
Section 0

Architectural Design
Narrative

December 23, 2018

Caitlin Cameron
Urban Designer
City of Portland Maine
389 Congress Street
Portland, Maine 04101



Re: Cassidy Point Studios - Narrative

The proposed building to be located on a land-locked parcel along Cassidy Point Road in the City's Waterfront Port Development Zone. The proposed building will house four-stories of light-industrial and artist studio spaces, with two levels including overhead doors to facilitate moving of sculptures, equipment and sheet goods.

Cassidy Point Drive forms a loop along Western Commercial Street with a traffic light and left-hand turning lane at the Eastern End. Rail line and a power transfer station separate the parcel from West Commercial Street.

Along lower Cassidy Point Drive are Cianbro's Marine Facility. The lot features a two-story, pre-fabricated metal building over 150'-0" in length with a low-slope gable roof. Busy cranes and heavy construction equipment move goods around a fenced asphalt yard, while trucks enter and exit from Merrill's Marine Terminal yard along adjacent Cassidy Point Drive.

Rounding Cassidy Point loop a towering pile of coal 3-4 stories high sits awaiting loading and transport, and the former Advantage Gas Tool and Equipment building. This two-story building has baby blue vinyl siding, a prominent loading dock, small punched openings at regular intervals and a low-sloped gable roof.

Sharing the lot as the proposed building, is a single-story, pre-fabricated metal building with barrel roof, oversized overhead doors, and a footprint nearly identical to the building proposed.

The proposed building design seeks to respectfully integrate within the massing and material context of the industrial zone with sharp contrast in our resource consumption. Passengers flying into Portland will see a roof-mounted solar array on the metal mono-pitch roof in contrast to the pile of coal across the street.

The building siding, as proposed, includes exposed-fastener, horizontally-applied corrugated galvalume. Metal siding is prevalent among adjacent buildings and also provides texture to the design. Siding will be capped with galvalume corner boards, and window trim.

Double-hung windows, spaced in regular intervals along the façade, will have dark frames in contrast with the siding, further reinforcing the simplicity of the design, and maintaining fenestration patterns of adjacent buildings.

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The building's main entrance along upper Cassidy Point features a projecting asymmetrical canopy with colorful trim, in contrast to the raw galvalume siding. The entrance door will also feature a complimentary vibrant color to the canopy and serve as a welcoming place to enter the building's upper workspaces.



The design of Cassidy Point Studios reflects the industrial use of the building and adjacent land uses while using material, massing and rhythm as elements to integrate it into the existing contextual fabric of Cassidy Point. We look forward to discussing the project with you soon.

Sincerely,

A handwritten signature in black ink that reads "Tracie J. Reed". The signature is fluid and cursive.

Tracie J. Reed, Maine Licensed Architect, LEED AP, NCARB
Principal

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CODE REVIEW
121 Cassidy Point

BUILDING DESCRIPTION

New construction of four-story, sprinklered & monitored building, approx. 17,500 SF in size, to house light-industrial artist studios such as woodworkers and metal fabricators on first two floors (classified as F-2 per IBC). These two floors will feature overhead doors to facilitate work with large sheet goods and moving of finished pieces. Both of these levels have exit and overhead doors at grade. The top two floors will house smaller artist studios for artists like painters, print makers, fiber, textile and ceramic artists. The lot also houses an existing single story pre-fabricated metal building, of approx. 5,000 SF to remain.

ZONING

- CBL: 072 B001001
- Address: 121 Cassidy Point
- Lot size: 0.5847

- Zone: Waterfront Port Development Zone (WPDZ)
- Minimum yard setback: N/A
- Min. lot size: N/A, 5 acres for conditional uses
- Max. coverage: 100%
- Max. height: 60'-0"
- Max. length: 450'-0"
- Parking: 50% of required spaces by Division 20

IBC 2015

- Construction Type: 5B
- Use: Factory-2 (lower two floors), Business (third and fourth floor)
- Size: approx. 50'-0" x 100'-0" footprint
 - First floor: 2,500 (25'-0" x 100'-0") F-2
 - Second floor: 5,000 (50'-0" x 100'-0") F-2
 - Third floor: 5,000 (50'-0" x 100'-0") Business
 - Fourth floor: 5,000 (50'-0" x 100'-0") Business
- Allowable height above grade plane: 60'-0" VB for both F&B (504.3)
- Allowable stories: 3 above grade plane F&B (504.4)
- Allowable area: 27,000 SF (506.2)
- Required separation of occupancies: B & F2 1-hour (508.4)
- Fire resistance: 5B – none for walls, floors, roof (601)
- Fire separation distance: >10'-0" for types B&F-2 = none required (602)
- Max. opening based on fire separation distance: 45% for 10'-0" to 15'-0" and 75'-0" for 15'-0" to 20'-0" by story (705.8)
- Opening in fire resistance barrier: limited to 25% of interior wall width (707.6)
- Shaft enclosures: 1-hour rating when connecting less than 4-stories, and 2-hours for shafts connecting four stories or more (713.4)
- Fire stopping: Required for penetrations in rated walls tested in accordance with ASTM E814 or UL 1479. Rating at penetration to equal or exceed rating of assembly being penetrated. (714.3.1.2 and 714.4.1.2)
- Interior finishes (803.11)
 - Business: exit stairs B; corridor C; rooms C
 - Factory: C (all)
- Floor area allowances (1004.1.2)
 - Accessory or mechanical rooms: 300 SF gross
 - Business areas: 100 SF gross
 - Industrial areas: 100 SF gross
- Stairway width: occupant load x 0.3 inches (1005.3.1)
- Other egress components: occupant load x 0.2 inches (1005.3.2)
- Area of refuge: not required in sprinklered buildings (1009.3.5)
- Stairway width: Serving capacity under 50 persons = 36" (1011.2.1)
- Riser height & tread depth: Max. 7" riser and 11" min. run (1011.5.2)
- Roof access: unoccupied roof permitted via hatch no less than 16 SF (1011.12.2)
- Roof access stair: alternating tread device permitted for uninhabited roof (1011.14)
- Ramp width: no narrower than stair width. Min. of 36" clear BTW handrails (1012.5.1)
- Ramp landing: no shorter than 60" (1012.6.3) with changes in direction min. 60"x60" (1012.6.4)
- Handrail type: Type I, circular BTW 1.25"-2" in diameter (1014.3.1)
- Handrail extensions: 12" beyond top and length of 1-tread @ bottom (1014.6)

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- Handrail clearance: 1.5" clear from wall (1014.7)
- Guard: guard required at mezzanine over 30" (1015.2)
- Guard height: 42" min. above surface (1015.3)
- Guard opening limitations: shall not allow passage of 4" sphere (1015.4)
- Enclosure of stairs: 1-stair shall be provided that does not require travel through an elevator lobby (1016.2.1)
- Corridor rating: none required with sprinkler system (1020.1)
- Min. corridor width: 36" for load under 50 persons (1020.2)
- Elevator door opening: elevator doors shall not open onto exit stairways (1023.4)
- Exit discharge: Exits shall discharge on the exterior of building (1028.1)
- Multi-story buildings & mezzanines: Shall have an accessible route when aggregate area is over 3,000 SF (1104.4)
- Accessible entrances: at least 1-accessible entrance shall be provided to each tenant space, at least 60% of public entrances shall be accessible (1105.1 and 1105.1.6)
- Accessible parking: 1 accessible spot per 25 spaces (1106.1)
- Accessible bathrooms: each toilet/bathing facility shall be accessible. At clustered single-use bathrooms 50% must be accessible. (1109.2)

NFPA 101-2009

- Chapters 38 (new business occupancies) and Chapter 40 (industrial occupancies)
- Fire alarm system: required (40.3.4.1)

UPC 2015 (422.1)

- 150 total building occupants = 75 men and 75 women
- Toilets and sinks: (2):51-75 men and women = (4) total
- Utility sink: 1
- Drinking fountain: 1:1-250

IECC 2015

- Climate Zone I 6A

Insulation values req. per IECC 2015 table C402.1.3

- Roof (insulation entirely above roof deck): R-30ci
- Metal building – walls, above grade: R-13 + R-13ci
- Wood framed: R-13+ R-7.4ci or R-20 + R.38ci
- Walls below grade: R-7.5 ci
- Floors: R-30
- Unheated slab on grade: R-10 for 24" below
- Heated slab: R-15 for 36" below
- Opaque Doors (non-swinging): R-4.75

Window Factors per table C402.4

- Fixed fenestration: 0.36
- Operable fenestration: 0.43
- Entrance doors: 0.77
- Solar heat gain coefficient (SHGC) by orientation:

Protection Factor	SEW	N
PF < 0.2	0.40	0.53
0.2 ≤ PF < 0.5	0.48	0.58
PF ≥ 0.5	0.64	0.64

Max air leakage per table C402.5.2 in (CFM/FT²)

- Garage doors: 0.40
- Swinging doors: 0.20
- Commercial glazed swinging entrance doors: 1.0

ADA 2010

- Elevator Exception: Only applicable for buildings under 3,000 sf (36.401(d)(2))

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121 Cassidy Point

- Clear floor space: 30"x48" (305.3)
- Unobstructed forward reach: 48" (308.2)
- Obstructed forward reach: 44" (308.2.2)
- Unobstructed side reach: 15-44" (308.3.1)
- Clear door width: 32" (404.2.3)
- Pull clearance at door: 18"x60" (404.2.4.1)
- Push clearance at door: 12"x48" (404.2.4.1)
- Door hardware install height: 34"-48" AFF (404.2.7)
- Interior door push force: 5# max, exterior door exception (404.2.9)
- Ramp slope: No greater than 1:12 (405.2)
- Cross slope: No greater than 1:45 (405.3)
- Ramp landings with turn: 60"x60" (405.7)
- Mirror location: No more than 40" AFF in front of sinks (603.3)
- Water closet: 16"-18" from wall (604.2)
- Clearance around water closet: 56" from rear and 60" wide (604.3.1)
- Side toilet grab bar: 12" clear from rear wall 42" long (604.5.1)
- Rear toilet grab bar: 6" clear from rear wall and 36" long (604.5.2)
- Toilet paper: 7"-9" in front of toilet and 15"-48" AFF (604.7)
- Sink clearance: front approach (606.2)
- Sink height: rim of sink at least 34" AFF (606.3)
- Exposed pipes: insulated to protect from contact (606.5)
- Fire alarms: visible & audible (702.1)