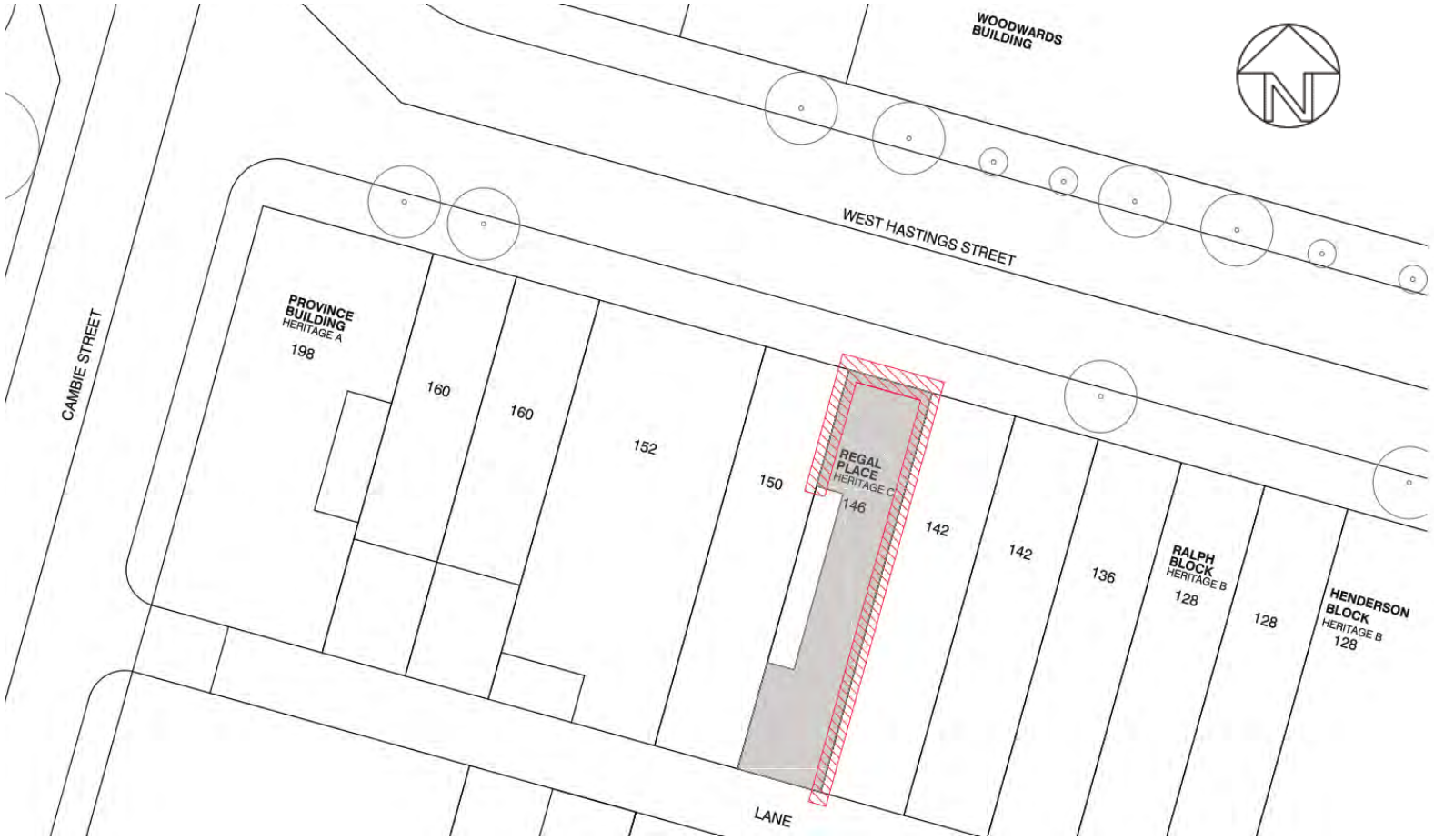
CoV Heritage Dept.

- Protect Public Safety
- Protect Cultural Value of the Bldg./Block
- Ensure Professionals will be Accountable for the Repair Design.

Rehabilitation vs. Restoration



Strategy 1 – "Choosing Sides"
Phased Repair Strategy



2017 Rehabilitation Phase

Strategy 2
Spandrel Panel Replacement with EIFS

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Spandrel Panel Replacement with EIFS

Strategy 3 – “Tailored Performance” Window Frame Repairs w/ New Sashes

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Strategy 4 “Spend Where It Counts”
Original Cornice Reinstatement

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Strategy 5 – “Pick your Battles”
New Aluminum Framed Storefront

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Strategy 6 – “Compromises”
Coating Over Plaster & Prior Repairs (E Elev.)

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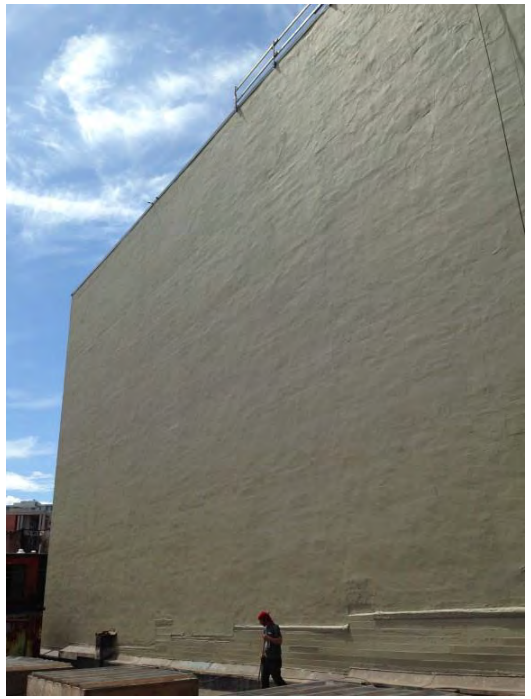
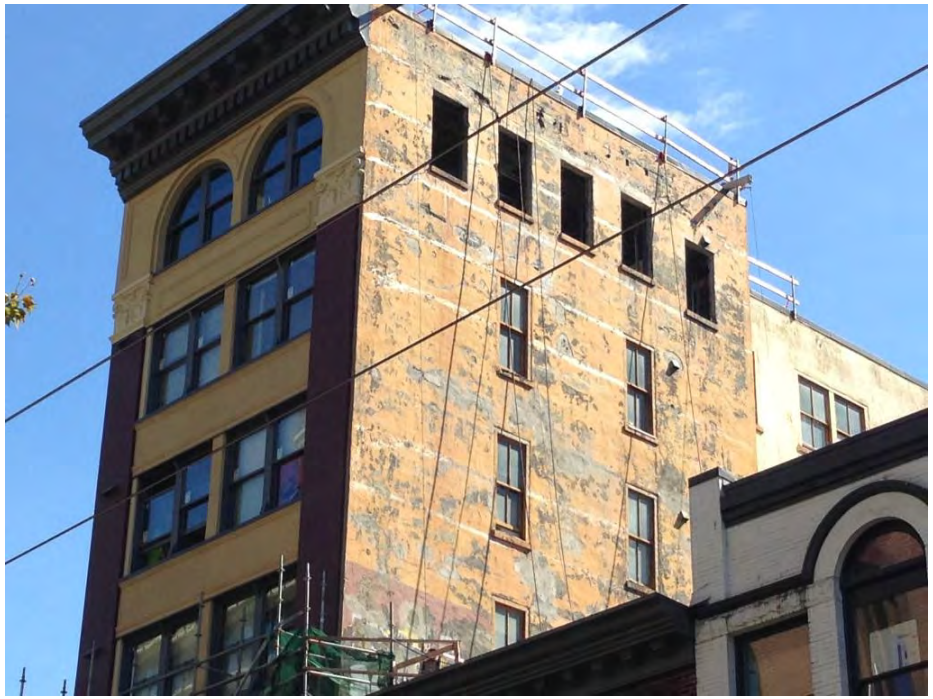


Strategy 6 – “Compromises”
Coating Over Plaster & Prior Repairs (W Elev.)



Cost Impact of Revised Repair Strategies

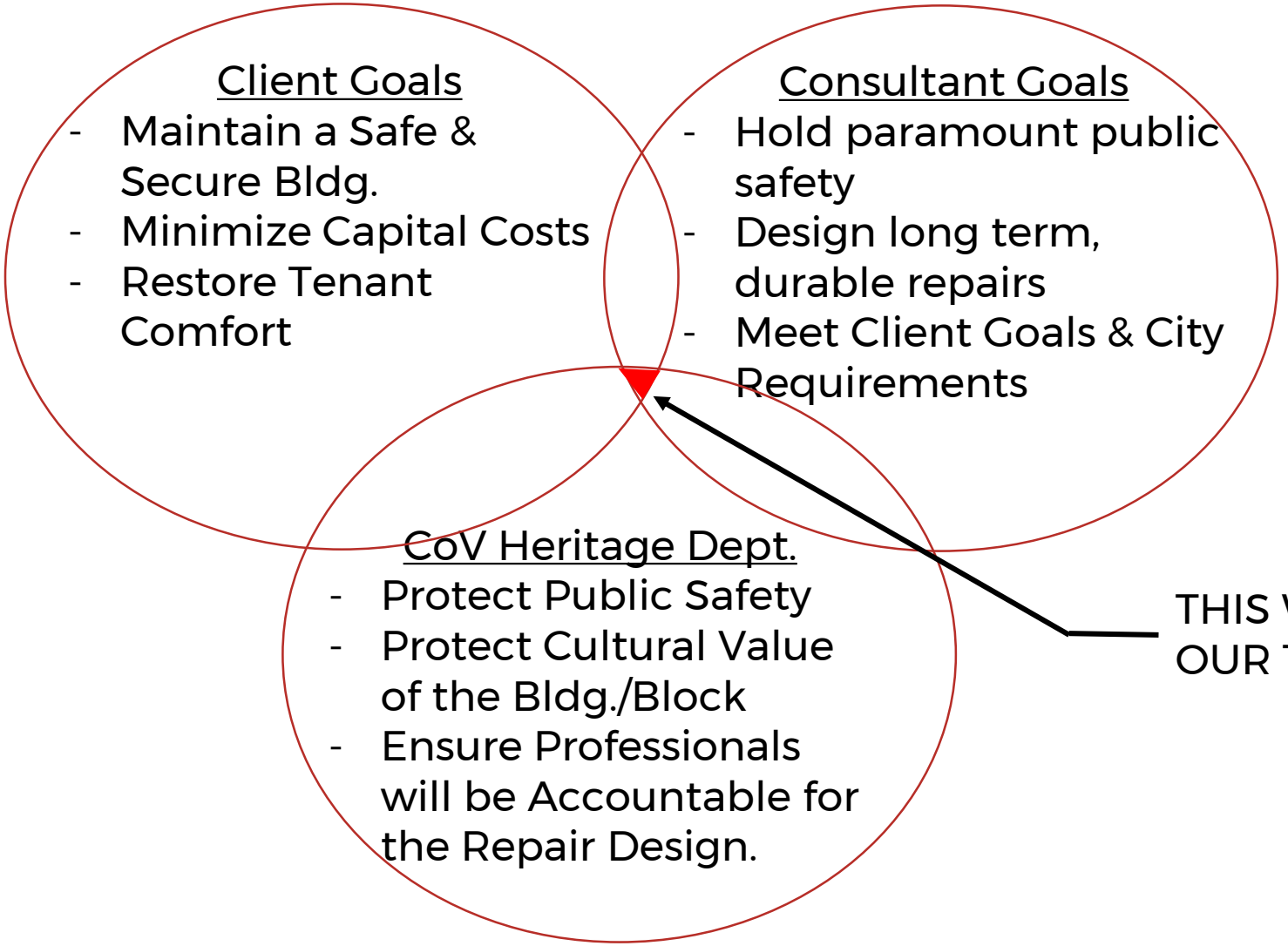
Design Iteration 1		
Precast (or Plaster) Spandrel Panels	$	85,500
Window Replacement	$	200,000
Cornice Reinstatement	$	80,000
Replica Storefront	$	272,000
East/West Elevation Plaster Recladding	$	330,000
	$	967,500

Design Iteration 2		
EIFS Spandrel Panels	$	61,650
Ex. Window Repairs + New Sashes	$	173,546
Cornice Reinstatement	$	61,000
Aluminum Framed Storefront	$	55,000
East/West Elevation Recoating	$	56,290
	$	407,486
Savings	**$**	**560,014**

Overall Project Cost

Projected Construction Budget	$	790,000.00
Original Contract Estimate (Tender)	$	754,000.00
Final Construction Cost (Actual)	$	733,000.00

Project Summary



THIS WAS OUR TARGET!

Project Summary

CoV Archives, 2014

WSP - A Global Professional Services Firm

Our Canadian Presence

7,600
EMPLOYEES

150
OFFICES

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