

Inspector's Guide for PICP Installation & Maintenance

The following is a PICP inspector's guide for project construction and maintenance written to a municipal inspector. The checklist is developed from the ICPI PICP manual and the PICP certificate course. Please keep in mind that ICPI recommends that PICP construction specifications include a method statement. Among many things, the method statement requires a pre-construction conference to where the project inspector(s) needs to be present.

ICPI recommends that the inspector of construction of PICP be certified as Certified Compliance Inspector of Stormwater (CCIS) or Certified Erosion, Sediment, and Stormwater Inspector (CESSWI) and have familiarity with Stormwater Pollution Prevention Plans (SWPPP).

Construction Inspection Checklist

Pre-construction meeting

- Walk through site with builder/contractor/subcontractor to review erosion and sediment control plan/stormwater pollution prevention plan or SWPPP)
- Determine when PICP is built in project construction sequence; before or after building construction, and measures for PICP protection and surface cleaning
- Aggregate material locations identified (hard surface or on geotextile)

Sediment management

- Access routes for delivery and construction vehicles identified
- Vehicle tire/track washing station (if specified in E&S plan/SWPPP) location/ maintenance

Excavation

- Utilities located and marked by local service
- Excavated area marked with paint and/or stakes
- Excavation size and location conforms to plan

Sediment management

- Excavation hole as sediment trap: cleaned immediately before subbase stone placement and runoff sources with sediment diverted away from the PICP, or
- All runoff diverted away from excavated area
- Temporary soil stockpiles should be protected from run-on, run-off from adjacent areas and from erosion by wind.
- Insure linear sediment barriers (if used) are properly installed, free of accumulated litter, and built up sediment less than 1/3 the height of the barrier.
- No runoff enters PICP until soils stabilized in area draining to PICP

Foundation walls

- At least 10 ft (3 m) from foundation walls with no waterproofing or drainage
- At least 100 ft (30 m) from water supply wells
- Soil subgrade: rocks and roots removed, voids refilled with permeable soil
- Soil compacted to specifications (if required) and field tested with density measurements per specifications
- No groundwater seepage or standing water. If so dewatering or dewatering permit may be required.

Geotextile (if specified)

- Meets specifications (nonwoven recommended)
- Placement and down slope overlap (min. 2 ft or 0.6 m) conform to specifications and drawings
- Sides of excavation covered with geotextile prior to placing aggregate base/subbase
- No tears or holes
- No wrinkles, pulled taught and staked

Impermeable Liner (if specified)

- Meets specifications (woven recommended)
- Placement, field welding, and seals at pipe penetrations done per specifications

Drain pipes/observations wells

- Size, perforations, locations, slope, and outfalls meet specifications and drawings
- Verify elevation of overflow pipes

Subbase, base, bedding and jointing aggregates

- Sieve analysis from quarry conforms to specifications
- Spread (not dumped) with a front-end loader to avoid aggregate segregation
- Storage on hard surface or geotextile to keep sediment-free
- Thickness, placement, compaction and surface tolerances meet specifications and drawings

Edge restraints

- Elevation, placement, and materials meet specifications and drawings

Permeable interlocking concrete pavers

- Meet ASTM/CSA standards (as applicable) per manufacturer's test results
- Elevations, slope, laying pattern, joint widths, and placement/compaction meet drawings and specifications
- No cut paver subject to tire traffic is less than 1/3 of a whole paver
- All pavers within 6 ft (2 m) of the laying face fully compacted at the completion of each day
- Surface tolerance of compacted pavers deviate no more than $\pm 3/8$ (± 10 mm) under a 10 ft (3 m) long straightedge

Final inspection

- Surface swept clean
- Elevations and slope(s) conform to drawings
- Transitions to impervious paved areas separated with edge restraints
- Surface elevation of pavers 1/8 to 3/8 in. (3 to 10 mm) above adjacent drainage inlets, concrete collars or channels (for non-ADA accessible paths of travel); to 1/4 in. or 6 mm (for ADA accessible paths of travel)
- Lippage: no greater than 1/8 in. (3 mm) difference in height between adjacent pavers
- Bond lines for paver courses: $\pm 1/2$ in. (± 15 mm) over a 50 ft (15 m) string line
- Stabilization of soil in area draining into permeable pavement (min. 20 ft (6 m) wide vegetative strip recommended)
- Drainage swales or storm sewer inlets for emergency overflow. If storm sewer inlets used, insure properly protected.

- Runoff from non-vegetated soil diverted from PICP surface
- Test surface for infiltration rate per specifications using ASTM C1701 Minimum 100 in./hr recommended

PICP In-service Inspection Checklist

- 1 to 2 times annually (typically spring/fall): vacuum surface, adjust vacuuming schedule per sediment loading and/or any sand deposits from winter
- Winter: Remove snow with standard plow/snow blowing equipment; monitor ice on surface for reduced salt use than typically used on impervious pavements
- Water ponding on surface immediately after a storm (paver joints or openings severely loaded with sediment): test surface infiltration rate using ASTM C1701. Vacuum clean to remove surface sediment and soiled aggregate (typically ½ to 1 in. or 13-25 mm deep), refill joints with clean aggregate, sweep surface clean and test infiltration rate again per C1701 to minimum 50% increase

Annual Inspection

- Replenish aggregate in joints if more than ½ in. (13 mm) from chamfer bottoms on paver surfaces
- Inspect vegetation around PICP perimeter for cover & soil stability, repair/replant as needed
- Inspect and repair all paver surface deformations exceeding 1/2 in. (13 mm)
- Repair pavers offset by more than 1/4 in. (6 mm) above/below adjacent units or curbs, inlets etc.
- Replace cracked paver units impairing surface structural integrity
- Check drains outfalls for free flow of water and outflow from observation well after a major storm

