

Four Levels of Scanning & Modeling

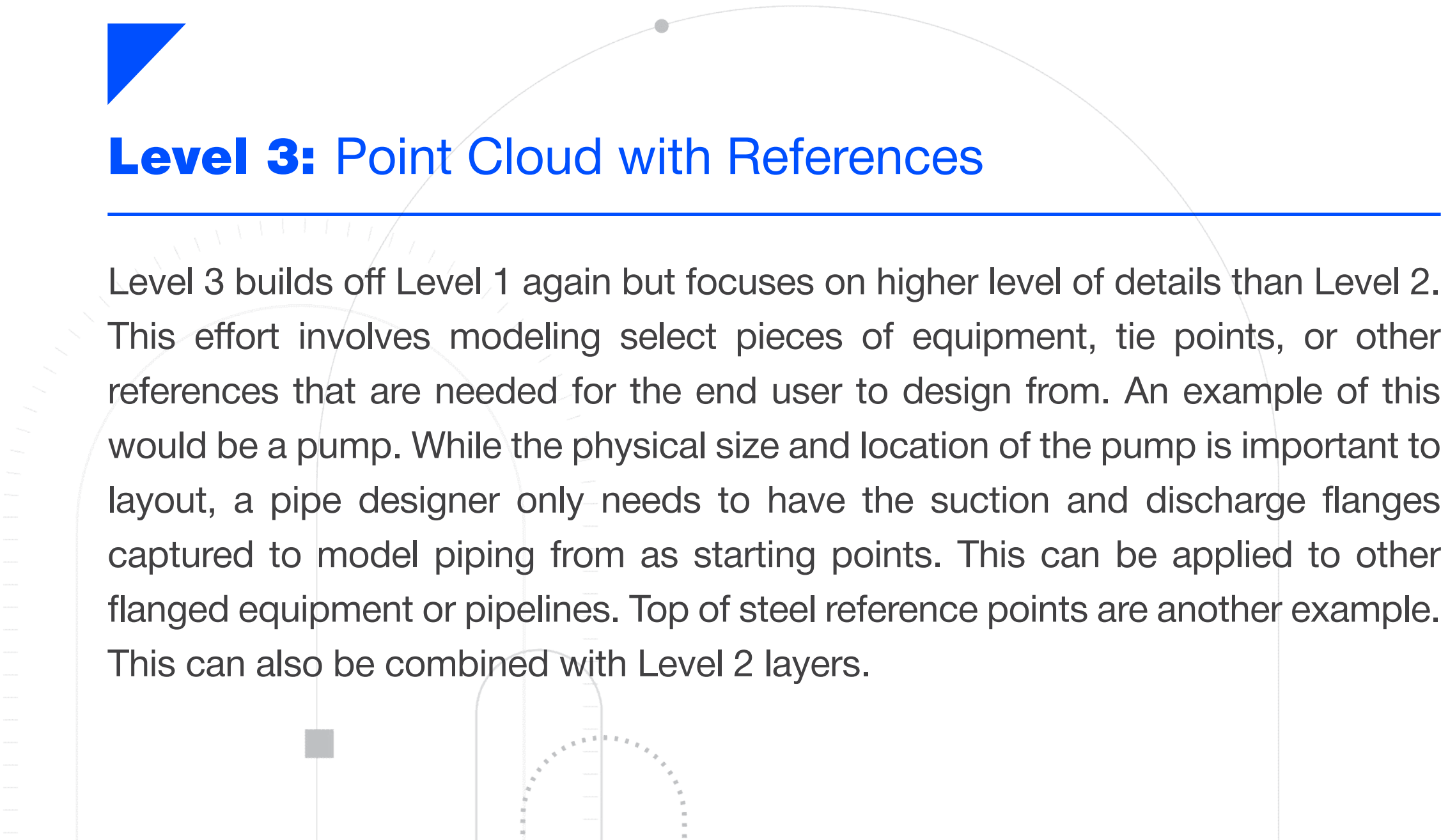


Level 1: Basic Point Cloud

Provide field scanning services to capture a point cloud and process it into a customer's preferred format. This includes basic point cloud cropping, customer coordinate system match and providing the point cloud data in processed scans ready for import and a Recap project file.



Level 3: Point Cloud with References



Level 3 builds off Level 1 again but focuses on higher level of details than Level 2. This effort involves modeling select pieces of equipment, tie points, or other references that are needed for the end user to design from. An example of this would be a pump. While the physical size and location of the pump is important to layout, a pipe designer only needs to have the suction and discharge flanges captured to model piping from as starting points. This can be applied to other flanged equipment or pipelines. Top of steel reference points are another example. This can also be combined with Level 2 layers.



Level 2: Layered Point Cloud

Perform Level 1 services and split the point cloud into customer identified layers. The layers can be per equipment, buildings, areas, or other designations. This allows for point cloud manipulation to isolate equipment for viewing or remove to show empty spaces where new equipment is going. This functionality can be carried over into Navisworks for viewing and reference.



Level 4: Detailed Modeling

This effort is the most time consuming as it requires the most detail. Extra scanning to capture equipment features or congested areas increases field labor and processing time. Once the point cloud is captured the equipment or area modeling is done with semi-automated software for piping and structural steel, but manual modeling in AutoCAD is required for connection details, equipment, foundations, or other items. The level of detail is affected by the environment as well. Debris build up, corrosion or congestion may prevent accurate models from being generated.