Optimising BIM360 Point Layout thru Navisworks Manage with the Topcon DS205i Robotic Total Station

Presenters – Robbie Kavanagh (Senior Project Engineer) & Sean O Dwyer (BIM Manager)

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JJ Rhatigan & Company
Speaker Profiles

Setting Standards for over 60 Years

JJ Rhatigan & Company – Speaker Profiles

Sean O'Dwyer
BIM Manager

- 18 valuable years experience in Construction Industry along with Civil and Structural Engineering Consultancy

- Involved in Implementation of BIM on all JJ Rhatigan projects internationally

- Provide workshops and support to all BIM Coordinators and BIM Engineers in JJ Rhatigan ensuring that projects are BIM compliant

Robbie Kavanagh
Senior Project Engineer

- 15 Years experience in the construction industry. Working on a large variance of projects

- Involved in the initial integration of BIM for JJ Rhatigan and workshops with Autodesk

- Advising JJ Rhatigan engineers on procedures and best practice on site using Autodesk software and Topcon Total stations

IRISH BIM INNOVATION AWARDS 2016 | **Winner** Construction Category

JJ Rhatigan & Company
Company Profile

Setting Standards for over 60 Years

JJ Rhatigan & Company – Company Profile

- Irish owned company

- Over 40 live BIM projects

- Over 60 years experience

- 380+ employees

- Experienced management team across many sectors:
  - Hotel industry
  - Residential
  - Student accommodation
  - Educational
  - Commercial
  - Healthcare
  - Retail
  - Pharma/ Medtech

JR Rhatigan
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JJ Rhatigan & Company
BIM Journey

Setting Standards for over 60 Years

JJ Rhatigan & Company – BIM Journey

JJ Rhatigan & Company, a company known for its hallmarks of Sustainable Design, Innovation, Quality and Construction Elegance, embarked on its BIM Journey in 2013, making a strategic decision to transition to a fully collaborative BIM environment.

- **Initial BIM Software Investment**

  Autodesk BIM360 Enterprise License

- **Initial BIM Site Hardware Investment**

  Partnership with Topcon and robotic DS 205i Machines

- **Initial BIM Training**

  External and Internal training

- **Ongoing Improvements**

  Dynamo – Tendering – Augmented Reality – CITA Events

JJ Rhatigan & Company – BIM Awards

Chiswick Community School
– BIM Innovation of the Year 2016

Review Criteria

- Innovation
- Collaboration & Communication
- Interoperability
- Use of International Standards
- Education and Training
- Risk Management
- Key Project Outcomes
- Key Learnings

IRISH BIM INNOVATION AWARDS 2016

10th November 2016, Gibson Hotel,
Point Village, Dublin 1

Congratulations to the Winners of the
Irish BIM Innovation Awards 2016

Design Category:
Ostick+Williams

Construction Category:
JJ Rhatigan

Operations and Asset Management Category:
BAM Ireland

CHISWICK SCHOOL
jjr chiswick school

JJ Rhatigan & Company – BIM Journey

- Product research

- Product testing

- Training

- Getting to site

- On Site Support and development

Product Research

- Exploring options available to JJ Rhatigan

- Finding what works best for our staff while still getting value for our investment

- Discussions with Autodesk

- Exploration of different software available

- Agreeing on a software and equipment that fits our needs

Product Testing

- Meeting prospective suppliers and trialling products and software available

- Allowing our engineers to get a feel for equipment

- Investment not based on cost alone but on what suits our needs the greatest

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Training

- Third level Revit fundamental training for all JJ Rhatigan engineers and project managers

- Full training on Topcon Robotic Total Station
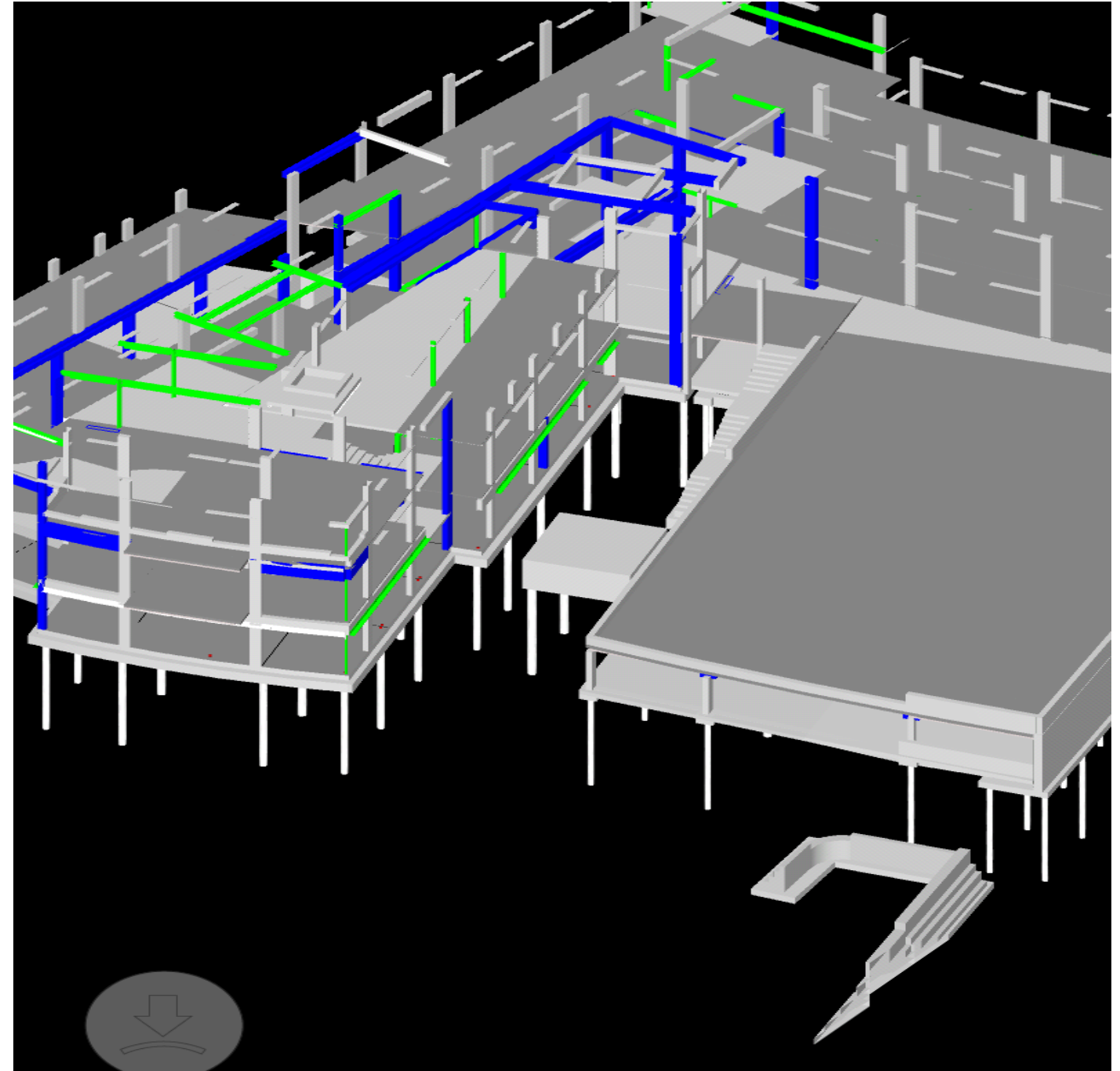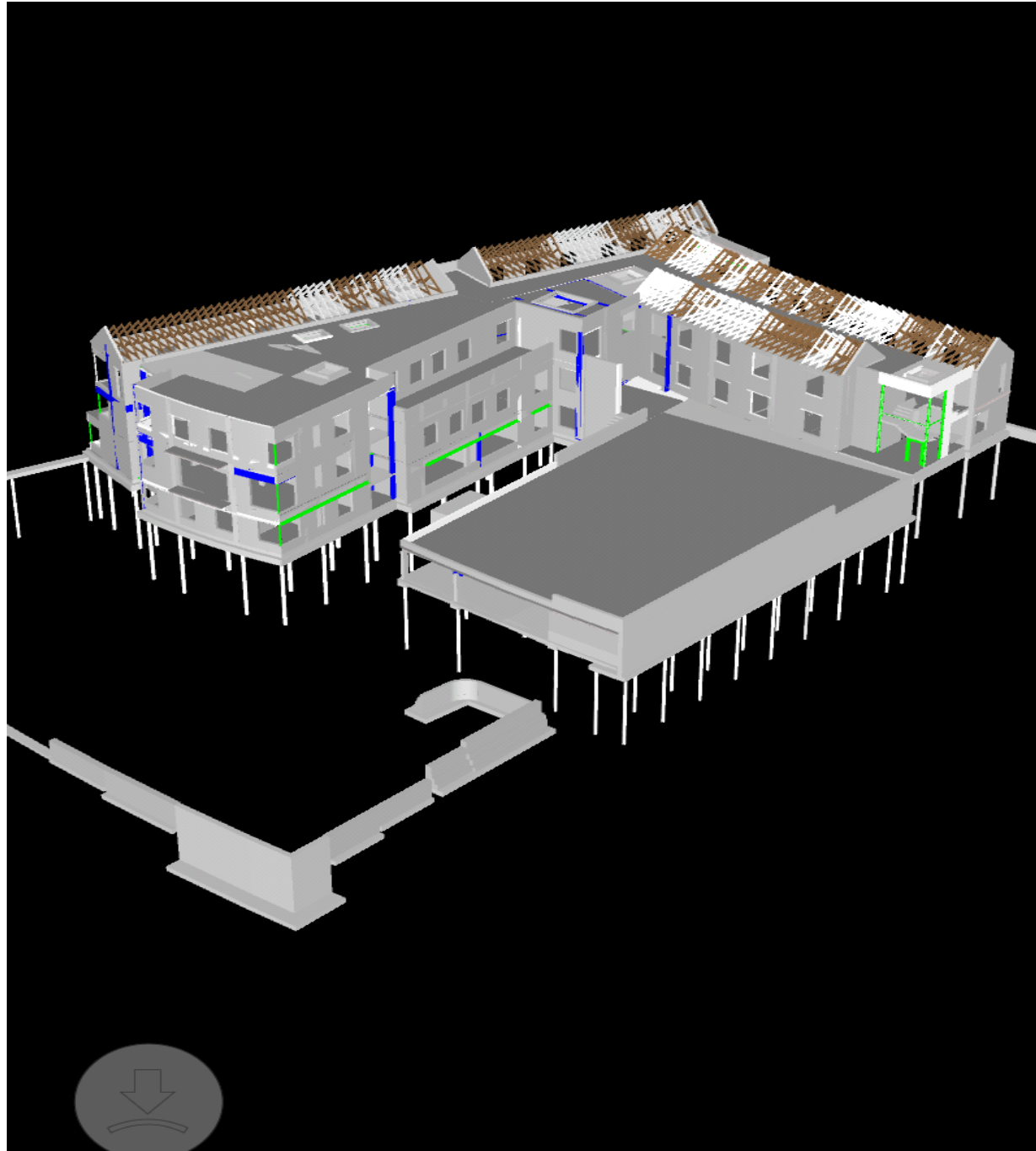
- On-Site support

Getting to Site

- Initial teething problems and solutions

- Increased productivity

- Cost savings

- Workflows

- Collaboration

- Actions taken and lessons learned

- The journey complete

Getting to Site

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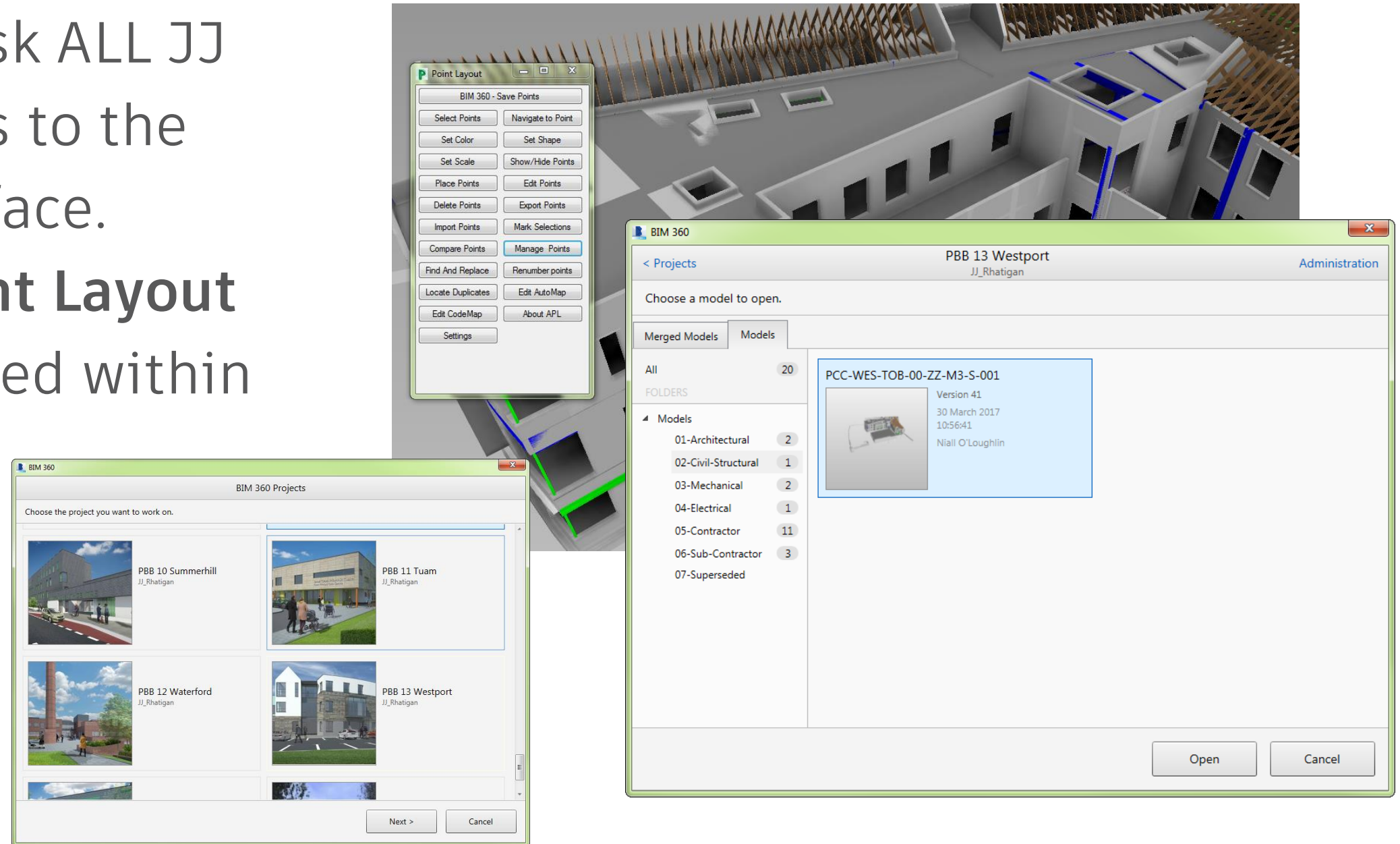
On Site Support and Development

- Autodesk Support

- Topcon Support

- Equipment and software issues resolved

Workflows –Navisworks Manage (with BIM360)

With the EBA with Autodesk ALL JJ Rhatigan staff have access to the **Navisworks manage** interface.

Along with Autodesks **Point Layout** Add-in points can be created within a matter of seconds.
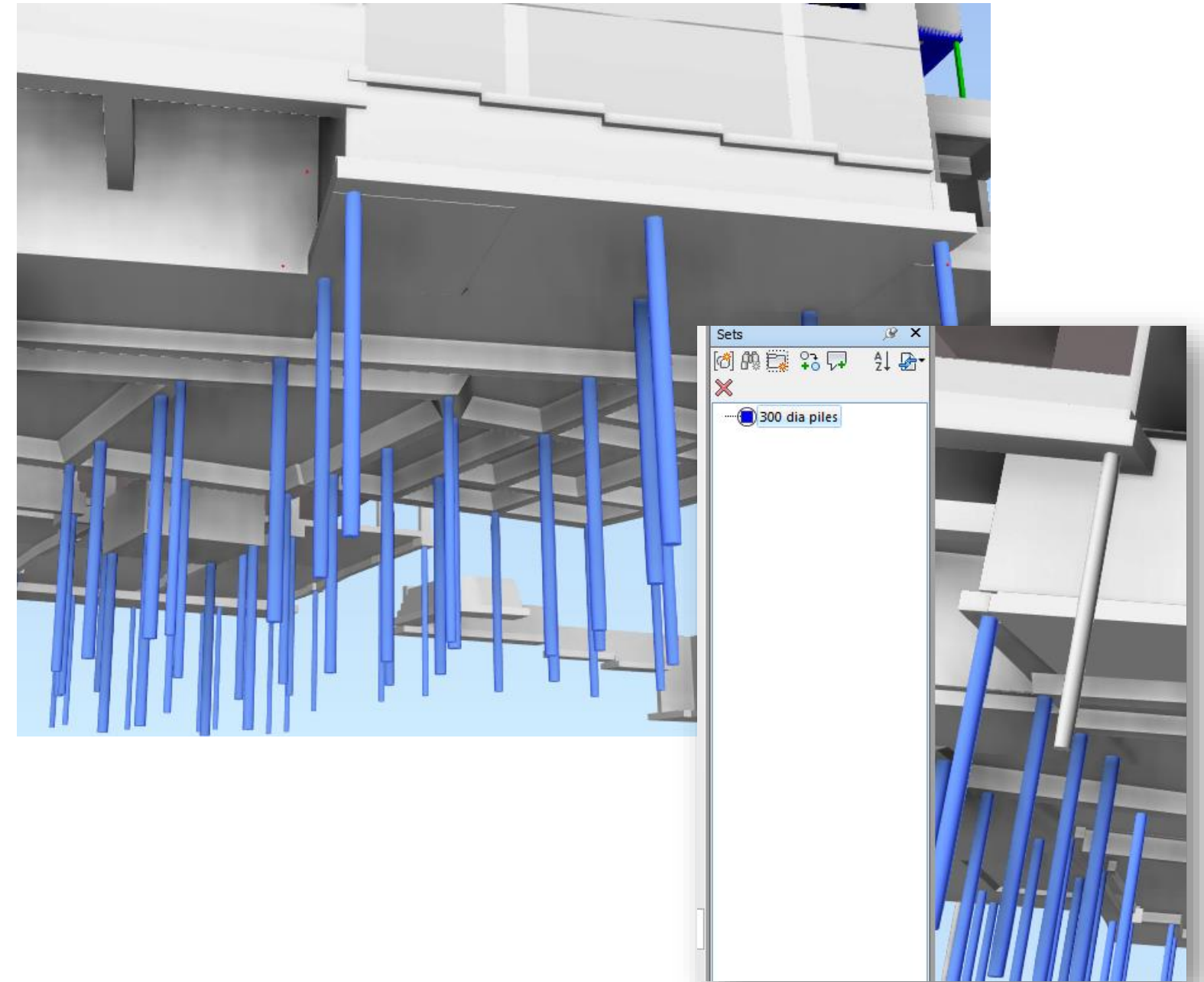
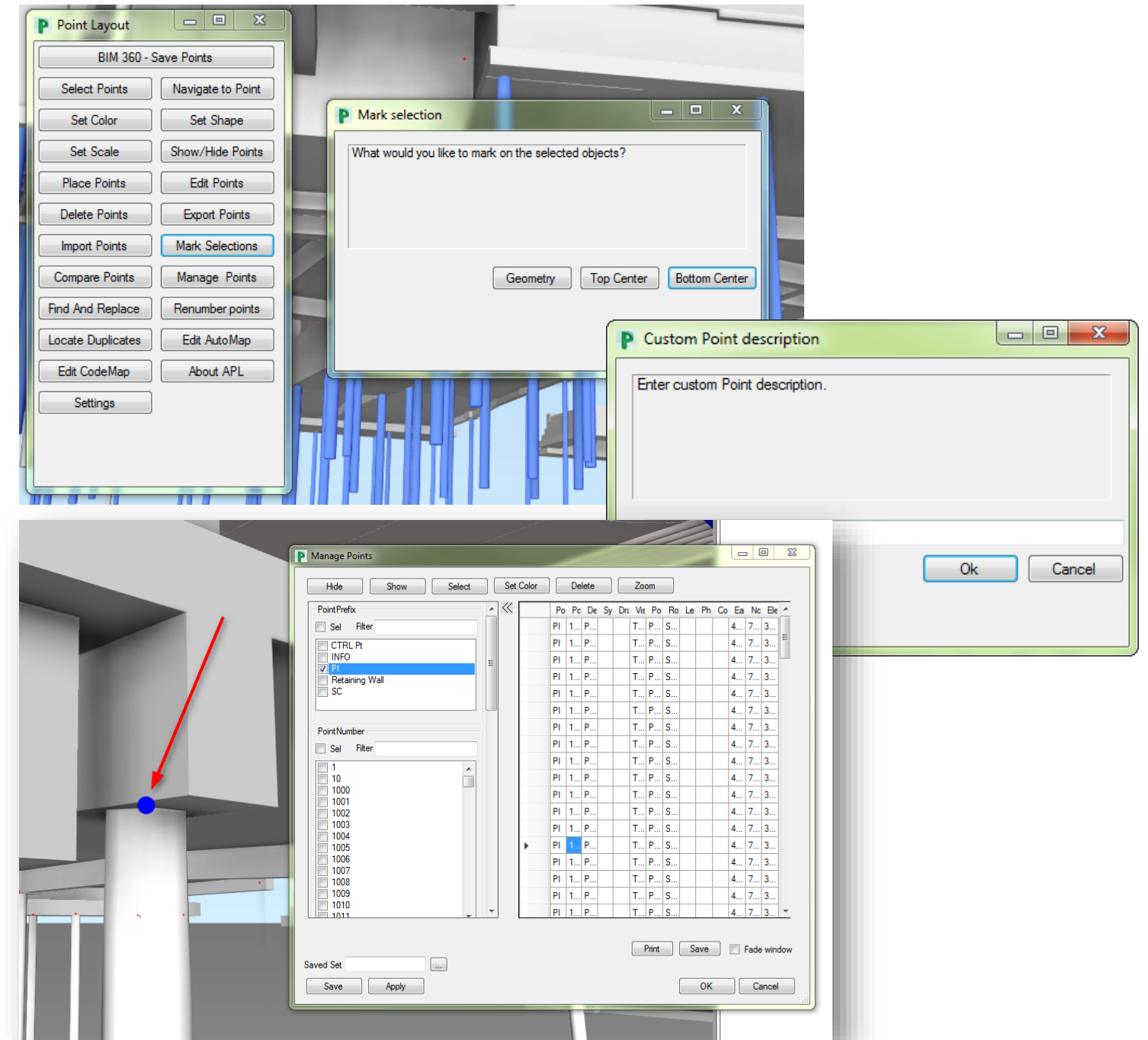# Workflows – Navisworks Manage (with BIM360)

An example would be the points creations for all the piles

1. Select a single pile and click on select same name. This highlights all the piles in the project of that name (300 dia piles)

2. With this selected now we use the Point Layout Add in

Workflows –Navisworks Manage (with BIM360)

3. With the selection set selected click on "Mark Selections" – "Top center" – "Custom" (For filtering purposes)

4. Click on relevant prompts until you have all relevant Pile cut offs for the 300 dia piles created

5. These points are then saved to the BIM360 for viewing on iPad etc.

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Workflows −Navisworks Manage (with BIM360)

- For use on a traditional logger these points can be exported into a csv file and imported into the relevant logger

- These points can be changed to verified, staked, etc. and a heat mapped plan indicating differentials to design etc. can be clearly identified.

	A	B	C	D	E
1	POINT NUMBER	X	Y	Z	DESCRIPTION
2	PI1000	499317.2197	784032.7338	35.485	Pile Cut Off Pts
3	PI1001	499343.4973	784022.3326	35.615	Pile Cut Off Pts
4	PI1002	499345.4924	784021.5346	35.615	Pile Cut Off Pts
5	PI1003	499357.5548	784048.9671	35.615	Pile Cut Off Pts
6	PI1004	499351.7436	784049.6207	35.665	Pile Cut Off Pts
7	PI1005	499354.8471	784048.1247	35.615	Pile Cut Off Pts
8	PI1006	499315.4261	784047.1816	35.485	Pile Cut Off Pts
9	PI1007	499319.8161	784052.1395	35.485	Pile Cut Off Pts
10	PI1008	499323.4962	784056.2956	35.485	Pile Cut Off Pts
11	PI1009	499329.1489	784029.7352	36.145	Pile Cut Off Pts
12	PI1010	499333.3411	784027.3208	36.295	Pile Cut Off Pts
13	PI1011	499340.6519	784023.4889	36.45	Pile Cut Off Pts
14	PI1012	499331.404	784035.3735	35.86646	Pile Cut Off Pts
15	PI1013	499334.1891	784042.3372	35.7	Pile Cut Off Pts
16	PI1014	499336.9742	784049.3009	35.56	Pile Cut Off Pts
17	PI1015	499338.6304	784053.4419	35.515	Pile Cut Off Pts
18	PI1016	499346.5613	784029.3113	35.615	Pile Cut Off Pts
19	PI1017	499348.5564	784028.5134	35.615	Pile Cut Off Pts
20	PI1018	499349.5816	784036.1809	35.615	Pile Cut Off Pts
21	PI1019	499351.5768	784035.383	35.615	Pile Cut Off Pts
22	PI1020	499352.602	784043.0505	35.615	Pile Cut Off Pts
23	PI1021	499354.5971	784042.2526	35.615	Pile Cut Off Pts
24	PI1022	499345.0502	784025.8745	35.615	Pile Cut Off Pts
25	PI1023	499347.0453	784025.0766	35.615	Pile Cut Off Pts
26	PI1024	499348.0689	784032.7402	35.615	Pile Cut Off Pts
27	PI1025	499350.064	784031.9423	35.615	Pile Cut Off Pts
28	PI1026	499351.0875	784039.6059	35.615	Pile Cut Off Pts

Thanks.
Any Questions?

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POINT LAYOUT

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