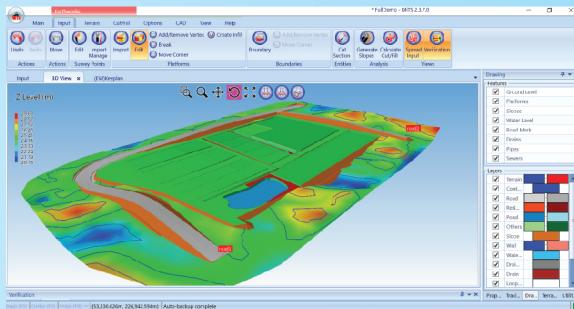




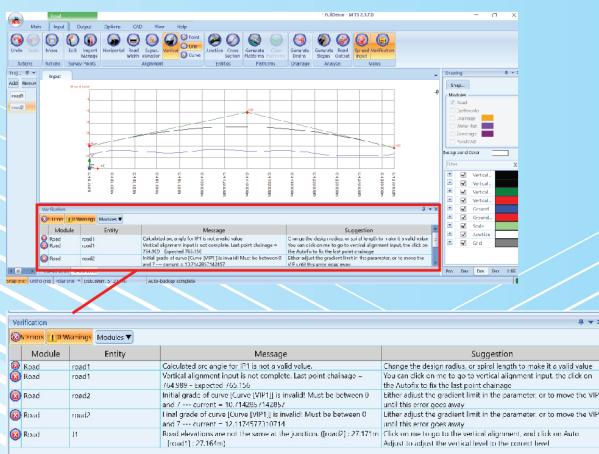
- Full 3D integrated design across all modules in one single user interface



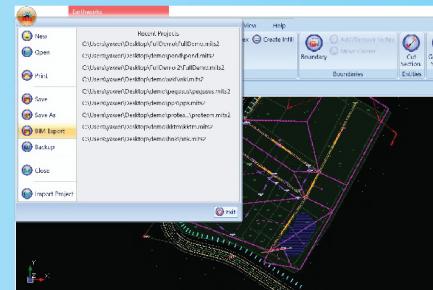
- CAD (.dxf/.dwg), Text (.txt/.xls) survey point import
- Google Earth points & elevation imports
- Tracing for architectural drawing & Google Earth drawing



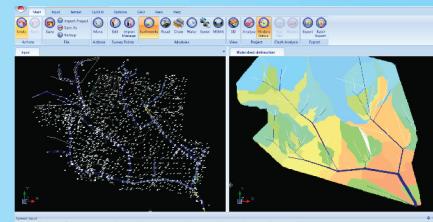
- Working speed approximate 5 times faster than previous version
- Real time verification



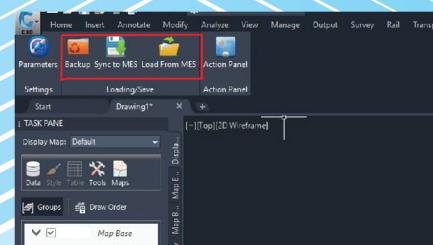
- BIM Software Compatible



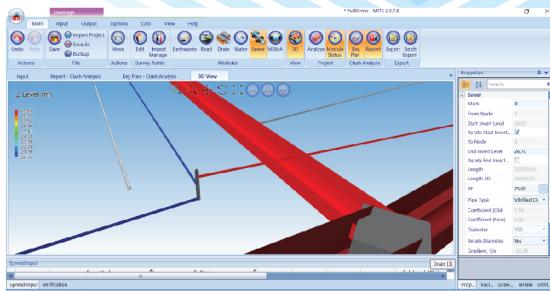
- Watershed Modelling (Flood Study)



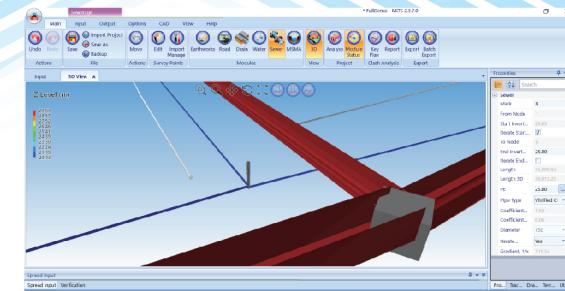
- Auto pick up OGL, PL & slope levels
- Supports basic CAD function
- Better visualization, more accurate design & enjoys better coordination
- Multiple earthworks volume calculation method;
 - Digital Terrain Method (TIN & TRN)
 - Grid Method
 - End Area Method
- Civil 3D Integrator Plugin



- BIM Clash analysis between Water, Sewer & Drain in 3D View & edit directly entity clash in 3D



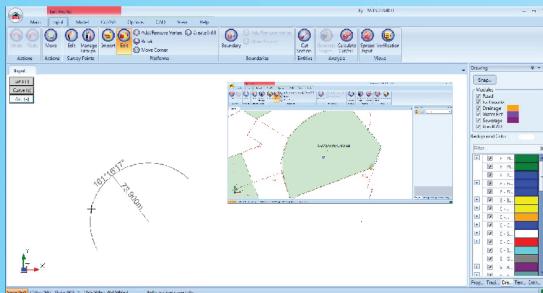
BEFORE



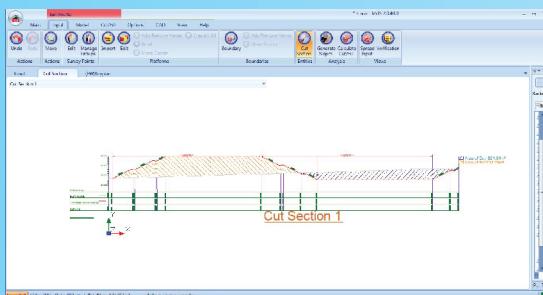
AFTER

EARTHWORKS

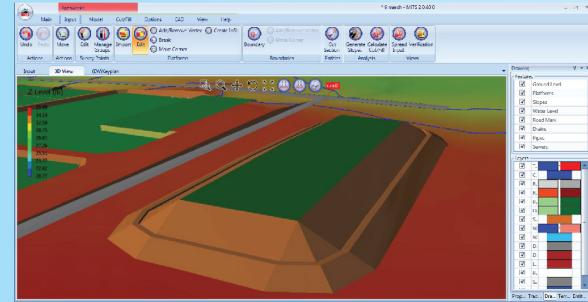
- Earthworks cut/fill with 3D Visualization
- Line, Curve & Arc platform modelling



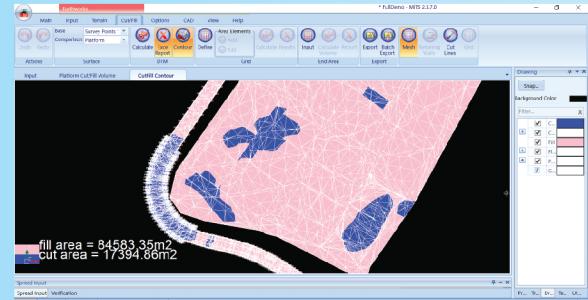
- Auto sloping & berm generation with different cut/fill ratio for each platform
- Auto retaining walls location identification
- Auto generate longitudinal sections



- As built platform (Platform as OGL)
- Auto propose platform elevation based on surrounding level (infill)
- 3D platform level view & 3D contour view



- 2D cut/fill area view with meshing



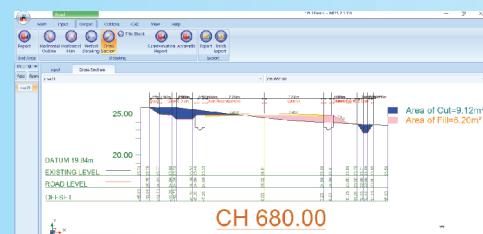
- Complied with **ATJ 8/86, AASHHTO & REAM** Guidelines
- Road & highway design
- Auto generate road side drain



- Auto calculate cut/fill areas & volumes
- Auto generate superelevation transitions
- Junction design
- Auto curve widening



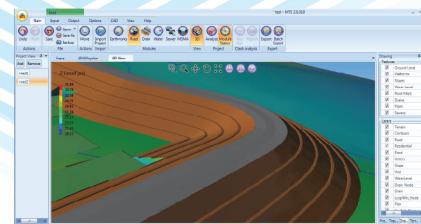
- Auto generate cross section output & all information needed for submission



- Setting outlines details
- Vertical detailing



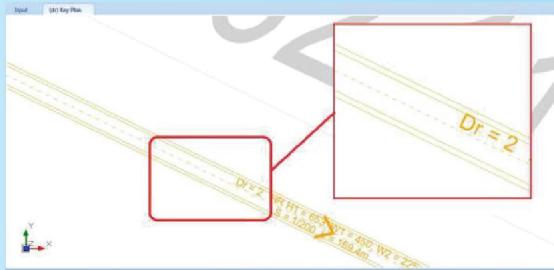
- 3D proposed road elevation view



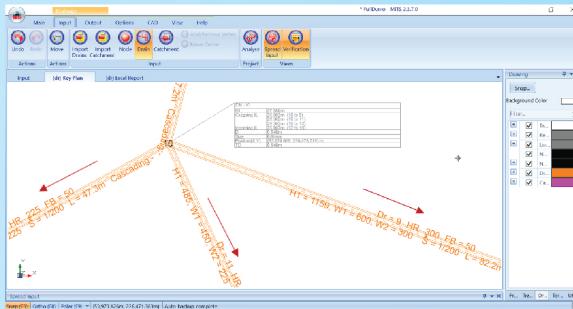


DRAINAGE

- Complied with **MSMA1, 2/SUStoM**
- Drain line & drain catchment import
- Drain real dimension on key plan



- Multiple separated drain networks & drainage outlet
- One sump multiple outflows



- Auto calculate rainfall intensities, gradient & invert level
- Auto generate longitudinal section & quantity take off



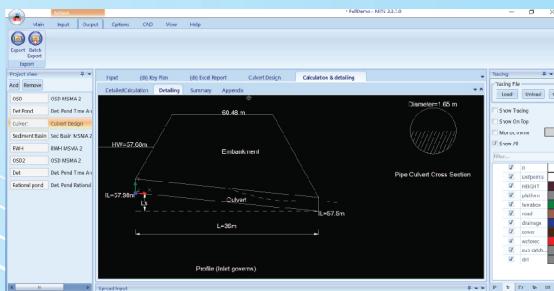
- Composite drain



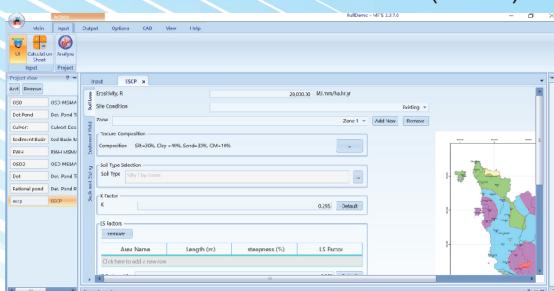
- Auto generate graphical output with all information needed by the authority

- Complied with **MSMA1, 2/SUStoM**

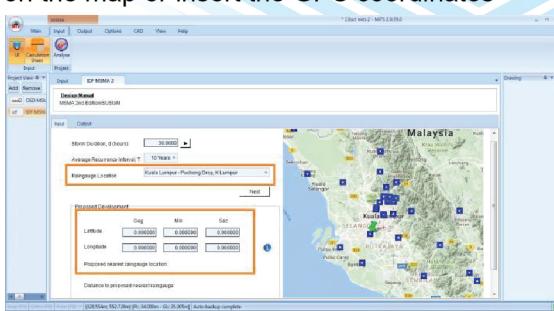
- Contain major urban storm water design such as Rainfall IDF, OSD, Det.Pond, Det.Drain, RWH & Sediment Basin, Culvert design & ESCP
- Culvert design



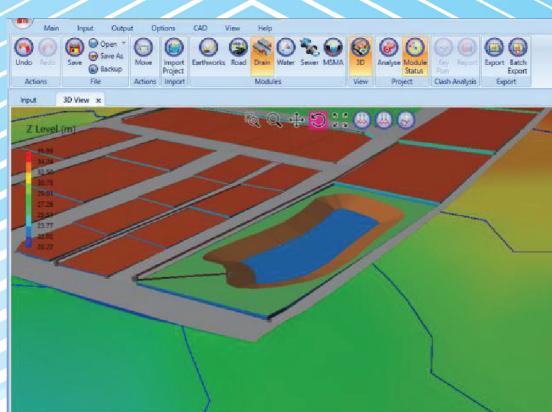
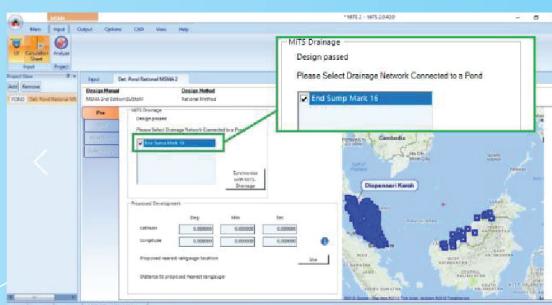
- Erosion and Sediment Control Plan (ESCP)



- Locate nearest raingauge location by either click on the map or insert the GPS coordinates



- Synchronization with Drainage & EW platform



- Multiple ponds design
- Auto generate report & graphical outputs for authority submission

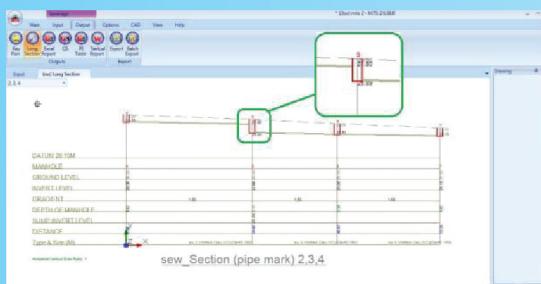


MSMA/SUStoM

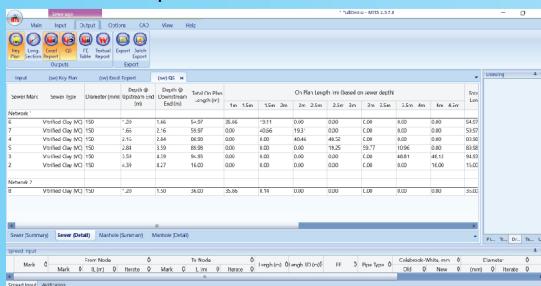


SEWERAGE

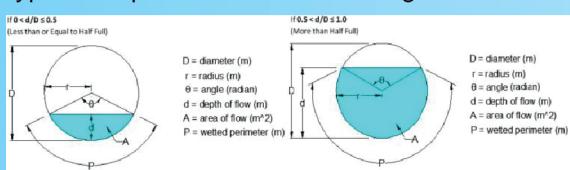
- Complied with **SPAN** Guideline
- Sewer line import from CAD drawing
- Longitudinal section with drop manhole (Auto/User-Defined)



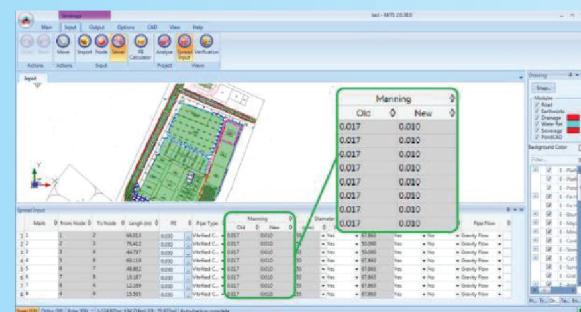
• Sewer QS report



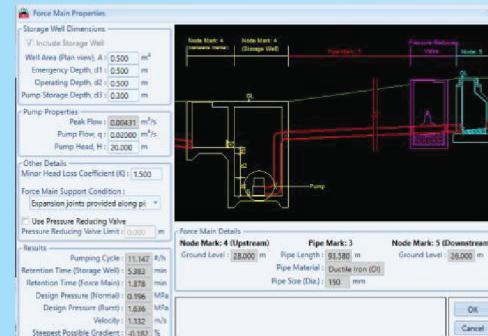
- Adjustable material thickness on per pipe type basis partial flow/full flow design



• Old & new pipe design



- Auto propose pipe diameter, gradient, IL & drop manhole
- Auto generate longitudinal section & quantity take off
- Force main design

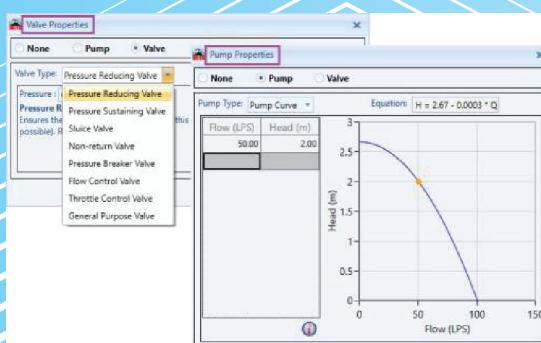


- Auto generate report & graphical outputs for authority submission



WATER RETICULATION

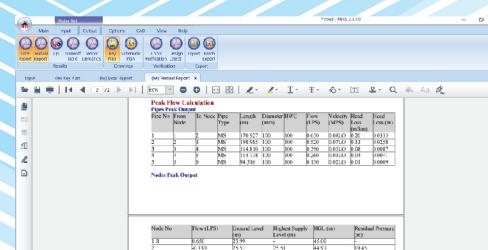
- Complied with **SPAN** Guideline
- Water line import from CAD drawing
- Multiple separated water reticulation & tapping points
- Looping and branching design peak flow & fire flow
- Real dimension of water pipe in key plan
- Pump & valve design



- Identify critical node (Hydrant) in water reticulation network



- Auto generate report & graphical outputs for authority submission



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