



Moving to MILS

Making the switch to Modular Landscaping layouts

Introduction

- VLC is in the process of moving to a modular layout system
- Opted for MILS as the underlying system
- Focus on what is important to the club
 - Encourage collaboration
 - Scalability for different builder abilities and commitments
 - Keeping unnecessary module costs down
 - Good looking modules
- This presentation is to provide guidance and inspiration, not instructions

This is me!



What is MILS

Modular
Integrated
Landscaping
System



What is MILS

- Developed by the HispaBrick community (<http://www.hispabrickmagazine.com/>)
- Improve coordination between builders on collaborative projects
- Its a set of basic rules to follow
- MILS is not a physical thing



MILS

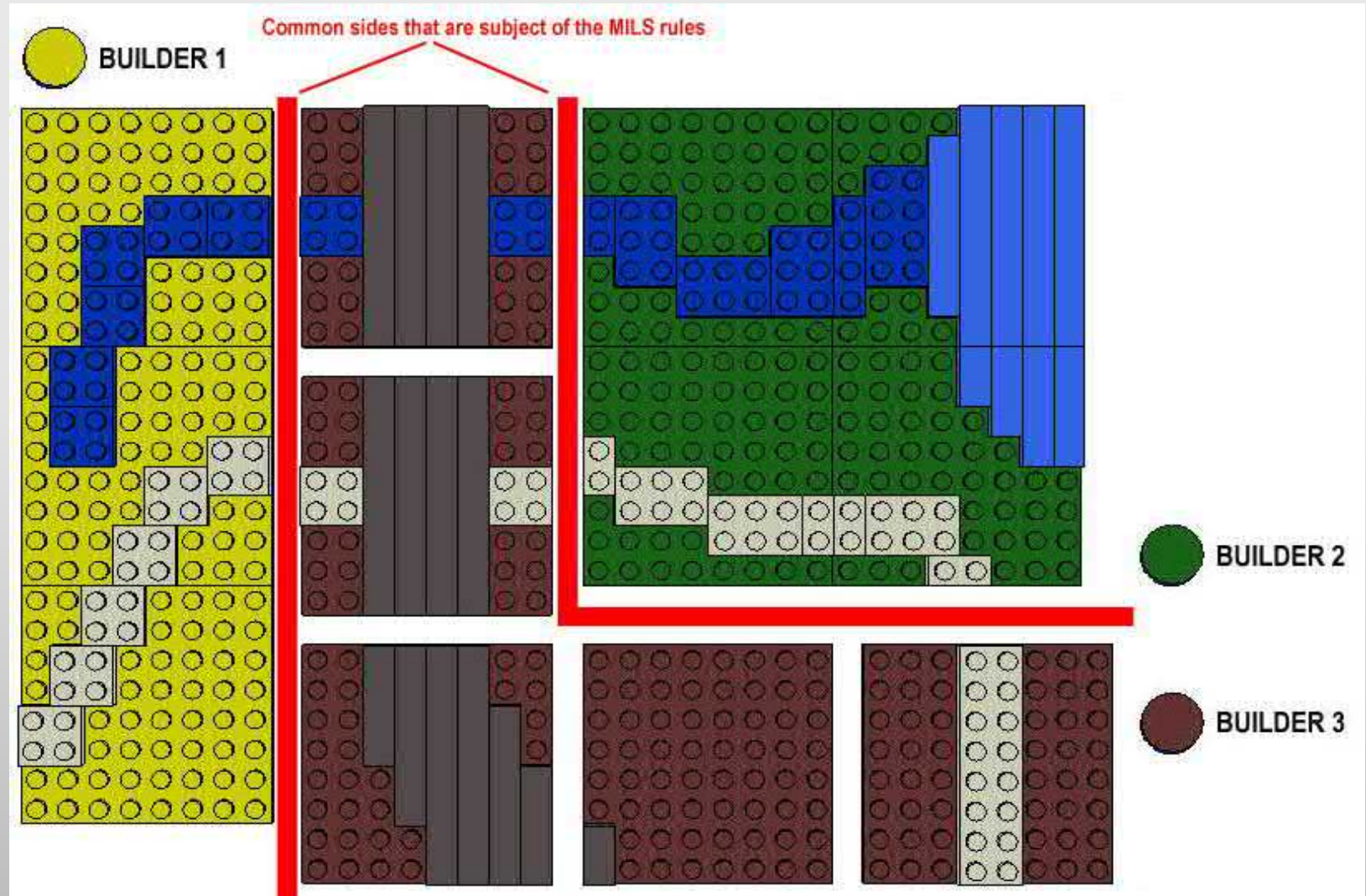
- Simple and flexible rules
- Not about controlling content, quality or quantity
- Focus on coordination
 - across large multi-builder dioramas
 - standardized interfaces between builder sections
- Everything that connects from one builder's area to another follows the MILS rules

Basic MILS Rules

- Modular
 - Everything is based on interconnected modules
- Standardized sizes
 - Based on 32 x 32 stud base plate modules
 - Basic thickness of 4 plates high:
 - 1 brick
 - 1 plate
- Interconnection points
- ID Corners (2x2 brick or 3-high 2x2plates)
- Easily adapted
 - Customize to suit LUG / Collaboration interface needs

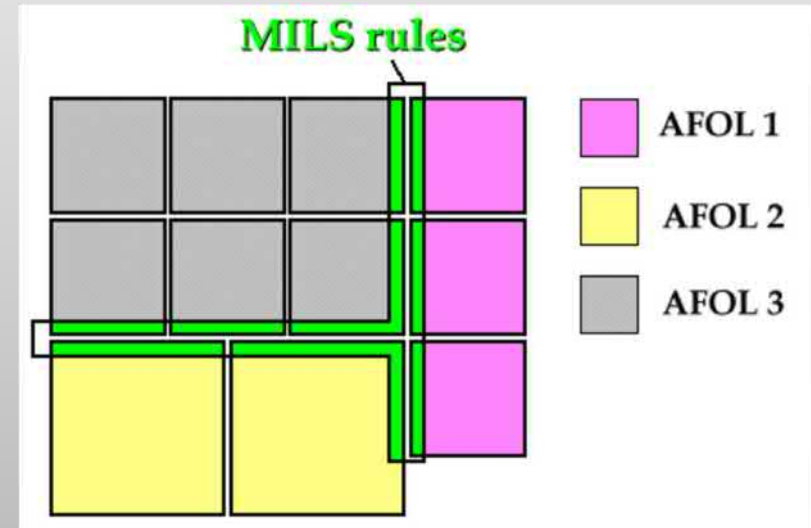


Basic MILS Rules – Interface between areas



Module Sizes

- Basic module uses 32 x 32 stud base plates
- Can accommodate other sizes of Baseplates:
 - 48 x 48 studs
 - 16 x 32 studs
- Alternate module sizes need to accommodate basic module size interconnection
- Within a builder's area, any combination of baseplates can be used
- Not required to maintain MILS compliance within a builder area
- Key is to meet the MILS standards where interfacing with another builder



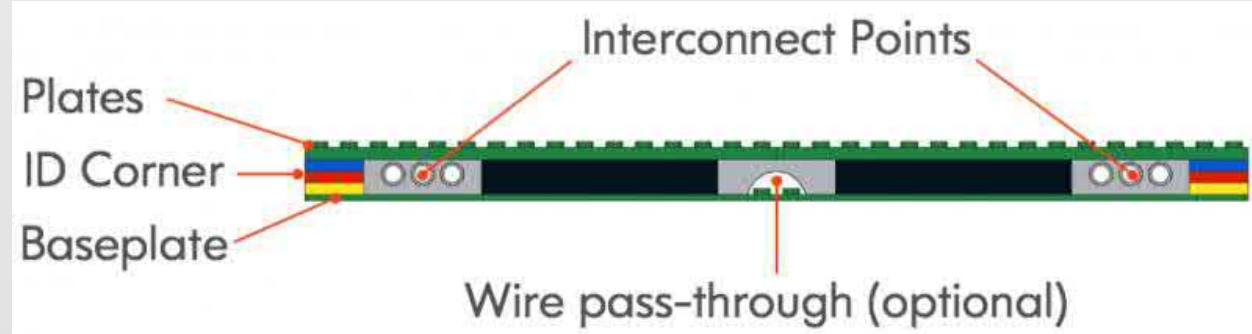
Basic Modules



Basic Modules

- A Basic MILS compliant module is:

- 32 x 32 studs baseplate
- 4 plates high:
 - 1 brick
 - 1 plate
- Interconnection points
- ID Corners



- Basic Terrain Modules

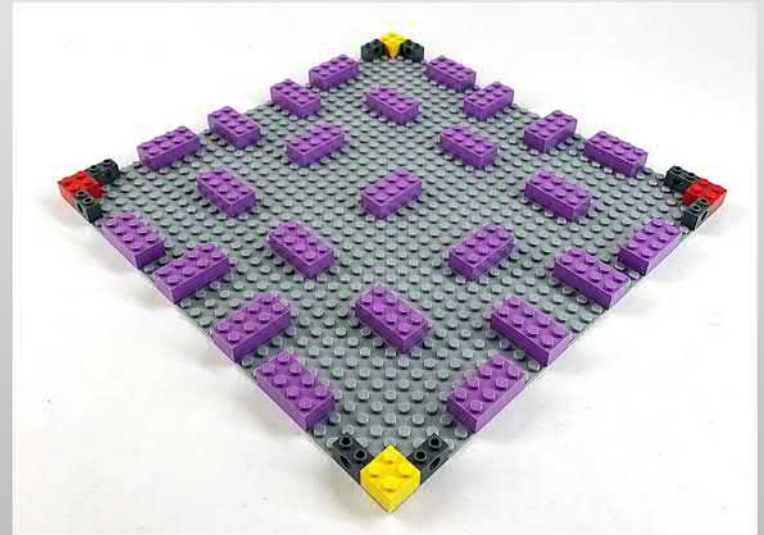
- Meets the MILS standard on all sides

- Compatible Terrain Modules

- Meets the MILS standard on some sides

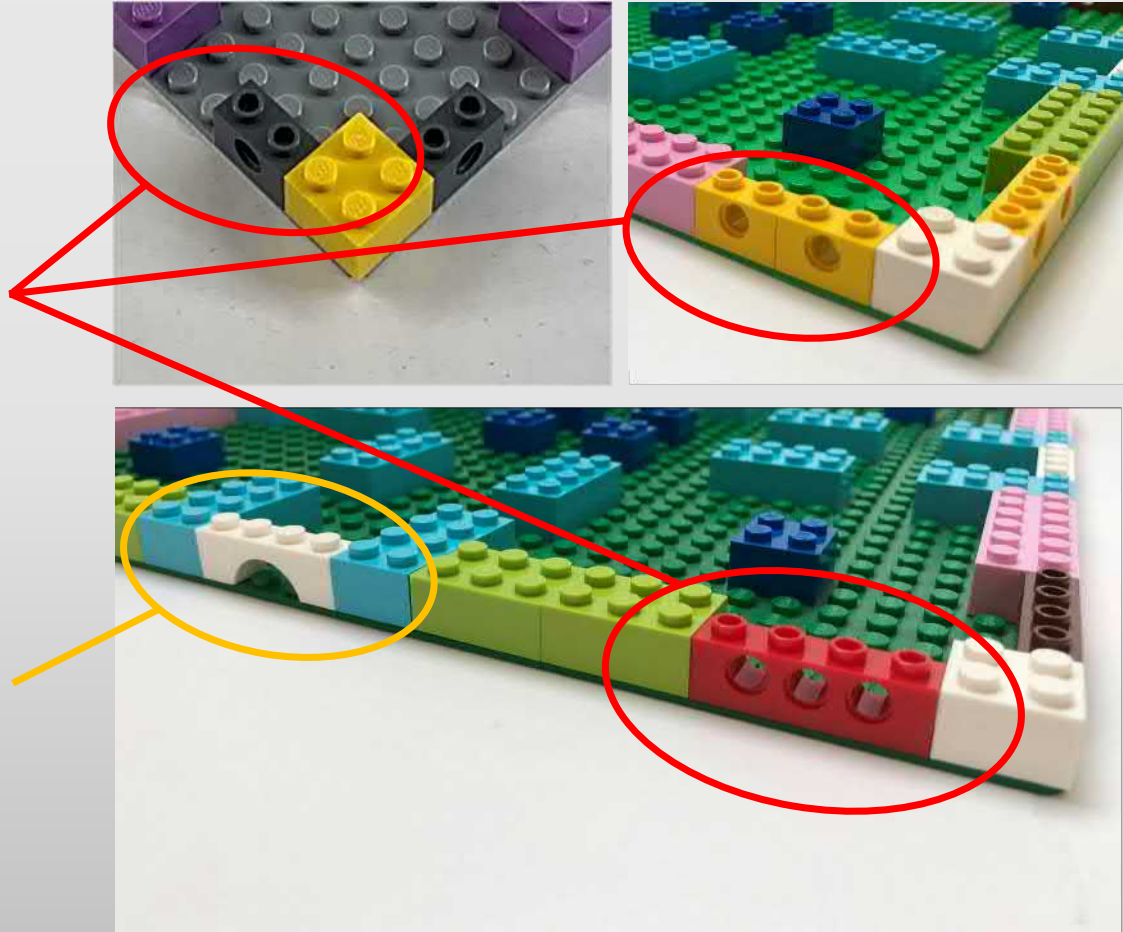
Basic Modules - Foundations

- Foundation for MILS compatible modules
- Add top plates for terrain modules
- Brick layout to support plates/structure placed on it
- Brick foundation layout is not fixed – develop an arrangement that suit your brick supply
- Omit top plates to accommodate LEGO Modular Buildings
 - Modular sits directly on studs



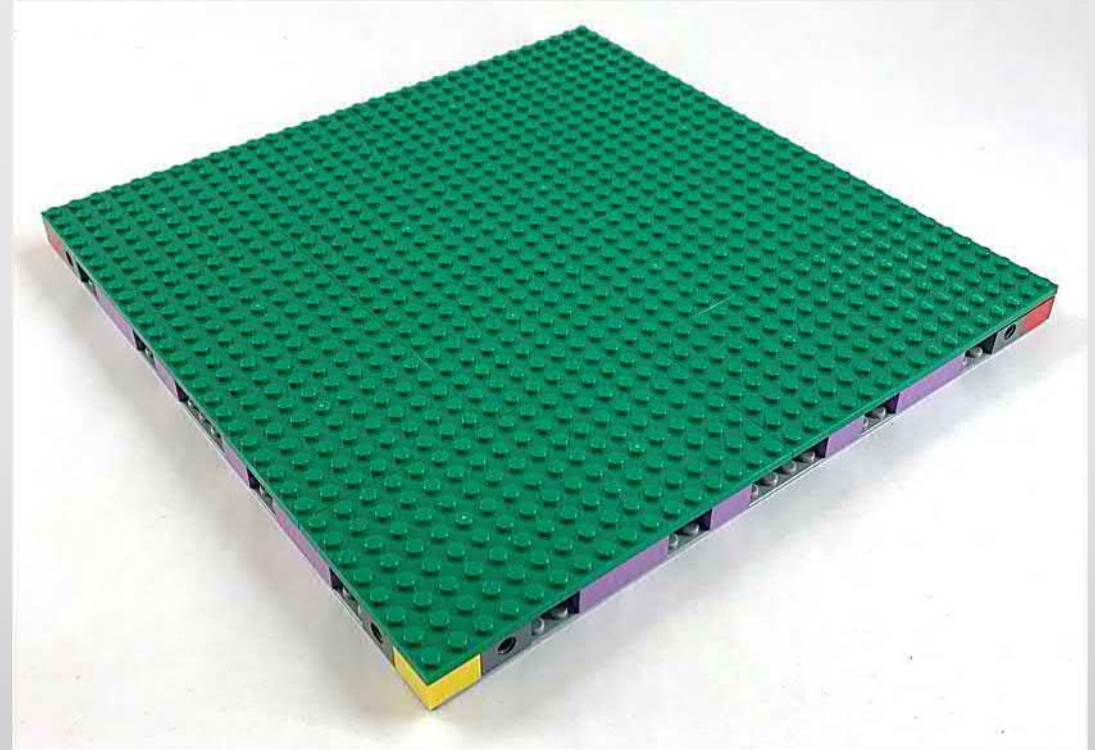
Basic Modules - Foundations

- 1x2 Technic bricks can be used in place of the 1x4 Technic brick
 - Caution – the 1x2 bricks do not clutch as well as the 1x4 brick and risk coming apart if not contained with a top plate
- Gap in edge bricks very useful for cabling
 - Caution – better to leave a full 1x4 brick gap than use an arch. The arch does not accommodate PF connectors.



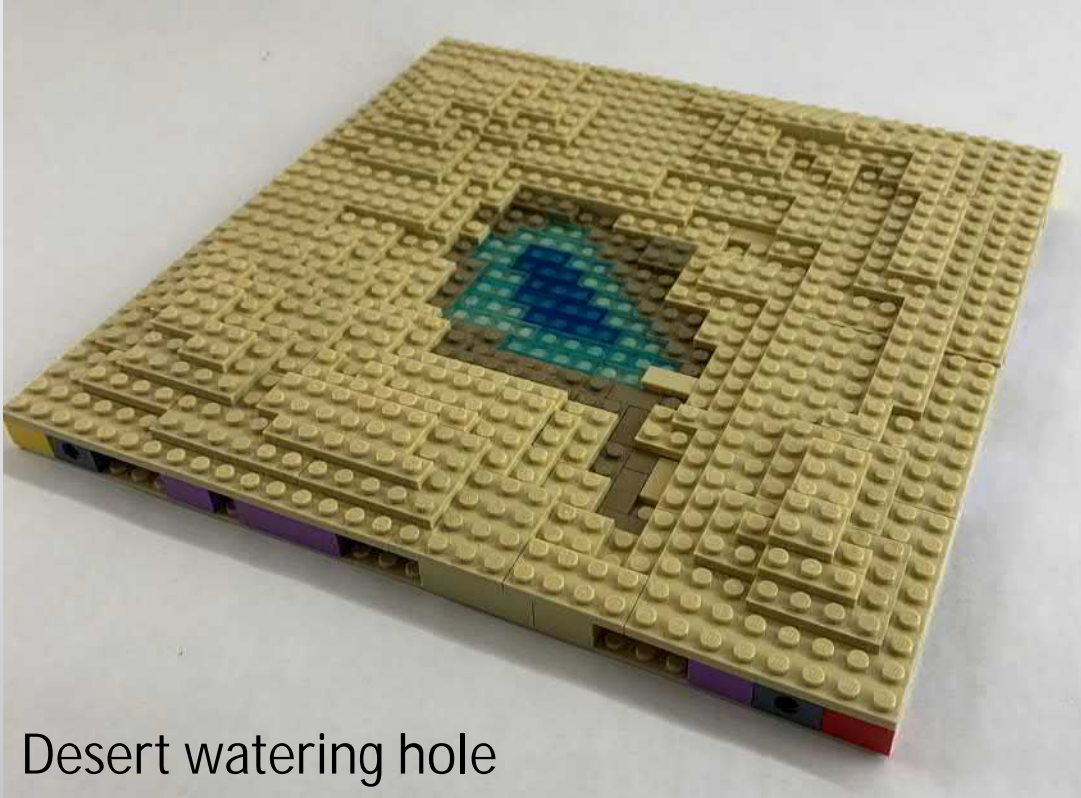
Basic Modules - Terrain

- The building block for modules
- Foundation module with top plates applied
- Simple brick and plate construction
- Used for area landscaping
- Complies with MILS rules on all sides



Basic Modules - Terrain

- Examples of fully compliant modules



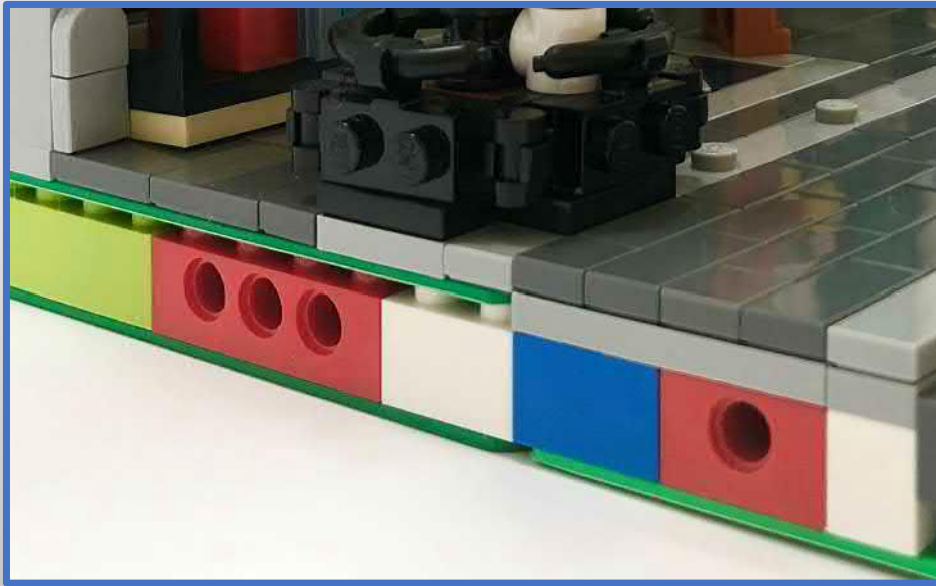
Desert watering hole



Horse Paddock

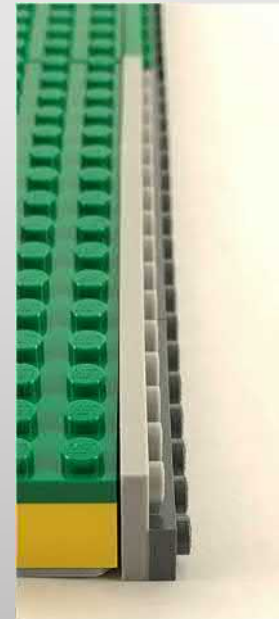
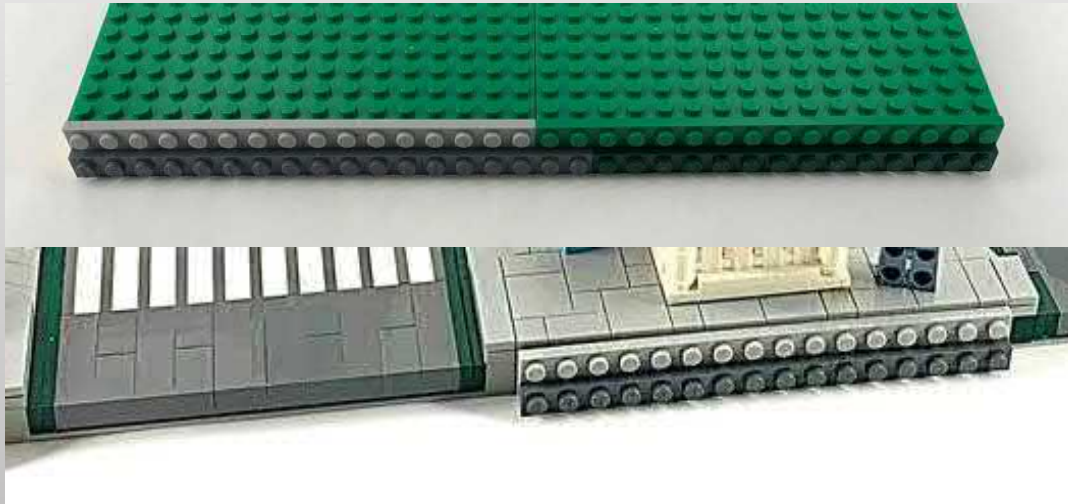
Basic Modules –Foundation

- Matches at sidewalk elevation



Edging of Modules

- Cover up the exposed foundation brick
- Give a tidy finish
- Utilize module connection points
 - Technic half connector with stud
 - Can be colour coded to adjacent landscaping



Compatible Modules



Compatible Modules

- Orientation constraints
- Cannot be place in any direction due to interface limitations
- Examples are:
 - Roads
 - Railways
 - Rivers
 - Shorelines
 - Mountains



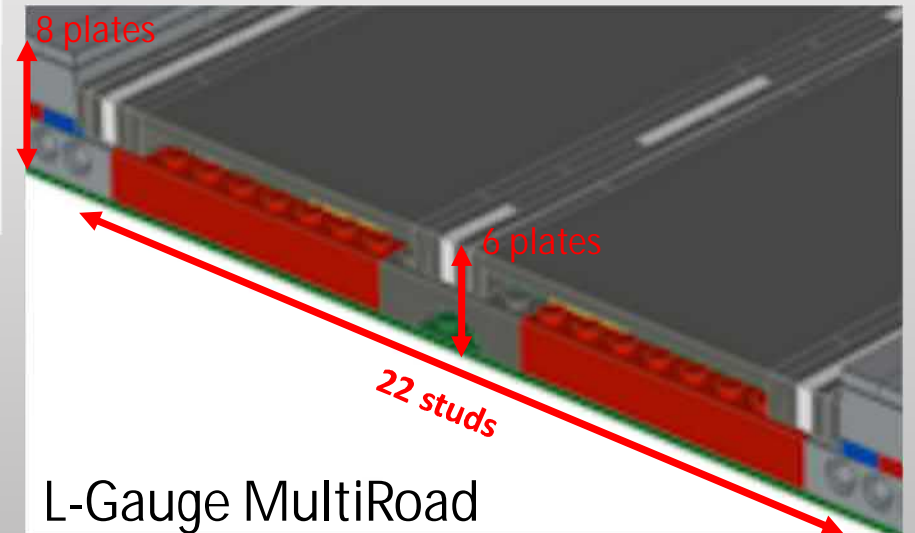
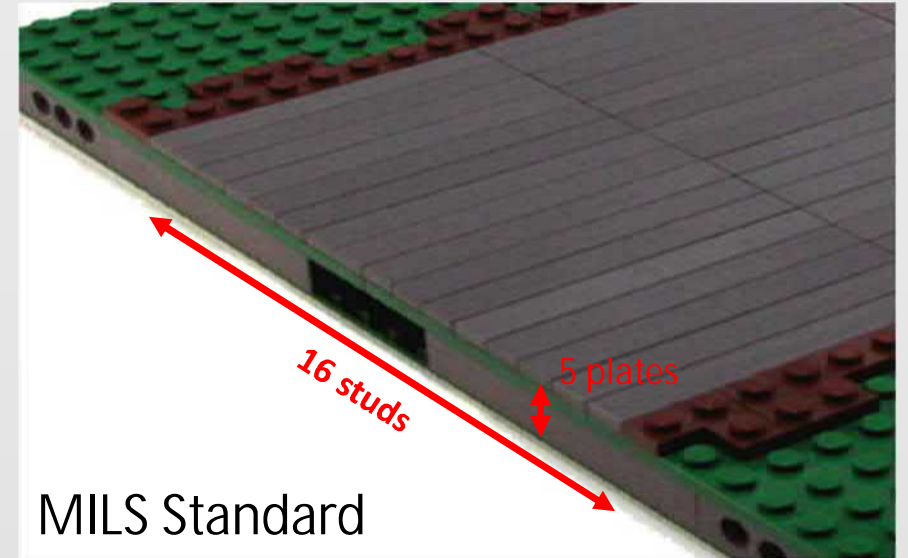
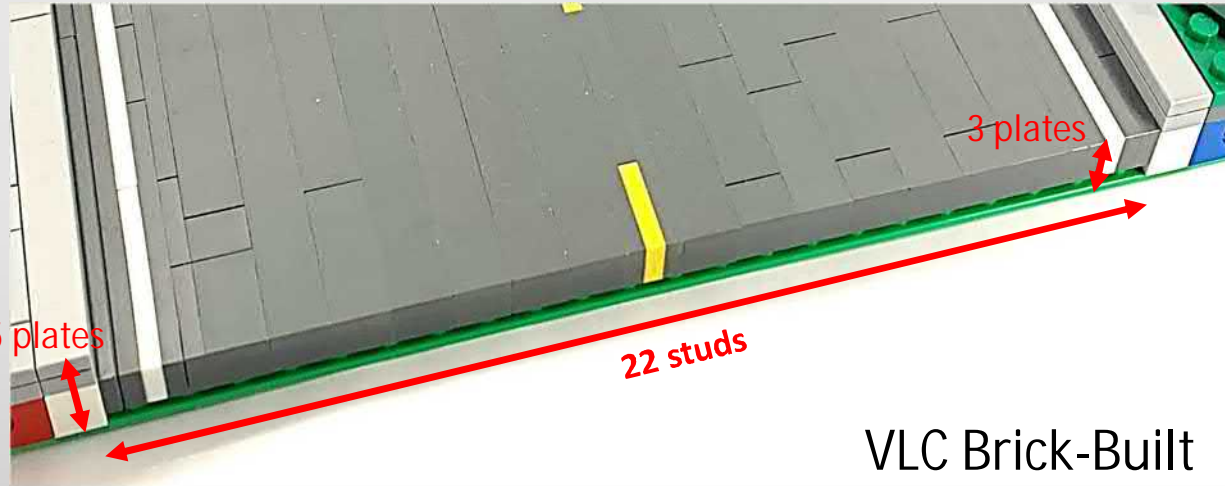
Road Modules

- Various Standards available plus specific variations

	Style	Width	Height of road	Sidewalk
MILS	Tile	16 studs	1x tile above basic	Not Defined
L-Gauge MultiRoad	Tile and Brick-built	22 studs	2x plates above basic	1x brick & 1x tile above basic
VLC (LUG specific)	Brick-built	22 studs	Inset 2x plate below basic	1x tile above basic

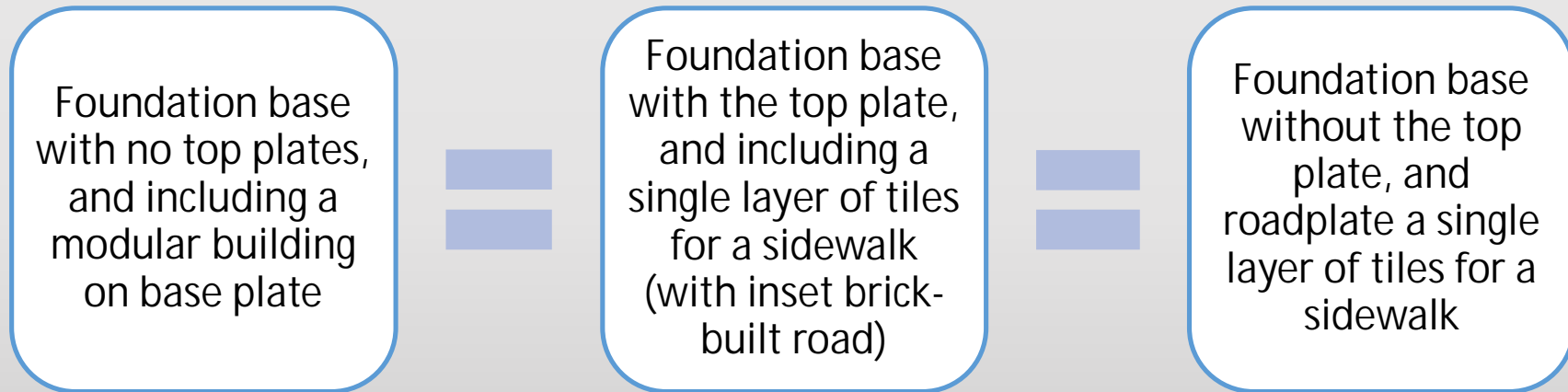


Road Modules



Road Modules – Brick-Built

- Consistency of urban streetscape elevation
- Less brick intensive



- Easy integration with any Modular or MOC:
 - built on a Baseplate as they sit on the studs of the foundation base
 - built on basic terrain module.

Road Modules – Brick-Built Examples



Narrowed Crosswalk



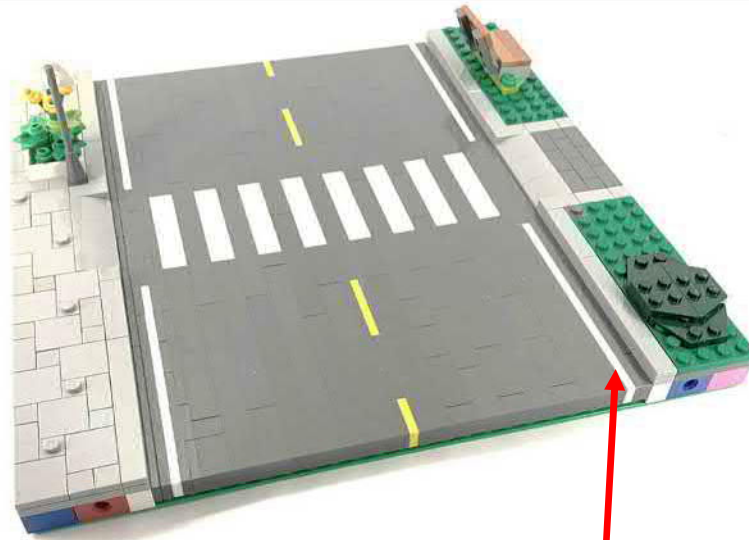
Bus Stop pullout

Road Modules – Brick-Built Examples



Side Streets

LBG Brick as
gutter



Mixed boulevards

White plate edge
line



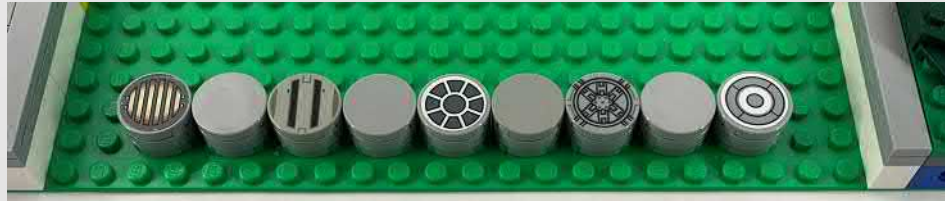
Roundabouts

Road Modules – Street Features

- Manholes



Variety of styles available using printed tiles



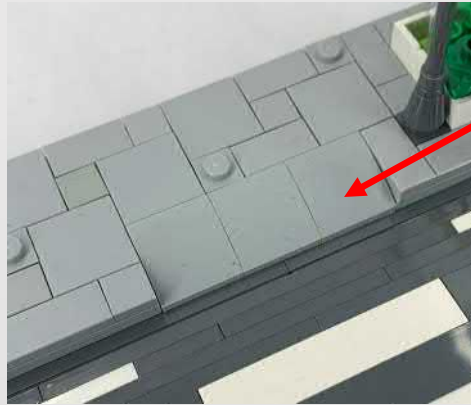
2x2 round tile on 2No. 2x2 round plates

Place with an even number of studs to edge of road

- Use plates and arch bricks to surround
- One piece has to “float” in the gap and is not fixed in place

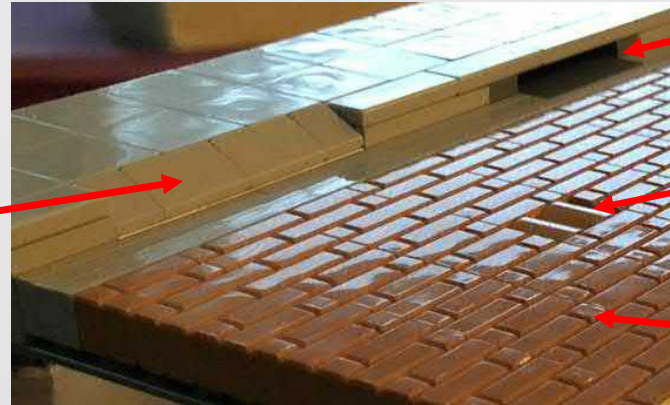


Road Modules – Street Features



Curved Slopes
Letdown

Cheese Wedge
Letdown



Openings for
storm drains

Profile brick for
potholes/damage

Cobble Stone roads
(masonry brick)



Power Pole and
transformer (Astromech
body and flex tube)

1x1 plates behind curb to
accommodate street
furniture

Rail Modules

- Standardized modules to accommodate ballasted track
- Removable ballasted track sections
 - Sits on tiles
 - Held in place with jumper plates
- Ballast on both track section and module:
 - One level of ballast on track section
 - One level on base module

Open spaces to reduce the amount of plate being used

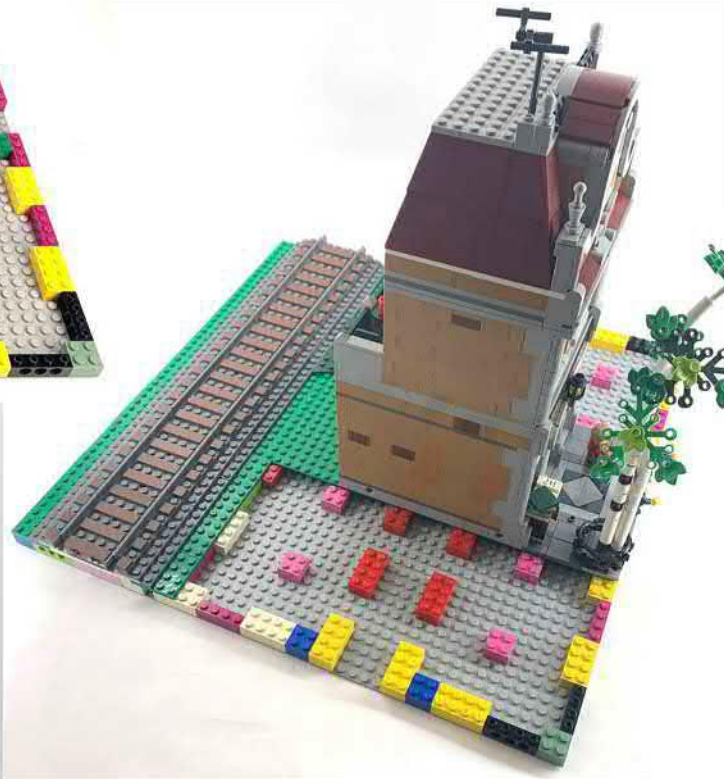
Track sections supported on tiles



Rail Modules



- Mixed Modules
 - Railway tracks
 - Modular Buildings

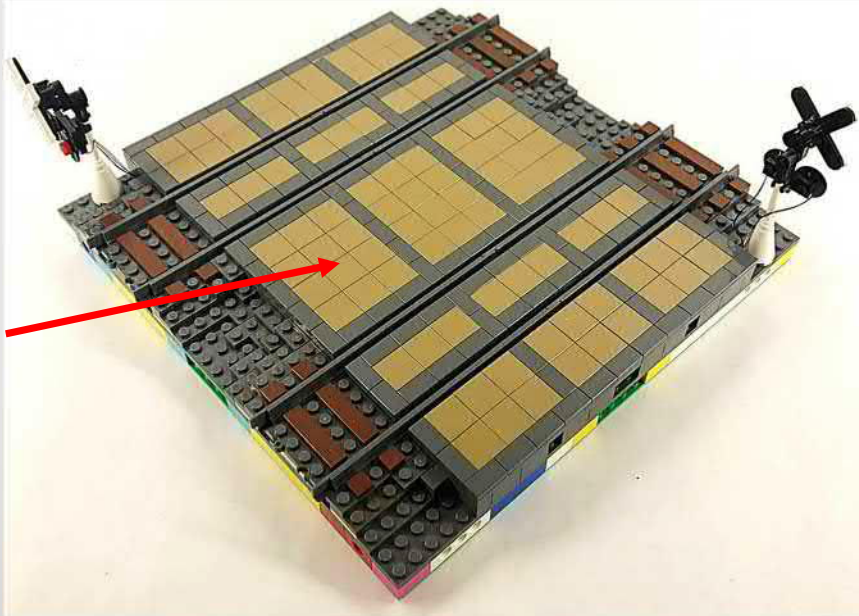


- Railway switch tracks
 - Sits on tiles

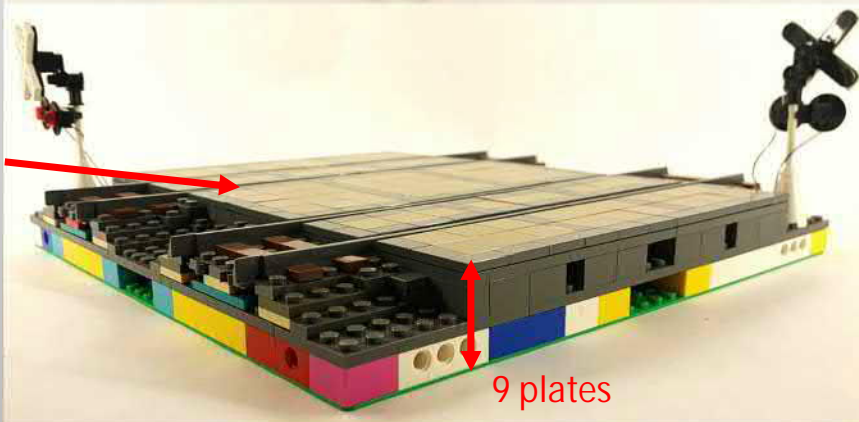


Rail Modules – Rail Crossing

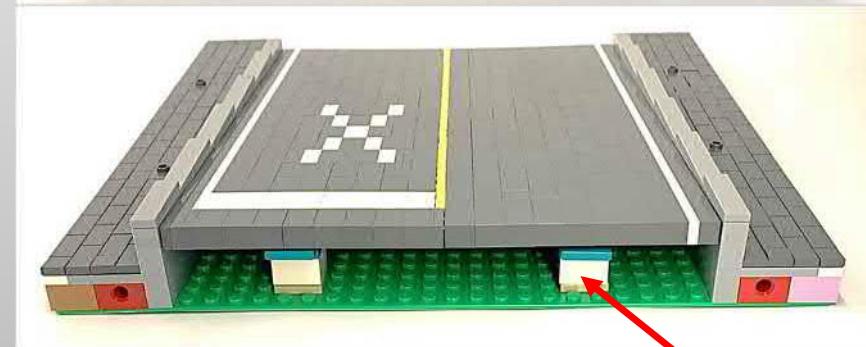
Space under
panel for power



Up to top
of rail



9 plates



Sloped approach

One end
raised

Rivers and Shoreline Modules

- Water:
 - River = tile over plate on baseplate
 - Ocean = tile on baseplate
- Position and base width:
 - River = 8 studs wide in centre of module
 - Shoreline = 16 studs from centre of module to edge
- Variations:
 - Width of river across sections within builder zone.



Rivers



Shorelines

Hills and Mountain Modules

- Advanced MILS Rules
 - Uses set profiles (along edge of module)



Hills

- 1x plate per 1x stud (short profile)
- 1x plate per 2x studs (long profile)



Mountains

- 1x brick per 1x stud (short profile)
- 1x brick per 2x studs (long profile)

To be Continued....
(once we can put on shows again)



References



References and Resources

- <http://www.abellon.net/MILS/>
- http://l-gauge.org/wiki/index.php/Modular_Standards
- <http://cactusbrick.org/landscaping-standard/>

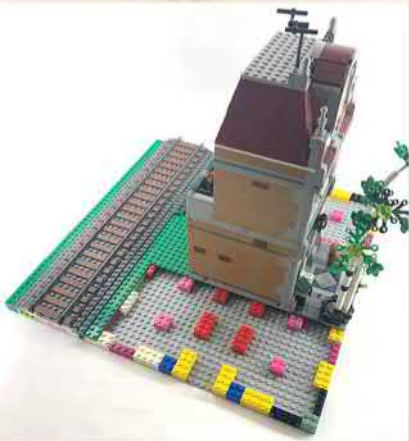
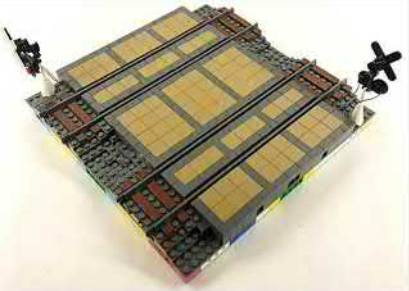
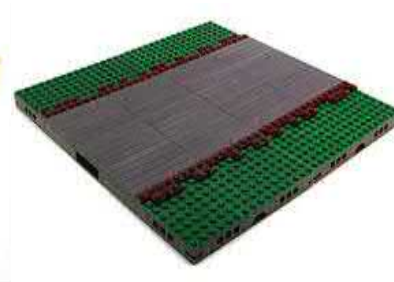
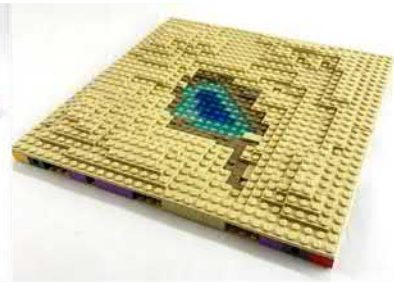
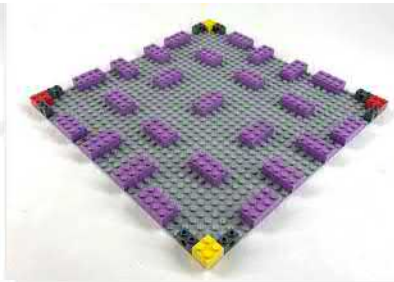
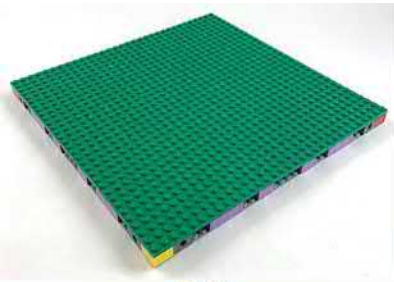


Other variations:

- ZALUG:

<https://www.zalug.co.za/zalug-integrated-landscaping-standard/>

- MILS Variant
- Base module is 7 plates high instead of 4 plates
- Aims to create greater ability to vary height differences



Questions?



www.VLC.ca



www.instagram.com/the_snowbricks

