East Providence Waterfront Special Development District Commission
Design Review Guidelines – Phillipsdale Landing

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Introduction

The East Providence Waterfront Special Development District Commission ("Waterfront Commission") hereby adopts these Design Review Guidelines with the illustrative sketches (numbered SK-1 through SK-11) in order to assure high quality design in all major developments. The Waterfront Commission requires that all developments within the East Providence Special Waterfront Development District ("Waterfront District") undergo design review by the Commission and its Design Review Committee (DRC) subject to these design and performance standards. These guidelines shall apply to all new construction, expansions and/or additions of 50% of the gross floor area of existing buildings, or changes to exterior building façades for multifamily and nonresidential development, and to proposed demolition of existing buildings.

These Design Review Guidelines for the Waterfront District will help the City accomplish several important goals related to urban planning and project design review that would:

- Enable innovative and creative site planning, building design and development.
- Ensure that similar projects within the Waterfront District are judged according to the same standards.
- Help expedite design review by focusing on adherence to standards.
- Contribute to a more efficient design review and entitlement process.

The diverse nature of the City requires that design standards apply the aforementioned principles in a number of different contexts in order to weave good design into the accomplishment of the City's goals for the waterfront district, including:

- Revitalization of the waterfront.
- Creation of additional housing units at all levels of affordability.
- Attraction of businesses to the City.
- Retention and expansion of existing businesses in the Waterfront District.
- Creation of additional open space and park areas in the Waterfront District.
- Growth in the City's tax base with property tax and sales tax.

In order to ensure a balanced and principled approach to meeting the Waterfront District Commission's goals, these Design Review Guidelines are intended to:

- Have a long-term perspective.
- Require quality design, materials and construction.

- Encourage 'green' construction practices as well as 'green' construction materials.
- Consider all stakeholder impacts.
- Be guided by the vision and strategy for the waterfront district and economic development.
- Be influenced by the historical, social, natural and economic drivers in the districts and neighborhoods.
- Be balanced by local and regional trends and goals.

Phillipsdale Special Development Sub-District

The Phillipsdale Special Development Sub-District extends from Roger Williams Avenue northerly to the Narragansett Bay Commission Bucklin Point Water Pollution Control facility. This sub-district includes properties located off Bourne Avenue (west of Roger Williams Avenue) and Noyes Avenue. The westerly boundary of this sub-district extends to the Seekonk River. The former Ocean State Steel property is located within this sub-district. The Roger Williams Avenue corridor (including properties on both sides of the street) from Magnolia Avenue northerly to approximately Ruth Avenue is included within this sub-district.

Major properties include Ocean State Steel Property – City of East Providence, Roger Williams Avenue and Bourne Avenue.

This property consists of three parcels of land totaling approximately 26 acres, with road frontage on Roger Williams Avenue and Bourne Avenue, and water frontage on Omega Pond and the Seekonk River. The property is zoned Industrial - 3. It was the location of the former Washburn Wire, and more recently the Ocean State Steel Manufacturing Company. Washburn Wire was the largest industry and largest single employer in East Providence during much of the twentieth century.[1] Ocean State Steel melted scrap metal into long steel billets shipped via barge to a parent plant in Connecticut. The steel mill operations ceased in 1997 and the property has remained unutilized to date. The abandoned industrial structures remain on the site.[2]

The *2003 East Providence Waterfront Special Development District Plan*, pages 76-77 provides for the following required elements in the Phillipsdale area:

Planned Land Use

(a) 75,000 s.f. commercial (office)

(b) 400 housing units (a mix of single-family homes, townhouses, and multi-family condominiums)

(c) Single-family detached residential along the Roger Williams Avenue frontage

(d) Continuous open space along the waterfront perimeter of the property.

Architectural Guidelines

(a) Maximum height of commercial uses along northern boundary of property (adjacent to Phillipsdale Landing) – 4 stories

[1] Statewide Historic Preservation Report, Rhode Island Historical Preservation Commission, 1976.
[2] Excepted from "2003 East Providence Waterfront Special Development District Plan"

(b) Utilize structured parking for interior commercial use

(c) Limit on-grade parking to residential, open space and marina/restaurant uses

(d) Lower-height buildings in proximity to the existing Roger Williams Avenue residential neighborhood

View Corridors

(a) Maintain open spaces along the waterfront (b) Create a boulevard approach (with a landscaped median) to the marina/ restaurant use to enhance visual access to the water.

Open Space

(a) Continuous open space along the waterfront perimeter of the property

(b) Public open space park at "The Pointe."

Issues

(a) Preferred redevelopment requires the construction of an access road along the rail corridor and overhead transmission line route

(b) Continuation of Waterfront Drive (northerly segment) through this area needs to be examined.

The following represents Development Guidelines for the use of the DRC and Waterfront Commission in the approval process of proposed developments within Phillipsdale. Each design element is accompanied by a zoning reference which is Chapter 19, Zoning Ordinance of the City of East Providence, Article IX Waterfront Special Development District. Wherever there is ambiguity between the zoning requirement and a guideline, the zoning shall govern. The Sketch reference includes drawings to illustrate the design requirements. Not all elements require either a zoning reference or a sketch. Although the elements are listed as guidelines, it is the intent of the Waterfront Commission to enforce these provisions as they constitute "area and performance standards" as required by zoning. If any developer cannot meet these guidelines, substantive justification must be presented to the Commission before any deviations can be approved.

DESIGN GUIDELINES for Phillipsdale Section 19-472 (6)

Design Element	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
GENERAL SITE CONFIGURATION				
Streetscape	Sec. 19-476 (b) (5), to be shown as part of required site plan. And Sec. 19-482		**New Internal Streets** New internal streets shall be designed to encourage human activity on the street. Distinguish between commercial/ multifamily (CM) streets and low density (LD) residential streets. Siting decisions shall consider the importance of streetscape features in context. Width of Street – CM 36 feet and LD 28 feet. **Redevelopment of Existing Streets** Existing streets should strive to achieve the same objectives as new streets in encouraging human activity on the street. Most retrofitting of streets will likely be on public rights of way, so adherence to the City standards and approval by the Public Works Director is required. Width for widening to be determined on a case by case basis. Elimination or reduction of sidewalks is prohibited.	The character of a neighborhood is defined by the experience of traveling along its streets. Streets within neighborhoods are individual spaces or "rooms." How buildings face and are set back from the street determine the character and proportion of this room. Livelier street edges make for safer streets. Ground floor shops and market spaces providing services needed by residents can attract market activity to the street and increase safety. Considerations include entrances, porches, balconies, decks, seating and other elements can promote use of the street front and provide places for neighborly interaction.

Design Element	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Sidewalks	Sec 19-483 (h)	SK-2 SK-7 SK-9	Street Trees required on all streets.	The sidewalk is a critical element that ties the pieces of a neighborhood together. Sidewalks provide safety from moving vehicles. Sidewalks are an extension of the activity that takes place in the building – they should be lively, inviting and kept fee of debris. They should include trees, benches (where appropriate) and directional signage in well placed kiosks.
Open Space	Sec 19-483 (c) And Sec. 19-482		Projects shall be sited to maximize opportunities for creating usable, attractive, well-integrated open space. Open Space requirements: o Open space as part of rights of way (median, boulevards, gateways, etc.). o Unconnected parks. o Linear connected parks. o Special Features include view corridors, bike ways, pedestrian access, waterfront access, and gateways. o Recognition of the historical role of Phillipsdale as to industrial growth of East Providence is required. This may take the form of interpretative panels and preservation of unique features.	Residential buildings are encouraged to consider: o Courtyards which organize architectural elements, while providing a common garden or other uses. o Entry enhancement such as landscaping along a common pathway. o Public art is encouraged.

Design Element	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Transition between Residence and Street		SK-6 SK-11	For residential projects, the space between the building and the sidewalk shall provide security and privacy for residents and encourage social interaction among residents and neighbors. This is accomplished by: o Low wall, hedge or fence at back of sidewalk, where no building exists and a setback is required. o Elevation of first floor from street. (see Front Yard below)	The transition between a residential building and the street varies with the depth of the front setback and the relative elevation of the building to the street.
LOT CONFIGURATION				
Front Yard **Treatment and Setbacks**	Sec 19-483 (b)	SK-4 SK-6 SK-11	o Commercial – Zero front yard setback, except where an optional paved terrace is proposed. Such terrace shall not exceed 50% of lot frontage. o Multi-Family Residential – Zero to 5 foot front yard setback. The first floor shall have a minimum elevation of 3 feet above finished grade in front of the building. o Low Density Residential – 10 feet maximum, with a first floor elevation of 3 feet with steps and/or ramp leading to front door. (If topographic or other conditions warrant larger setbacks than prescribed, relief can be sought, with other conditions). o No parking of vehicle in front yard of any building.	To create a sense of community and street life, commercial and multi-family should have prominent street frontages. Single family homes should have a modest front setback.

Design Element	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Side Yard **Treatment and Setbacks**	Sec 19-483 (b)	SK-7 SK-9	o Commercial – No Requirement o Multi-Family Residential – No Requirement o Low Density Residential – min. 6 feet. o Overhead garage door.	
Corner Lots			Building on corner lots shall be oriented to have two (2) front yard setbacks. Parking and automobile access shall be located at least 36 feet from corners.	Corner lots offer unique opportunities because of their visibility and access from two streets.
Entrances		SK-3 SK-5 SK-8 SK-10	Entries shall be clearly identifiable and visible from the street.	Entries that are visible from the street make a project more approachable and create a sense of association among neighbors.
Topography			The siting of buildings shall respond to local site conditions and opportunities such as irregularly shaped lots, location at prominent intersections, unusual topography, view corridors, existing vegetation and/or other natural features.	Site characteristics must be considered in project design. Designing the building in relation to topography may help to reduce the visibility of parking garages.

Design Element	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
PARKING				
Parking and Vehicle Access	Sec 19-483 (e) And Sec. 19-482		Siting shall minimize the impact of automobile parking and driveways on the pedestrian environment, adjacent properties and pedestrian safety. o Require on-street parking on both sides of all CM streets and on one side for all SF streets. o Required parking calculation shall include on-street parking. o Locate surface parking at rear or side lots. o Require 25 square feet of planted island per 1,000 square feet of pavement. o Parking lots shall not extend beyond the primary building elevation where buildings are set back from the street.	Techniques used to minimize the impacts of driveways and parking lots include breaking large parking lots into smaller ones, minimizing the number and width of driveways and curb cuts, sharing driveways with adjacent property owners, locating parking in lower level or less visible portions of site, and locating driveways to minimize visual impact.
Location of Parking on Commercial Lots	Sec 19-483 (e)		Parking lots on a commercial street frontage shall be prohibited.	Parking located along a commercial street front where pedestrian traffic is desirable lessens the attractiveness of the area to pedestrians and compromises the safety of pedestrians along the street.

HEIGHT AND BULK	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Scale	Sec. 19-482	SK-3 SK-5 SK-8 SK-10	Maximum Height – 6 stories. Buildings in excess of 4 stories are required to have a 10 foot minimum upper story setback above the 4th floor or 50 feet above the sidewalk, whichever is less. Projects shall be compatible with the scale of development for the surrounding area and shall be sited and designed to provide a sensitive transition to near-by development.	Analysis and mitigation of height, bulk and scale impacts will be accomplished through the design review process. Careful siting and design treatment will help to mitigate some height, bulk and scale impacts; in other cases, actual reduction in the height, bulk and scale of a project may be necessary to adequately mitigate impacts. Height, bulk and scale mitigation may be required in two general circumstances: 1. Projects on or near the edge of a less intensive zone. 2. Projects proposed on sites with unusual physical characteristics such as unusual shape, or topography where buildings may appear substantially greater in height, bulk and scale than that generally anticipated for the area.

BUILDING ELEMENTS	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
New Buildings	Sec 19-483 (a)		New buildings proposed for existing neighborhoods shall be compatible with or complement the architectural character and siting pattern of neighboring buildings.	Paying attention to architectural characteristics of neighboring buildings can help new buildings be more compatible with their neighbors, especially if a consistent pattern is already established by similar: o Building articulation. o Building scale and proportion or complementary architectural style. o Complementary roof forms. o Building details and fenestration patterns. o Complementary materials. o First floor cornice lines on commercial buildings.
Existing Buildings Restoration	Sec 19-483 (a)		All existing buildings that meet National Register standards shall be restored in accordance with the Secretary of Interior Standards and Guidelines for Rehabilitation.	Complying in intent with the Secretary of the Interior's Standards and Guidelines for Rehabilitation, these Guidelines pertain to buildings of all occupancy and construction types, sizes and materials. They apply to permanent and temporary construction on the exterior of existing buildings within this sub-district.

BUILDING ELEMENTS	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Existing Buildings Demolition			Proposed demolition of 50% or more of any existing building shall first be submitted to the DRC for review and approval. Such approval shall be based on the Secretary of Interior Standards and Guidelines for such demolition.	Demolition of any historically or architecturally significant structure constitutes an irreplaceable loss to this subdistrict and the City of East Providence. Even the demolition of a non-contributing structure, or a secondary structure such as a garage, can have serious consequences for the district as a whole. Consequently, demolition is strongly discouraged.
Building Design	Sec 19-483 (a)		Building design elements, details and massing shall create a well-proportioned and unified building form and exhibit an overall architectural continuity within the district. Buildings shall exhibit form and features identifying the functions within the building. Large unarticulated boxes are prohibited. All buildings elevations shall be articulated by window openings. Primary building elevations shall conform to sketches, side and rear elevations shall have a minimum window opening ratio of 10%.	Interesting design through articulation can create intervals to reduce perceived building mass and promote compatibility with their surroundings: o Modulating the façade by stepping back or extending forward a portion of the façade. o Repeating the window patterns. o Providing a porch, patio, deck or covered entry for each interval. o Providing a balcony or bay window for each interval. o Changing the roofline by alternating dormers, stepped roofs, gables or other elements to reinforce the modulation or articulation interval. o Changing the materials with a change in the building plane. o Providing a lighting fixture, trellis, tree or other landscape feature with each interval.

Permitted Elements on Primary Building Elevations

One, two, and three Family / Townhouse Residential	**Elements**	**Required**	**Prohibited**	**Permitted**
	Awnings			♦
	Porches			♦
	Dumpsters / Service		♦	
	Windows	♦		
	Entrance Doors	♦		
	Garage Doors		♦	
	Utility Meters		♦	
	Bulkheads		♦	
	Ventilation Louvers		♦	
Commercial / Mixed Use / Multifamily	**Elements**	**Required**	**Prohibited**	**Permitted**
	Awnings			
	Dumpsters / Service		♦	
	Windows	♦		
	Entrance Doors	♦		
	Utility Meters		♦	
	Bulkheads		♦	
	Ventilation Louvers		♦	
	Signage			♦ Sec. 19-483(i)
	ATM Drive up		♦	
	ATM Windows (walk-up only)			♦ By Deviation only
	Garage Doors / Loading Dock		♦	

BUILDING ELEMENTS	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Exterior Finish Materials	Sec 19-483 (a) 19-439		Building exteriors shall be constructed of durable and maintainable materials that are attractive even when viewed up close. Materials that have texture, pattern, or lend themselves to a high quality of detailing are encouraged. The following materials are prohibited: o Vinyl siding. o Aluminum siding. o EIFS – prohibited on all residential single and two- family structures, and on the bottom 15 feet of all commercial and multi-family structures. The following materials are permitted on all structures, although in selecting exterior finish and materials, it is important to consider context of abutting structures and character: o Wood (cedar) shingles. o Wood clapboard o Cement (clapboard) siding, o Stucco. o Brick, stone, rubble, pre-cast concrete. o Standing seam metal.	Selection and use of exterior materials is a key element in the breakdown of scale for larger buildings. Incorporation of cornice lines, belt courses, banding or multiple materials is encouraged to produce buildings that will fit into the local character.

BUILDING ELEMENTS	Zoning Ref	Sketch Ref	Guideline	Intent / Commentary
Building Design Commercial	Sec 19-483 (a)		Commercial o Ground floor shall extend to front property line. o Setbacks at entries and café terraces are permitted, (see Front Yard Treatment and Setback, First bullet). o Building façades are permitted to step back from the front property line above the ground floor.	
Building Design Residential	Sec 19-483 (a)		Residential o All street façades are required to have windows. o Front doors shall face public street. o Garage doors are prohibited from the primary building elevation. (See Front Yard Treatment and Setback, Last bullet).	

DEFINITIONS

Definitions in Section 19-471 of the East Providence Zoning Ordinance shall govern where such terms are used. The following are common architectural terms that are used in some (not all) of these Guidelines. The intent is to clarify and amplify the terms. These definitions are suggested and are not mandatory. The source is the Glossary of Architectural Terms by *Archiseek*.

1. **Aluminum Siding -** Lightweight material that is often painted rather than left in its natural color.
2. **Asphalt Shingle -** A roofing material made of a brown or black tar like substance mixed with sand or gravel.
3. **Axonometric -** A drawing technique devised to represent three dimensional objects on flat paper. Verticals are drawn to scale, but diagonal dimensions are distorted.
4. **Balcony -** A platform projecting from an upper story and enclosed by a railing.
5. **Baluster -** Any of the small posts that make up a railing as in a staircase; may be plain, turned, or pierced.
6. **Balustrade -** The combination of railing held up by balusters.
7. **Bay -** Buildings are often divided into repetitive elements, or bays, defined by the space between two horizontal beams, or pairs of vertical columns.
8. **Bay Window -** A set of two or more windows that protrude out from the wall. The window is moved away from the wall to provide more light and wider views.
9. **Beam -** A Horizontal load-bearing element that forms a principal part of a structure, usually using timber, steel, or concrete.
10. **Building Code –** Rhode Island State Building Code.
11. **Canopy -** A projection or hood over a door, window, niche, etc.
12. **Cantilever -** A projecting elements, such as a beam or porch, supported at a single point or along a single line by a wall or column, stabilized by s counterbalancing downward force around the point of fulcrum.
13. **Cedar Shingle -** A roofing material made of durable pinewood.
14. **Cement Plaster -** A mixture of sand and cement that is applied to the exterior foundation wall beneath ground level to aid in watering proofing.
15. **Clapboard -** Tapered horizontal boards used as siding, thickest on their bottom edge; each overlaps the one below. Also known as weatherboard or siding.

16. **Colonnade** - A row of columns forming an element of an architectural composition, carrying either a flat-topped entablature or a row of arches.
17. **Column** - A slender, upright structure, usually a supporting member in a building. Freestanding or self-supporting structural element carrying forces mainly in compression; either stone, steel, or brick, or more recently, concrete.
18. **Corbel** - A projecting wall member used as a support for some elements of the superstructure. Also, courses of stone or brick in which each course projects beyond the one beneath it. Two such structures, meeting at the topmost course, creates an arch.
19. **Corbeling** - Stone or wood projecting from a wall or chimney for support or decoration.
20. **Cornice** - Decorative projection along top of wall. The uppermost section of moldings along the top of a wall; any molded projection of similar form.
21. **Cornice Return** - A short continuation of the face board at the gable end of a house.
22. **Course** - A continuous row of building materials, such as shingle brick or stone.
23. **Crown molding** - A molding where the wall and ceiling meet; uppermost molding along furniture or cabinetry.
24. **Cupola** - A small, dome-like structure, on top of a building to provide ventilation and decoration.
25. **Dental** - A molding motif that projects from the edge of a roof line or cornice.
26. **Dormer** - The setting for a vertical window in the roof. Called a gable dormer if it has its own gable or shed dormer if a flat roof. Most often found in upstairs bedrooms.
27. **Eave** - The projecting lower edge of a roof.
28. **EIFS –** An acronym standing for "EXTERIOR INSULATION AND FINISH SYSTEMS." It is a composite synthetic building material installed on the exterior walls of a building that simulates stucco.
29. **Elevation** - An orthographic view of some vertical feature of a building. (Front, rear, side, interior elevation). A primary building elevation is the view of the front of the building.
30. **Entablature** - The area above an entryway in which the transom is contained.
31. **Exterior Wall** - An outside wall.
32. **Façade** - One of the exterior faces (walls) of a building.
33. **Face Brick** - A finished, non-defective brick yielding good appearance and construction quality.
34. **Fascia** - A horizontal band or board, often used to conceal the ends of rafters; the front of an object. Same as a face board.

35. **Fenestration -** The stylistic arrangement of windows in a building.
36. **Fieldstone -** A stone used in its natural shape.
37. **Finial -** A knob-like ornament.
38. **Finish Floor -** A finished walking surface.
39. **Foundation -** The base of a house providing stability and rigidness.
40. **Foundation Wall -** The masonry wall that rest on the footer.
41. **Gable -** A triangular area of an exterior wall formed by two sloping roofs.
42. **Gambrel -** A roof where each side has two slopes; a steeper lower slope and a flatter upper one; a 'barn roof'. Often found in Colonial revival houses in the "Dutch" style.
43. **Hipped roof -** A roof with slopes on all four sides. The "hips" are the lines formed when the slopes meet at the corners.
44. **Mansard -** A roof type with two slopes on each of the four sides, the lower slope being steeper than the other; capped off with a cupola, typically Victorian.
45. **Masonry -** Stonework or brickwork.
46. **Molding -** Shaped decorative outlines on projecting cornices and members in wood and stone.
47. **Mullion -** The vertical member separating adjacent windows.
48. **Muntin -** Wood or metal strips separating light.
49. **Parapet -** That portion of the wall that extends above the roof (wall surrounding a flat roof).
50. **Paved Terrace –** A paved surface adjoining a building to allow outdoor use, as an outdoor seating area of a restaurant. May be paved with concrete, decorative tile, block, brick or other impervious material, but not asphalt.
51. **Pediment -** A low triangular gable above a cornice, topped by raking cornices and ornamented.. Used over doors, windows or porches. A classical style.
52. **Pilaster -** A rectangular vertical member projecting only slightly from a wall, with a base and capital as will a column.
53. **Pitch -** The rate at which a roof or other surface slopes.
54. **Porch -** An open or enclosed gallery or room on the outside of a building.
55. **Portico -** A large porch usually with a pediment roof supported by classical columns or pillars.

56. **Primary Building Elevation –** Any elevation that faces a public street or right of way. Minor projections set back a minimum of 5 feet from the main volume of the structure and are less than 20% of the total street or public right of way elevation are not considered part of a primary building elevation.
57. **Rafter** - A roof beam sloping from the ridge to the wall. In most houses, rafters are visible from the attic. In styles such as craftsman bungalows and some "rustic" contemporaries, they are exposed.
58. **Raking Cornice** - The sloping moldings of a pediment.
59. **Return** - A wooden member nailed between the rafter-end and the stringer for bed board support.
60. **Ridge** - The top- most portion of a roof from which roof sides fall away.
61. **Rise** - The vertical distance from one stair tread to the next.
62. **Riser** - The vertical portion of a step. The board covering the open space between stair treads.
63. **Roof Pitch** - Degree of roof slant stated in inches rise per foot.
64. **Roof Types** - Style and shape of roofs - gable, gambrel, hip, mansard, shed, flat, butterfly, salt-box.
65. **Rough Sill** - The bottom rail of a window rough opening.
66. **Rubble** - Masonry construction using stones of irregular shape and size.
67. **Rusticated Stone** - Stonework, sometimes roughly finished, distinguished by having the joints deeply sunk.
68. **Siding** - The finished covering on the outside of non masonry walls of houses and buildings. Shingles, wood siding, aluminum siding, vinyl siding, stucco, etc.
69. **Sidelights** - Windows on either side of a door.
70. **Sill** - A horizontal piece forming the bottom frame of a window or door opening.
71. **Skylight** - A window in a roof to give light to a loft or room without other lighting.
72. **Slate** - A roof material made from a hard, fine-grained rock that cleaves into thin, smooth layers.
73. **Soffit** - The underside of a member such as a beam or arch, or of an eave, overhang, dropped ceiling, etc.
74. **Terra Cotta** - A mixture of sand and baked clay commonly used to make pipe for sewage disposal systems. A mixture of sand and baked clay used to form a shingle used on certain styles of architecture.
75. **Transom** - A small window just above a door.

76. **Vinyl -** A synthetic type of siding used for its economic value.
77. **Window Types:**
    a) **Double Hung -** Two sash, vertical sliding
    b) **Casement -** Side hinged
    c) **Awning -** Top hinged
    d) **Hopper -** Bottom hinged
    e) **Oriel -** Windows that generally project from an upper story, supported by a bracket.
    f) **Picture Window -** Fixed sash
    g) **Jalousie -** Glass slats, Venetian blind principle
    h) **Horizontal sliding -** two or more sash designed to slide over one another
    i) **Bay -** Extends beyond the exterior face of the wall
    j) **Bow -** Projected window with a curved surface often in the glass itself.
    k) **Combination -** The integration of two or more of the above into one unit.