

Piles - Vertical or slightly battered members, embedded partly or entirely in the ground, used to provide support for a structure where the soil bearing capacity is inadequate.

Piles, Bearing - Piles which act as compression members and derive their primary support capacity from their being driven to bear on a layer of hard strata. Normally, steel H-piles are designed as bearing piles.

Piles, Friction - Piles which derive their primary support capacity from the friction forces, which develop between the pile surface area and the surrounding strata. Normally, cast-in-place concrete piles are designed as friction piles.

Pitch - The clear distance between spiral reinforcement for one complete revolution (used in spiral reinforced concrete columns), also the distance between centers of fasteners or fastener holes along a gage line.

Plinth - An enlarged base of a concrete wall or column, used to increase the cross-sectional area.

Polyethylene - A lightweight, water-resistant thermoplastic resin.

Polytetrafluoroethylene (PTFE) - A low friction surface used in certain types of bridge bearings.

Polymer - A natural or synthetic compound consisting of similar molecules linked together.

Polyurethane - A thermoplastic or thermosetting resin used in tough, resistant coatings and electrical insulation.

Post-Tensioning - To induce compressive stress into a structural member by tensioning steel cables or rods while the member is in its final position under its full design static loading.

Preauger - To drill insitu material before driving a pile (as in integral abutments).

Precast - To fabricate concrete elements in a controlled environment, prior to erection or installation.

ProjectWise - A computer server that contains project files, standard documents and form templates, designer guidance documents and manuals, and archived information.

Prestressing Concrete - A method of shop fabrication of concrete beams, whereby steel strand, cables or bars are placed in tension prior to the placement of the concrete, and then released after the concrete has cured. This prestressing of the beams act to lessen the tensile forces in the concrete. If tensioning is done after the concrete is placed, the process is referred to as **Post-Tensioning**.

Proprietary - From a single source or supplier.

PVC - Polyvinylchloride. A flexible thermoplastic material composed of polymers of vinyl chloride.

R

R.O.W. - Right of Way. The area occupied by and adjacent to the Thruway, which is owned by the Authority.

Radiograph - A photographic record produced by the passage of x-rays or gamma rays through an object onto a film. Generally used for testing welded splices in tension areas of primary members.

Retrofit - To make a change or modification to an existing detail for the purpose of upgrading the detail to current standards.

Rigid Frame Structure – Bridge structure with rigid connections between the superstructure and substructure that do not allow any relative rotation or translation between elements.

S

S.I.P. Forms (Stay in Place Forms) - Devices used to support deck concrete, as it is placed, which remain in place after construction.

Scuppers - Drain inlets to divert surface water from bridge decks.

SDL - Superimposed Dead Load. These loads are placed after the structural deck has cured and are therefore resisted by the composite section. They include, but are not limited to: separate and future wearing course, curbs, sidewalks, railings, fencing, barrier and possibly utilities.

Seismic - Pertaining to earthquakes.

Service Life - The projected remaining life (in years) of an existing structure or structural component under normal loading and environmental conditions before replacement or major rehabilitation is expected.

Service Load - The actual, real-life loads, and combinations thereof, such as dead, live, wind and earthquake, which are assumed to actually occur when the structure is in service. It is important to note that "factored loads" are not service loads.

Shoving - Horizontal displacement of bituminous pavement due to the action of traffic generally resulting in the bulging of the surface.

Simple Span - A span supported on both ends with no intermediate supports.

Skew Angle - The acute angle formed by the intersection of the line normal to the centerline of roadway with a line parallel to the centerline of bearings.

Sleeper Slab - A short reinforced concrete slab located under the approach slab and either under the rigid cement concrete approach pavement or abutting the flexible asphalt concrete approach pavement to support the pressure relief joint material or the expansion joint, respectively.

Slip Critical - A connection that derives its strength from the friction forces exerted on component layers when the fastener is tightened to the required specification.

Spall - Concrete broken from the surface of a concrete mass.

Span - The length of a structure between centerlines of bearings.

Spirals - Continuously wound bar or wire in the form of a cylindrical helix, such as spiral

shear connectors used prior to the development of stud shear connectors. Cylindrical reinforcement used for containment reinforcement of compression members (other than piles) in concrete structures.

Splice - To join one or more materials together by various means, including welding, bolting or tying.

SSM – Scope Summary Memorandum.

SSM/DR – Scope Summary Memorandum/ Design Recommendation.

SSPC - Steel Structures Painting Council.

Stiffener - As applied to a steel girder, a vertical or horizontal steel plate or angle used to give additional shear strength and/or prevent web buckling.

Stirrup - A steel bar in a reinforced concrete beam that is used to resist both shear and diagonal tension stresses. It is usually bent in the shape of a "U".

Strand – Any of a group of steel wires twisted together to form a rope or cable.

Stringer - A bridge deck support member that is parallel to the length of the bridge centerline, and normally supported by floorbeams.

Stub Abutment - An abutment with individual column pedestals supported directly on the footing.

Stud Shear Connectors - A welded fastener used at the junction of the girder and slab to

developing the shear resistance necessary to produce composite action.

Subbase - The material located above the subgrade surface of a road section.

Substructure - That part of a bridge structure below the bearings of spans, skewbacks of arches and top of footing of rigid frames, including abutments, wingwalls, and piers.

Superelevation - The percent grade of the cross slope between the inside and outside edges of a roadway on a horizontal curve radial to the curve.

Superstructure - That part of a bridge structure above the bearings.

Swale – The depressed area of a deck or roadway at the shoulder used to draw and/or divert water runoff from the travel lanes.

T

Tack Weld - A weld made to hold parts of a weldment in proper alignment until final welds are made. For bridges, tack welds that are not incorporated into the final weld are prohibited.

Tendon - A tensioned element, generally high-strength steel wires, cable, rod, strands, bars or bundles thereof, used to impart compressive stress to a member.

T.G.L. – Theoretical Grade Line

Thruway Standard Sheets – Drawings that contain Thruway Authority standard details reflective of Authority design policy. These sheets are set up to be used in contract plans

with only minor modifications required to make them project specific. They are located in ProjectWise.

Tremie - An open-ended pipe, used to place fresh concrete vertically without segregation. It is usually used for placing concrete in water. An "Elephant Trunk."

Truss, Plane - A system of structural members all lying in one plane and joined together at their ends to form a rigid framework.

Truss, Space - A system of structural members in space, joined together at their ends in a manner forming a rigid structure.

U

U-Walls - Abutment wingwalls that are oriented parallel to the centerline of the roadway.

Ultimate Strength or Ultimate Stress - The highest ordinate on the stress strain curve, i.e. the maximum tensile stress of the material.

Unbonded Strands - A technique used in prestressed concrete fabrication where a section of the prestressing strand is placed inside a conduit to prevent bond with the concrete in that particular area.

V

Viscosity - The measure of the internal friction of a fluid, caused by molecular attraction, which makes it resist a tendency to flow.

Vulcanization - The process of treating crude or synthetic rubber or similar plastic material chemically to give it useful properties (as elasticity, strength and stability). Process used to bond steel bearing plates to elastomeric material in the fabrication of elastomeric bridge bearings.

W

Waling - Transverse member (usually a small steel W - section) attached to vertical sheet piling used to distribute load contain a sheet pile structure.

Washer - For bridges, a hardened cylindrical plate under the turned element of a fastener used to prevent galling of the base metal. For other purposes, washers may be beveled to fit tapered flanges, or may be used to prevent the turned element from rotating.

Watershed - The region or area drained by a river system or other body of water.

Waterstop - Usually a flexible device, placed in adjacent concrete pours, to prevent the flow of water through the joint.

Wearing Course - The top layer of a pavement surface course.

Weathering Steel - Steel with a chemical composition such that its oxidation product (rust) acts as a protective coating. The steel is designed to remain unpainted, however it may be painted if desired.

Web - The metal plate connecting the upper and lower flanges of a girder or rail, designed to resist shear forces by itself; and flexure in

conjunction with the flanges.

Weld - A localized coalescence of metals produced either by heating to suitable temperatures, with or without the application of pressure, or by the application of pressure alone, and with or without the use of filler metal. For bridge applications, deposited metal may be in the form of fillet or groove welds.

Wingwall - A part of a bridge abutment adjacent to the main body of the structure, which is used to retain the approach fill.

Y

Yield Strength - The stress at which the material shows a specified limiting plastic strain, usually 0.1 to 0.2 per cent (0.025 to 0.050 in/in) in structural and reinforcing steel.

Z

Zinc - Hard bluish metal used in alloys because of its resistance to corrosion. The primary element used in the galvanizing or thermal spraying processes.