Organizing the Chaos: How to Create and Implement a BIM Strategic Plan for a Company

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Class summary

A real-world experience of writing a Building Information Modeling (BIM) strategic plan for an office.

The process of creating the plan, including goals and action plans as well as discuss implementing.

Key learning objectives

At the end of this class, you will be able to:

- Learn how to identify, organize, and report on your company's Revit improvement goals
- Learn and understand what a road map for developing and improving Revit standards and how to measure staff compliance
- Gain ideas for providing just-in-time training solutions to staff
- Learn methods for improving documentation quality and continually improving office standards

Outline of Discussion

- Company History
- Previous Experience
- Brainstorming and Writing of the Plan
- Implementation and Maintenance
- Training Platforms
- The Corporate Connection
- Autodesk Review
- Next Steps and Lessons Learned

Company History

Company History

- MEP and Structural Engineering
- Multiple offices throughout the country
- Some office are acquisitions
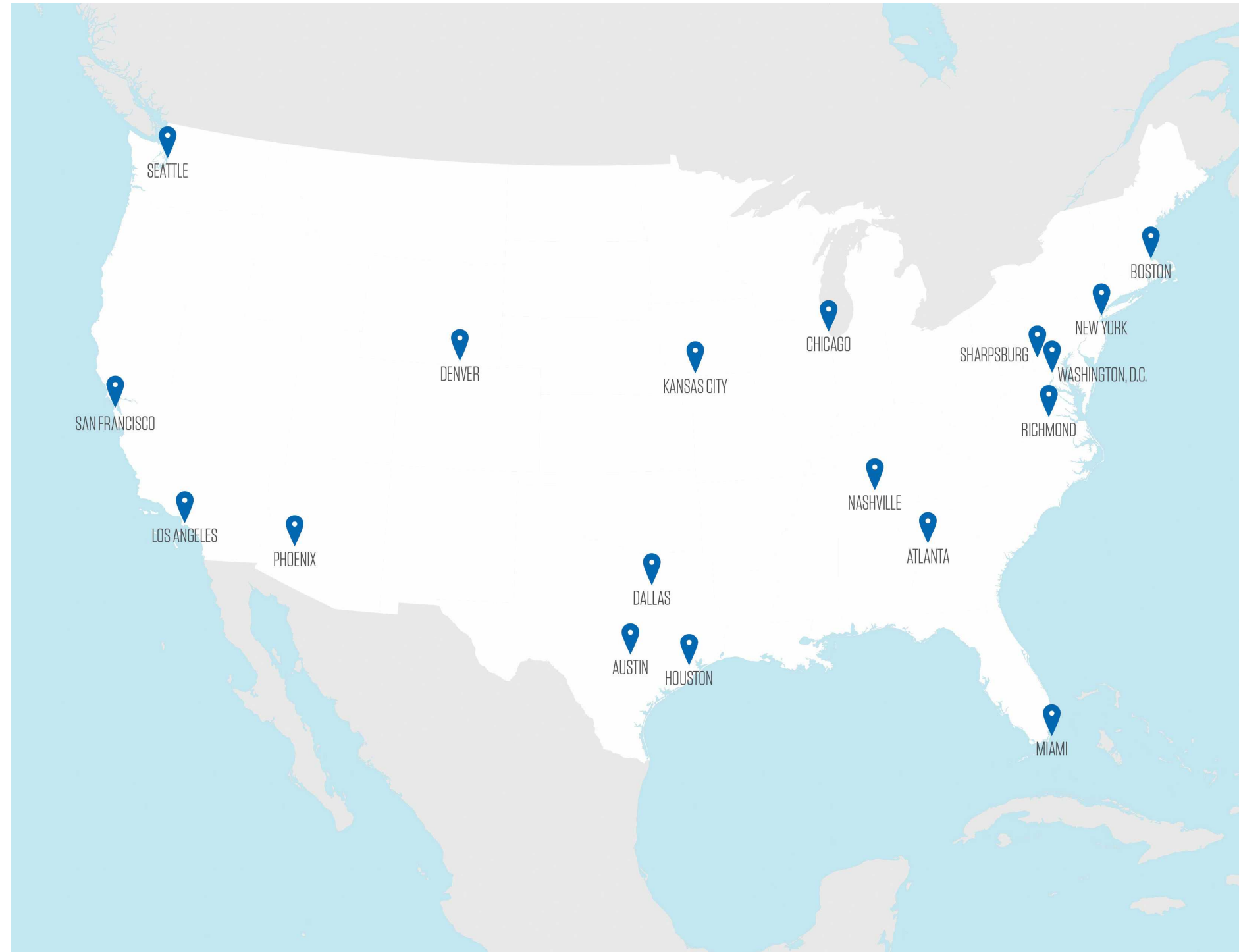
Company History

- CAD Manager's Network - 2003
- BIM Process Group - 2009
    - National committee including members from different offices
- BIM Technical Committee - 2015
    - Local based committee
- BIM Manager's Network and National Committee - 2015

Previous Experience
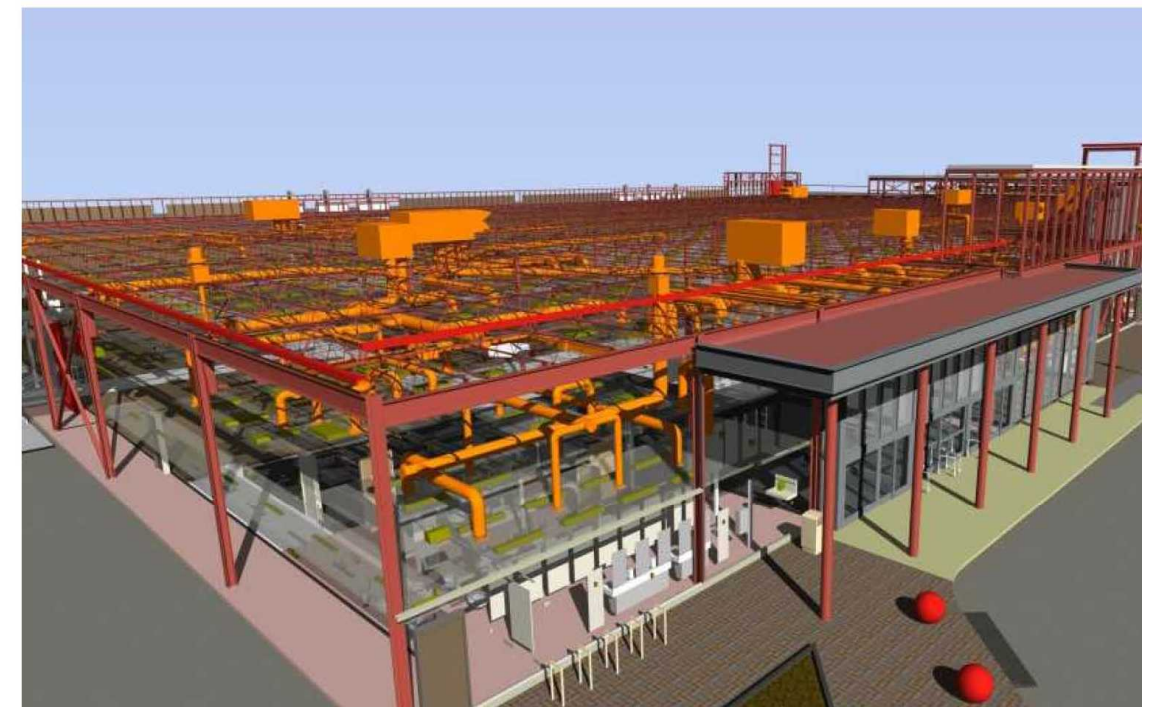
Previous Experience

- BIM Process Group (2009)
  - Employee Connections
  - Made Some Progress
    - Shared Parameters File
    - National Project Template
    - LOD files and BEP
  - Slow to implement
- Lost traction after 2 years

SHARED PARAMETER	DISCIPLINE	PARAMETER TYPE	WATER COOLED CHILLER	AIR HANDLING UNIT	GENERATOR	ACTIVE CHILLED BEAM	COOLING TOWER	CRAC UNIT (DX WATER)	EXPANSION TANK	FAN POWERED TERMINAL WITH HOT WATER COIL	PLATE & FRAME HEAT EXCHANGER
Designation	Common	Text	X	X	X	X	X	X	X	X	X
Designation Type	Common	Text	X	X	X	X	X	X	X	X	X
Designation Number	Common	Text	X	X	X	X	X	X	X	X	X
Equipment Type	Common	Text	X	X		X			X	X	
Fixture Type	Common	Text									
Fuel Type	Common	Text									
Service	Common	Text	X	X				X	X		
Location	Common	Text	X	X	X	X			X		X
Operational Weight	Structural	Force	X	X			X	X	X		
Quantity	Common	Integer									
Quantity 2	Common	Integer									
Quantity 3	Common	Integer									
Description 1	Common	Text									
Description 2	Common	Text									
Manufacturer	Common	Text	X	X	X	X	X	X	X	X	X
Alternate Manufacturer	Common	Text	X	X	X	X	X	X	X	X	X
Model	Common	Text	X	X	X	X	X	X	X	X	X

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Previous Experience

- Global created a strategic plan (2013)
- Goals from the Plan
    - Goal A – Educate
    - Goal B – Promote
    - Goal C – Develop
    - Goal D – Quality
    - Goal E – Support

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Previous Experience

- BIM Technical Committee (2015)
  - Local committee dedicated to office improvements
  - 21 member committee
  - All Trades Represented
  - Tasked with improving office standards in Revit

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Brainstorming and Writing of the Plan

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Brainstorming

- Two days
  - 3 hours each day
  - Users from each trade
  - Senior staff with BIM experience
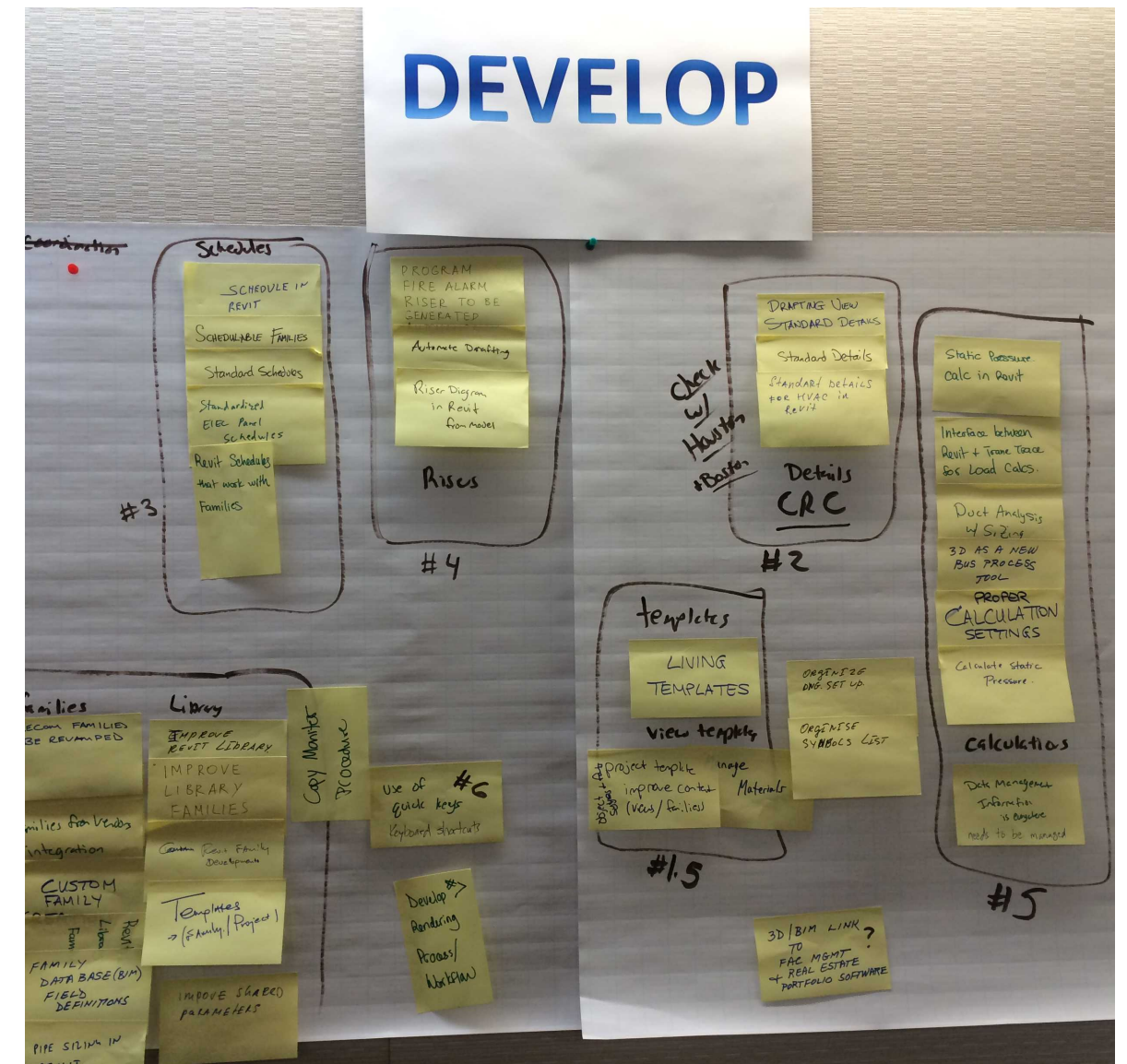 - Local Office Focus
  - Used inspiration of Neutron Star

http://www.space.com/22180-neutron-stars.html

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Brainstorming – Day 1

- Split up into sub groups
- Used leading questions
- Collecting ideas to be implemented
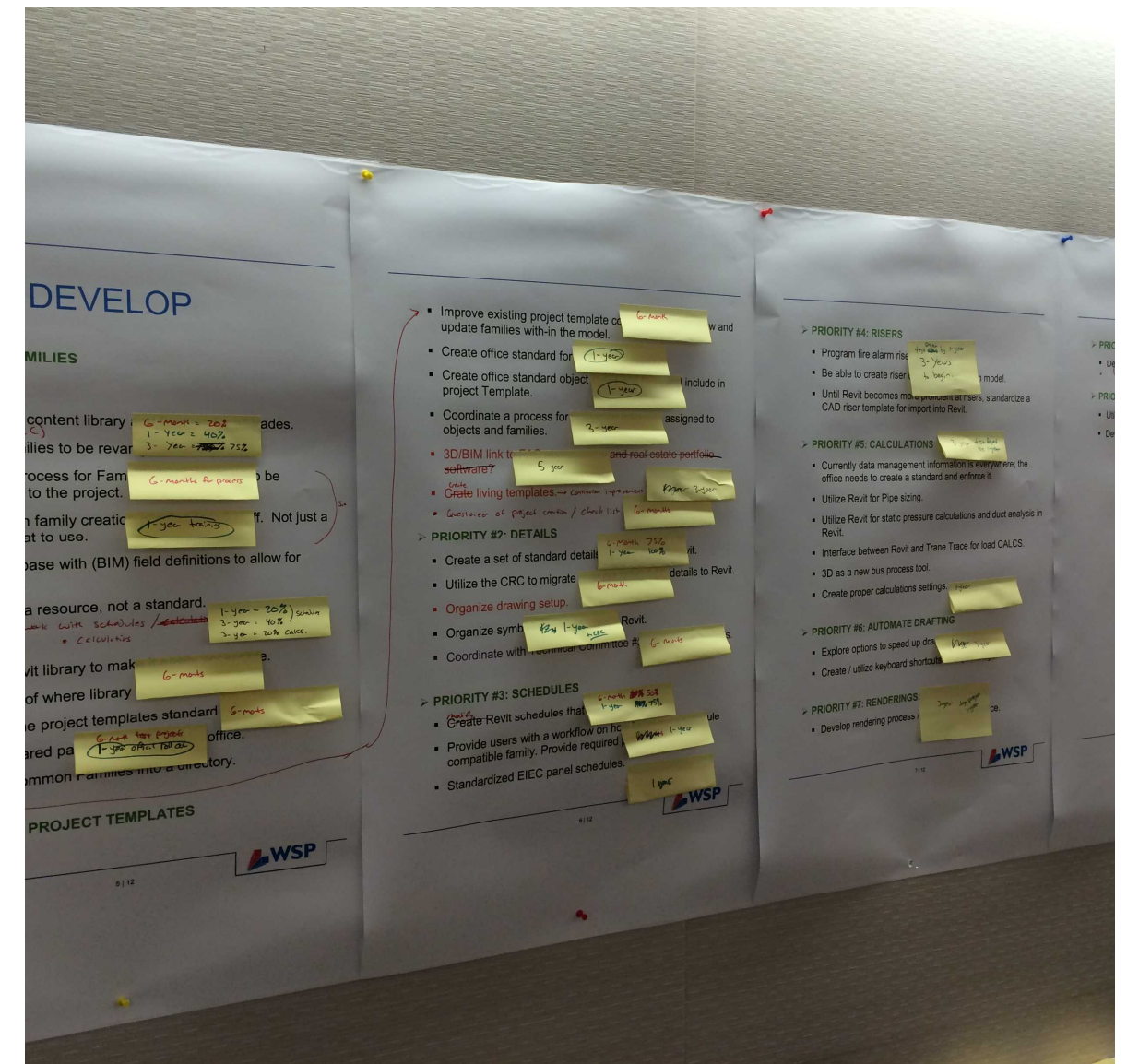- Organized and Prioritized the ideas under Global Goals: Educate, Quality, Develop

Brainstorming

Brainstorming – Day 2

- Reviewed content from Day 1
- Added time frame for completion for each task
- Removed duplicates and reorganized some content under different goals

Brainstorming

- Outcome was the frame work of the strategic plan
  - Specific Tasks Identified
  - Time frame for completion

DEVELOP

- ➤ PRIORITY #1: FAMILIES
  - ➤ CONTENT
    - Create Revit content library and families for all trades.
      - 6-Months: 20%
      - 1-year: 40%
      - 3-years: 75%
    - Determine process for Families from vendors' to be integrated in to the project.
      - 6-Months: To develop Process
      - 1-year: To Roll-out to staff
    - Allow custom family creation allowed for all staff. Not just a library of what to use.
      - 1-year: Training for 10% of staff
      - 3-years: Training for 20% of staff
    - Families that work with Schedules
      - 1-year: 20%
      - 3-years: 40%
   - Families that work with calculations
      - 3-years: 20%
  - ➤ LIBRARY
    - Improve Revit library to make it easily accessible and inform staff of where library is. Organize common families into

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Writing the Plan

- Each goal as part of the strategic plan had a champion to author their section
- Organized into a spreadsheet to keep track of content with time frames defined
- Utilizing Action Plan Template for next steps
- Watch overlap of committees, because content bleeds through from Develop to Quality to Educate

Writing the Plan
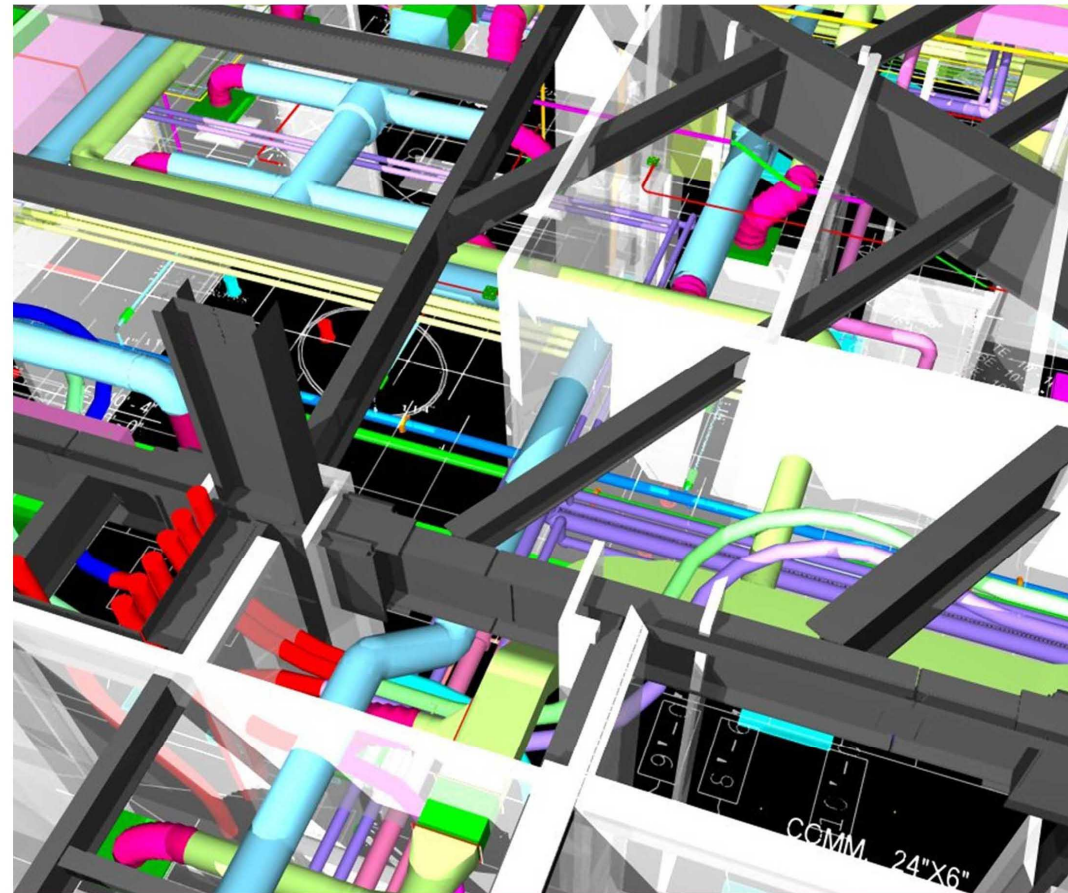
2016 – 2019 BIM STRATEGIC PLAN - FINAL
NY BUILDING SYSTEMS

November 25, 2015

Prepared For:

John Bredehorst

Executive Vice President

Building Systems

Template of Action Plan

Action Plan Title				
Strategy:				
Objectives:				
Owner:				
Deliverables:				
Due Date		**Person Days:**		**Total Cost:**
Action Step	**Who**	**Due Date**	**Person Days**	**Cost**

Writing the Plan

- Rounds of review by Selected Staff Members
- Reviewed content with Department heads
- Documented all comments and responses

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Implementation and Maintenance

Implementation

- Roll out to staff
- Present content to staff
- Provide regular emails to staff on revisions
- Plan was provided to National Committee

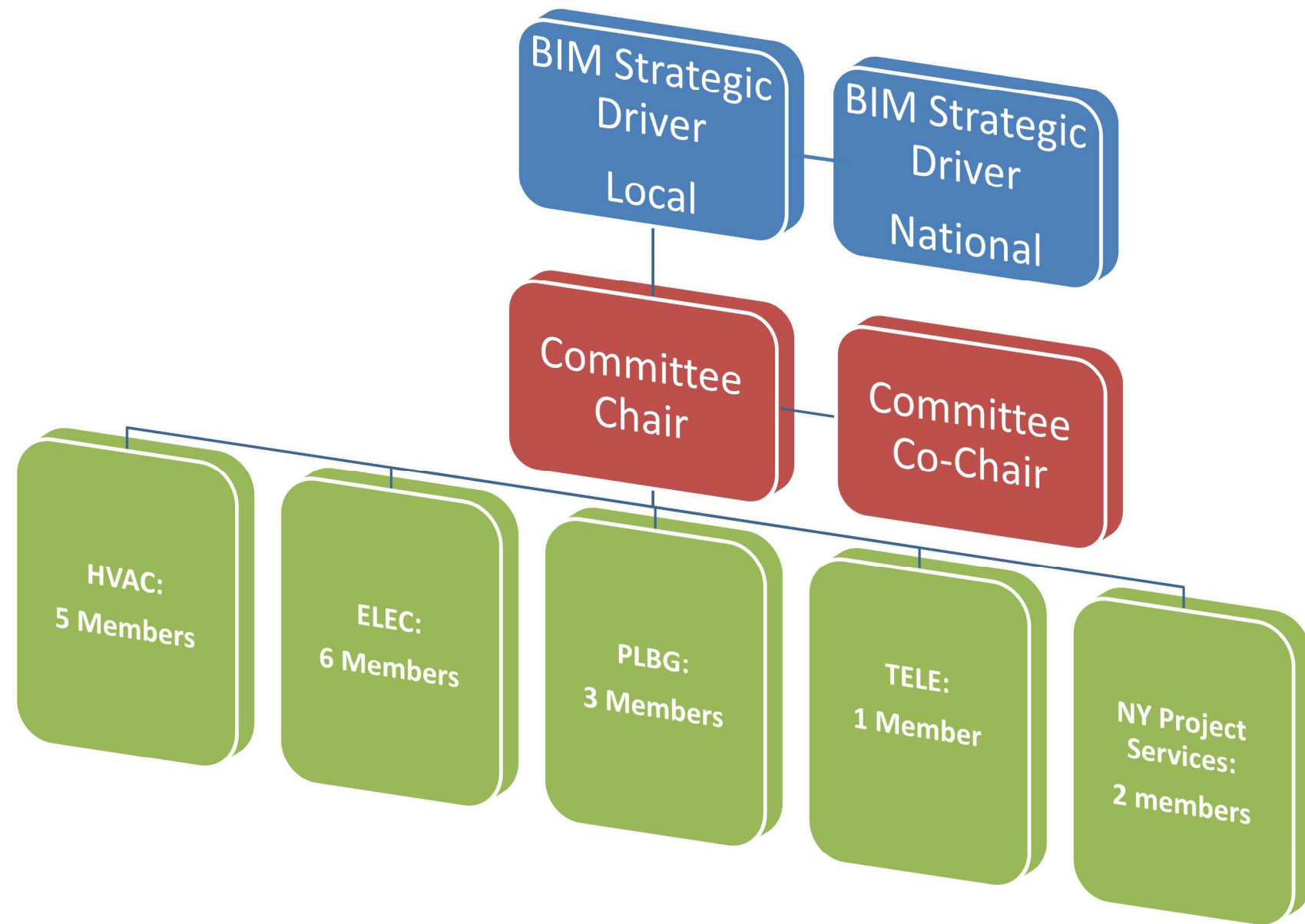TC Group 6
New York
Building Systems
BIM Strategic Plan

Staff Presentation 1/20/16

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Implementation – the group

Implementation – the group

BIM Strategic Driver
Local

BIM Strategic Driver
National

Committee Chair

Committee Co-Chair

HVAC:
5 Members

ELEC:
6 Members

PLBG:
3 Members

TELE:
1 Member

NY Project Services:
2 members

Educate:
4 members

Develop:
9 Members
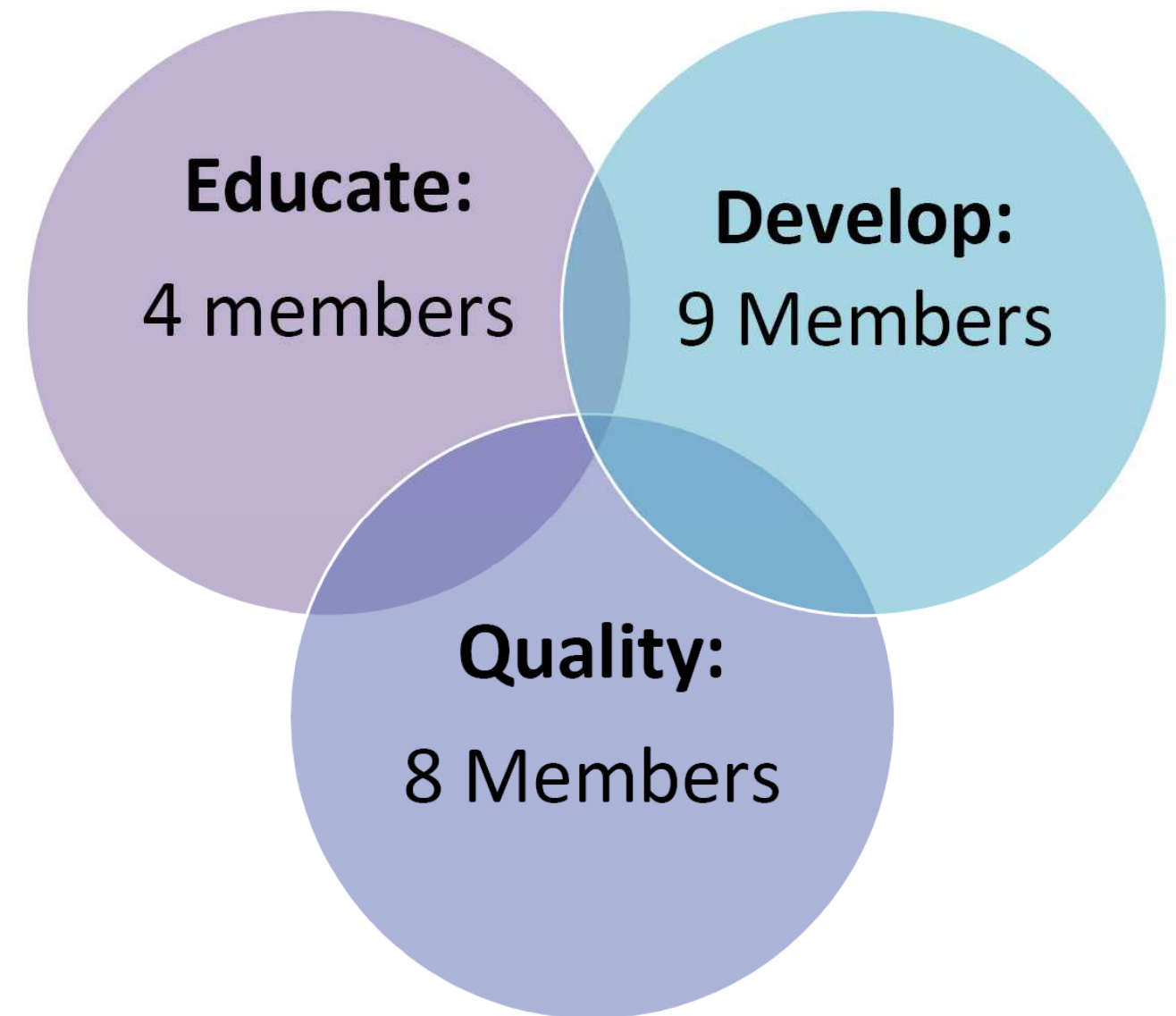
Quality:
8 Members

Implementation

- New Content that is developed is sent via email the staff
- Presentations are provided on the new content
- All content that is published is combined in a BIM binder

Objectives – Quality – BIM Binder

Table of Contents

Maintenance

- Bi-weekly meeting
    - 1 meeting of subcommittees as working session
    - 1 meeting with all subcommittees to report
- Report to Department Heads every 3 weeks on Progress
- Keep meeting minutes

Maintenance

- Slower Progress than was outlined originally
- Rotate new members in every year
- Re-allocate staff members to different sub-committees as needed
- Keep it fun

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Training Platforms

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Training Platforms

- Requires multiple platforms
    - Training Assessment
    - On-line Training
    - Regular meetings on processes
    - Weeklong training on specific topics
- Keep emphasizing to staff (and supervisors) to make time for training

Training Platforms

- ## Online Training Assessment
- ## Assessment generates training module lists
- ## Multiple online video modules of content

Overall Knowledge Assessment

Review of attempt 1

Finish review

Thank you for taking this assessment. You can review your quiz results below. In addition, a Recommended Lessons link has been provided. When this link is clicked the Curriculum Builder tool will assemble a list of lessons for your review. These lessons cover material directly applicable to the questions you answered incorrectly.

Click here for Recommended Lessons

Started on	Monday, 30 November 2015, 10:27 AM
Completed on	Monday, 30 November 2015, 10:52 AM
Time taken	24 mins 58 secs
Marks	34/60
Grade	**5.67** out of a maximum of 10 (**57**%)

1   Which UI component allows you to change an element's parameters?

Marks: 1

Choose one answer.

- ○ a. Project Browser
- ⦿ b. Properties Palette ✓
- ○ c. Application menu
- ○ d. Ribbon

Correct

Marks for this submission: 1/1.

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Training Platforms

Modeling Essentials

Limiting Visibility of Datum Using Scope Boxes (7:11)

Design Analysis

Controlling Construction Types (6:50)
Understanding Building and Space Type Settings (7:23)

HVAC Airside

Modeling Ductwork (8:39)
Modifying Ductwork and Fittings (6:08)

General Piping

Understanding Pipe Settings (9:02)
Modeling Sloped Pipe (8:22)

Plumbing

Working with Piping Components (7:05)

View Graphics

Understanding Plan View Range (4:09)
Understanding Object Styles (4:17)

Views and Sheets

Using a Sheet List and Placeholder Sheets (6:40)

Printing and Publishing

Printing to PDF (5:21)

Managing Your Projects

Understanding Coordinate Systems (7:46)
Working with Coordinate Systems (11:33)
Understanding Project Template Files (7:27)

Electrical

Understanding Electrical Settings (5:11)

Power

Adding Electrical Equipment (9:43)
Understanding Wiring Settings (4:59)
Creating Panel Schedules (7:26)

Lighting

Understanding Lighting Fixtures and Photometric Data (4:29)
Creating a Switch System (3:59)
Powering Lighting Systems (7:32)
Rendering Views to Analyze Lighting (7:05)

Schedules and Tags

Modifying Schedules with Filters (2:56)

Training Platforms – BIMco de Mayo

- Weeklong training "BIMco de Mayo"
    - Day 1: Scheduling
    - Day 2: Mechanical
    - Day 3: Plumbing / Tele
    - Day 4: Electrical
    - Day 5: Trade Coordination

Training Platforms – BIMco de Mayo

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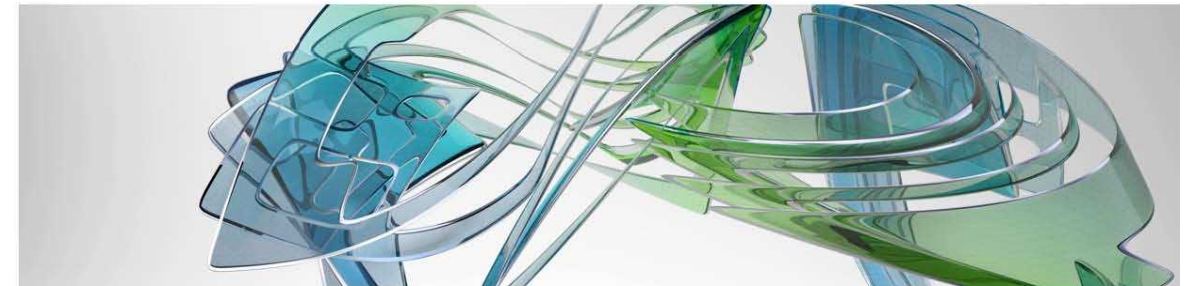
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The Corporate Connection

The Corporate Connection

- National BIM Champion
- Kick-off meeting with different offices
- Strategic Plan shared with other offices
- Regular meetings to allocate resources on specific tasks
- Leadership support is necessary for progress

Autodesk Review

Autodesk Review

- Autodesk Reviewed our process and provided a report commentary
- Similar outline and content to strategic plan
- Overall items line up with the Goals of our strategic plan

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BIM Transformation Service

Revit MEP Assessment
New York

WSP | PARSONS BRINCKERHOFF

Report

Status: Final
Finished

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R-WSPG-00100-SCO13

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Autodesk Review

- Report emphasized the strategic plan and that more resources should be allocated
- Changed some of the priorities of our tasks
  - Emphasis on Workflow and Documentation

Recommendation
Recommendation 6: Define BIM roles and responsibilities for project teams.
Recommendation 14: Identify the primary BIM Uses to be deployed by the New York office.
Recommendation 1: Re-double your efforts to implement the 2013-2016 BIM Strategy.
Recommendation 8: Refocus on the Educate portion of the BIM Strategic Plan.
Recommendation 9: Assess BIM training requirements throughout the office's project teams.

Autodesk Review

- Provided project model audits for three large scale projects
- Compared to our office standards
- Compared to industry standards

Next Steps and Lessons Learned

Next Steps

- Update Strategic Plan
    - Items completed
    - Time frames revised
    - Add new content
- Adding staff to implement

Next Steps

- More Emphasis on Educate Goal
- Conduct Monthly Meetings with staff
    - Each committee member to be in-charge of a day
    - Specific items from strategic plan to be discussed
- Maintaining a Project Template that has the latest content from the committee
- Continue regular email schedule for each sub-committee

Next Steps

- Create check-list for Project Audits
- Schedule Project Review Audits in-house
- Potential to include in ISO QA process

Lessons Learned

- Regular presentations is key for maintaining momentum
- Project Template is a living item and should be updated continuously
- Each office will have slightly different operations, start with a baseline and content to be revised by each office
- Continual Training on software is required
- Set more realistic with time frame for tasks

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