

PLANNING BOARD

Tuesday, June 25, 2024 at 4:30 PM
Rom 24 (Ground Level of City Hall) and
Zoom



MEMBERS

Brandon Mazer, Chair
Justin Barker, Vice Chair
Marpheen Chann
Sean Murphy
David Silk
Austin Smith
Maggie Stanley

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AGENDA:

WORKSHOP - 4:30 PM

- i. Phased Major Site Plan and Conditional Use; 197 Oxford Street; Reveler Development and Avesta Housing Corporation d/b/a Avesta Oxford Street, LP, Co-Applicants. The Planning Board will hold a hybrid workshop to consider a three-phased major site plan, which would involve the construction of an affordable housing development at 197 Oxford Street with 48 affordable and “housing first” residential units, a 24-unit market rate housing project at 50 Cedar Street, and a 51-unit market rate housing project at 158 Lancaster Street. The subject properties are located in the R-6 Residential Neighborhood, and together, total approximately 1.58 acres across a two-block area in the Bayside Neighborhood. A project and plan summary are available for viewing on the city’s CSS Portal (<https://css.portlandmaine.gov/>) by referencing Plan Number PL-002885-2024 and CU-002904-2024.
- ii. Major Site Plan; 156 High Street; Williston-Immanuel United Church and Avesta Housing, Co-Applicants. The Planning Board will hold a hybrid workshop to consider a proposal to renovate the Parish House of the Williston-Immanuel United Church, and construct a five-story addition off of the Parish House to create 33 affordable housing units. The subject property totals 23,007 square feet, is zoned B-3 Downtown Business, and is located within both the Deering Street Historic District, and the Congress Street Historic District. A project and plan summary are available for viewing on the city’s CSS Portal (<https://css.portlandmaine.gov/>) by referencing Plan Number PL-002905-2024.

PUBLIC HEARING - 6:00 PM

1. **ROLL CALL AND DECLARATION OF QUORUM**
2. **COMMUNICATION AND REPORTS**
3. **REPORT OF ATTENDANCE AT THE MEETING HELD ON JUNE 11, 2024**

Workshop

235 Park Ave: Barker, Mazer, Murphy, Silk, and Smith present. Chann and Stanley absent.

Public Hearing

54 York Street: Barker, Mazer, Murphy, Silk, and Smith present. Chann and Stanley absent.

501 Forest Ave: Barker, Mazer, Murphy, and Smith present. Silk recused. Chann and Stanley absent.

1 Bean Pot Circle: Barker, Mazer, Murphy, Silk, and Smith present. Chann and Stanley absent.

4. **REPORTS OF DECISIONS AT THE MEETING HELD ON JUNE 11, 2024**

- i. Major Site Plan and Conditional Use Amendment; 54 York Street; 54 York Street, LLC, Applicant. Barker motioned, and Smith seconded a motion to approve the major site plan amendment. Vote 5-0. Chann and Stanley absent. Barker motioned, and Smith seconded a motion to approve the conditional use amendment. Vote 5-0. Chann and Stanley absent. Barker motioned, and Smith seconded a motion to adopt the draft approval letter as the Board’s decision on the major site plan and conditional use amendment application, and authorize the Board Chair to sign the letter as drafted. Vote 5-0. Chann and Stanley absent.
- ii. Conditional Use; 501 Forest Avenue; DC 509 Forest, LLC, Applicant. Barker motioned, and Murphy seconded a motion to approve the conditional use application. Vote 4-0. Silk recused,

Chann and Stanley absent. Barker motioned, and Smith seconded a motion to adopt the draft approval letter as the Board's decision on the conditional use application, and authorize the Board Chair to sign the letter as drafted. Vote 5-0. Chann and Stanley absent.

- iii. Major Site Plan and Site Location of Development; 1 Bean Pot Circle; Northeastern University, Applicant. Barker motioned, and Smith seconded a motion to waive Technical Manual Standard Sec. 1.10, to allow parking spaces with a width of 8.5 feet. Vote 5-0. Chann and Stanley absent. Barker motioned, and Smith seconded a motion to waive Technical Manual Section 5 and Maine DEP Chapter 500, Stormwater Management Section IV, to allow for the direct discharge of pre-treated stormwater into Casco Bay. Vote 5-0. Chann and Stanley absent. Barker motioned, and Murphy seconded a motion to waive Technical Manual standard of Section 10.2 to allow for the installation of street lights on private property that vary from the residential lighting standards identified in Figure X-1. Vote 5-0. Chann and Stanley absent. Barker motioned, and Murphy seconded a motion to approve the major site plan and site location of development application. Vote 4-1. Silk opposed, Chann and Stanley absent. Barker motioned, and Smith seconded a motion to approve the impact fee modification. Vote 5-0. Chann and Stanley absent. Barker motioned, and Murphy seconded a motion to adopt the approval letter as drafted and amended by the Planning Board as the Board's decision on the major site plan and site location of development application, and to authorize the Board Chair to sign the approval letter as drafted and amended. Vote 5-0. Chann and Stanley absent.

5. NEW BUSINESS

- i. Technical Manual; Section 6, Erosion and Sedimentation Control; City of Portland, Applicant. The Planning Board will hold a hybrid public hearing to consider a proposal to update Section 6 of the City of Portland Technical Manual, related to Erosion and Sedimentation Control requirements for new development. These updates are being made to meet a requirement from the City's Stormwater permit issued by the DEP. Besides the permit requirement, the goal is to strengthen and better align our regulatory mechanisms with our current development review process and conditions and other initiatives, including an updated Chapter 32 Stormwater Ordinance, to limit the impact of discharges to the City's brooks, rivers, and harbor. The draft amendments and all other application materials will be available on the City's Agenda Center for this meeting.

To: Chair Brandon Mazer & Members of the Planning Board
From: Eric Freeman
Date: June 19, 2024
Re: 197 Oxford Street
Project ID: PL-002885-2024
CBL: CBL 026 B018
Meeting Date: June 25, 2024.

INTRODUCTION

Reveler Development and Avesta Housing have submitted a Joint Phased Major Site Plan application. This application proposes the redevelopment of several parcels located entirely within the R-6 zone in the Bayside neighborhood into 123 total residential units. The first phase will consist of 48 units, to be developed by Avesta Housing, and will include 28 “Housing First” units as well as 20 workforce units at 197 Oxford Street. The second and third phases will consist of 75 market-rate rental units, with 24 units being located in Phase 2 at 50 Cedar Street, and 51 units being located in Phase 3 at 158 Lancaster Street.

This application is being referred to the Planning Board for compliance with the City of Portland’s Land Use Code Site Plan Standards, Section 14.6 and is considered a phased site plan as defined in Article 14.9.1 of the City of Portland’s Land Use Code. Additionally, this application is required to meet the City of Portland’s inclusionary zoning requirements outlined in Section 18.2 of the City’s Land Use Code.

The Planning and Urban Development Department mailed 176 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the June 15 and June 18, 2024 edition of the Portland Press Herald.

Applicant: Reveler Development, Avesta Housing

Applicant Representatives: Acorn Engineering, Ryan Senatore Architecture, CWS Architecture

REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14.6
Inclusionary Zoning	Section 18.2
R-6 Design Review Standards	City of Portland Design Manual (k)

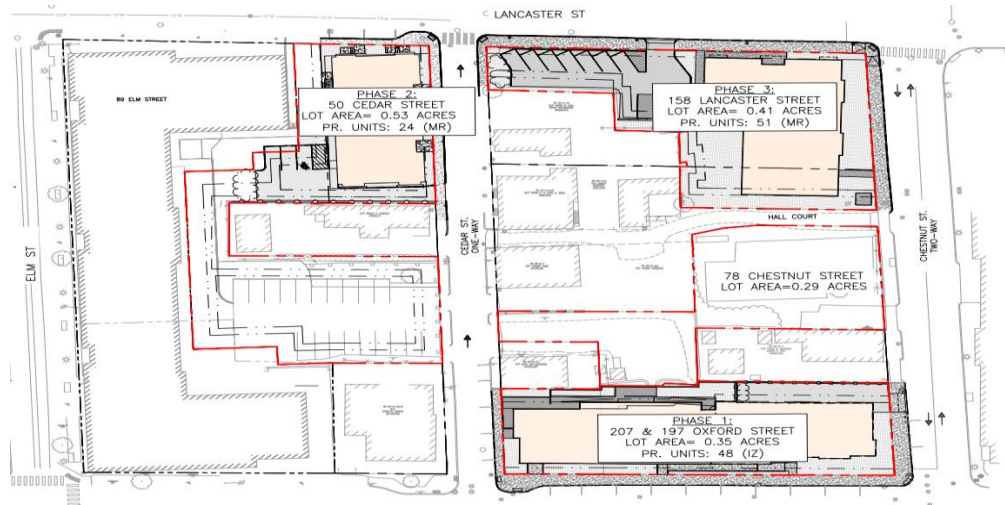


Figure 1: Overall Site Plan

Review	Applicable Standards
Site Plan	Section 14.6
Inclusionary Zoning	Section 18.2
R-6 Design Review Standards	City of Portland Design Manual (k)

Project Data	
Existing Zoning	R-6
Property Size	15,224 SF (Phase I) 23,250 SF (Phase 2) 17,748 SF (Phase 3)
Existing Use	Vacant Oxford Street shelter buildings (Phase I) Surface parking (Phases 2 & 3)
Proposed Development Program	Three-phase Site Plan with 48 affordable housing units and 75 market-rate units.

Waver Requests	Applicable Standards
1. Preservation of Natural Features	Land Use Code Article 14.6.2 <i>All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area unless trees are non-native invasive species, as identified in the landscaping and landscape preservation standards of the Technical Manual, or are deemed unsalvageable by the Portland City Arborist or their designee.</i>
2. Drive Aisle Width.	Technical Manual Section 1.10.3 <i>Minimum two-way drive aisle width is 24 feet for right-angle parking. The applicant is requesting a 22 foot drive aisle width.</i>

3. Electric Vehicle Charging	Technical Manual Section 1.14 <i>New structured and surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces (rounded down to the nearest whole number). An additional 50% of spaces must be made EV-ready, meaning that they are served by sufficient conduit and electrical service to allow for future installation of electric vehicle supply equipment at every space.</i>
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EXISTING CONDITIONS AND SURROUNDING AREA

The subject properties are located in the Bayside neighborhood, within the R-6 zone. All three phases are bordered by Oxford, Chestnut, Cedar and Lancaster streets, and are intersected by Hall Court, a private right-of-way. The surrounding neighborhood consists of a wide variety of land uses and housing types, ranging from single-family homes to larger multifamily buildings. The site is bordered by commercial uses along Lancaster Street. The Bayside Community Garden is located along Chestnut St. between phases 1 and 3 of this application.

This phased site plan application exists in close proximity to the Bayside Master Development Plan (MDP) (PL-002315-2022) which was approved by the Planning Board in 2023. The first phase of the Bayside MDP, 89 Elm Street (PL-002403-2023), directly abuts phase 2 of this site plan application and was approved by the Planning Board on October 24, 2023.

The phase one site is bordered by Oxford, Chestnut and Cedar Streets. The site currently features two vacant structures, previously occupied by the Oxford Street Shelter. These buildings would be demolished as part of Phase 1. There was formerly a community garden at the corner of Oxford and Chestnut Streets, which has become overgrown and disused.

The phase two site is located at the southwest corner of Cedar and Lancaster streets. The site is currently used as surface parking. A portion of the lot had been occupied by a single-family home until it was demolished in 2019.

The phase three property is located at the southwest corner of Chestnut and Lancaster Streets. The site is currently used as surface parking.

All three sites abut or are located in close proximity to Cedar Street and Hall Court. City Staff have noted the poor condition of sidewalks and road surface along Cedar Street, and have identified that the applicant will be responsible for improvements along the entirety of Cedar Street as part of the holistic redevelopment proposed for abutting blocks. Additionally, Planning Staff have identified Hall Court, which is identified as a private right-of-way, as a potential corridor for improvements. Following the workshop, the applicant will be responsible for exploring improvements.



Figure 2: The existing site

PROPOSED DEVELOPMENT

The proposed phased site plan development consists of three distinct parcels located at 197 Oxford Street (Phase I) 50 Cedar Street (Phase 2) and 158 Lancaster Street (Phase 3), which are either connected by public rights-of-way or by land owned by the applicant.

PHASE I – 197 Oxford Street

Phase I involves the demolition of two existing vacant buildings formerly occupied by the Oxford Street Shelter and the construction of a five-story, 48-unit affordable housing building. The proposed building will be developed by Avesta Housing and would consist of 20 traditional workforce housing units and 28 “Housing First” units, with associated on-site services and staff. The building would be divided internally between traditional workforce housing units and “Housing First” units, and would function as two separate buildings, with the traditional workforce housing

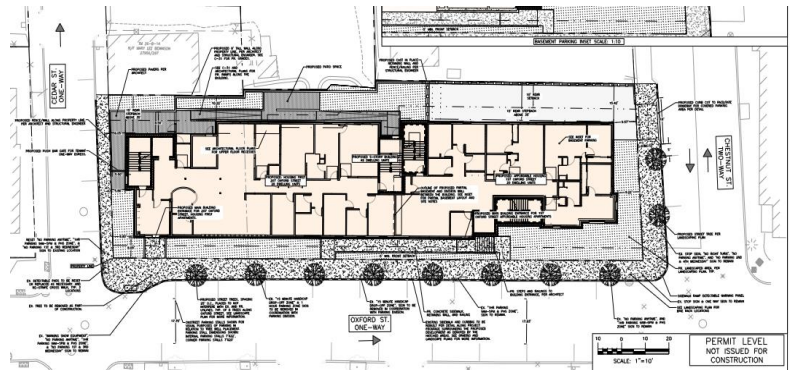


Figure 3: Phase I Site Plan

units located on the eastern side of the building, and “Housing First” units on the western side. Each portion of the building will have its own independent stairwells and elevators.

Within the Housing First portion of the building, all staff offices and supportive services for the residents will be located on the ground floor. The ground floor will also feature a community kitchen, open seating areas, a shared laundry room and staff conference space. The upper floors will include 28 Housing First units, with each unit functioning as a studio apartment.



Figure 4: Phase I Rendering as seen from Oxford Street

The workforce housing portion of the building will feature a mixture of 20 studio and 1-bedroom units, with shared laundry and amenity space, with a community kitchen located on the ground floor.

Phase I will include six parking stalls located at the basement level, which will be accessed from a new curb cut on Chestnut Street. These parking spaces will be used by on-site staff. The building will have two primary entrances located along Oxford Street. The eastern portion of the building will articulate back away from Oxford Street to create a landscaped area at the corner of Oxford and Chestnut Streets.

Phase I would involve the reconstruction of approximately 220 feet of sidewalk along Oxford Street, and approximately 70 feet of sidewalk reconstruction along both Cedar and Chestnut streets. All sidewalks will be rebuilt with concrete pavers and granite curbing. Phase I will also involve the planting of 10 new street trees along Oxford and Chestnut Streets. The applicant has requested a waiver of Article 14.6.2 for this phase in order to remove several trees greater than 10” DBH (diameter at breast height), along the rear property line, which are in poor condition and causing damage to an existing retaining wall.

The applicant is proposing to connect Phase to the existing 12-inch water main on Oxford Street with four 2-inch connection points and a single 6-inch fire service connection going to each portion of the building. This building will also connect to the existing 18-inch combined sewer on Oxford Street. Additionally, the covered parking area will include an oil-water separator.

PHASE II – 50 Cedar Street

Phase 2 involves the construction of a three-story, 24-unit market-rate residential building located at 50 Cedar Street. The site is currently undeveloped and is used as surface parking and grassed open space. The property had been occupied by a single-family home until 2019. The proposed building will include 18 one-bedroom units and six studio units and will feature multiple entryways on both Cedar and Lancaster Streets. Units facing Lancaster Street will feature “Juliet balconies”.

Phase 2 involves the reconstruction of approximately 40 feet of sidewalk along Lancaster St. as well as a new curb extension at the corner of Lancaster and Cedar St.

Phase 2 will include three off-street parking stalls accessed via a narrow driveway and 9-foot drive aisle connected to Cedar Street. One of these parking stalls will be ADA-accessible. These parking stalls would be utilized by off-site tenants who currently lease parking spaces owned by Reveler. There is no enclosed bicycle parking or trash/waste room associated with phase 2, with both trash and bicycle storage to be located within the adjacent 89 Elm Street property.

Phase 2 proposes over 1,000 SF of new impervious surface. Stormwater treatment will be accomplished using Storm-filter cartridges, that would discharge into a proposed R-Tank subsurface detention system. The outfall would tie into the previously engineered and approved 89 Elm Street drainage system, which ultimately drains to the upstream end of the MS4 extension on Lancaster Street.

PHASE III – 158 Lancaster Street

Phase 3 involves the construction of a five story, 51-unit market-rate residential building located on the corner of Chestnut and Lancaster Street. The site is currently undeveloped and is used as surface parking with small amounts of landscaping. The existing surface parking lot is bordered by a retaining wall, which will remain as part of this application.

The proposed building will include 22 one-bedroom units and 29 studio units. The building’s primary entrance will be located on Lancaster Street. The ground floor will feature a lobby, mail room and trash room. The first floor will also include a bike storage room with space for up to 30 bicycles. Phase 3 will include seven off-street angled parking spaces, accessed via an existing curb cut on Lancaster Street. Similar to Phase 2, these parking spaces would be utilized by off-site parking tenants.



Figure 6: Phase 2 Site Plan and perspective

Phase 3 involves the reconstruction of approximately 220 feet of sidewalk along Lancaster St. and 115 feet along Chestnut Street between Lancaster St. and Hall Ct. All sidewalk reconstruction will utilize concrete pavers and granite curbing. A total of eight new street trees will be planted along Lancaster and Chestnut Streets. Three new trees will be planted to help buffer the subject property from an abutting multifamily building.

There is currently one tree at 10" DBH or larger exist on site. The project proposes to maintain 3 of these trees while planting eight new trees.

Phase 3 would connect to the existing 18-inch sewer main on Chestnut Street. Phase 3 will not create more than 1,000 SF of new impervious area and therefore no treatment is proposed as part of this phase. As part of the previously approved Bayside MDP, the water main on Lancaster Street will be upgraded to a 12-inch ductile iron main. Phases 2 and 3 will connect to this new 12-inch main.



Figure 7: Perspective rendering of Phase 3 seen from the corner of Chestnut and Lancaster Streets

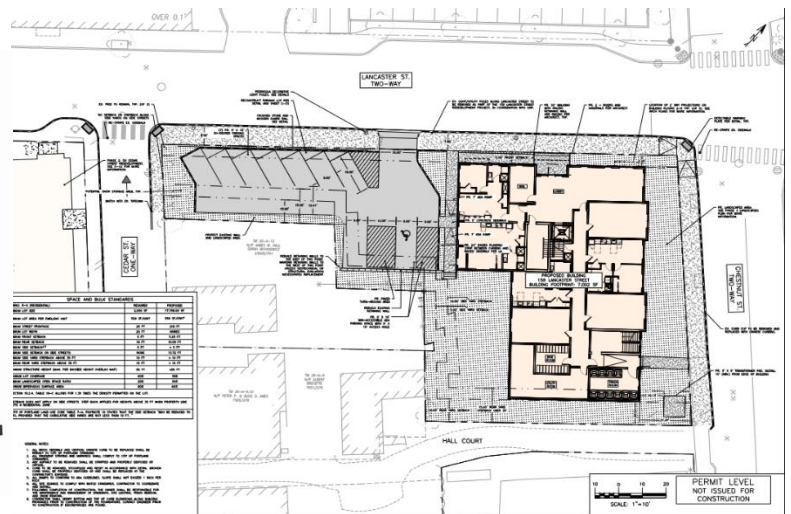


Figure 8: Phase 3 Site Plan

RIGHT, TITLE, & INTEREST

The Co-Applicants of this phased application are Reveler Development and Avesta Housing Development Corporation d/b/a Avesta Oxford Street LP. Reveler Development manages all entities who own the parcels under this application. Avesta has an option agreement with Reveler to purchase the 197 – 203 Oxford Street lot (Phase I)

Phase 1: 197 Oxford Street (39779/239), and 31 Cedar Street (39779/241) are both owned by 197 OXFORD STREET LLC.

Phase 2: 50 Cedar Street (39779/246), and 89 Elm Street (39779/236) are both owned by 89 ELM STREET LLC.

Phase 3: 158 Lancaster Street (39779/223), which is owned by WBP COMMERCIAL LLC

Full Right, Title and Interest documentation, including Deeds and Option Agreements for all three phases are included as attachment C.

FINANCIAL & TECHNICAL CAPACITY

The applicant intends to submit this application to MaineHousing this fall, for consideration for a 9% allocation award for Low Income Housing Tax Credits (LIHTC). The tax credits would generate equity to help fund the proposed redevelopment. The applicant has provided letters of financial capacity from Bangor Savings Bank and Bar Harbor Bank & Trust demonstrating that Avesta Housing and Reveler have the financial capacity to build and maintain the application as proposed. Full financial capacity documentation is included as attachment G

Reveler Development has completed several development projects within the City including 82 and 52 Hanover St and 132 Marginal Way – The Linden. Reveler has demonstrated experience in building and maintaining multifamily rental properties. Avesta Housing is Northern New England's largest affordable housing developer, with experience building and managing dozens of affordable housing properties across Maine and New Hampshire.

CWS Architecture + Interior Design has extensive experience in residential development in Portland and has been the Architect of Record on many residential projects including 58 Boyd Street and Huston Commons. Acorn Engineering and Ryan Senatore Architecture have demonstrated capacity and experience working on commercial and residential projects of a similar scale throughout Maine and New England. Full technical capacity documentation is included as attachment H

ZONING ANALYSIS

All three phases lie within the Residential-6 (R-6) zone. Relevant sections of the R-6 purpose statements include:

- R-6:** *To set aside areas on the peninsula for housing characterized primarily by multi-family dwellings at a high density providing a wide range of housing for differing types of households; to conserve the existing housing stock and residential character of neighborhoods by controlling the scale and external impacts of professional offices and other nonresidential uses; and to encourage new housing development consistent with the compact lot development pattern typically found on the peninsula*

PHASE 1 -197 Oxford St.	Required	Proposed
Lot Size	2,000 SF	15,224 SF
Area Per Dwelling Unit	290 SF / Unit with 2.5x base density bonus	317 SF / Unit
Maximum Height (ft)	55 ft.	54.9 ft.
Rear Setback	10 ft.	5 ft.
Side Setback	5 ft.	7 ft.
Stepback	15 ft.	15 ft. (rear)
Lot Coverage	60%	60%
Landscaped Open Space	20%	25%
Off-street parking spaces	None (with exemption applied)	5

Planning staff have requested that the applicant provide additional information regarding height and lot coverage calculations for Phase I to confirm that the building is in conformance with zoning regulations.

PHASE 2 – 50 Cedar St.	Required	Proposed
Lot Size	2,000 SF	23,250 SF
Area Per Dwelling Unit	725 SF / Unit	1,092 / Unit
Maximum Height (ft)	55 ft.	35 ft.
Rear Setback	10 ft.	21.5 ft.
Side Setback	5 ft.	12.5 ft.
Lot Coverage	60%	21%
Landscaped Open Space	20%	20%
Off-street parking spaces	20	Off-Site
Maximum Impervious Area	80%	80%

Planning Staff have requested the applicant provide additional information regarding open space calculations for Phase 2.

PHASE 3 – 158 Lancaster St.	Required	Proposed
Lot Size	2,000 SF	17,748 SF
Area Per Dwelling Unit	725 SF / Unit	558 SF / Unit
Maximum Height (ft)	55 ft.	51.2 ft.
Rear Setback	10 ft.	10.1 ft.
Side Setback	5 ft.	13.7 ft.
Stepback	15 ft.	15 ft. (rear)
Lot Coverage	60%	39%
Landscaped Open Space	20%	34%
Off-street parking spaces	47	Off-Site

Inclusionary Zoning

New residential projects totaling 10 or more residential units are subject to the City's Inclusionary Zoning (IZ) requirements, which require that 25% of new units be workforce housing units, affordable to households earning 80% of the Area Median Income (AMI). The applicant is seeking to satisfy the IZ requirements for Phases 2 and 3 by using the IZ off-site provisions as outlined in the City's *Inclusionary Zoning Implementation Guidelines for Developers of Rental Housing* (Attachment S3), with the 20 affordable units proposed at 197 Oxford Street to be considered 'workforce units' for the 75 market rate units proposed as part of phases 2 and 3. As currently proposed Phase 1 of this application is exempt from IZ standards per Article 18.2.3.B.

The City's inclusionary zoning requirements allow the workforce units requirement to be met by providing units on-site, off-site, or through financial contributions to the City's Jill C. Dusen Housing Trust Fund. In the case of off-site workforce housing the IZ Implementation Guidelines state:

“A Developer may choose to satisfy the Workforce Unit requirements by providing these units off-site through the construction of new units, the restriction of existing market rate units, or the conversion of non-residential uses.”

The *Definitions and Regulations for Developers of IZ Units* defines developer as “the owner of the project.” Owner is defined as “all legal and equitable owners (including, but not limited to, any person, persons, firm, partnership, association, joint venture, corporation, or any public or private entity or entities or the owner’s agent) of a building or project during the term of the permit and any heir, successor, or assign of any person holding an ownership interest in the project or building.” To satisfy the IZ off-site requirements at 197 Oxford Street, Reveler will need to demonstrate how their proposed partnership with Avesta complies with the definition of owner. If Reveler is able to demonstrate that the project is consistent with the definitions of “owner” and “developer” for satisfying the off-site IZ provisions then the owner would be required to record a Workforce Housing Agreement in the chain of title for each property that outlines the terms of affordability, as well as unit amenities, to ensure that amenities are comparable to the market-rate units.

Additionally, as part of fulfilling their intent to use units at 197 Oxford Street to meet the workforce housing requirements, the Applicant will have to:

- Identify which units in the 197 Oxford Street building will be used to satisfy the workforce housing requirements.
- Demonstrate how the units are comparable in quality and size to the market-rate units constructed in the market rate projects

Execute affordable housing agreements as part of the deeds for 197 Oxford Street and each of the market rate sites.

Density Bonus

The applicant intends to utilize density bonuses outlined in Table 18-C of the City of Portland’s Land Use Code. As presented, the applicant intends to apply a 2.5X base density bonus to phase I of the application, which is allowable for Phase 1 as it is 100% affordable and thus eligible for a 2.5x base density.

In addition to the density bonus being utilized for phase 1, the applicant has also designed phases 2 and 3 of the project, utilizing a 1.3x base density bonus, given that the total number of low-income or workforce units for all phases combined exceeds 30% of the total number of units being proposed. Staff are not supportive of this interpretation of Table 18-C and the applicant will need to revise their application to be in conformance with the underlying density requirements in the R-6 zone. Each phase and building are required to conform to all zoning requirements individually. Given that phases 2 and 3 do not include any affordable units, these phases are ineligible to use the density bonus, and should be limited to the residential density permitted in Table 7-A. The lot area per dwelling unit in the R-6 zone is 725 square feet. Full density bonus calculations can be found in Attachment D4.

SITE PLAN STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland’s Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1)

A. Impact on surrounding street systems

This application proposes to rebuild and upgrade sidewalks along the frontages of all three phases. There are no changes proposed to traffic patterns or on-street parking as part of this Site Plan application.

As part of the approved Traffic Movement Permit (TMP) of the Bayside Master Development Plan, Reveler Development will be required to study the possibility of converting Oxford Street to two-way traffic, upon the completion of the abutting 89 Elm Street project. The applicant has met with City Staff to discuss how phase 1 of this application has been designed to accommodate potential future changes in traffic patterns along Oxford Street.

This application involves three significant multifamily projects which all have frontage along Cedar Street. Given the generally poor condition of sidewalks and road surface along Cedar Street, the applicant will be responsible for street, sidewalk, and other improvements within the right-of-way.

Additionally, Staff encourage the applicant to consider improvements to Hall Court to improve mid-block permeability and create a new neighborhood amenity.

B. Access and circulation

The applicant proposes to reconstruct sidewalks along the frontages of all three phases using concrete pavers and granite curbing. Sidewalks will be rebuilt to city standards. Internal walkways are proposed for each phase and will connect to the existing sidewalks along Cedar Street, Chestnut Street and Lancaster Street. Planning Staff are still working with the City's third party transportation engineer, Tom Errico, from TY Lin, to determine whether this Phased Site Plan application will necessitate an amendment to the Traffic Movement Permit for the Bayside MDP.

C. Public transit access

This standard is not applicable to this application because the proposed project is not located directly on an existing public transit route.

D. Parking

Each phase of this application involves a limited amount of dedicated off-street parking. According to the applicant they intend to include three off-street parking spaces within Phase 2 for existing off-site parking tenants and eight off-street parking spaces within Phase 3 for off-site parking tenants. Per Table 6-A off-street parking is a conditional use in the R-6 zone and is only permitted for passenger cars for uses permitted in the R-6 zone. The applicant will need to demonstrate that the off-site parking is in accordance with the permitted uses and provide existing lease agreements for conformation.

Phase I: Includes five basement-level parking spaces accessed via a new curb cut on Chestnut Street. These spaces would be utilized by Housing First Staff. No additional on-site parking is provided for the residents of Phase I. According to the applicant, if tenants wish to pursue dedicated off-site parking, there is capacity within the Cumberland Avenue parking garage which is

owned by Co-Applicant, Reveler Development.

Phase 2: Includes three off-street parking spaces accessed from Cedar Street. These spaces would be utilized by existing off-site parking tenants.

Phase 3: Includes eight angled off-street parking spaces accessed via Lancaster Street. As with Phase 2, these spaces would be utilized by off-site tenants

Planning staff have encouraged the applicant to reconsider the need for the small surface parking lots associated with Phases 2 and 3.

The applicant intends to provide off-site parking for all 75 market-rate units in the nearby Cumberland Avenue Garage. Reveler Development owns this garage and included supply calculations as part of the previously approved Master Development Plan in 2023

Planning Staff would request that the applicant demonstrate that sufficient capacity exists within the Cumberland Avenue Garage to accommodate the anticipated demand from this application.

A minimum of 50 bicycle spaces are required for the proposed 123 total residential units, following the ratio (2 bike spaces/ 5 units) provided in Table 19-A of the Land Use Code. Phases 1 and 3 include dedicated bike storage rooms which meet this standard. For Phase 2 the applicant is proposing to utilize the enclosed bike storage area at 89 Elm Street.

Additionally, New structured and surface parking lots of five or more spaces are required to include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces. An additional 50% of spaces must be made EV-ready. Phase I of this Site Plan application is requesting a waiver from the EV requirement for their 5 parking spaces, which the City does not support, given the limited EV infrastructure required for this phase. Based upon the amount of new parking being created for phases 2 and 3, these phases are not required to provide any EV infrastructure.

A full parking analysis has been provided by the applicant and is included as attachment S

E. Transportation demand management (TDM)

This application does not require a TDM plan, However, the applicant has provided a traffic analysis (Attachment T).

The City has requested the at the applicant provide a parking study to substantiate their request for no off-street parking for the first phase. Conversely, the applicant may utilize the transit-proximate exemption following the completion of a TDM.

Staff is requesting further information in order to make a finding on this standard.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

All three parcels associated with this phased site plan are urban infill lots. There are no known significant natural features on any of the three parcels.

B. Landscape preservation

Phase 1: Several mature trees are located along the rear of the property line. Due to the location and condition of the trees, as well as their impact to a nearby retaining wall, the applicant has requested a waiver of Article 14.6.2 related to tree preservation.

Phase 2: No trees or significant landscaping are being removed

Phase 3: Eight trees of 10" DBH or greater exist on site. The project will maintain three of those trees which meets landscape preservation standards.

C. Site landscaping and buffers

Within the R6 zone, one shade tree or plantings are required per every 30 linear feet along all the property frontages, per the City of Portland Technical Manual standards. Where the replacement of trees onsite is not feasible, the applicant intends to contribute the proportionate cost of the replacement trees to the City of Portland Tree Fund. In total, the applicant will plant 23 new trees between the three phases of this application. Per section 4.6.1 of the Technical Manual, the applicant is required to provide a minimum of one street tree per residential unit along public rights-of-way. The applicant intends to contribute to the tree fund to compensate for the remaining 100 required trees.

Each phase will include both grassed and landscaped open space. The applicant has provided detailed landscaping plans included as attachments 11,12, 13 and 14



*Figure 9: Perspective rendering of phases 2 and 3
looking west down Lancaster Street*

D. Water quality/storm water management/erosion control

The project is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The Applicant has submitted a stormwater management report and grading and drainage plans for each phase to indicate erosion and sedimentation control measures and stormwater treatment for the proposed development.

The Applicant has evaluated the requirements for stormwater treatment for each phase of this application. Phases 1 and 2 both involve the creation of greater than 1,000 square feet of new impervious surface, and therefore both of these phases are subject to the City's stormwater management requirements. In Phase 3, the amount of impervious surface would be reduced beyond what is there currently, and so this phase would be exempt from stormwater quality and quantity management. Subsurface stormfilter systems have been provided for Phases 1 and 2.

The applicant has submitted a full stormwater management plan demonstrating compliance with Section 5 of the Technical manual and Maine DEP chapter 500 standards for all phases of this application.

Phase 1: Treatment will be accomplished using Storm-filter cartridges, which will discharge into a proposed R-Tank subsurface detention system. The detention system is sized to store an inch across the entire roof area as well as some ancillary impervious ground surfaces, which is a larger volume than the new sewer flows created by the project. The stormwater will outlet into the combined 18-inch sewer within Chestnut Street.

Phase 2: Treatment will be accomplished using Storm-filter cartridges which will discharge into a proposed R-Tank subsurface detention system. The detention system is sized to store an inch of rainfall across the site's impervious area, which exceeds the new sewer flows. The outfall will tie into the previously engineered and approved 89 Elm drainage system which ultimately drains to the upstream end of the MS4 extension that has been designed as part of the Bayside MDP

Phase 3: The project will not create more than 1,000 SF of new impervious area and therefore no treatment is proposed. The site will detain the new sewer flows because its volume exceeds an inch across the site's impervious area.

The stormwater detention will be provided by an R-tank system and treatment will be via a Stormfilter BMP.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans

This Phased Site Plan is adjacent to the previously approved Bayside Master Plan, and proposes infill development in an area accessible to services and public transit supporting many of the City's goals of complete neighborhood and sustainable development patterns.

B. Availability and capacity of public utilities

All three phases will be served via underground electrical conduits. New Utility providers have been contacted for their ability to serve the proposed project. The applicant has requested ability to serve letters from Central Maine Power and Portland Water district

All three phases will be served by connection to the public sewer system within Chestnut Street and Cedar Street, furthermore, intercepted by the Lancaster Street Combined Sewer. The proposed stormwater management systems have been designed to meet the City standards as well as the applicable standards outlined in Chapter 500.

Phases 2 and 3 will rely on the completion of the planned MS4 extension along Lancaster Street. Further coordination with the Department of Public Works will be required.

Phases 1 and 3 propose internal trash storage for tenants. While Phase 2 will share its solid waste with the adjacent 89 Elm project outside in a privately, screened enclosure. Given each of the residential developments proposes 20 or more units within the building, trash collection and disposal will be coordinated by the property/landowner of each site with a private hauler.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

All three phases meet relevant zoning and dimensional standards and are similar in scale to surrounding buildings.

B. Shadows

No adverse shadow impacts are anticipated with this application. Planning staff have encouraged the applicant to provide additional detail as to how Phases 1 and 3 may impact the Community Garden located on Chestnut Street. Staff is requesting further information to make a determination regarding this standard.

C. Snow and ice loading

None of the proposed buildings are anticipated to create snow or ice loading impacts on abutting properties or rights-of-way. The applicant has detailed snow storage locations on included plans.

Staff consider this standard to be met.

D. View corridors

This standard is not applicable to this application.

E. Historic resources

Not applicable. No portion of this Phased Site Plan is within 100 feet of a historic district and no historic resources are impacted by this application.

F. Exterior lighting

The proposed development includes full cutoff / dark sky compliant light fixtures to minimize light spillover. The applicant has designed light fixtures to avoid impact to abutting residential properties

as much as possible. Shielding will be implemented when necessary. No architectural or specialty lighting is proposed. Street lighting has been proposed in accordance with the City Technical Manual and is to include the required peninsula decorative lighting when along Lancaster Street. A full photometric plan has been included as attachment N

G. Noise and vibration

HVAC, air handling units, and other necessary equipment will be installed on building rooftops. Given the location of the buildings the placement of HVAC, generators and other equipment is not anticipated to interfere with abutting residential properties.

H. Signage and wayfinding

No wayfinding signage is proposed as part of this application.

I. Zoning-related design standards

All three phases were reviewed under the Land Use Code section 14.6.4.l.e for multi-family residential development and shall also comply with the following development standards under the Land Use Code section 8.1.4 for R6 zone. A full design review can be found as S1

NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on May 16, 2024 at 5:30 PM. The in-person meeting was held in the community room at 409 Cumberland Avenue. 17 members of the public were in attendance. Public comment included:

- Construction timing in relation to the abutting 89 Elm Street project.
- Parking for all phases
- Density calculations
- Operations and management of the Housing First units.
- The condition of streets and sidewalks
- Public safety
- Building design and open space

A full sign-in sheet and meeting minutes are included as attachment V.

ATTACHMENTS

Public Comment

- PC1. Ann Dodd-Collins
- PC2. Delene Perley
- PC3. George Rheult- 1
- PC4. George Rheult – 2
- PC5. Heather Kenvin
- PC6. Heather Murdoch Curry
- PC7. Laura Underkuffler – 1
- PC8. Laura Underkuffler – 2
- PC9. Laura Underkuffler – 3
- PC10. Laura Underkuffler – 4
- Pc11. Lynn Chamberlain

PC12. Nancy Nickerson
PC13/ Rosanne Graef

Report Attachments

- S1. Design Review Memo
- S2. Site Plan Worksheet (4.23.2024)
- S3. Inclusionary Zoning Implementation Guidelines for Developers of Rental Housing

Applicants Submittal

- A. Cover Letter
- B. Major site Plan Checklist
- C. Right, Title & Interest
- D1..Zoning Analysis- Phase 1
- D2.Zoning Analysis - Phase 2
- D3.Zoning Analysis - Phase 3
- D4.Zoning Analysis - Density Overview
- E - Easements
- F - Waivers
- G. Financial Capacity
- H. Technical Capacity
- I. Conformity with Land Use Ordinance
- J. Stormwater Management Report
- K. Erosion & Sedimentation Control Report
- L. Fire Department Letter - -Phase 1
- L2.Fire Department Letter - Phase 2
- L3.Fire Department Letter - Phase 3
- M - Wastewater Capacity
- M1.Wastewater Capacity Form - Phase 1
- M2.Wastewater Capacity Form - Phase 2
- M3.Wastewater Capacity Form - Phase 3
- N. Lighting
- O. Architectural Narrative
- P. Utility Narrative
- Q. Construction Management Plan
- R. Solid Waste Disposal
- S. Parking Analysis
- T. Traffic Analysis
- U. Pre-App Neighborhood Meeting
- V. Neighborhood Meeting Sign-In Sheet

Plans

2. GENERAL NOTES
3. TOPOGRAPHIC SURVEY
4. PH1 - CONSTRUCTION MANAGEMENT PLAN
5. PH2 - CONSTRUCTION MANAGEMENT PLAN
6. PH3 - CONSTRUCTION MANAGEMENT PLAN
7. OVERALL SITE PLAN
8. PH1 - SITE PLAN
9. PH2 - SITE PLAN
10. PH3 - SITE PLAN
11. PH1 - LANDSCAPE HARDSCAPE AND MATERIALS PLAN
12. PH1 - LANDSCAPE PLANTING PLAN
13. PH2 - LANDSCAPE PLANTING PLAN
14. PH3 - LANDSCAPE PLANTING PLAN
15. PH1 - UTILITY PLAN
16. PH2 - UTILITY PLAN
17. PH3 - UTILITY PLAN
18. PH1 - GRADING AND DRAINAGE PLAN
19. PH2 - GRADING AND DRAINAGE PLAN
20. PH3 - GRADING AND DRAINAGE PLAN
21. SITE DETAILS - 1
22. SITE DETAILS - 2
23. UTILITY DETAILS - 1
24. UTILITY DETAILS - 2
25. DRAINAGE DETAILS - 1
26. DRAINAGE DETAILS - 2
27. EROSION & SEDIMENTATION CONTROL DETAILS
28. PH1 - LANDSCAPE DETAILS"
29. PH2 & PH3 - LANDSCAPE DETAILS
40. PH1 - A1.00 BASEMENT PARKING LEVEL PLAN
41. PH1 - A1.10 FIRST FLOOR PLAN
42. PH1 - A1.20 SECOND FLOOR PLAN
43. PH1 - A1.30 THIRD FLOOR PLAN
44. PH1 - A1.40 FOURTH FLOOR PLAN
45. PH1 - A1.50 FIFTH FLOOR PLAN
46. PH1 - A3.01 NORTH ELEVATION PLAN
47. PH1 - A3.02 EAST ELEVATION PLAN
48. PH1 - A3.03 WEST ELEVATION PLAN
49. PH1 - A3.04 SOUTH ELEVATION PLAN
50. PH2 - A1-1 FIRST FLOOR PLAN
51. PH2 - A1-2 SECOND FLOOR PLAN
52. PH2 - A1-3 THIRD FLOOR PLAN
53. PH2 - A2-0 WEST ELEVATION PLAN
54. PH2 - A2-1 NORTH ELEVATION PLAN
55. PH2 - A2-2 EAST ELEVATION PLAN
56. PH2 - A2-3 SOUTH ELEVATION PLAN
57. PH2 - P1 PERSPECTIVE 1 PLAN

- 58. PH2 - P2 PERSPECTIVE 2 PLAN
- 59. PH2 - P3 PERSPECTIVE 3 PLAN
- o. PH2 - P4 PERSPECTIVE 4 PLAN
- 1. PH2 - P5 PERSPECTIVE 5 PLAN
- 2. PH2 - P6 PERSPECTIVE 6 PLAN
- 3. PH2 - P7 PERSPECTIVE 7 PLAN
- 4. PH2 - P8 PERSPECTIVE 8 PLAN
- 5. PH2 - P9 PERSPECTIVE 9 PLAN
- 6. PH3 - A1-1 FIRST FLOOR PLAN
- 7. PH3 - A1-2 SECOND FLOOR PLAN
- 8. PH3 - A1-3 THIRD FLOOR PLAN
- 9. PH3 - A1-4 FOURTH FLOOR PLAN
- 7o. PH3 - A1-5 FIFTH FLOOR PLAN
- 71. PH3 - A2-o WEST ELEVATION PLAN
- 72. PH3 - A2-1 NORTH ELEVATION PLAN
- 73. PH3 - A2-2 EAST ELEVATION PLAN
- 74. PH3 - A2-3 SOUTH ELEVATION PLAN
- 75. PH3 - P1 PERSPECTIVE 1 PLAN
- 76. PH3 - P2 PERSPECTIVE 2 PLAN
- 77. PH3 - P3 PERSPECTIVE 3 PLAN
- 78. PH3 - P4 PERSPECTIVE 4 PLAN
- 79. PH3 - P5 PERSPECTIVE 5 PLAN
- 8o. PH3 - P6 PERSPECTIVE 6 PLAN
- 81. PH3 - P7 PERSPECTIVE 7 PLAN
- 82. PH3 - P8 PERSPECTIVE 8 PLAN

Design Review

Planning and Urban Development Department



Subject: 197 Oxford Street, 50 Cedar Street, 158 Lancaster Street – Phased site plan
Zone: R-6
Date of Friday, June 21, 2024
Review: Design Review
Reviewer(s): Eric Freeman (Planner), Zach Powell (Senior Planner), Sean King (Urban Designer)
Project ID: PL-002885-2024

I. DESIGN REVIEW CRITERIA

The proposed phased site plan development is subject to the site design standards, Land Use Code section 14.6.4(l) Design standards. The proposed multi-family development is subject to the multi-family design standards from the City of Portland Design Manual, Section (l) to consist of three phases, herein known as:

- Phase 1: 197 Oxford Street for 48 residential units
- Phase 2: 50 Cedar Street for 24 residential units
- Phase 3: 158 Lancaster Street for 51 residential units.

II. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met which require resubmission.

(l) *Two-family, special needs independent living units, **multiple-family**, lodging houses, bed and breakfasts and emergency shelters.*

MULTIPLE-FAMILY STANDARDS. Multiple-family shall meet the following standards:

1. *The exterior design of the proposed structure shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: The built context of the surrounding area contains a variety of building types, architectural styles, and a mix of uses that vary in height and proximity to the street typically found throughout Portland's Bayside neighborhood. The north side of Chestnut Street includes a larger 7-story multi-family building with flat roof. The south side includes an existing 2.5-story residential building with open gable roof style. Cedar Street includes a mix of smaller-scale residential structures with a mix of roof types including, box gable, intersecting/overlaid hip, and open gable. Buildings tend to have a masonry base, predominantly brick, with clapboard siding. Along Oxford Street includes a mix of building typologies including Unity Village, a community of 33 townhouse style, 3-story apartment buildings, with pitched roofs, brick base and clapboard siding with balconies on the second floor. Adjacent R-7, B-3 & B-7 zoning districts are within close proximity to the proposed project. The existing buildings within the surrounding context are located close to the street with direct access to building entries from public sidewalks.

The proposed phased site plan varies in architectural style and generally deviates from the surrounding residential neighborhood due to the larger lot size and large building footprint to accommodate the proposed high density of residential units. The proposed buildings include flat roofs to maximize structure height. Flat roofs are common for multi-family buildings in the neighborhood and throughout the city.

Phase 1 – 197 Oxford Street: Does not meet the standard. Staff finds the building design is horizontally oriented along the Oxford Street façade with several large expanses of blank façade, including lack of street presence along Oxford Street. The base of the building is not in keeping with the surrounding character and as currently design detracts from the current rhythm and contextuality of the neighborhood. Additionally, window proportions are not appropriate for the scale of project and there is minimal fenestration along the buildings Oxford and Chestnut street facades.

The applicant should consider additional façade variation at the upper floors, including projecting bays or inset bays, window fenestration, balconies, and architectural detailing to express the roofline termination and potential delineation of floors with external materials. The scale of the building is not in context to the surrounding character and the minimal articulation adds to the buildings scale and imposing presence on nearby buildings. The building design begins to establish a roof-line datum along Oxford Street, however, Staff recommends a clear termination of the roofline and a continuation of the roofline to extend to Chestnut Street. The Applicant may consider stepping the Affordable Housing building foundation down to create a stronger relationship at the corner of Oxford Street and Chestnut Street.

The ground floor is not compatible to the surrounding neighborhood context and detracts from the street life. Further the current design limits any opportunity to enhance the street presence as other buildings in the neighborhood provide. The building is currently designed in a more institutional manner as opposed to residential and will result in a negative experience for pedestrians. The applicant will need to revisit the design of the building particularly the ground floor to better complement and enhance the neighborhood.

Staff is also acknowledging that the applicant did not provide renderings for the Phase I building and that some perspectives were included within the neighborhood meeting attachment as opposed to being included with other renderings. Staff is requesting that the Applicant provide proposed exterior materials and renderings of the first phase building to better inform the design review.

Phase 2 – 50 Cedar Street: Staff finds the building design provides massing variation and mitigates the existing grade along Cedar Street appropriately with the location of multiple entries that are recessed and articulated with an overhead canopy.

Phase 3 – 158 Lancaster Street: Staff finds the building height is within the 55-foot maximum as indicated in the Bayside Height Overlay Map. Staff finds the façade materials and variation along the street-facing facades to be appropriate to provide window projections. Staff recommends a stronger relationship to the Lancaster Street and Chestnut Street corner and suggests moving the building closer to Chestnut Street. The Applicant is requested to explore expanding the building along Lancaster Street and adding a garage door to allow for parking at the rear of the property or within the building footprint as structured parking.

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: The prevailing surrounding context includes buildings within close proximity to the street, to allow direct access to building entries directly from the public sidewalk. The arrangement of smaller properties and existing structures at different finished floor elevations allows for individual structures to mitigate changes in grade along sloped public streets.

Phase 1 – 197 Oxford Street: **Standard not met.** Staff finds that the proposed building location does not relate to the existing neighborhood context with buildings located directly or within close proximity to the street. In particular, residential structures on smaller lots in the R-6 residential zone are located either at or within a few feet of the public right-of-way and mixed-use buildings on larger lots in the B-3 and B-7 zones are located at or within a few feet of the public right-of-way. Furthermore, the ground floor of the building has a negative presence on the street with limited fenestration and interaction for the length of an entire block.

Staff recommends the building placement adjust to be within closer proximity to Chestnut Street and suggests a street-facing articulated building entry for the proposed Affordable Housing building within closer proximity to the Oxford Street and Chestnut Street corner. Relocation of this building entry may allow for the removal of the ramp and stair element proposed along Oxford Street and further locate the building towards Oxford Street to reduce the proposed front setback. The Applicant should consider relocation of the proposed Affordable Housing lobby towards the corner and Stair 4 to the Chestnut Street façade to allow for additional window fenestrations along Oxford Street.

Phase 2 – 50 Cedar Street: Staff finds the proposed building placement promotes street activation along Lancaster Street and Cedar Street that is appropriate to the surrounding neighborhood context. **Staff recommends that the Applicant reorient the proposed entry stoops and railings along the Lancaster Street building frontage and adjust the stoops for a more recessed entry with railings perpendicular to the street.**

Phase 3 – 158 Lancaster Street: Staff finds the building placement along Lancaster Street encourages street activation and direct access to the primary building entry. **Staff recommends the building placement move to align with Chestnut Street to respond to the existing structures located directly at or within close proximity to the street. Furthermore, the Applicant is requested to find an alternative location for the transformer proposed at Chestnut Street.**

3. *Open space on the site for all ... multiple-family development shall be integrated into the development site.*

Staff comment: **Staff requests that the Applicant provide a written narrative to identify the proposed open space for the proposed three-phased site plan, with a description to provide access for people with limited mobility. Staff will need to evaluate shared open space, communal open space per property and/or private open for residential units to meet this design standard. Open space functions may include, but not limited to buffers and screening, yard space, play areas, and planting around the perimeter of the proposed building, in addition to communal or private open space within the building footprint (such as roof-level terraces or balconies incorporated within the building façade).**

Phase 1 – 197 Oxford Street: The Applicant has indicated new street trees along Oxford Street, Chestnut Street & Cedar Street under the City’s Technical Manual, Section 4 standards, along with walkways, courtyards and planting areas at the rear of the property. *Staff recommends a building location closer to the street along Oxford Street and Chestnut Street to reduce the lawn areas proposed along the front property adjacent to the public sidewalk and relocate the transformer at the corner that Staff finds is not contextually appropriate. Staff recommends greater activation along the street with pedestrian amenities such as seating, building entry articulations and planting areas for screening around the building.*

Phase 2 – 50 Cedar Street: The Applicant has indicated new street trees along Lancaster Street and Cedar Street under the City’s Technical Manual, Section 4 standards, along with minimal perimeter building planting areas. *Staff recommends the Applicant replace the lawn areas along the property frontages for shrub planting material as a more contextually appropriate landscape buffer adjacent to the public sidewalk. In addition, the Applicant is requested to consider additional open space for communal use, either within the building footprint or as a shared driveway (also known as paseo or woonerf) at the paved areas leading into the parking area at the rear of the property.*

Phase 3 – 158 Lancaster Street: The Applicant has indicated new street trees along Lancaster Street and Chestnut Street under the City’s Technical Manual, Section 4 standards, along with landscape buffering around the perimeter of the property and lawn area for communal gathering at the rear of the property. *Staff recommends the Applicant replace the lawn areas along the property frontages for shrub planting material as a more contextually appropriate landscape buffer adjacent to the public sidewalk. Along with Staff’s comments design standard 1. The exterior design of the proposed structure in this design review memo, the Applicant is requested create greater activation at the Lancaster Street and Chestnut Street corner. The current surface parking area as proposed along Lancaster Street is not conducive for an activated street and Staff recommends the Applicant consider an open space element that would for more communal use.*

4. *The design of proposed dwellings shall provide ample windows to enhance opportunities for sunlight and air in each dwelling in principal living areas and shall also provide sufficient storage areas.*

Staff comment: Staff finds the proposed phased site plan buildings provide ample windows and sufficient storage within each residential unit to meet this design standard. *The proportions for windows at 197 Oxford Street are not appropriate for the scale of building proposed and should be revisited.*

5. *The scale and surface area of parking and driveways and paved areas are arranged and landscaped to properly screen vehicles from adjacent properties and streets.*

Staff comment: *Staff finds the Phase 1 – 197 Oxford Street development parking is located in a garage and requests additional information for the proposed retaining wall at the rear of the property to evaluate proper screening for vehicles from the adjacent property at 72 Chestnut Street.*

Staff finds the Phase 2 – 50 Cedar Street development parking is located appropriately within the site with the driveway screened by a fence to properly screen the adjacent property at 44 Cedar Street.

Staff finds the Phase 3 – 158 Lancaster Street development parking is not appropriately arranged and landscaped to properly screen vehicles from Lancaster Street. Staff recommends:

- a reduction in surface parking area;
- moving the building closer to Chestnut Street;
- expanding the building along Lancaster Street; and
- adding a garage door to allow for parking at the rear of the property or within the building footprint as structured parking.

6. *Two-family or multi-family dwellings shall not be converted to lodging houses unless all units in the building have been vacant for at least one (1) year prior to the date conversion is sought or unless the individual multiple-family units are less than one thousand (1,000) square feet in size. In no event shall any single-family dwelling in the R-5 or R-6 zone be converted in whole or in part to a lodging house.*

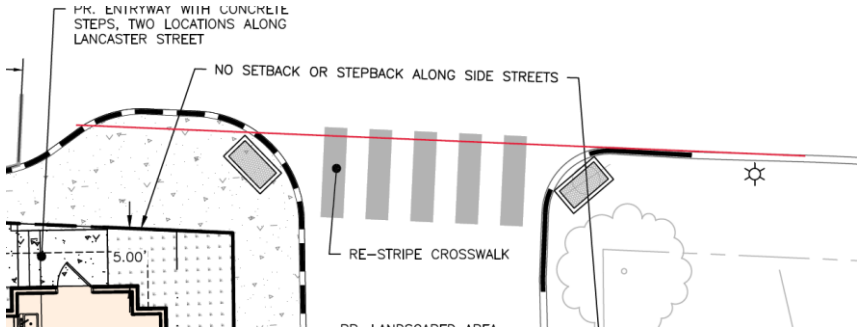
Staff comment: Not applicable as the proposed development does not include a lodging house conversion.



Site Plan Review Standards (Sec. 14.6)

Transportation Standards (Sec. 14.6.1)

Standard	Discussion	Finding
Impact on Surrounding Street Systems	<u>Overview:</u> Phase 1 is bordered by Oxford, Chestnut and Cedar Streets Phase 2 is located at the southwest corner of Cedar and Lancaster Streets Phase 3 is located at the southwest corner of Chestnut and Lancaster streets All three phases share frontages along Cedar Street and Hall Court, A private RoW. The applicant proposes to install a curb extension at the intersection of Oxford and Lancaster Streets..	Not Met
	<u>Updates Requested</u> The applicant shall provide all back up calculations for their trip generation methodology.	
Access and Circulation	<u>Updates Requested</u> - The applicant shall update the plans to label or provide spot grades and slopes for the proposed sidewalks, accessible ramps and driveways at grade breaks. Callout tip downs. - Show Street Centerlines, callout & dimension limits of ROW - Reconstructed Sidewalk ramps should be constructed such that they are facing the direction of pedestrian travel. - When a detail is referenced ie. "per detail" provide a sheet# for said detail - The City's Technical Manual has been recently updated and approved. The applicant shall update all proposed details (Site, Sewer, Stormwater, Landscape, details) to meet the requirements of the recently approved technical manual update. - Existing conditions and proposed Improvements in the ROW shall be dimensioned on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes. Phase 1 - The Bayside Transportation Master Plan contains a recommendation to convert Oxford Street to a two-way street. The proposed curb lines, as shown on the plan, would make such a conversion difficult without eliminating parking on one side of the street. Applicant shall construct a six-foot wide sidewalk along their frontage, thus affecting a slight widening of the roadway. - C-11 - Street Signage shall be replaced as all other streetscape features are being replaced.	Not Met

	• C-11 - Dimension sidewalk width from edge of ROW to back of curb on Chestnut St and Cedar St. • C-31 - Show drainage direction arrows . • C-31 - Provide additional spot grades around the building to better indicate positive drainage away from the building. Phase 2 • The Phase 2 site plan shall include a driveway width dimension at the property line. • C-12 - Dimension sidewalk width from ROW to Curb on Cedar St & Lancaster St, Minimum 6' Sidewalk must be provided. • C-12 - Dimension sidewalk width from ROW to Curb on Cedar St & Lancaster St, Minimum 6' Sidewalk must be provided. • C-12 - Show the limits of curb that is being removed and relocated along Lancaster. • C-12 - Need Clarity on what the curb cuts are encompassing. • C-12 - Call out all paving that is being removed and replaced. • C-12 - Parallel on street parking spaces must be 20' in length. • C-12 - Show how this site plan ties into site plan from 89 Elm St. site plan. • C-12 - Curb extension must align with existing curb line from opposite side of Chestnut St.at the location shown below  Phase 3 • C-13 - Keep Light poles out of accessible ramps • C-13 - Tree wells must be shown on Site plan, with sidewalk widths dimensioned. Provide 6' Sidewalk clear width must be maintained at all locations. • C-33 - Provide additional spot grades around building to better indicate positive drainage away from the building • C-33 - Show sawcut limits for utilities in ROW	
Public Transit Access	<u>Overview:</u> All three phases of this application are within ¼ mile of METRO transit routes.	Met
	<u>Updates Requested</u> • None – Met	

Parking	<u>Updates Requested:</u> - The parking analysis notes that off-street parking needs will be accommodated in the Cumberland Avenue garage on an as needed basis. - The applicant shall provide a narrative regarding the need for the small surface level parking lots for phases 2 and 3 Phase 1 - The Phase 1 site plan shall include the parking aisle width. - Provide more clarification regarding proposed parking along Oxford street frontage. DPW suggests all parking except the space closest to the entrance near the corner of Cedar and Oxford be either one-hour or two-hour parking from 9-5. The space closest to the corner should be an accessible space as it is closest to the entrance and to the curb ramps.	Not Met
<i>Transportation Demand Management</i>	<u>Updates Requested</u> Not Applicable	Met

Water Quality, Stormwater Management and Erosion Control	<u>Updates Requested</u> - The project is required to comply with MaineDEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. - Basic Standards – The project is required to provide for erosion and sedimentation control per the Basic Standard. Erosion control measures are shown on the Construction Management Plans that have been provided for each of the three phases. - It is recommended that consistency in line types and designations of erosion control measures be used. For example, a different line type is used for silt fence on Phase 3 compared to the other two drawings. - Catch basins requiring inlet protection should be specifically designated on the plans. Current notation is inconsistent across the different phases. - General/Redevelopment Standards – The Applicant has divided the project into three phases, and has evaluated the requirements for stormwater treatment for each. Within Phases 1 and 2, greater than 1,000 SF of new impervious surface has been created and treatment has been provided. In Phase 3, the amount of impervious surface has been reduced. None of the phases will result in the redevelopment of greater than 5,000 SF of non-roof redeveloped impervious area – redeveloped areas are primarily roof, and there are areas that are not considered to be “redeveloped” as they are not being regraded. Subsurface stormfilter systems have been provided for Phases 1 and 2. - Flooding Standards – For each modeled phase, the project will reduce flows from the pre-development to the post-development condition in all modeled storm, meeting the Flooding Standard. I have the following comments on the proposed stormwater system: - The Phase 1 roof drainage should be clarified – the plan notes that the stormfilter vault will collect and treat 25% of the roof, while the inset notes that this percentage is 50%. - The proposed stormfilter structure provided on the Phase 2 Grading plan does not include any structure rim or invert information. - For Phase 3, a solid cover is provided on the structure at the northern corner of the site. Based on the site grades, it appears this will allow for stormwater flow across the sidewalk onto the ramp area, and then into the catch basin on Chestnut Street. I’d suggest that a grated cover be considered for this structure to reduce flow across the ramp. - The Applicant should also evaluate the layout of the existing catch basin at the corner of Lancaster and Chestnut Streets in	Not Met
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	Phase 3 to ensure that it can be installed within the proposed ramped area of the sidewalk. ○ I would recommend, for the R-Tank table of values provided with the detail, noting that finished grades are per the grading plans. The finished grades listed, in particular for Phase 1 and Phase 2, are low compared to the grading plans. I believe this will just result in a greater amount of fill over the system, which shouldn't be a design issue, but could cause confusion with review for construction. ○ The overflow/header pipe layout should be consistently called out on all three R-tank systems. Phase 1 identifies the 4" overflow pipes to the 10" header pipe. A similar level of detail is needed for Phases 2 and 3. • The Applicant has noted that they are coordinating with utilities and confirmation of ability to serve will be provided. • The Applicant should clarify when the installation of the water main in Lancaster Street will be taking place – notes on different plans vary, so it is unclear. If this work is to be completed as part of this project, the full extent of the impact with repaving of the trench in Lancaster Street should be shown. • The plans should be consistent in how pavement repair for utility installation is represented. This has only been shown on the Phase 2 utility plan.	
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Environmental Quality Standards (Sec. 14.6.2)

Standard	Discussion	Finding
Site Landscaping and Buffers	<u>Updates Requested</u> Phase 2: - The applicant should provide a narrative for the three off-street parking spaces. Staff would be supportive of removing these spaces in favor of the creation of private open space for residents. - The applicant should demonstrate how the 20% open space is being determined.	Not met

Public Infrastructure and Community Safety Standards (Sec. 14.6.3)

Standard	Discussion	Finding
Consistency with City Master Plans	<u>Updates Requested:</u> None – Met	Met
Public Safety and Fire Prevention	<u>Updates Requested</u> None.	Met
Public Utilities	<u>Updates Requested</u> Phases 1 and 3 - Water resources had previously directed the west bayside master plan development group to extend the City's separated storm drain system up Chestnut Street from the intersection of Somerset Street and Chestnut Street to provide drainage for the eastern end of the overall redevelopment program. It appears the design and implementation of that storm drain extension should happen as part of 197 Oxford Street Phase # 1 project. Subsequent phases of development (Phase# 3 of this site plan review, and other west bayside MDP projects) should then utilize this extended storm drain for their respective storm drain connections. Water resources is asking the developer to design the storm drain, including a plan and profile, and submit it to water resources review and approval as part of this site plan process. - It appears the applicant has satisfied DPW's stormwater detention volume and flow control requirements for project phases #1 and #3. Phase 2 - As part of the 89 Elm Street site plan approval PL-002403-2023 (West Bayside MDP Phase # 1), the applicant committed to extending the City's separated storm drain in Lancaster Street from Preble Street to the project site. A condition of approval was added to that project which requires the final design of the Lancaster stormwater system to be	Not Met

	submitted as part of a subsequent MDP site plan application for 196 Lancaster Street. This proposed project (197 Oxford Street Ph # 2) is proposing to outlet it's stormwater into the proposed adjacent stormwater system for the 89 Elm Street project. Water resources supports this connection and ultimate discharge into the proposed Lancaster Street Storm Drain (see easement notes below), but the design of this Lancaster Street storm drain extension will need to be finalized and approved by water resources as part of this site plan review process before we sign off on the connection. • An easement agreement should be set up and recorded between these two properties for the proposed shared stormwater system. The applicant should comment on proposed phasing and coordination of utility work between the two projects. • It appears the applicant has satisfied DPW's storm water detention volume and flow control requirements for project phase # 2.	
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Inclusionary Zoning Implementation Guidelines for Developers of Rental Housing

Applicability/Conditional Use Requirement

Chapter 14, Article 18.2 of the City's Zoning Ordinance requires that development projects creating ten (10) or more new dwelling units for rent or for sale through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a non-residential use to residential use, or any combination of these elements set aside a portion of the project as Workforce Housing. This provision does not apply to projects that have submitted complete Master Development Plan, Level III Site Plan, or comparable applications to move forward prior to November 18, 2015.

All developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Chapter 14, Article 18.2.

Workforce Housing Minimum

At least twenty-five percent (25%) of the units in the development shall meet the definition of Workforce Housing Unit for rent. The number of units required is rounded down to a whole number whether the Workforce Units are provided on- or off-site. A fractional fee-in-lieu would result when the calculation of a project's inclusionary obligation results in a fractional unit. The fractional unit obligation would be provided in the form of a proportional fee-in-lieu. For example, a 19 unit project that provides one Workforce Unit would also pay 75% of the fee-in-lieu. If a Developer prefers to pay a fee-in lieu of each Workforce Unit, than the Workforce obligation will be calculated on a fractional value to one tenth. For example, a project creating 45 units of housing would be required to provide eleven (11) Workforce Units and a fractional obligation of 25% as a fee-in-lieu. If the Developer instead prefers to pay the fee-in lieu of providing Workforce Units the Developer would be required to pay 11.25 times the current rate as established by the City.

Household Income Limits

In accordance with Article 18.2 of the City's Zoning Ordinance, the rental of Workforce Units will be restricted to households at or below 80% of the area median income (AMI). The City will reference Area Median Income figures published annually by HUD for the Portland Metropolitan Statistical Area (MSA) or other income limits as deemed reasonable by the City. The City will make available on its website a list of income limits by household size. If at a time in the future HUD no longer provides these annual figures, the City will identify another similar method of determining income guidelines for affordability.

Eligibility of Households for Workforce Rental Units

At the time the lease is finalized, a tenant must be a member(s) of an Eligible Household as defined within the Background & Definition section of the City's Inclusionary Zoning Guidelines. The

Household must occupy the Workforce Rental Unit (Workforce Unit) as its primary residence.

Household size/composition upon the unit's rental should be appropriate to the size of the unit as outlined in the charts below. For the qualification of households by unit size, the head of the household and spouse/partner are assumed to share a bedroom. Two children, whose ages are not excessively disparate, may share a bedroom. Legal custody is required for households including one or more minor children. A household that consists of a pregnant woman will be treated as a two people for income and household size determinations. On average, there will be no fewer than one, nor more than two persons per bedroom.

The City will consider households eligible based on their gross income. The City will use a process similar to what HUD recommends for the HOME program to determine gross income or another method as deemed reasonable by the City. The Owner or their representative will collect and compile all of the relevant paperwork needed to assess a household's eligibility.

Verification will require sufficient proof of household size and income in the form of official tax statements, W-2 forms, pay stubs, credit reports, bank statements, birth certificates, and any other reasonable documents requested by the City or Owner to aid in their efforts to verify whether or not a household is eligible. The City may request additional information as needed. The City shall have the final approval of whether or not a household meets the income or size requirements of each Workforce Unit prior to the signing of the lease.

The chart below indicates the minimum household size for each unit type based on bedroom count.

	Studio/One-Bed	Two-Bed	Three-Bed	Four-Bed
Minimum Household Size By Bedroom	1	2	3	4

Workforce Units will also be subject to maximum household sizes based on bedroom counts. The following chart outlines the maximum persons allowable per bedroom assuming the occupants meet all other requirements related to qualifications for determining a household such as age of children sharing bedrooms.

	Studio/One-Bed	Two-Bed	Three-Bed	Four-Bed
Maximum Household Size By Bedroom	2	4	6	8

Eligible Households may not qualify if at the time of application any member of the household owns residential real estate.

The City reserves the right to perform an asset test to help determine a household's income. This may include making certain assumptions about the average returns that would be reasonable to expect from certain investments including stocks, bonds, annuities, mutual funds, dividends, trusts, money market accounts, certificates of deposit (CD's) or other financial instruments. The City may request documentation for the three most recent years to help determine a household's income.

The City reserves the right to place an asset limitation test for eligibility.

If Owners find it difficult to rent a Workforce Unit to an Eligible Household who meets the established minimum size requirements they may ask for approval in writing from the City to rent the unit in this singular instance to an Eligible Household smaller than the minimum household size described herein. Reasonable marketing efforts to find Eligible Households of a qualified size should be taken for at least 30 days prior to the City granting a household minimum size waiver. The waiver is only for a single applicant and that household's recertification. Rent shall be calculated based on this smaller household size. Once the Workforce Unit is vacant, minimum household sizes shall apply to future tenants. The City shall determine if the efforts of the owner to rent the unit to an appropriately sized household have been reasonable. Under no circumstances will households be allowed to exceed the maximum household size.

Primary Residence

At the time of occupancy, the Workforce Unit must be the Eligible Household's primary residence. The Unit may not be rented out for short or long term periods to other households.

A household must notify the City if it is absent from the Workforce Unit for 30 days in any 45-day period. If the Household is absent from the Unit for a period exceeding 60 days in one consecutive 365 day period for reasons other than work obligations, health, or emergency reasons than the Household's eligibility will be terminated and their lease shall not be renewed.

Where absences in excess of the above limitation are caused by work obligations, or health reasons or other emergency, the City may require verification of the reasons for the tenants' absence. Households must comply with such requests for verification work, health, or emergency reasons or their lease will not be renewed. For the purposes of this section, incarceration does not constitute a health or other emergency justifying prolonged absence from the home.

Determination of Affordable Monthly Rent

In accordance with Article 18.2, rental of Workforce Units will be restricted to households with income at or below 80% of the Area Median Income (AMI). When determining income eligibility, the City will reference income limits and/or in the AMI figures published annually by HUD for the Portland Metropolitan Statistical Area. The City will make available on its website a list of income limits by household size. If at a time in the future HUD no longer provides these annual figures, the City will

identify another similar method of determining income guidelines for affordability.

To maintain consistency of Workforce Units within the City, rents will be based on the minimum household size per bedroom rather than the income level of a particular applicant. For example, the minimum household size for a two-bedroom Workforce Unit is two (2) persons. The income of a two (2) person household will be used to calculate the maximum allowable monthly rent but a family of four (4) would still be eligible to live in the unit assuming they meet the income restrictions for a four

(4) person household. To calculate the maximum allowable rent of a Workforce Unit the City will take 30% gross income per month of the minimum household size allowed per bedroom less utilities. By factoring utilities, the formula accounts the maximum amount an Eligible Household could afford to devote to housing related expenses. The formula to calculate maximum allowable Workforce Rents is as follows:

$0.30 \times (\text{annual income based on minimum household size} / 12) \text{ less utilities} = \text{Workforce Rent}$

To determine the maximum allowable rent for studio Workforce Units the City will calculate 85% of the allowable housing related expenses for an Eligible Household using the following formula:

$0.30 \times ((\text{annual income based on minimum household size} / 12) \times 0.85) \text{ less utilities} = \text{Workforce Studio Rent}$

Owners may choose to include some or all utilities within the total rent. Utilities that effect rent calculations include electricity, heat, hot water, cooking energy, sewer, water, and trash collection. For all utilities listed that are not included by the Owner in the rent the City shall make reasonable assumptions based on a Unit's bedroom count as to the monthly cost of each utility. To determine what is reasonable the City may utilize the figures estimated by HUD and distributed through the Portland Housing Authority annually for similar utility allowances based on a unit's bedroom count. The City shall reserve the right to determine a different metric should these figures from HUD at any point be unavailable or a better metric be determined.

The Owner may request first, last, and security deposit from applicants. These three expenses shall not exceed the value of one month of rent and together shall not exceed three months of rent.

Households may choose to pay for on-site parking but shall not be required to pay separately for this amenity. If the Owner requires a parking spot(s) be leased with the Workforce Unit and charges a separate fee than parking may be counted similarly to the utilities above and shall be subtracted from housing related expenses for calculating the maximum allowable rent.

Owners may not rent to household's utilizing other rental subsidies such as vouchers without the City's approval and never shall the total rent paid be in excess of the allowable Workforce Unit rent for a determined bedroom size.

Phasing

Projects shall not be segmented or phased to avoid compliance with these provisions. In cases where projects are completed in phases, Workforce Units shall be provided in proportion to the development of market rate units unless otherwise permitted through regulations.

Integration of Units

Workforce Units are encouraged to be integrated with the rest of the development, should use a common entrance, and should provide no indications from common areas that these units are Workforce Housing Units.

Size and Bedroom Count

Workforce Units need not be the same size as other units in the development but the number of bedrooms in such units, either on- or off-site, shall be ten percent (10%) of the total number of bedrooms in the development. For the purposes of this section, every 400 square feet in a market rate unit will count as a bedroom if the actual number of bedrooms in the unit is lower.

Interior Standards

The design, quality, and materials of Workforce Units interiors need not be the same as market rate units. However, the Workforce Units may not be strategically designed to avoid offering basic amenities similar to what are included in the market rate units such as the following:

Kitchen

- Refrigerator
- Stove or separate cook top and oven
- Sink Disposal
- Cabinets
- Range
- Hood
- Microwave (if provided in market rate units)
- Washer Dryer (if provided in market rate units)
- Countertop: Minimum Counter Space not including sink and stove
 - Studio – 4 linear feet
 - 1BR – 6 linear feet
 - 2BR – 8 linear feet
 - 3BR – 10 linear feet

Bathroom

- Sink
- Shower
- Toilet
- Shower Curtain Rod or Shower Door

Medicine Cabinet with Mirror or other storage space with a separate mirror

Flooring

All living space and storage areas shall have a finished floor. The Workforce Units should have the same or comparable floor finishes to the market rate units. However, in order to promote respiratory health, living and dining areas and at least one bedroom should have a surface other than carpet.

Closets

All units shall have adequate storage (including common space storage if provided to the market rate units)

All bedrooms shall have at least one closet including at least one closet for a studio All closets shall have a shelf and pole

Public Funding Sources

Projects that propose greater levels of affordability than what is required in Article 18.2 in terms of income levels, term of affordability, or number of units may be eligible for some financial resources through the City at the City's discretion.

Tax Increment Financing Eligibility

If at least thirty-three percent (33%) of the units in a development are Workforce Units, the development is eligible to request subsidy funding through an Affordable Housing Tax Increment Financing (TIF) deal, subject to City Council approval.

Affordable Housing Agreement

The Owner will be required to sign and record in the Cumberland County Registry of Deeds an Affordable Housing Agreement (AHA) with the City and to include the affordability restrictions as a covenant in the project's deed(s). The Affordable Housing Agreement shall be referenced directly in the property's deed unless prohibited by federal, state, or local law. In order to guarantee affordability, this recorded covenant will limit increases in rent according to the calculation defined by the City and the Eligible Household requirements as they relate to increases in median income. It will limit the incomes of subsequent tenants to the same income limits initially applied.

Minimum Term of Affordability

The term of affordability for the required Workforce Units provided shall be defined as follows:

Percentage of Workforce Units Provided	Minimum Term of Affordability
25%	30 Years
50%	20 Years
100%	10 Years

For Workforce Rental Units the reduced terms of affordability will apply to all proposed Workforce Units including those in excess of the required minimum 25% of units. For example, if a rental project proposed to develop 40 units of housing of which 20 units, or 50%, would be reserved as Workforce Units, then all 20 Workforce Units would have a 20 year term of affordability.

Dwelling units created or redeveloped by non-profit educational institutions for use as housing exclusively for enrolled students of educational institutions shall not be subject to the set aside requirement of Article 18.2. If the units are no longer used exclusively by enrolled students the building will be required to meet the workforce housing standards set forth in Article 18.2

Reduction of Fees & Priority Review

Notwithstanding any other provision of Chapter 14 or Chapter 6 of the City's Zoning Ordinance to the contrary, development fees shall be reduced by the City for an eligible project in the manner described in the chart below:

Percentage of new units that are low-income or Workforce Units	Percentage discount of development fees
25% or more	25% reduction

Household Preference

Household preference for Workforce Units shall be given, to the extent permitted under law to Eligible Households, in the following order:

- 1) Current residents of the City who have lived in Portland as their primary residence for the past two years
- 2) Previous residents of the City who were displaced within the last 12 months prior to the Workforce Unit becoming available
- 3) Persons employed full time by the City
- 4) All others

The applicant for housing will be responsible for documenting their preferred status under any of the above noted categories. Documentation may include confirmed leases, bank statements, utility bills, voter registration, tax returns, insurance statements, and other reasonable documents as requested by the City or Owner to demonstrate preferred status. The City or Owner may request more than one form of documentation.

Household preference does not preclude Owners from renting to non-preferred applicants assuming applicants meet the necessary eligibility requirements and there are more Workforce Units available than eligible preferred applicants. Other preference categories may be added to specific projects or to the City's standards at a later date as appropriate.

Marketing / Selection Process

In each instance that an Owner intends to rent a Workforce Unit, prior to listing the property for rent or renewing a lease, an owner shall first give the City written notice of such intent (the "Notice of Intent") addressed to the City's Housing and Community Development Office. The City shall make the final determination whether or not a potential household is qualified as well as the maximum allowable rental price as determined in accordance with the calculation parameters determined by the City.

Unless otherwise agreed to with the City, the following system will be followed. The Owner will place an advertisement, approved by the City, in one or more newspapers designated by the City. Interested parties will be given sufficient time to request and return a preliminary application. The City shall have the opportunity to list the property on its website for a minimum of 60 days for initial occupancy and 30 days for subsequent rentals during the marketing process to solicit interest from potential Eligible Households. The City will forward any inquiries to the Owner or their designated representative.

The Owner shall collect all necessary supporting documents for the City's final approval. The City will, at a minimum, monitor the process and review buyer qualifications, but may work collaboratively with Owners on marketing, selection, qualification, and orientation. All determinations regarding eligibility and rental amount are subject to review and final approval by the City.

Maintenance of a Waiting List

The Owner is encouraged to maintain a waiting list of Eligible Households by preferred status who have filed an application or a letter and who meet the qualifications defined herein. Such applications should include the following in order to classify the applicant: the ages, genders, and relationships of household members, gross household income, and information related to preferred status and household eligibility. It is understood that it is the responsibility of the applicant to update information, which will affect their income, household eligibility, or preferred status, and that it is not the responsibility of the Owner to verify actual status until a unit becomes available. Final approval of Eligible Households, Workforce Units, and maximum allowable rent will be decided by the City.

Leases

All leases will be a year in length with the rent consistent throughout the term of the lease. The maximum rent allowable will be determined at initial application and during any recertification process prior to the renewal of a lease. Tenant leases for Workforce Units shall include the method for updating rents set forth in these guidelines and as a condition of continued eligibility, obligate the household to report all information required by these guidelines, including providing copies of applications, recertifications, and supporting documentation used by administrators of rental subsidies and the City. The lease shall also include the method and implications of the recertification

process for Workforce Units as outlined in these guidelines. Eligible Households renting workforce units will be recertified annually with final approval from the City before renewing a lease.

Tenant leases shall include the method for updating of rents set forth in these guidelines and, as a condition to continued eligibility, obligate the household to report all information required by the guidelines, including providing copies of applications, recertifications, and supporting documentation used by administrators of rental subsidies. The Owner shall enforce the lease, if necessary to the point of terminating Eligible Household status, requiring market rents, and initiating and prosecuting eviction proceedings against renters of workforce units who do not report as required or whose eligibility lapses.

“Floating” Workforce Units

Prior to the Project’s approval, the Owner and City shall agree to the distribution, size, and bedroom type of the Workforce Units in order to include these details in the Affordable Housing Agreement (AHA). Owners are encouraged to distribute workforce units equally throughout the project. Designated Workforce Units within any development may be “floating” i.e. changed by substitution, that is, the designation of a unit as affordable does not necessarily stay with the same unit over the life of the development. The Project shall maintain the required number of bedrooms and Workforce Units as outlined in the AHA and may only switch which unit is reserved as a Workforce Unit with City approval following certain recertification situations as described in greater detail below.

Recertification of Workforce Units

Prior to the renewal of a Workforce Unit’s lease, the tenant shall recertify that their household meets the eligibility and household size requirements for the unit. The same process and documentation will occur as with the initial lease up of the Unit. Unless the Owner can substantiate claims that the tenant has violated terms of the lease or is refusing to adequately comply with the recertification process no other households may be considered to lease the Workforce Unit unless the current tenant chooses not to renew their lease. The Owner or their representative shall collect and compile the necessary recertification documentation. The City shall have the right of final approval. The Owner or their representative shall maintain records of the recertification process as described in greater detail in the Administration & Record Keeping section below.

Loss of Household Eligibility

A unit shall lose its designation as a Workforce Unit when it no longer houses an Eligible Household. This will occur upon two consecutive recertifications wherein a once Eligible Household’s income is greater than the allowed AMI and is no longer considered eligible. The recertification of all applicants may be subject to final approval from the City. In this scenario, an Owner may, with 90 days’ notice, charge Market Rent. The tenant is then eligible for continued occupancy in the particular unit for one additional year following the date of the most recent recertification. After any adjustment in accordance with the above, the next available appropriate unit should be rented to an Eligible

Household, so as to restore and maintain the unit size, type, and mix originally intended. The City shall have final approval that any substitute unit is appropriate for satisfying the requirements intended for Workforce Units within the Project as defined within the AHA.

If no suitable alternative unit becomes available to rent as a Workforce Unit within a year of the former Eligible Household now paying Market Rent than the Owner shall not renew the former Eligible Household's lease and shall return the unit to its use as a Workforce Unit for Eligible Households. The Owner shall cooperate with the City and with any documentation that it deems necessary to approve the substitute Workforce Unit or Eligible Household.

In the case where the tenant has been accepted as a market rate tenant, the Owner shall pay to the City's Housing Trust the cash value of the difference between the maximum allowable Workforce rent and the market rent until such time as another unit has been approved by the City as an acceptable substitute Workforce Unit and occupied by an Eligible Household. Occupancy during this transition period by an over-income household will not constitute default under the conditions set forth in the AHA.

Household Failure to Participate in Recertification

A household is considered to have failed to participate in the recertification process after not sufficiently responding to three written requests by the Owner or City within a 60 day period. Tenants may not be asked to participate in a recertification process more than one time per 365 day period. The City shall have final approval in regards to whether sufficient evidence has been provided to substantiate a household's failure to participate in the recertification process.

Eviction

Assuming the lease meets all federal, state, and local requirements, nothing in these guidelines are meant to restrict the right of the Owner to evict any tenant who fails to participate in the recertification process or breaches the lease with the Owner in any way. In no case shall the Owner be required to support an overall higher level of subsidy than intended by the initial distribution as outlined in the AHA. Any and all costs associated with said enforcement or eviction shall be born by the Owner.

Enforcement

The Owner will be required to record the AHA and conditions contained therein and shall file a copy of the recorded Agreement which copy shows the usual recording date, with the Cumberland County Registry of Deeds. In the case of off-site Workforce housing, the Owner shall record the AHA in the chain of title for both properties. No occupancy permit shall be issued until complete certified copies of the AHA with any attachment thereto and with the recording date(s) noted thereon, are filed with the County and suitable evidence provided to the City.

Without limitation on any other rights of the City, in the event there is a violation of any conditions

contained within the AHA, the City may take any one or combination of the following steps to ensure compliance and these enforcement provisions shall be expressly authorized by and contained within the AHA:

- Revocation or the Project's approval, Building Permit, or Certificate of Occupancy;
- Modification of the AHA;
- Injunctive relief to enforce the terms of the AHA;
- Payment of money damages to the City in an amount at least equal to and as much as double the required rent and the rent being charged for the period of non-compliance;
- Any and all legal expenses incurred by the City or aggrieved tenant(s); and
- A cash payment, as provided for in Division 30 related to fee-in lieu payments, pro-rated to the number of required affordable units, made to the City if the Owner is unable to provide Workforce Units for occupancy as described in the AHA.

The Owner may request a certificate from the City stating that the Owner is in compliance with the terms and conditions of the AHA, or stating non-compliance and the actions necessary to come into compliance. The City will execute and deliver such certificate within thirty (30) business days or receipt of a written request for such a certificate. Certificates of compliance shall not be required for the leasing of any Workforce Units.

Administration & Record Keeping

The Eligible Household's application, recertification forms and documentation, and any third party verifications must be maintained by the Owner throughout the Eligible Household's occupancy and for a period of at least seven (7) years thereafter. These records must be available to the City within ten (10) business days if requested. Applications and waiting lists shall also be kept on file for a period of at least seven (7) years or some other period of time if deemed reasonable by the City.

The Owner will file an annual report to the City within 60 days of the end of each calendar year providing information related to Workforce Unit vacancies, waitlists, household turnover, household size, household income, market rate rents, recertifications, and any other relevant information.

Cash Payment In Lieu of Affordable Units

All projects including ten (10) or more residential units created through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a non-residential use to residential use, or any combination of these elements must comply with Article 18.2 of the Code. The projects will be required to provide 25% of the total number of units as Workforce housing as defined in Article 18.2 of the Code. Developers of such units are encouraged to provide Workforce Units on-site. However, in accordance with subsection 18.2.3 C 6, developers may choose to make a cash contribution to Portland's Housing Trust Fund.

The payment is the same for rental and homeownership projects. The fee for Workforce Units not

provided shall be \$150,000 per unit, adjusted annually in the same manner as the fee under Article 18.1 for Housing Preservation and Replacement. For projects that are building more than one building in phases, the fee- in lieu payment shall be paid proportionally to the project's phasing. The fee is calculated up to one tenth of a fractional unit. For example, if a project is proposing 25 units and prefers to pay the fee for all units the Developer would be required to pay 6.25 times the current rate as established by the City.

All money shall be due prior to the issuance of a Certificate of Occupancy or another payment method approved by the City.

Off-Site Units

A Developer may choose to satisfy the Workforce Unit requirements by providing these units off-site through the construction of new units, the restriction of existing market rate units, or the conversion of non-residential uses. In addition to the foregoing, all off-site units shall be consistent with the following provisions:

1. Be located within the same Census Block Group as the parcel from which the Project triggering the creation of Workforce Units is located or within 1,500 feet of the Project;
2. Be comparable or larger in size and bedroom count to the average units being created within the associated Project.
3. Be similar in quality to the units being created within the project and if needed, as determined by the City, shall be rehabbed to be similar in quality to a newly constructed unit.

The Developer shall determine the intent for full or partial off-site placement of Workforce Units prior to a project's approval by the City. The City shall not accept off-site units that are run down or show signs of substantial wear and deterioration. This includes heating systems, appliances, plumbing, roofing, siding, flooring, common areas, windows, landscaping/hardscape, electrical wiring, and fixtures, kitchen/bath countertops, fixtures, cabinets, bath/shower, or other typical elements of a unit or building that are nearing the end of their expected life cycle and may soon need replacement or maintenance. If other amenities, such as air conditioning, dishwasher or washer and dryer are provided for the new market rate units than comparable amenities shall be provided for the off-site Workforce Units.

Off-site units shall be delivered safe in accordance with all federal, state and local environmental regulations pertaining to lead paint, asbestos, mold, radon, and any other hazardous conditions common to residential structures. All reasonable tests, including but not limited to lead paint tests and radon tests shall be completed prior to the sale or lease of a unit.

Appeals

A Developer or Owner or Tenant may appeal to the City Manager if they believe that City misinterpreted Division 30 or any subsequent agreements restricting the Workforce Units. All such appeals shall be made in writing and include a description of the City action which is being appealed

and the grounds for the appeal.

Non-Eligibility/Disqualification

No employee, agent, stockholder, officer, director, servant, or family member of the Owner or its Management Company, or its employees, agents, or servants thereof, related either by blood, marriage, or operation of law may qualify for a Workforce Unit or receive any benefit related in any way to the administration or compliance with the AHA conditions contained therein.

Employees of the Planning Authority will not be eligible for a Workforce Unit in the City.

Waiver

The City reserves the right to waive or amend portions of these regulations on a case by case basis where an Owner is able to sufficiently demonstrate that the need for a waiver is due to the unique circumstances of the property (e.g. in order to make Workforce Units similar in design or size to market rate units) or due to unique physical constraints of the property. The applicant shall bear the burden of presenting substantial evidence to support the grant of a waiver from any portion of these regulations.

Waivers shall not be granted that will have the effect of removing or reducing the minimum of 10% of the total units proposed as Workforce Units available, altering the income limits on eligible households, increasing the maximum allowable sale price or rental rate, or decreasing any fee owed outside of what is stipulated in the above regulations.

Waivers shall be determined by the City's Planning Authority. Owners may appeal the Planning Authority's decision regarding waivers to the City Manager. All such appeals shall be made in writing and include a description of the City action which is being appealed and the grounds for the appeal.

Inclusionary Zoning Implementation Regulations Background & Definitions

In accordance with Chapter 14 – Land Use ReCode

Background

Based on the city's Comprehensive Plan and the housing study completed in 2015, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of the inclusionary zoning policy in Portland is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of Portland citizens.

This policy shall apply to development projects that create ten (10) or more new dwelling units for rent or for sale through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a non-residential use to residential use, or any combination of these elements. This policy shall not apply to projects that have submitted complete Master Development Plan, Level III Site Plan, or comparable applications to move forward prior to November 18, 2015. Notwithstanding any language to the contrary in Chapter 14, all developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements of Article 18.2 of Portland's Land Use ReCode.

Definitions

Unless otherwise expressly provided herein, the following terms shall have the respective meanings set forth below for all purposes of the associated inclusionary zoning guidelines:

Affordable: Affordable means that the percentage of income a household is charged in rent and other housing expenses, or must pay in monthly mortgage payments (including insurance, condominium/HOA fees, real estate taxes, mortgage insurance, and utilities), does not exceed 30% of a household's gross income, or other amount established in city regulations that does not vary significantly from this amount.

Affordable Housing Agreement: Means an agreement detailing the affordable housing conditions associated with the approval of a project in accordance with Division 30 of the City's Code. The Affordable Housing Agreement (AHA) will be recorded at the Registry of Deeds or in the Land Court in the chain of title for the project. If an off-site property is used to satisfy any of the Owner's requirements in the AHA, the Owner must make a marginal reference in the chain of title of the title for that property that triggered the requirement to create these income restricted units.

Applicant: A Household that is applying, recertifying, or offering to purchase a Workforce Unit.

City: The City of Portland or its agent.

Development Fees:

- (a) The following fees, as described in this chapter: site plan review and inspection fees; subdivision review and inspection fees; and administrative fees;
- (b) Construction and permit fees as described in chapter 6. “Development fees” does not include any fees charged for reviews conducted by a party other than the city; and
- (c) Development Fees does not include the “fee-in lieu” option for providing cash in place of on-site workforce units.

Developer: Means the owner of the project.

Dwelling Unit: Has the same meaning as defined in Section 3 of Chapter 14.

Eligible Household: Means a household (1) which qualifies, at the time of the mortgage or rental application, with regard to household income as per the U.S. Department of Housing and Urban Development’s (HUD) Metropolitan Statistical Area (MSA) for Portland, or for a subsequent metric as approved by the City of Portland; and (2) the members of which do not, at the time of the mortgage or rental application, own residential real estate. Eligible Households may consist of a single individual of at least 18 years of age or a family. However, households headed by students or other individuals whose principal sources of financial support are from family members and/or are listed as dependents by others are not eligible; (4) Heads of household must be U.S. citizens or permanent resident aliens.

Gifted – Cash and/or other assets made available by another party for your use, with no obligation – expressed or implied – either in form of cash or future services, to repay this sum at any time.

Project: means a real estate development project:

- (a) That is permissible under the provisions of this chapter in the zone in which it is proposed;
- (b) That creates new dwelling units, among which is at least one affordable housing unit for rent or sale, through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a non-residential use to residential use, or any combination of these elements. Affordable housing units for sale or rent may not differ in exterior design from other units within an eligible project.

Household: Meaning one or more persons who will live regularly in the unit as their principal residence. If a household is comprised of more than one person, they shall be related by blood, marriage, domestic partnership, or by operation of law. This may include qualified unrelated

applicants who apply together for a lease or mortgage. Legal custody is required for households including one or more minor children.

Market Rent: Rent which already is being charged to the general public for similar units in a project.

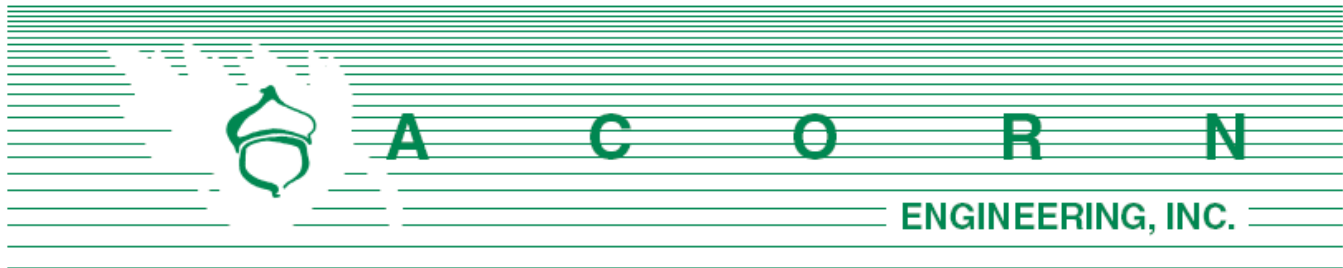
Owner: Means all legal and equitable owners (including, but not limited to, any person, persons, firm, partnership, association, joint venture, corporation, or any public or private entity or entities or the owner's agent) of a building or project during the term of the permit and any heir, successor, or assign of any person holding an ownership interest in the project or building.

Recertification: The updating of documentation related to household income and size to determine continued household eligibility for a Workforce Rental Unit.

Workforce Rental Unit: Means a dwelling unit which is affordable to a household earning up to 80% of HUD AMI. Annual rent increases for that unit are limited by deed restriction, lease agreement, or other legally binding agreement to the percentage increase in the HUD Greater Portland Metropolitan Statistical Area median income figures for a household of that size.

Workforce Homeownership Unit: Means a dwelling unit for which the purchase price is affordable to a household earning up to 80% of HUD AMI. The resale price is limited by deed restriction or other legally binding agreement for all future sales of the unit, or a lesser term as permitted in regulations, to the percentage increase in the HUD Greater Portland Metropolitan Statistical Area median income figures for a household of that size.

Workforce Unit: A designated unit that is affordable to Eligible Households earning up to 80% AMI whether for rental property or home ownership.



Planning and Urban Development Department
 Matt Grooms, AICP
 Development Review Services Manager
 City of Portland, Maine
 389 Congress Street, 4th Floor
 Portland, ME 04101

April 9, 2024

Subject: Phased Oxford Street Redevelopment
 Joint Major Site Plan Application

Matt:

On behalf of Reveler Development and Avesta Housing Development Corporation d/b/a Avesta Oxford Street LP, Acorn Engineering is pleased to submit the accompanying package of submission materials for a Joint Major Site Plan Application. The Application proposes the phased redevelopment of 123 new residential units across several underutilized parcels within downtown Portland. As Co-Applicants, Reveler and Avesta intend to construct this project in three phases consisting of:

- Phase 1: 197 Oxford Street: 48 Affordable and “Housing First” Residential Units (Avesta)
- Phase 2: 50 Cedar Street: 24 Market Rate Residential Units (Reveler)
- Phase 3: 158 Lancaster Street: 51 Market Rate Residential Units (Reveler)

Located entirely within the R-6 Zoning District, the project area consists of 1.58 acres of contiguous property owned by Reveler. The project proposes to redevelop approximately 0.96 acres as part of this application. Given 48 of the 123 units will be restricted as affordable, the project intends to utilize the density bonuses described in the City of Portland Land Use Code, section 18.2. The project also intends to comply with the off-site provisions within the Inclusionary Zoning Implementation Guidelines for Developers of Rental Housing. Please refer to Section D. of the application for more information on density and affordability bonuses.

We are excited to submit this application which proposes much-needed housing in lieu of existing parking lots and vacant, uninhabitable buildings. The joint application provides a variety of housing options, while taking a unified approach to the overall project design and planning. Taking cues from the adjacent Bayside Master Development Plan approved in 2023, the proposal aims to enhance the streetscape through public improvements including a water main replacement in Lancaster Street, the planting of a multitude of street trees, and other enhancements such as bike racks and decorative lighting. All three phases will provide on-site stormwater detention while rebuilding their respective frontages, totaling over 900 linear feet of reconstructed sidewalk.

As permitted under Section 18.2.2 of the Land Use Code, in addition to the reduction in fees for affordable housing projects, we are requesting the review is performed in an expedited manner at both the Staff and Planning Board levels.

The Co-Applicants and the design team look forward to your review of this project. If you have any questions regarding these materials or the completeness of the application materials, please do not hesitate to contact me.

Sincerely,



Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

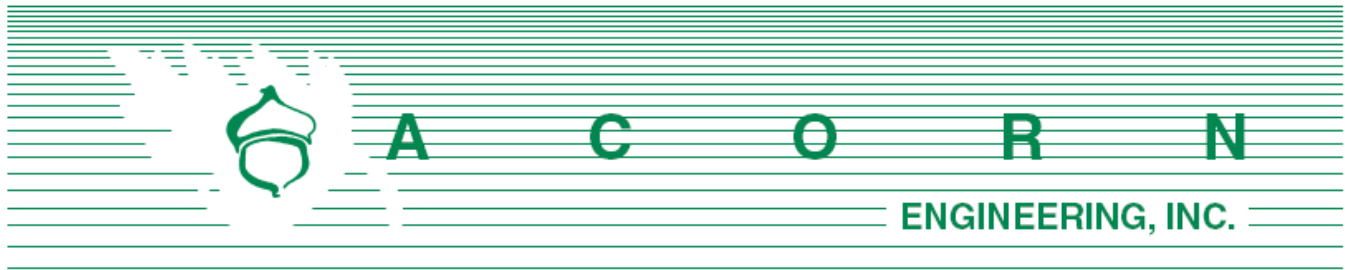
Documents:

- Section A: Cover Letter
- Section B: Major Site Plan Application & Checklist
- Section C: Right, Title, Interest
- Section D: Zoning Assessment
- Section E: Easements
- Section F: Waiver Table
- Section F: Waiver Table
- Section G: Financial Capacity
- Section H: Technical Capacity
- Section I: Conformity with Land Use Ordinance
- Section J: Stormwater Management Report
- Section K: Erosion & Sedimentation Control Report
- Section L: Public Safety & Fire Prevention Letter
- Section M: Wastewater Capacity Letter
- Section N: Lighting
- Section O: Architectural Design Narrative
- Section P: Utility Cover
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Parking Analysis
- Section T: Traffic Analysis
- Section U: Pre-App Neighborhood Meeting Documentation

Drawings:

- Civil Site Plan Set
- Architectural Plan Sets





Planning and Urban Development Department
Matt Grooms, AICP
Development Review Services Manager
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

April 9, 2024

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Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

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- Section U: Pre-App Neighborhood Meeting Documentation

Drawings:

- Civil Site Plan Set
- Architectural Plan Sets



CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN GENERAL DOCUMENT AND DRAWINGS CHECKLIST Please submit each document as a separate PDF file. Please confirm by electronically checking the boxes in the left-hand column. ** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ** At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.		
GENERAL APPLICATION DOCUMENTS		
☒	Yes	Project Description Cover letter with detailed project description
☒	Yes	Completed Checklist (this document)
☒	Yes	Evidence of Right, Title, and Interest Deeds, leases, or purchase and sales agreements
☒	Yes	Evidence of State or Federal Approvals Permits or letters of non-jurisdiction, if applicable
☒	Yes	Zoning Assessment (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
☒	Yes	Site Plan Standards Assessment (see Section 14.6 of the land use code) Summary of project compliance with site plan standards of the land use code
☒	Yes	Summary of Existing and/or Proposed Easements or Covenants, applicable. Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
☒	Yes	Waiver Requests (see Waiver Table) Written request for waiver describing request and compliance with applicable waiver standards
☒	Yes	Financial Capability Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
☒	Yes	Technical Capability Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN STANDARDS AND SUBMISSION CHECKLIST

**Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.**

TRANSPORTATION

☒ Yes	☐ NA	Impact on Surrounding Street Systems (14-14.6.1(A)) Describe incremental volume of traffic impacts and mitigation measures. If needed
☒ Yes	☐ NA	Access and Circulation (14-14.6.1(B)) Identify and describe the following: - Site access and internal circulation, including ADA access - Drive-up features, if applicable - Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable - Sidewalks and condition along street frontages and internal walkways - Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
☒ Yes	☐ NA	Public Transit (14-14.6.1(C)), if applicable Identify and describe the following: Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
☒ Yes	☐ NA	Off-Street Parking (14-14.6.1(D)), if applicable Identify and describe the following: - Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code - Curb cut separation and parking layout (Technical Manual, Section 1) - Construction details for bicycle racks - Management plan for snow storage and removal
☐ Yes	☒ NA	Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL		
Yes	NA	Preservation of Significant Natural Features (14-14.6.2(A)), if applicable Identify and describe the following: • High and moderate value waterfowl and wading habitat • Aquifers (for Casco Bay Islands) • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes	NA	Landscape Preservation (14-14.6.2(B)) Identify and describe the following: • Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) • Measures to protect existing vegetation during construction
Yes	NA	Site Landscaping and Buffers (14-14.6.2(C)) Identify and describe the following: • Overall landscaping approach and consistency with standards • The use of screening and buffering of service areas and between non-residential and residential uses • Existing Heritage or Feature Trees on site and measures to preserve • Compliance with street tree requirements
Yes	NA	Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D)) Identify and describe the following: • Erosion and sedimentation control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable • Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY		
Yes	NA	Consistency with City Master Plans (14-14.6.3(A)) Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes	NA	Public Safety and Fire Prevention (14-14.6.3(B)) Identify and describe the following: - Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) - Emergency vehicle access - Consistency with public safety standards (Technical Manual, Section 3)
Yes	NA	Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9) Identify and describe the following: - Electrical services, including providing underground services - Existing and proposed connections for public utilities and required public utility upgrades - Sewer line connections
SITE DESIGN		
Yes	NA	Massing, Ventilations and Wind Impact (14-14.6.4(A)) Identify and describe the following: - Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable - Bulk, location, or height impacts on adjoining structures
Yes	NA	Shadows (14-14.6.4(B)), if applicable Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes	NA	Snow and Ice Loading (14-14.6.4(C)) Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes	NA	View Corridors (14-14.6.4(D)), if applicable Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes	NA	Historic Resources (14-14.6.4(E)), if applicable Identify and describe the following: - The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district - Compliance with standards for preservation and documentation of archaeological resources

Yes	NA	Exterior Lighting (14-14.6.4(F)) Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
Yes	NA	Noise and Vibration (14-14.6.4(G)) Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes	NA	Signage and Wayfinding (14-14.6.4(H)), if applicable - Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs - Provide drawings of all commercial and directional signage on site
Yes	NA	Zone-Related Design Standards (14-14.6.4(I)) Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN DRAWINGS CHECKLIST

Please upload the following **DRAWINGS** with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

SITE PLAN(s) (stamped by a Maine Licensed Professional Engineer) including:

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

• Location of fire hydrants • Location of solid waste management receptacles • Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable • Location of proposed easements and rights-of-way, including dimensions • Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed
UTILITY PLAN including:
• Proposed electrical infrastructure • Location, sizing and directional flows of all proposed sewer and stormwater infrastructure • Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site • Electric utility infrastructure
GRADING AND DRAINAGE PLAN including:
• Proposed grades • Proposed stormwater management measures meeting Technical Manual (Section 5) standards • Any proposed alteration of a watercourse or wetlands • Any groundwater protection measures • Proposed buffers and preservation measures for wetlands or significant natural features
LANDSCAPE PLAN including:
• Existing vegetation to be preserved and preservation measures • Proposed landscaping, screening, and street trees, including caliper widths for trees • Planting schedule, including street trees
ARCHITECTURAL PLANS AND RENDERINGS including:
• Exterior building elevations, color renderings, illustrations of all sides • Axonometric and street-level views for structures greater than three stories in height • Provide context drawings, if applicable (Design Manual, page 1) • Floor plans
CONSTRUCTION MANAGEMENT PLAN including:
• Specifics on traffic control, sidewalk sheds, and pedestrian rerouting • Include a drawing and written narrative
OTHER
• Details and cross-sections, as necessary

C. Right, Title, Interest

The Co-Applicants of this phased application are Reveler Development and Avesta Housing Development Corporation d/b/a Avesta Oxford Street LP.

Reveler Development manages all entities who own the parcels under this application. Avesta has an option agreement with Reveler to purchase the 197 – 203 Oxford Street lot (Phase I).

Please see the attached Deeds and Option Agreement for the three phases of development.

- Phase 1: 197 Oxford Street (39779/239), and 31 Cedar Street (39779/241) are both owned by 197 OXFORD STREET LLC.
- Phase 2: 50 Cedar Street (39779/246), and 89 Elm Street (39779/236) are both owned by 89 ELM STREET LLC.
- Phase 3: 158 Lancaster Street (39779/223), which is owned by WBP COMMERCIAL LLC.
- Option Agreement between Reveler and Avesta

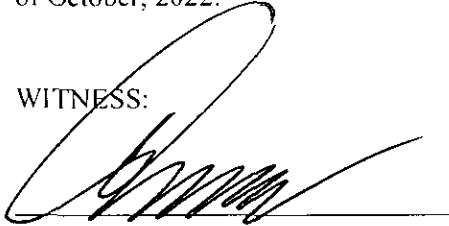


DLN: _____
QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS THAT **BAYSIDE III, LLC**, a Maine limited liability with a principal place of business in Portland, County of Cumberland, State of Maine, for consideration paid, grants to **197 OXFORD STREET LLC**, a Maine limited liability company with an address of 82 Hanover Street, Portland, Maine 04101, with **QUITCLAIM COVENANT**, the land, together with any buildings and improvements thereon, in Portland, County of Cumberland, and State of Maine more particularly described in **Exhibit A** attached hereto and made a part hereof.

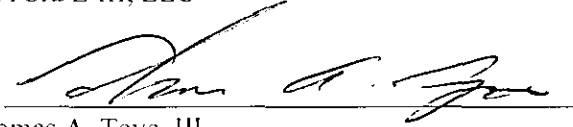
IN WITNESS WHEREOF, the said Bayside III, LLC has caused this instrument to be executed by Thomas A. Toye, III, its Sole Member thereunto duly authorized as of this 12th day of October, 2022.

WITNESS:



BAYSIDE III, LLC

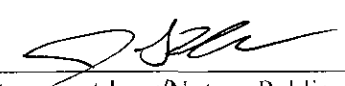
By


Thomas A. Toye, III
Its: Sole Member

STATE OF MAINE
COUNTY OF CUMBERLAND

October 12, 2022

Then personally appeared the above named Thomas A. Toye, III, Sole Member as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Bayside III, LLC.


Attorney at Law/Notary Public

Printed Name

Jason G. Howe, Esq.
Bar No. 0004860

MAINE REAL ESTATE TAX PAID

EXHIBIT A
(Legal Description, Parcel 1)

A CERTAIN PARCEL OF LAND, TOGETHER WITH THE IMPROVEMENTS THEREON, SITUATED ON THE NORTHWESTERLY SIDE OF OXFORD STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE, AND SHOWN AS PARCEL 1 ON ALTA/ACSM LAND TITLE SURVEY ON CEDAR STREET, CHESTNUT STREET, ELM STREET AND OXFORD STREET, PORTLAND, MAINE FOR BAYSIDE III, LLC BY OWEN HASKELL, INC., DATED JANUARY 24, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 42 (THE "PLAN"), BOUNDED AND DESCRIBED AS FOLLOWS:

THENCE S 48° 37' 47" W ALONG THE SIDELINE OF OXFORD STREET 167.19 FEET;

THENCE N 43° 29' 51" W 67.00 FEET;

THENCE N 48° 37' 47" E 35.54 FEET;

THENCE N 00° 14' 40" E 2.72 FEET;

THENCE N 52° 33' 00" E 18.73 FEET;

THENCE N 41° 16' 13" W 3.10 FEET;

THENCE N 49° 06' 44" E 109.65 FEET TO THE SOUTHWESTERLY SIDELINE OF CHESTNUT STREET;

THENCE S 44° 38' 26" E 70.00 FEET TO THE POINT OF BEGINNING.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING A PORTION OF THE PREMISES CONVEYED TO BAYSIDE III, LLC BY QUITCLAIM DEED FROM OCTOBER CORPORATION, DATED JANUARY 26, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 15298, PAGE 193.

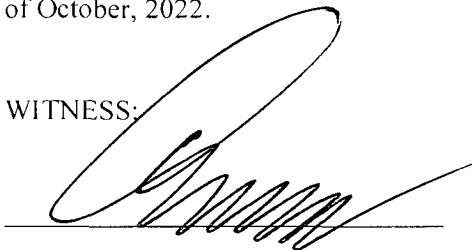
Received
Recorded Register of Deeds
Oct 13, 2022 02:32:29P
Cumberland County
Jessica M. Spaulding

DLN: _____
QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

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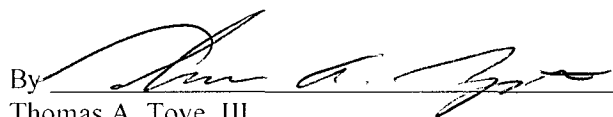
IN WITNESS WHEREOF, the said Bayside IV, LLC has caused this instrument to be executed by Thomas A. Toye, III, its Sole Member thereunto duly authorized as of this 12th day of October, 2022.

WITNESS:



BAYSIDE IV, LLC

By

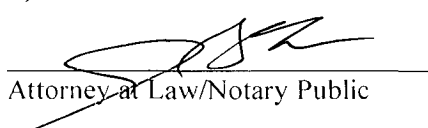


Thomas A. Toye, III
Its: Sole Member

STATE OF MAINE
COUNTY OF CUMBERLAND

October 12, 2022

Then personally appeared the above named Thomas A. Toye, III, Sole Member as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Bayside IV, LLC.



Attorney at Law/Notary Public

Printed Name

Jason G. Howe, Esq.
Bar No. 0004860

MAINE REAL ESTATE TAX PAID

EXHIBIT A
(Legal Description, Parcel 4)

A CERTAIN PARCEL OF LAND, TOGETHER WITH THE IMPROVEMENTS THEREON, SITUATED ON THE NORTHWESTERLY SIDE OF OXFORD STREET, AND THE NORTHEASTERLY SIDE OF CEDAR STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND STATE OF MAINE AND SHOWN AS PARCEL 4 ON ALTA/ACSM LAND TITLE SURVEY ON CEDAR STREET, LANCASTER STREET EAST, CHESTNUT STREET AND OXFORD STREET, PORTLAND, MAINE FOR BAYSIDE IV, LLC BY OWEN HASKELL, INC., DATED JANUARY 24, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 43 (THE PLAN), BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF OXFORD STREET AND THE NORTHEASTERLY SIDELINE OF CEDAR STREET;

THENCE N 43° 29' 51" W ALONG THE SIDELINE OF CEDAR STREET 64.50 FEET;
THENCE N 48° 37' 47" E 57.00 FEET;
THENCE S 43° 29' 51" E 64.50 FEET TO THE NORTHWESTERLY SIDELINE OF OXFORD STREET;
THENCE S 48° 37' 47" W ALONG SAID SIDELINE 57.00 FEET TO THE POINT OF BEGINNING.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING THE LAND DESCRIBED AS PARCEL 4 IN DEED FROM OCTOBER CORPORATION TO BAYSIDE IV, LLC DATED JANUARY 26, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 15298, PAGE 242.

EXHIBIT A
(Legal Description, Parcel 3)

A CERTAIN PARCEL OF LAND, TOGETHER WITH THE IMPROVEMENTS THEREON. SITUATED ON THE SOUTHWESTERLY SIDE OF CHESTNUT STREET AND THE SOUTHEASTERLY SIDE OF HALL'S COURT, SO CALLED, IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE AND SHOWN AS PARCEL 3 ON ALTA/ACSM LAND TITLE SURVEY ON CEDAR STREET, LANCASTER STREET EAST, CHESTNUT STREET AND OXFORD STREET, PORTLAND, MAINE FOR BAYSIDE IV, LLC BY OWEN HASKELL, INC., DATED JANUARY 24, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 43 (THE PLAN), BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE SOUTHWESTERLY SIDELINE OF CHESTNUT STREET AND THE SOUTHEASTERLY SIDELINE OF HALL'S COURT;

THENCE S 44° 38' 26" E ALONG THE SIDELINE OF CHESTNUT STREET 78.04 FEET;
THENCE S 49° 06' 44" W 108.67 FEET;
THENCE S 43° 14' 05" E 39.95 FEET;
THENCE S 41° 16' 13" E 3.10 FEET;
THENCE S 52° 33' 00" W 18.73 FEET;
THENCE S 00° 14' 40" W 2.72 FEET;
THENCE S 48° 37' 47" W 35.54 FEET;
THENCE N 43° 29' 51" W 33.00 FEET;
THENCE S 48° 37' 47" W 57.00 FEET TO THE NORTHEASTERLY SIDELINE OF CEDAR STREET;
THENCE N 43° 29' 51" W ALONG SAID SIDELINE 23.00 FEET;
THENCE N 48° 37' 47" E 113.42 FEET;
THENCE N 43° 14' 05" W 58.51 FEET TO THE SOUTHEASTERLY SIDELINE OF HALL'S COURT;
THENCE ALONG SAID SIDELINE THE FOLLOWING COURSES AND DISTANCES:
N 33° 50' 09" E 19.40 FEET;
N 42° 14' 19" E 19.88 FEET;
N 49° 19' 48" E 68.00 FEET TO THE POINT OF BEGINNING.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING THE LAND DESCRIBED AS PARCEL 3 IN DEED FROM OCTOBER CORPORATION TO BAYSIDE IV, LLC DATED JANUARY 26, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 15298, PAGE 242.

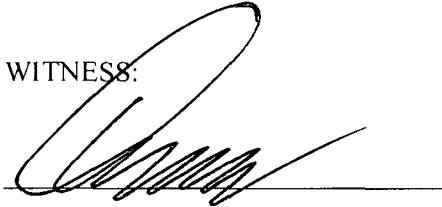
Received
Recorded Register of Deeds
Oct 13, 2022 02:33:19P
Cumberland County
Jessica N. Spaulding

DLN: _____
QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS THAT **BAYSIDE IV, LLC**, a Maine limited liability with a principal place of business in Portland, County of Cumberland, State of Maine, for consideration paid, grants to **89 ELM STREET LLC**, a Maine limited liability company with an address of 82 Hanover Street, Portland, Maine 04101, with **QUITCLAIM COVENANT**, the land, together with any buildings and improvements thereon, in Portland, County of Cumberland, and State of Maine more particularly described in **Exhibit A** attached hereto and made a part hereof.

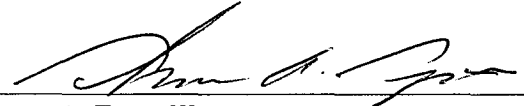
IN WITNESS WHEREOF, the said Bayside IV, LLC has caused this instrument to be executed by Thomas A. Toye, III, its Sole Member thereunto duly authorized as of this 12th day of October, 2022.

WITNESS:



BAYSIDE IV, LLC

By


Thomas A. Toye, III
Its: Sole Member

STATE OF MAINE
COUNTY OF CUMBERLAND

October 12, 2022

Then personally appeared the above named Thomas A. Toye, III, Sole Member as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Bayside IV, LLC.


Attorney at Law/Notary Public

Printed Name

Jason G. Howe, Esq.
Bar No. 0004860

MAINE REAL ESTATE TAX PAID

EXHIBIT A
(Legal Description, Parcel 5- 50 Cedar Street)

A CERTAIN LOT OR PARCEL OF LAND WITH ALL THE BUILDINGS THEREON,
SITUATED ON THE SOUTHWESTERLY SIDE OF CEDAR STREET, IN THE CITY OF
PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND
DESCRIBED AS FOLLOWS:

BEGINNING AT A STAKE ON THE LINE OF SAID STREET DISTANT TWO HUNDRED
FORTY-FOUR AND FOUR TENTHS (244.4) FEET NORTHWESTERLY FROM OXFORD
STREET AT THE NORTHERLY CORNER OF LAND SOLD BY THE ADMINISTRATOR
OF WILLIAM WEBB'S ESTATE TO JOSIAH M. HASKELL AND RUNNING THENCE
NORTHWESTERLY BY SAID CEDAR STREET FORTY (40) FEET TO A STAKE;

THENCE SOUTHWESTERLY ON A LINE PARALLEL WITH THE NORTHWESTERLY
SIDE OF SAID HASKELL'S LAND ONE HUNDRED SEVENTEEN (117) FEET, MORE OR
LESS, TO THE SOUTHWESTERLY SIDELINE OF LAND OF WHICH THE SAID WEBB
DIED SEIZED;

THENCE SOUTHEASTERLY BY SAID SOUTHWESTERLY SIDELINE OF SAID WEBB'S
LAND TO MOST WESTERLY CORNER OF SAID HASKELL'S LOT;

THENCE NORTHEASTERLY BY SAID HASKELL'S LAND ONE HUNDRED
SEVENTEEN (117) FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

BEING THE SAME PREMISES CONVEYED BY DEED DATED NOVEMBER 16, 2018
FROM 50 CEDAR STREET, LLC, TO BAYSIDE IV, LLC, AND RECORDED IN THE
CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 35293, PAGE 77, AND BY
DEED RECORDED IN SAID REGISTRY AT BOOK 35293, PAGE 78.

Received
Recorded Register of Deeds
Oct 13, 2022 02:35:36P
Cumberland County
Jessica M. Spaulding

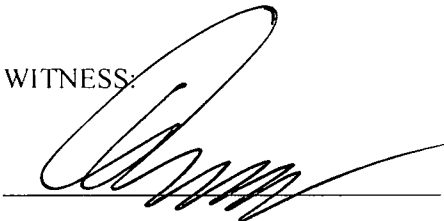
MAINE REAL ESTATE TAX PAID

DLN: _____
QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS THAT **BAYSIDE II, LLC**, a Maine limited liability with a principal place of business in Portland, County of Cumberland, State of Maine, for consideration paid, grants to **89 ELM STREET LLC**, a Maine limited liability company with an address of 82 Hanover Street, Portland, Maine 04101, with **QUITCLAIM COVENANT**, the land, together with any buildings and improvements thereon, in Portland, County of Cumberland, and State of Maine more particularly described in **Exhibit A** attached hereto and made a part hereof.

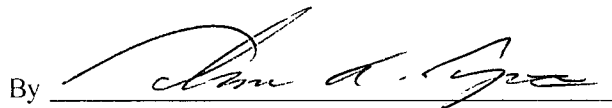
IN WITNESS WHEREOF, the said Bayside II, LLC has caused this instrument to be executed by Thomas A. Toye, III, its Sole Member thereunto duly authorized as of this 12th day of October, 2022.

WITNESS:



BAYSIDE II, LLC

By



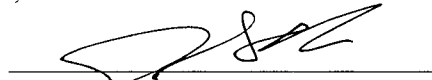
Thomas A. Toye, III

Its: Sole Member

STATE OF MAINE
COUNTY OF CUMBERLAND

October 12, 2022

Then personally appeared the above named Thomas A. Toye, III, Sole Member as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Bayside II, LLC.



Attorney at Law/Notary Public

Printed Name

Jason G. Howe, Esq.
Bar No. 0004860

EXHIBIT A
(Legal Description, Parcel 2)

A CERTAIN LOT OR PARCEL OF LAND, WITH THE IMPROVEMENTS THEREON SITUATED ON THE NORTHEASTERLY SIDELINE OF ELM STREET, THE SOUTHEASTERLY SIDELINE OF LANCASTER STREET EAST AND THE SOUTHWESTERLY SIDELINE OF CEDAR STREET AND IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE AS SHOWN ON A PLAN TITLED "LAND DIVISION PLAN BAYSIDE II, LLC" MADE FOR RECORD OWNER BAYSIDE II, LLC BY OWEN HASKELL, INC. DATED SEPTEMBER 14, 2022, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF THE SOUTHEASTERLY SIDELINE OF LANCASTER STREET EAST AND THE NORTHEASTERLY SIDELINE OF ELM STREET;

THENCE, N 49° 39' 27" E ALONG SAID SIDELINE OF LANCASTER STREET EAST 210.57 FEET TO THE SOUTHWESTERLY SIDELINE OF CEDAR STREET;

THENCE, S 43° 29' 51" E ALONG SAID SIDELINE OF CEDAR STREET 40.00 FEET TO THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF BAYSIDE IV, LLC AS DESCRIBED IN DEED BOOK 35293, PAGE 78;

THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG SAID BAYSIDE IV, LLC LAND:

S 49° 39' 26" W A DISTANCE OF 117.00 FEET;

S 42° 13' 00" E A DISTANCE OF 39.96 FEET;

N 49° 39' 26" E A DISTANCE OF 117.89 FEET TO THE SOUTHWESTERLY SIDELINE OF SAID CEDAR STREET;

THENCE, S 43° 29' 51" E ALONG THE SIDELINE OF CEDAR STREET 39.34 FEET TO THE NORTHERLY CORNER OF LAND NOW OR FORMERLY OF AMELIA A. LABRECK AS DESCRIBED IN DEED BOOK 37970, PAGE 11;

THENCE, BY THE FOLLOWING COURSES AND DISTANCES ALONG SAID LABRECK LAND:

S 48° 42' 12" W A DISTANCE OF 118.73 FEET;

S 42° 13' 00" E A DISTANCE OF 40.00 FEET;

PHASE 2 - 50 CEDAR STREET
DEED

Doc# 51978 Bk:39779 Pg: 238

N 48° 41' 30" E A DISTANCE OF 119.62 FEET TO THE SIDELINE OF SAID CEDAR STREET;

THENCE, S 43° 29' 51" E ALONG THE SIDELINE OF CEDAR STREET 80.62 FEET TO THE NORTHERLY CORNER OF LAND NOW OR FORMERLY OF DAVID B. NOWLIN AS DESCRIBED IN DEED BOOK 25148, PAGE 336;

THENCE, S 48° 41' 30" W ALONG SAID NOWLIN LAND 63.30 FEET;

THENCE, THE FOLLOWING COURSES AND DISTANCES THROUGH THE LAND OF THE GRANTOR:

S 49°53'31" W A DISTANCE OF 55.81 FEET;

N 43°54'25" W A DISTANCE OF 31.26 FEET;

S 46°08'15" W A DISTANCE OF 90.10 FEET TO THE NORTHEASTERLY SIDELINE OF SAID ELM STREET;

THENCE, N 43°45'13" W ALONG THE SIDELINE OF ELM STREET 215.15 FEET TO THE POINT OF BEGINNING, CONTAINING 38,462 S.F. OR 0.88 ACRES, MORE OR LESS.

BEARINGS ARE REFERENCED TO CITY GRID.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING A PORTION OF THE LAND DESCRIBED AS PARCEL 2 CONVEYED TO BAYSIDE II, LLC BY QUITCLAIM DEED OF OCTOBER CORPORATION, DATED JANUARY 26, 2000 AND RECORDED IN SAID REGISTRY OF DEEDS IN BOOK 15298, PAGE 144.

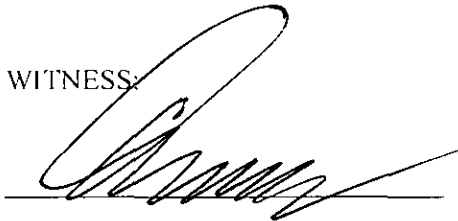
Received
Recorded Register of Deeds
Oct 13, 2022 02:30:55P
Cumberland County
Jessica M. Spaulding

DLN: _____
QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

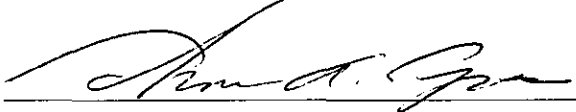
KNOW ALL PERSONS BY THESE PRESENTS THAT **BAYSIDE II, LLC**, a Maine limited liability with a principal place of business in Portland, County of Cumberland, State of Maine, for consideration paid, grants to **WBP COMMERCIAL LLC**, a Maine limited liability company with an address of 82 Hanover Street, Portland, Maine 04101, with **QUITCLAIM COVENANT**, the land, together with any buildings and improvements thereon, in Portland, County of Cumberland, and State of Maine more particularly described in **Exhibit A** attached hereto and made a part hereof.

IN WITNESS WHEREOF, the said Bayside II, LLC has caused this instrument to be executed by Thomas A. Toye, III, its Sole Member thereunto duly authorized as of this 12th day of October, 2022.

WITNESS:



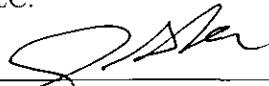
BAYSIDE II, LLC

By 
Thomas A. Toye, III
Its: Sole Member

STATE OF MAINE
COUNTY OF CUMBERLAND

October 12, 2022

Then personally appeared the above named Thomas A. Toye, III, Sole Member as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Bayside II, LLC.



Attorney at Law/Notary Public

Printed Name

Jason G. Howe, Esq.
Bar No. 0004860

EXHIBIT A
(Legal Description, Parcel 1)

A CERTAIN LOT OR PARCEL OF LAND, WITH THE IMPROVEMENTS THEREON, SITUATED IN THE BLOCK BOUNDED BY ELM, KENNEBEC, CHESTNUT AND LANCASTER STREETS, IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE AND SHOWN AS PARCEL 1 ON ALTA/ACSM LAND TITLE SURVEY ON KENNEBEC STREET, LANCASTER STREET EAST, ELM STREET, CEDAR STREET AND OXFORD STREET, PORTLAND, MAINE MADE FOR BAYSIDE II, LLC BY OWEN HASKELL, INC., DATED JANUARY 24, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 41 (THE PLAN), BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION MARKING THE NORTHWESTERLY SIDE OF LANCASTER STREET AND THE NORTHEASTERLY SIDE OF ELM STREET;

THENCE, BY THE NORTHEASTERLY SIDE OF ELM STREET N 43° 46' 33" W, A DISTANCE OF 158.86' TO AN ANGLE IN SAID STREET;

THENCE, N 40° 53' 33" W, A DISTANCE OF 31.49' TO THE SOUTHEASTERLY SIDE OF KENNEBEC STREET, MARKING A NON-TANGENT POINT ON A CURVE, IN SAID STREET;

THENCE, NORTHEASTERLY BY THE SOUTHEASTERLY SIDE OF SAID KENNEBEC STREET AND BY A CURVE TO THE LEFT WHOSE RADIUS IS 695.00', AN ARC DISTANCE OF 210.01', TO A POINT OF TANGENCY;

THENCE CONTINUING BY SAID KENNEBEC STREET N 48° 56' 54' E, A DISTANCE OF 251.30', TO THE SOUTHWESTERLY SIDE OF SAID CHESTNUT STREET;

THENCE BY THE SOUTHWESTERLY SIDE OF SAID CHESTNUT STREET S 44° 38' 26" E, A DISTANCE OF 164.71' TO THE NORTHWESTERLY SIDE OF SAID LANCASTER STREET;

THENCE BY THE NORTHWESTERLY SIDE OF SAID LANCASTER STREET S 49° 39' 27" W, A DISTANCE OF 461.02', TO THE POINT OF BEGINNING.

THE PROPERTY IS SUBJECT TO A NOTICE OF ABANDONED UNDERGROUND OIL STORAGE FACILITY OR TANK NOTICE, DATED APRIL 6, 2011 AND RECORDED IN SAID REGISTRY OF DEEDS IN BOOK 28629, PAGE 238.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING THE SAME LAND DESCRIBED AS PARCEL 1 CONVEYED TO BAYSIDE II, LLC BY QUITCLAIM

DEED OF OCTOBER CORPORATION, DATED JANUARY 26, 2000 AND RECORDED IN
SAID REGISTRY OF DEEDS IN BOOK 15298, PAGE 144.

EXHIBIT A
(Legal Description, Parcel 3)

A CERTAIN PARCEL OF LAND, WITH THE OF IMPROVEMENTS THEREON SITUATED ON THE SOUTHEASTERLY SIDE OF LANCASTER STREET, IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE AND SHOWN AS PARCEL 3 ON ALTA/ACSM LAND TITLE SURVEY ON KENNEBEC STREET, LANCASTER STREET EAST, ELM STREET, CEDAR STREET AND OXFORD STREET, PORTLAND, MAINE MADE FOR BAYSIDE II, LLC BY OWEN HASKELL, INC., DATED JANUARY 24, 2000 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 200, PAGE 41 (THE PLAN), BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE SOUTHEASTERLY SIDELINE OF LANCASTER STREET AND THE SOUTHWESTERLY SIDELINE OF CHESTNUT STREET;

THENCE S 44° 38' 26" E ALONG THE SIDELINE OF CHESTNUT STREET 88.08 FEET;
THENCE S 49° 39' 27" W 107.40;
THENCE N 45° 57' 49" W 3.67 FEET;
THENCE S 31° 29' 21" W 4.67 FEET;
THENCE N 43° 29' 51" W 23.77 FEET;
THENCE S 49° 39' 27" W 35.69 FEET;
THENCE N 43° 29' 51" W 28.00 FEET;
THENCE S 49° 39' 27" W 72.00 FEET TO THE NORTHEASTERLY SIDELINE OF CEDAR STREET;
THENCE N 43° 29' 51" W ALONG SAID SIDELINE 34.00 FEET TO THE SOUTHEASTERLY SIDELINE OF LANCASTER STREET;
THENCE N 49° 39' 27" E ALONG SAID SIDELINE 218.00 FEET TO THE POINT OF BEGINNING.

MEANING AND INTENDING TO CONVEY AND HEREBY CONVEYING THE SAME LAND DESCRIBED AS PARCEL 3 CONVEYED TO BAYSIDE II, LLC BY QUITCLAIM DEED OF OCTOBER CORPORATION, DATED JANUARY 26, 2000 AND RECORDED IN SAID REGISTRY OF DEEDS IN BOOK 15298, PAGE 144.

Received
Recorded Register of Deeds
Oct 13, 2022 02:22:36P
Cumberland County
Jessica M. Spaulding

OPTION AGREEMENT

THIS OPTION AGREEMENT (the "Agreement") made and entered into as of the 26th day of July, 2023 (the "Effective Date"), by and between **197 OXFORD STREET LLC**, a Maine limited liability company with a place of business in Portland, Maine and mailing address of c/o Port Property Management, Inc., 82 Hanover Street, Suite 5, Portland, Maine 04101 ("Grantor"), and **AVESTA HOUSING DEVELOPMENT CORPORATION**, a Maine nonprofit corporation with a place of business in Portland, Maine and mailing address of 307 Cumberland Avenue, Portland, Maine 04101 (the "Grantee").

WITNESSETH:

In consideration of Ten Thousand Dollars (\$10,000.00) (the "Initial Option Consideration"), the receipt of which is hereby acknowledged by Grantor, Grantor and Grantee hereby agree as follows:

1. Grant of Option. Grantor hereby grants to Grantee, its successors and assigns, the exclusive and irrevocable option (the "Option") to acquire the following five certain lots or parcels of land, with the buildings and improvements thereon (except with respect to those lots noted as vacant land and as otherwise described in Sections 4(e)(ii) and 4(h)), located in Portland, Maine and described as follows: (a) 0 Chestnut Street (vacant land), 203 Oxford Street, 193 Oxford Street (vacant land), 197 Oxford Street, all as more particularly described in a deed to Grantor recorded in the Cumberland County Registry of Deeds in Book 39779, Page 239, and (b) 31 Cedar Street, as more particularly described in the first Exhibit A (labeled as Parcel 4) in a deed to Grantor recorded in said Registry in Book 39799, Page 241, including a total of approximately 15,419 square feet of land, together with all appurtenant rights and easements (collectively the "Property"). The Property is shown on the plan attached hereto as Exhibit A.

2. Expiration; Extension. The initial term of this Option shall expire on July 26th, 2024, at midnight, Maine time unless exercised by that date and time in accordance with the terms and conditions of this Agreement. Grantee shall have the right to extend said initial term of this Option for one additional period of one (1) year by providing written notice to Grantor, prior to the expiration date of said initial term, with an additional payment of \$10,000.00 (the "Additional Option Consideration", and together with the Initial Option Consideration, the "Option Consideration").

The Option Consideration shall be non-refundable, except as follows: (i) if during the first one hundred twenty (120) days of the initial term of this Option (the "Initial 120-day Period") Grantee sends written notice to Grantor of Grantee's dissatisfaction, in Grantee's sole discretion, with either the title to the Property or the environmental condition of the Property, or any part thereof, Grantor shall refund promptly the Option Consideration to Grantee and this Agreement shall thereupon terminate and all rights and obligations of the parties shall cease. Grantee shall not be obliged to terminate this Agreement due to there being mortgages or other liens on the title to the Property, such matters being the obligation of Grantor to remove prior to closing; and (ii) as otherwise set forth specifically in this Agreement.

3. Notice of Exercise; Failure to Exercise. This Option may be exercised only by Grantee giving written notice of election to exercise to Grantor by Fed Ex, or similar overnight express mail, prepaid, to Grantor at the address set forth at the beginning of this Agreement, or to such other address as Grantor may designate to Grantee in writing. Said notice shall be deemed to have been duly given when delivered to a Fed Ex (or similar overnight delivery service) courier or office at the time indicated on the proof of delivery. In the event that Grantee fails to exercise the Option granted in this Agreement within the time specified in Section 2 above, the Initial Option Consideration, and the Additional Option Consideration, if paid, shall be retained by Grantor, and thereafter neither Grantor nor Grantee shall have any further rights or claims against the other.

4. Exercise. In the event that Grantee exercises the Option granted in this Agreement to purchase the Property as provided herein, the following provisions shall be applicable:

(a) Purchase Price. Subject to any adjustments and prorations hereinafter described, the total purchase price (the "Purchase Price") for the Property shall be the sum of X, payable at closing by wire transfer. The Initial Option Consideration, and the Additional Option Consideration, if paid, shall in all instances be credited against the Purchase Price at closing.

(b) Title to the Property; Covenant Against Further Encumbrances. Grantor shall convey the Property to Grantee at the closing in fee simple with good and marketable title, free and clear of liens and encumbrances, other than those that are acceptable to Grantee. In the event that Grantee determines upon examining title to the Property that there have arisen since the title research conducted by Grantee during the Initial 120-day Period, Grantor shall be given a reasonable period of time after notice from Grantee, not to exceed forty-five (45) days, in which to remedy any such title defects. In the event that said defects cannot be corrected or remedied within said time period, then the Initial Option Consideration and the Additional Option Consideration, if applicable, shall be returned to Grantee and this Agreement shall terminate. Grantee may, however, elect to close notwithstanding such defects as may exist. Grantor and Grantee understand and agree that any mortgages and liens on the Property shall not be considered title defects provided that the same shall be discharged at or prior to the closing at Grantor's expense. Grantor agrees that it will not further encumber or permit to be encumbered the Property by any liens, mortgages, attachments, covenants, restrictions or easements after the Effective Date.

(c) Closing. The closing under this Agreement shall take place not later than sixty (60) days after this Option is exercised (the "Closing Date") at 10:00 AM, local time, at Grantee's counsel's office, or at such other time and place as Grantor and Grantee shall mutually agree upon in writing. At the closing, Grantor shall execute a Quitclaim Deed with Covenant to the Property (the "Deed"), underground storage tank certification, a title insurance affidavit regarding mechanic's liens and persons in possession and such other affidavits, documents and instruments as Grantee shall reasonably request and that are customary in commercial real estate transactions in Maine, provided, however, under no circumstances shall Grantor be obligated to

execute and deliver a so-called "no survey" affidavit. If requested, Grantor agrees that the Deed shall also include a conveyance of the Property using a new survey description resulting from Grantor's boundary survey but such conveyance shall not include any covenants.

(d) Risk of Loss. At all times during the term of this Agreement, all risk of loss to the Property prior to the closing shall be on Grantor.

(e) Adjustments.

(i) Real property taxes shall be prorated as of the Closing Date based on the latest available tax bill. Grantee shall pay the cost to record the deed and any financing documents executed by Grantee. The parties shall share equally the Maine transfer tax according to law. Grantor shall be responsible for all costs associated with the Property through the Closing Date, and Grantee shall be responsible for all such costs after the Closing Date.

(ii) The parties agree to the provisions set forth in the Joint Site Plan Application Agreement dated on or about the date hereof by and between Grantor and Grantee (the "JSPAA") and agree that it is deemed to be a part of this Agreement.

(f) Default; Remedies. In the event that Grantee exercises its option but fails to close hereunder for a reason other than the default of Grantor, Grantor's sole remedy shall be to retain the Option Consideration as full and complete liquidated damages in lieu of any other legal or equitable remedy, whereupon this Agreement will terminate and neither party will be under any further obligation hereunder. In the event Grantor defaults under this Agreement, Grantee shall have available all remedies at law and in equity, including, without limitation, the right of specific performance or, in the alternative, the right to seek a complete refund of the Option Consideration.

(g) Possession. Grantor shall deliver the Property to Grantee at closing free and clear of all leases, tenancies and occupancies by any person.

(h) Removal of Gardens. Grantor shall remove all gardens from the Property, including without limitation, all box gardens, wood, plants, weeds, soil and any related materials and equipment.

(i) Conditions Precedent. Grantee's obligation to purchase the Property is subject to Grantee's full and complete satisfaction with all of the following:

(i) Grantee's receipt of a satisfactory appraisal which supports the Purchase Price in its sole discretion.

(ii) Grantee's receipt of binding written commitments from institutional lenders and/or investors which commit to finance Grantee's acquisition of the Property. Grantee agrees to exercise diligent efforts to secure such financing. Grantee shall have until the Closing Date to obtain such financing, and Grantee's obligation to purchase the

Property shall be contingent on Grantee's obtaining such financing on terms and in amounts satisfactory to Grantee in Grantee's sole discretion.

(iii) Other than with respect to the removal of the gardens and buildings, if applicable, there shall have been no material adverse change in the condition of the Property, occurring after the conclusion of Grantee's inspections under Section 5 below, and the Property shall be substantially in the same condition at the Closing Date as it was at the time of the inspections, reasonable wear and tear excepted. By the Closing Date, Grantee shall have removed all gardens and buildings, if applicable, from the Property in accordance with this Agreement.

(iv) Title to the Property shall be good and marketable, and the same shall be conveyed to the Grantee free and clear of all liens, claims and encumbrances except as provided in Section 4(b) above.

(v) Grantee shall have received all necessary federal, state and municipal permits and approvals (including all zoning approvals) required in connection with Grantee's intended use of the Property.

(vi) Grantee shall have received approval for the transactions described in this Agreement from its governing authorities.

(vii) By the end of the Inspection Period, Grantee shall be satisfied with all its due diligence inquiries and tests of the Property as set forth in Section 5 below.

Prior to the expiration of the Inspection Period, if any of the conditions described above are not satisfied, Grantor may terminate this Agreement in writing, whereupon the Initial Option Consideration shall promptly be returned to Grantee by the Grantor, and neither party shall have any further obligation hereunder. After the expiration of the Inspection Period, if the conditions described in subsections (i), (ii), (v), (vi) and (vii) are not satisfied by the Closing Date, Grantee shall have the option of terminating this Agreement in writing, whereupon the Option Consideration shall be retained by the Grantor, and neither party shall have any further obligation hereunder, and if the conditions described in subsections (iii) and (iv) are not satisfied by the Closing Date, Grantee shall have the option of terminating this Agreement in writing, whereupon the Option Consideration shall promptly be refunded to Grantee by the Grantor, and neither party shall have any further obligation hereunder.

i. Brokers. The parties represent to each other that neither has had any dealings with any real estate broker in connection with this transaction. The parties shall indemnify, defend and hold harmless one another from and against any breach of the foregoing representation.

5. Inspection. For a period of one hundred eighty days (180) from the Effective Date (the "Inspection Period"), at all times upon reasonable prior notice, Grantee and any prospective lender or investor of Grantee's shall have the right to enter the Property and perform, at Grantee's expense, any and all inspections (including without limitation environmental site

assessments), tests, surveys or other due diligence inquiries with respect to the Property as Grantee deems necessary or appropriate. Grantee agrees to return the Property as nearly as possible to its original condition after any of such tests and inspections and, prior to completing such inspections, Grantee shall provide Grantor with evidence of insurance for any parties, including Grantee's contractors, who are conducting said inspections on the Property, which insurance must be acceptable to Grantor, in its reasonable discretion. In the event Grantee is not satisfied for any reason by the results of such due diligence inspections, Grantee shall have the option of terminating this Agreement by written notice to Grantor, prior to the expiration of the Inspection Period. Without limiting the generality of the foregoing and notwithstanding anything to the contrary elsewhere in this Agreement, this Agreement and Grantee's purchase of the Property are subject to a determination by Maine State Housing Authority as to the desirability of the Property for Grantee's intended use as a result of the completion of the environmental review process required by the United States Department of Housing and Urban Development, and if such determination is unsatisfactory, Grantee may terminate this Agreement at any time, including after the end of the Inspection Period, whereupon the Option Consideration shall promptly be refunded to Grantee.

6. Recording of Option. Grantor and Grantee agree that this Option shall not be recorded. Grantor agrees upon request of Grantee to execute and tender for recording a memorandum summarizing the terms of this Agreement (except the Purchase Price).

7. Notices. Except as provided in Section 3 above, all notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, registered or certified, return receipt requested, addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change its address for purposes of this Section by giving the other party notice of the new address in the manner described herein.

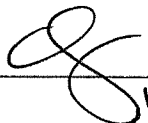
8. Assignment. Grantee may not assign this Agreement without the express written consent of Grantor, which may be withheld in Grantor's sole discretion. Except as otherwise set forth herein any purported or attempted assignment or delegation, without obtaining Grantor's prior written consent shall be void and of no effect and shall constitute a default pursuant to the terms herein. Notwithstanding anything to the contrary contained elsewhere in this Agreement, Grantee named herein shall have the one-time right to assign this Agreement prior to the Closing Date to a Controlled Affiliate (hereinafter defined) without the consent of Grantor. "Controlled Affiliate" shall mean any entity which is Controlled by Grantee as of the date of the assignment and the Closing Date. "Control" or "Controlled by" means the power and authority to direct the business and affairs of the assignee by reason of the ownership of a majority of the beneficial interests in such assignee, by contract or otherwise. Any such assignment shall be conditioned upon Grantee delivering to Grantor an executed copy of the assignment and assumption agreement wherein the assignee assumes all of the obligations of the Grantee named herein and proof reasonably satisfactory to Grantor that the assignee constitutes a Controlled Affiliate. This Agreement is solely for the benefit of Grantor and Grantee; there are no third party beneficiaries hereof. Any assignment of this Agreement in violation of the foregoing provisions shall be null

and void. Notwithstanding any permitted assignment or transfer of Grantee's rights and obligations under this Agreement, Grantee shall in all cases remain liable for all of Grantee's obligations under this Agreement. Grantee's breach of this Section shall be a material default under this Agreement, which shall entitle Grantor to all rights and remedies available to it pursuant to this Agreement.

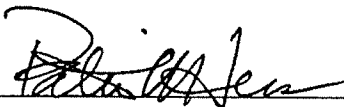
9. Miscellaneous. Time is of the essence hereof. This Agreement and the JSPAA constitute the entire agreement between Grantor and Grantee; there are no agreements or understandings between the parties except as set forth herein and in the JSPAA, and all prior agreements and understandings are superseded by this Agreement and the JSPAA. This Agreement will inure to the benefit of and bind the respective successors and assigns of Grantor and Grantee. As used in this Agreement, the singular number shall include the plural, the plural the singular, and the use of one gender shall be deemed applicable to all genders. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same agreement. This Agreement shall be governed by and construed in accordance with the laws of Maine. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

IN WITNESS WHEREOF, Grantor and Grantee have executed this Option Agreement as of the date first above written.

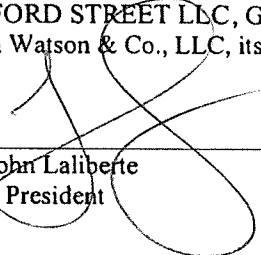
WITNESS:



Kimberly A.
Guillette

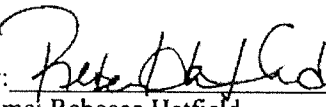


197 OXFORD STREET LLC, Grantor
By: Tom Watson & Co., LLC, its Manager

By: 

Name: John Laliberte
Its: Vice President

AVESTA HOUSING DEVELOPMENT
CORPORATION, Grantee

By: 

Name: Rebecca Hatfield
Its: President


 Portland, Maine

Yes. Life's good here.

Planning & Urban Development Department

197 Oxford St
(Phase I)

R6 - Residential

ZONING ANALYSIS

Relevant Zone(s) _____

All Projects:

	Required	Proposed
Lot Size	2,000 SF	15,224
Area Per Dwelling Unit	290 SF*	317*
Minimum Street Frontage	20 FT	359 FT
Front Yard Minimum	5 FT	8 FT
Front Yard Maximum	N/A	
Rear Yard	10 FT	10.2 FT
Yard Right	NONE	9.2 FT
Yard Left	NONE	5.9 FT
Side Street Setback	NONE	SEE ABOVE
Step Back	15 FT	15 FT (Rear)
Maximum Lot Coverage	60%	60%
Minimum Lot Coverage	N/A	
Maximum Height	55 FT	54.93 FT
Open Space	20%	20%
Maximum Impervious Area	80%	80%
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	TBD	5
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		

*See Density Bonus Table and Attachment

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed	Not Applicable
Minimum Lot Size			
Minimum Lot Area per Dwelling			
Maximum # Units per Building			
Maximum Building Length			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density	2.5x	52 UNITS	48 UNITS
Height	NA		
Setback Reduction	NA		
Recreation Space	NA		
Maximum Accessory Building Length	NA		
Minimum Setbacks	NA		
Minimum Building Separation	NA		
Minimum Open Space	NA		
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Portland, Maine



Yes. Life's good here.

Planning & Urban Development Department

50 Cedar St
(Phase II)

ZONING ANALYSIS Relevant Zone(s) R6 - Residential
All Projects:

	Required	Proposed
Lot Size	2,000 SF	23,250 SF
Area Per Dwelling Unit	558 SF/UNIT*	1,092/UNIT*
Minimum Street Frontage	20 FT	119.44 FT
Front Yard Minimum	5 FT	5.51 FT
Front Yard Maximum	N/A	
Rear Yard	10 FT	21.46 FT
Yard Right (North)	None	> 5'
Yard Left (South)	5'	12.54'
Side Street Setback	NONE	5'
Step Back	NONE	N/A
Maximum Lot Coverage	60%	21%
Minimum Lot Coverage	N/A	
Maximum Height	55 FT	< 35 FT
Open Space	20%	20%
Maximum Impervious Area	80%	80%
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	38	Provided Off Site
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		

*See Density Bonus Table and Attachment

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Not Applicable

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density	1.3x	47 Units	24 Units
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Portland, Maine



Yes. Life's good here.

Planning & Urban Development Department

158 Lancaster St
(Phase 3)

ZONING ANALYSIS Relevant Zone(s) R6 - Residential

All Projects:

	Required	Proposed
Lot Size	2,000 SF	17,748.60 SF
Area Per Dwelling Unit	558 SF/UNIT*	558 SF/UNIT*
Minimum Street Frontage	20 FT	218 FT
Front Yard Minimum	5 FT	5.25 FT
Front Yard Maximum	N/A	
Rear Yard	10 FT	10.09 FT
Yard Right (West)	5'	> 5'
Yard Left (East)	NONE	13.72'
Side Street Setback	NONE	> 5'
Step Back	15'	> 15' (rear)
Maximum Lot Coverage	60%	39%
Minimum Lot Coverage	N/A	
Maximum Height	55 FT	51.29 FT
Open Space	20%	34%
Maximum Impervious Area	80%	66%
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	37	Provided offsite
Loading Bays	N/A	
Other 1		
Other 2		
Other 3		

*See Density Bonus Table and Attachment

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Not Applicable

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density	1.3x*	51 UNITS	51 UNITS
Height	NA		
Setback Reduction	NA		
Recreation Space	NA		
Maximum Accessory Building Length	NA		
Minimum Setbacks	NA		
Minimum Building Separation	NA		
Minimum Open Space	NA		
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Density Overview – Phased Joint Site Plan

The proposed project intends to utilize the parcels as highlighted on the Overall Site Plan, Sheet C-10: 197 & 207 Oxford Street, 78 Chestnut Street, 50 Cedar Street, and 158 Lancaster Street, which results in 1.58 acres of total land area. The following breakdown of land area and density bonus utilization is as follows:

Phase 1

Table 18-C: >50% WF, 2.5X bonus = density of 290 SF/Unit

48 WF units proposed | Use 0.32 Acres

Remaining Land: 1.26 Acres

Phase 2 and 3

Table 18-C: 30-49% WF provided on Site in aggregate, 1.3X bonus = density of 558 SF/Unit

1.26 Acres | Yields 98 units

Phase 2 Proposed Unit Count: 24 Market Rate Units

Phase 3 Proposed Unit Count: 51 Market Rate Units

Remaining Allowable Units: 23

Project Totals

Land Area: 1.58 Acres

Allowable Units: 146

Proposed Units: 123 (48 Workforce, 75 Market Rate)



E. Easements

Existing Easements:

Existing easement information as provided on the plan titled “Topographic Survey” prepared and identified by Owen Haskell for Bush-Watson on February 17, 2023 and most recently revised on March 29, 2023.

- CMP/NET&T easement associated with Book/Page 4811/70 in the Cumberland County of Deeds.

This easement is anticipated to be extinguished as part of the previously approved 89 Elm project and/or the proposed Phase 2 50 Cedar project as part of this Application.

Proposed Easements:

- **Phase 1 – 197 Oxford Street:**

- There are no proposed easements at the time of filing this Application.

- **Phase 2 – 50 Cedar Street:**

- The project, under common ownership with the abutting and previously approved 89 Elm development, will provide a reciprocal access, utility, and maintenance easement within the shared drive aisle and solid waste enclosure area.

- **Phase 3 – 158 Lancaster Street:**

- There are no proposed easements at the time of filing this Application.



Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
.... Figure I-27	The drive aisle width is 24 feet	Requesting waiver to decrease the width to 22'.	Typical of previous residential projects on tight sites, 22' is a functional width especially for low-volume, familiar users.
.... LUC 14.6.2.B.3	All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area.	.. Several 10" trees existing along the rear property line and near the Chestnut/Oxford intersection. Their removal will be required to facilitate the building and reconstruction of the failing retaining wall along the rear property line.	. The project is not feasible without removal of these trees. The trees in the rear do not appear to be in good health, and the apple trees near the intersection are small and not of high value.

F. Waivers: Phase 1 - 197 Oxford Street

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
..... Technical Manual Section 1.14	"New structured and surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces (rounded down to the nearest whole number). An additional 50% of spaces must be made EV-ready,"	There are no proposed EV Parking spaces for the 5 proposed covered parking spaces.	As electric vehicles become more common, knowledge continues to increase about how they react under fire conditions. The concern is if an EV is parked in a parking structure or parking beneath the building overhang even if there is a sprinkler system in place would this being inviting a potential severe fire event where there seems to be no current ability to extinguish an EV fire quickly. One contributing factor is a process called "thermal runaway" which occurs when the heat within a battery is greater than the heat that can dissipate to the ambient surroundings. Batteries can overheat while recharging or occur if a cell fails while the vehicle is being operated, including being parked. This type of failure produces oxygen and gases that are toxic with the potential to be flammable. Vehicle batteries are essentially bundles of these cells inside of a plastic container, the failing of one can trigger the same in neighboring cells. This will lead to an intense fire or if modern plastic is involved, perhaps an explosion. The Applicant is not interested in installing EV chargers given the lack of parking and the life safety concerns noted above.
.....			

F. Waivers: Phase 2 - 50 Cedar Street

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
... Figure I-27	The drive aisle width is 24 feet	Requesting waiver to decrease the width to 22.83'	Typical of previous residential projects on tight sites, a dimension as low as 22' is a functional width especially for low-volume, familiar users.
....			

F. Waivers: Phase 3 - 158 Lancaster Street

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
.... No Waivers Proposed			
....			

G. Financial Capacity

Please find attached the status of good standing from the Secretary of State and letters from the Co-Applicants' banks.





March 28, 2024

City of Portland
389 Congress Street
Portland, ME 04101

RE: 197 Oxford Street

To Whom It May Concern:

On behalf of Bangor Savings Bank, I am pleased to provide this letter in support of Avesta Housing for the development of a 48-unit, affordable housing project to be located at 197 Oxford Street in Portland, Maine. Bangor Savings Bank has worked with Avesta Housing on multiple projects of a similar nature. Based on our prior experience working with the organization, we believe that the applicant has the ability to finance the proposed project costs. In addition, they possess the management skill and development expertise to successfully complete the proposed project.

While this letter of support is not a commitment to lend, Bangor Savings Bank would welcome the opportunity to be a resource for project financing. Please feel free to call me at 541-2707 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn McKenna", written in a cursive style.

Shawn McKenna
Vice President
Commercial Banking



April 2, 2024

Planning Board
City of Portland
389 Congress Street
Portland, ME 04101

RE: Reveler LLC - 75 unit phased development in the Bayside area of Portland, Maine

To Whom It May Concern:

I am pleased to provide this financial capacity letter in support of Reveler LLC, manager of 197 Oxford Street LLC, WBP Commercial LLC, and 89 Elm LLC. Based on my longstanding relationship with Reveler, it is my opinion that the development group has the financial resources, technical expertise and management capability to complete the above referenced project.

If you should need further information or clarification please contact me at (207) 771-1217.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Delano", is written over a horizontal line.

Joe Delano
Senior Vice President



MAINE

Department of the Secretary of State

Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

[Subscriber activity report](#)

This record contains information from the CEC database and is accurate as of: **Wed Mar 27 2024 13:45:00**. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
AVESTA OXFORD STREET LP	202400012LP	LIMITED PARTNERSHIP	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
02/12/2024	N/A	MAINE

Other Names (A=Assumed ; F=Former)

NONE

Principal Home Office Address

Physical

Mailing

Clerk/Registered Agent

Physical

Mailing

REBECCA HATFIELD
307 CUMBERLAND AVE

REBECCA HATFIELD
307 CUMBERLAND AVE

PORTLAND, ME 04101

PORTLAND, ME 04101



MAINE

Department of the Secretary of State

Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

[Subscriber activity report](#)

This record contains information from the CEC database and is accurate as of: **Wed Mar 27 2024 13:49:35**. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
REVELER LLC	20062993DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
04/11/2006	N/A	MAINE

Other Names (A=Assumed ; F=Former)

REVELER DEVELOPMENT A

TOM WATSON & CO., LLC F

Principal Home Office Address

Physical	Mailing
----------	---------

Clerk/Registered Agent

Physical	Mailing
----------	---------

WILLIAM H LEETE
ONE CANAL PLAZA

PORTLAND, ME 04101

WILLIAM H LEETE
PERKINS THOMPSON, P.A.
P.O. BOX 426
PORTLAND, ME 04112-0426

H. Technical Capacity

Reveler Development, Previously Tom Watson & Co., has completed several development projects within the City including 82 and 52 Hanover St and 132 Marginal Way – The Linden.

Avesta Housing is Northern New England's largest affordable housing developer, having completed dozens of affordable projects across Maine and New Hampshire. Most recently, developments include Porter Station (200 Valley Street), Village Commons in Scarborough, and the West End Apartments in South Portland.

Acorn Engineering, Inc. has successfully permitted and provided civil/site engineering for a multitude of constructed major site plans across the City including Munjoy Heights, 89 Anderson Street, the Hiawatha, 52 Hanover, and Porter Station.

CWS Architecture + Interior Design has extensive experience in residential development in Portland and has been the Architect of Record on many residential projects, some of which include Wessex Woods, 58 Boyd Street, Huston Commons, and 409 Cumberland.

Ryan Senatore Architecture also has extensive experience in residential development, including leading projects at Munjoy Heights, 89 Anderson, the Hiawatha, Porter Station, and Hammond House.

Overall, the design team brings decades of experience and demonstrated success in designing, managing, permitting, and overseeing the construction of high-quality residential properties.



I. Conformity with Land Use Ordinance

OVERVIEW

The proposed joint major site plan application proposed a total of 123 dwelling units to be distributed over the development of three parcels, depicted as phases 1-3 below.

- Phase 1: 197 Oxford Street: 48 Affordable and “Housing First” Residential Units (Avesta)
- Phase 2: 50 Cedar Street Redevelopment: 24 Market Rate Residential Units (Reveler)
- Phase 3: 158 Lancaster Street: 51 Market Rate Residential Units (Reveler)

Each project phase has been designed to conform to the applicable City standards where possible, as well as improve upon existing non-conformities.

The following narrative demonstrates the proposed projects compliance with the site plan standards of the City of Portland’s Land Use Ordinance, outlined in Chapter 14, Section 6 (14.6.1-4). In addition, the site has been designed to comply with the City’s Technical and Design Manual, as referenced in the land use code.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

- a. The project is not anticipated to create any significant hazard to safety on the surrounding street network nor any adjacent properties. The sites are bordered by Chestnut Street, Lancaster Street, Cedar Street and Oxford Street. Please see Section T of this application for the Traffic Analysis Narrative.
- b. According to the City of Portland Federal Street Classification map, the site is located along Cedar Street, Oxford Street, Chestnut, and Lancaster Street which are all considered local roads. The development does not intend to substantially increase congestion on the surrounding streets.

B. Access and Circulation:

1) In general

- a. The development will provide safe access and internal circulation for both pedestrians, vehicles and emergency vehicles as seen on the Site Plan and in accordance with the Technical Manual.
- b. Continuous internal walkways are proposed and will connect to the existing sidewalks along Cedar Street, Chestnut Street and Lancaster Street. Each phase of the project will provide a newly constructed sidewalk along the property frontage, as shown on each respective Site Plan; C-11 (Ph-1), C-12 (Ph-



2), and C-13 (Ph-3).

- c. Points of access and egress have been located to avoid conflicts with turning movements and traffic flows. Site access has been modeled utilizing AutoCAD 2020 Vehicle Tracking software to confirm vehicular circulation for each site and the proposed use.
 - d. Not applicable
- 2) Loading and Servicing:

Regular service trucks are not anticipated to occur as part of any of the proposed developments, given all buildings are to be solely residential. As all 3 of the proposed redevelopment sites are located along corner lots, it can be expected that delivery services will predominantly utilize the public street frontages, as is customary for these types of services.

3) Curbs and Sidewalks:

- a. Each of the development sites propose to replace the existing curbing and sidewalks along all frontages, and are to be installed in accordance with the City's Technical Manual.
- b. There are existing sidewalks along all abutting Streets. Any curbing or sidewalk disturbed during construction is to be repaired and rebuilt as necessary in conformance with City standards.
- c. Not applicable
- d. Not applicable

C. Public Transit Access:

- 1) The proposed redevelopment sites are located along Oxford Street, Cedar Street, Lancaster Street and Chestnut Street, all classified as local urban roadways. Currently the Greater Portland METRO Local Route 8 service runs through Lancaster Street, with a bus stop along the Lancaster and Chestnut Street intersection. Additionally, the METRO Pulse Station on Elm Street is close to all 3 sites. Given the proximity to the existing transit system, the development does not propose any new transit shelters.
- 2) Not applicable.
- 3) Not applicable.

D. Parking:

- 1) Vehicular Parking:



- a. The final parking requirement for the project will be determined by the planning board for Phase I and provided off site for Phase 2 and 3. Please See Section S, of this application for the Overall parking analysis.
 - b. A TDM is not proposed for this project.
 - c. Not applicable
 - d. The Phase 1 and 2 sites propose a drive aisle less than 24', which has been requested as a waiver in Section F.
- 2) Location and Required Number of Bicycle Parking Spaces:
- a. A minimum of 50 bicycle spaces are required for the proposed 123 residential units, following the ratio (2 bike spaces/ 5 units) provided in Table 19-A of the Land Use Code. Please refer to each Phases Site Plan, Landscape plan, and Architectural Floor Plans for more information on proposed bike storage locations. Signage is to be provided in accordance with the Technical Manual.
 - b. Not applicable.
- 3) Snow Storage:
- a. Please refer to each phases site plan for the proposed locations designated for snow storage. The Owner will be responsible for managing snow at their discretion and/or coordinating snow removal from the site when necessary.
 - b. Snow storage areas will not encroach on parking, walkways, or stormwater management systems.
- 4) Electric Vehicle (EV) charging
- a. Section 1 of the Technical Manual states; "New structured and surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces. An additional 50% of spaces must be made EV-ready.". Please see Section S of this application for the Parking Analysis which outlines the existing, proposed, and improved parking areas on each site.
- Phase I is requesting a waiver from the EV requirement for their 5 parking spaces due to covered parking.
- Phase II only has 4 parking spaces and does not trigger this requirement.
- Phase III is replacing the existing parking spaces and is not creating a new structured or surface parking lot.



E. Transportation Demand Management (TDM):

- 1) A Transportation Demand Management (TDM) plan was not prepared for this application. Please see the Parking and Traffic Analysis narrative for more information.
- 2) Not applicable.

14.6.2 Environmental Quality Standards**A. Preservation of Significant Natural Features:**

1. The site does not consist of any significant natural features. There are no known endangered species or plants existing on the site.
2. Not applicable
3. Not applicable

B. Landscape Preservation:

- 1) The sites have been designed to limit disturbance to existing vegetation where feasible, particularly along the larger parcel, Phase 3. Please see the attached plans with references to existing vegetation to remain and be protected on the 158 Lancaster Street lot where the opportunity exists.
- 2) Please refer to the Landscaping plan, details, as well as the erosion control report for more information regarding proposed implementation measures to preserve the existing vegetation that is to remain from construction impacts. These construction-level details will progress and the project progresses.
- 3) Phase 1: A waiver has been requested due to number of 10" trees along the rear property line causing a failing retaining wall onto the neighbor's property.

Phase 2: No trees are being removed.

Phase 3: 8 trees at 10" DBH or larger exist on site. The project proposes to maintain 3 of them which meets the standard (37.5%)

- 4) See above and Section F.
- 5) Where the replacement of trees onsite is not feasible, the applicant intends to contribute the proportionate cost of the replacement trees to the City of Portland Tree Fund.



C. Site Landscaping and Buffers

- 1) Within the R6 zone, one shade tree or plantings is required per every 30 linear feet along all the property frontages, per the City of Portland Technical Manual standards. Please refer to the Landscaping plans for more information on the proposed quantity, spacing, and species.

2) Buffers

- a. Solid waste storage is provided within each of the proposed buildings in Phase 1 and 3. The Phase 2 solid waste is shared with 89 Elm and will be screened by a cedar enclosure.
- b. Not applicable
- c. Buffers are proposed within each project site where possible.

3) Parking Landscaping

- a. The project features minimal surface parking; however, shade trees have been provided adjacent to the parking where feasible.
- b. Not applicable.
- c. Not applicable.

4) Street Trees

- a. The proposed redevelopment project proposes street trees along the property frontages in the greatest number feasible. Please refer to the landscape plans for more information on placement and quantity.
- b. Where the replacement of trees onsite is not feasible, the applicant intends to contribute the proportionate cost of the replacement trees to the City of Portland Tree Fund. It should also be noted that structural soil measures or granite planters are proposed for certain street trees to help improve their growing mediums.

D. Water Quality, Stormwater Management and Erosion Control:

1. All developments have been designed to minimize the total impervious area while meeting the project goals, in combination with providing Stormwater Management best practices measures to reduce stormwater runoff generated from the site and minimize the overall contribution into the City's system. Please see each site's Grading and Drainage plan in combination with the Section J of this application, the Stormwater Management Report.



- a. The site drainage will not be directed to flow or create ponding onto adjacent lots. The runoff created from the site will be collected, attenuated, and released at a rate that does not exceed the existing condition.
 - b. The site was designed to reduce the volume and rate of runoff generated from the sites.
 - c. A site-specific Stormwater Management Plan has been developed for the project to show compliance with Section 5 of the Technical Manual, including the basic standards of MEDEP Chapter 500. Please refer to sections J and K, the Erosion & Sedimentation Control and Stormwater Management Plans, respectively, for more information.
 - d. In coordination with DPW, the project anticipates detaining the larger of 1" times each Site's impervious area, or the proposed net new sewer flows created by the project.
2. Each Redevelopment site has been designed to comply with the Stormwater Management standards within the city technical manual.
 3. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The development proposes adequate and sanitary disposal of sewage in accordance with Section 2 of the Technical Manual. The project will be serviced by a public wastewater system.

14.6.3 Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans:

1. The project has been designed to be consistent with the City's Master plans, Zoning Ordinance, Design Manual, and off-site infrastructure.
2. Please refer to each respective phased site plan which includes the necessary improvements to all connections to off premise public infrastructure.

B. Public Safety and Fire Prevention:

1. Public Safety Design
 - a. The site has been designed to enhance the security of the public and private areas on site to reduce the potential for crime.
 - b. Each site has been designed to provide appropriate controlled access points for the future building tenants.



- c. All areas will promote natural surveillance and access control.
- 2. Emergency and fire vehicle access is provided on three (3) sides of each building within the public frontage. In addition, the site has potential ambulance access through the access drive aisles provided from Chestnut Street (PH-1), Cedar Street (PH-2), and Lancaster Street (PH-3).

C . Public Utilities

- 1. Requests for Ability to Serve letters have been sent to the respective companies. Coordination is ongoing and responses are forthcoming.
- 2. The electrical services to each building will be provided underground.
- 3. The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual. Please see the Stormwater Management Report in Section J of this application. Further coordination with DPW is anticipated to confirm the proposed infrastructure and connections.
- 4. The project will be served by connection to the public sewer system within Chestnut Street and Cedar Street, furthermore, intercepted by the Lancaster Street Combined Sewer. The proposed stormwater management systems have been designed to meet the City standards as well as the applicable standards outlined in Chapter 500.
- 5. Phase 1 and 3 propose internal trash storage for tenants. While Phase 2 will share its solid waste with the adjacent 89 Elm project outside in a privately, screened enclosure. Given each of the residential developments proposes 20 or more units within the building, trash collection and disposal will be coordinated by the property/landowner of each site with a private hauler. Please see the respective site plans for the proposed location of trash storage.

16.4.4 Site Design Standards

A. Massing, Ventilation and Wind Impact:

- a. Please refer to Section O, Architectural Design Narrative for more information on the building massing and ventilation systems. The project will not result in health or safety problems, devaluation to neighboring properties, or direct exhaust towards neighbors.

B. Shadows:

The project vicinity does not include any existing publicly accessible open space. Therefore, according to the technical manual, a shadow study is not required, although a shadow study was provided for the 197 Oxford building at the request



of the neighbors at the pre-application neighborhood meeting.

C. Snow and Ice Loading:

The structure will not distribute snow and ice onto adjacent properties. All of the building roofs are to be designed to collect rainfall runoff onto the roof and route to the proposed stormwater infrastructure systems as proposed by phase.

D. View Corridors:

Not applicable.

E. Historic Resources:

- a. The development is not located in a historic district, historic landscape district or City designated landmark.
- b. The development is not located adjacent to designated landmarks, historic district, or historic landscape district.
- c. It is our understanding that there are no known archaeological resources that exist on the site.

F. Exterior Lighting:

- a. Site Lighting.
 - i. Exterior lighting will be designed to meet the requirements set forth in the Technical Manual and not to negatively impact the abutting properties.
 - ii. Lighting has been designed to not adversely impact the abutting residential properties. Shielding shall be implemented when necessary. Please refer to the Photometric Plans for more information.
- b. Architectural and Specialty Lighting.
 - i. No architectural and Specialty lighting is proposed, at this time.
 - ii. No up-lighting is proposed, at this time.
- c. Street lighting has been proposed in accordance with the City Technical Manual and is to include the required peninsula decorative lighting when along Lancaster Street. The remaining site lighting will be accomplished through wall pack units along the proposed building entryways, in combination with existing street lighting along the abutting streets.



G. Noise and Vibration:

- a. All proposed heating, ventilation and air conditioning equipment, and emergency generators are to meet the applicable state and federal emissions requirements as defined by the Architect and their mechanical engineer.

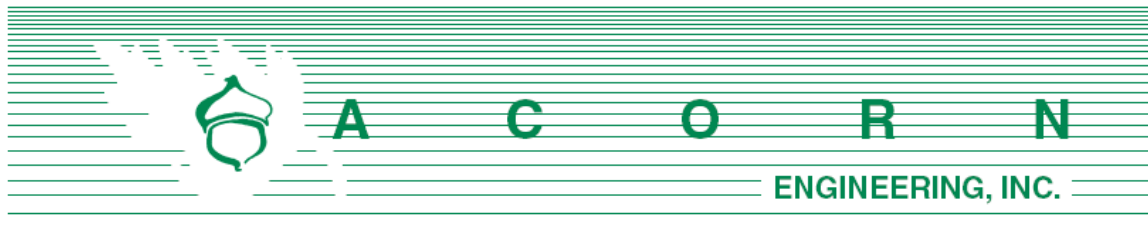
H. Signage and Wayfinding:

1. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.
 - a) The project is not located in a historic district or subject to Article IX.
 - b) Signage will complement the subject building and its immediate context.
 - c) Signage will not adversely affect visibility at intersections.
 - d) Signage will be facing downward to avoid glare and light spillover to towards the sky.
 - e) Signs will not be located along rooftops.
- b. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code. Signage will not adversely affect visibility at intersection on or off the site.

I. Design Standards.

- a. The Architect has designed the project to meet the standards set forth in the R6 Residential zoning standards, as well as the City of Portland Design Manual. Please refer to the Architectural Plans and narratives for each building.





J. STORMWATER MANAGEMENT **REPORT**

Phased Oxford Street Redevelopment

Prepared For:

**Avesta Housing & Reveler Development
Joint Site Plan Application**

Prepared By:

**Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104**



April 2024

INTRODUCTION

Acorn Engineering, Inc. has been retained by Avesta Housing and Reveler Development, to provide civil engineering services for the Phased Oxford Street Redevelopment, Joint Major Site Plan Application. The contiguous parcels encapsulating the re-development project include 197 Oxford Street, 50 Cedar Street, 158 Lancaster Street, and 78 Chestnut Street in Portland, Maine. The joint application referenced the lots above as Phase 1, Phase 2, and Phase 3, respectively. Please note there are no modifications proposed at 78 Chestnut Street, at this time.

The overall site area consists of 1.58 acres of contiguous land, of which 0.96 acres are to be redeveloped as part of this proposed project. The development project proposes 3 residential buildings throughout Phases 1, 2, and 3, to provide 123 Residential Units to the Bayside area. Please see *Table 1* below which provides an overview of the existing parcels area and proposed redeveloped area.

This stormwater analysis was prepared to demonstrate the effects of the proposed development on both the quantity and quality of stormwater runoff. The purpose of this report is to demonstrate the project's compliance with the City of Portland Stormwater Management Standards. The following narrative provides an outline of each of the project phase's compliance with the applicable standards set forth within the City of Portland City Code and Technical Manual as outlined below, in addition to the applicable requirements set forth by Maine DEP within Chapter 500.

- City of Portland Land Use Ordinance Article 14.6.2.D.
- City of Portland Technical Manual:
 - o Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.
 - o Section 2 – Portland Sanitary Sewer and Storm Drain Design Standards
- City of Portland Code of Ordinances:
 - o Chapter 32 – Post-Construction Stormwater Management
 - o Chapter 24 – Sewers

TABLE 1: OVERVIEW OF PROPOSED RE-DEVELOPED AREA BY PROJECT PHASE:		
	<u>PARCEL AREA (AC):</u>	<u>RE DEVELOPED AREA (AC):</u>
197 OXFORD STREET:	0.35	0.35
50 CEDAR STREET:	0.53	0.22
158 LANCASTER STREET:	0.41	0.39
78 CHESTNUT STREET:	0.29	0
TOTAL AREA:	1.58	0.96

EXISTING CONDITIONS

The project parcels are bordered by Lancaster Street, Cedar Street, Oxford Street, and Chestnut Street, and are all located within the Residential R-6 Zoning District and the Bayside Height Overlay Zoning District.

It is our understanding that there are no natural resources on site and that the development is not within an urban impaired stream watershed and appears that no formal stormwater treatment or detention presently resides onsite, unless otherwise noted as on Phase 2. Existing topography and onsite soils information was obtained from the Topographic Survey plan prepared by Owen Haskell Inc., dated February 17th, 2023.

➤ **Phase 1 – 197 Oxford Street:**

Phase 1, the 197 Oxford Street parcel consists of approximately 0.35 acres of land and is currently occupied by 2 existing, now vacant buildings to be demolished and transformed into a 5-story building with 48 affordable residential units, to be owned and managed by Avesta Housing. The project will reside at Map, Book Lot: 26-B-018, whose lot line will be adjusted to encompass the entire development area of 0.35-acres. Currently the parcels are addressed as 31 Cedar Street and 197 Oxford Street, 26-B-012 & 26-B-018, which will be merged into one parcel whose area will remain outside the building footprint.

The site is currently occupied by 2 existing, now vacant buildings (total footprint of approximately 5,553 square feet). Please note it is our understanding that demolition of the existing retrofitted storage container structures which have since been removed since receiving our survey (footprint of approximately 517 square-feet.) In addition, the site is occupied with nearly 4,118 square feet of impervious cover over the lot, consisting of disconnected impervious patio area along the Cedar Street side. and a community garden located on the Chestnut Street side. The remainder of the site consists of a mix of mulched and grassed area within the existing community garden. The site topography consists of slopes ranging up to 17% within the garden area. Elevations across the site range from 27' at the Chestnut Street Corner of the site, to elevation 42' across the parcel at the Cedar and Oxford Street intersection. The Cedar Street, Oxford Street, and Chestnut Street sidewalks consist of slopes ranging up to 9% along the property frontage.

➤ **Phase 2 – 50 Cedar Street:**

Phase 2, the 50 Cedar Street parcel consists of approximately 0.53 acres of land occupied by surface parking lots to be transformed into a 3-story building with 24 market rate residential units, to be owned and managed by Reveler Development. The project will reside at Map, Book Lot: 33-H-009, whose lot line was recently adjusted due to a separate project application, previously approved, and under common ownership.

As part of the recently approved application at the adjoining property at (33-H-006-001), stormwater runoff and site improvements on the 50 Cedar Street parcel were incorporated within the proposed stormwater system on the 89 Elm Street parcel. As part of this application, we have outlined the drainage area boundaries for the 50 Cedar Street parcel



and included the HydroCAD stormwater model approved with storing runoff from 50 Cedar Street. As the 89 Elm Street application is not yet under construction, should the 50 Cedar Street redevelopment project be constructed prior to 89 Elm Street, modifications for stormwater runoff generated from the 50 Cedar Street site intend to be sufficient for the runoff drainage area leading to the subsurface storage system, as demonstrated in this report and highlighted in the Attached HydroCAD Report and pre and post re-development maps for Phase 2 - 50 Cedar Street Re-Development Project. In other words, each project is able to stand on its own as a complying site/project whether or not both buildings are constructed or not.

Currently the site consists of 16,480 sf surface parking lots. The site topography consists of slopes ranging up to approximately 9% within the drive aisle proposed for 89 Elm Street, with slopes ranging up to 50% within the existing grassed area. Elevations on site range from 17.80' at the Lancaster and Cedar Street intersection to elevation 40' across the parcel where the uphill parking lot ties into Cedar Street. Currently the Cedar Street and Lancaster Street sidewalks consist of slopes ranging up to 12.5% along the property frontage.

➤ **Phase 3 – 158 Lancaster Street:**

Phase 3, the 158 Lancaster Street parcel consists of approximately 0.41- acres of land occupied by an existing surface parking lot and community garden. The project proposes to redevelop the site to provide a 5-Story Building with approximately 51 dwelling units, to be owned and managed by Reveler. The project will reside at Map, Book Lot: 26-A-001.

Currently the site consists of a 12,620 sf surface parking lot with a community garden on the Southeast side of the property. The site topography consists of slopes ranging up to approximately 8% within the existing parking area and up to 50% along the property line and within the garden area. Elevations across the site range from 11.50' at the Lancaster and Chestnut Street intersection to elevation 22' near the rear property line along Halls Court. Currently the Cedar Street, Lancaster Street, and Chestnut Street sidewalks consist of slopes ranging up to 20% along the property frontage.

The overall redevelopment project will result in a reduction of non-roof impervious area by 11,580 square-feet, as provided in *Table 2* below.

TABLE 2 – REDUCTION OF PRE AND POST RE-DEVELOPMENT NON-ROOF IMPERVIOUS AREA			
	NON-ROOF IMPERVIOUS AREA:		
<u>PHASE:</u>	EXISTING (SF):	PROPOSED (SF):	REDUCTION:
Phase 1 - 197 Oxford Street:	4,117.96	3,248.90	-869.06
Phase 2 - 50 Cedar Street:	16,479.74	13,702.09	-2,777.65
Phase 3 - 158 Lancaster Street:	12,620.11	4,686.12	-7,933.99
Totals:	33,217.81	21,637.11	-11,580.70



Given the existing building use and impervious cover, the existing sanitary sewer and surface stormwater runoff flows were included as part of this analysis to provide a better comparison of how the proposed development will impact the City's Combined Sewer System. See below for more information on the existing and proposed site drainage conditions for each phase of the development.

PROPOSED DEVELOPMENT

The proposed development intends to transform the existing parcels to provide 3 residential buildings and 123 residential units to the Bayside community.

- Phase 1 proposes a 5-story building with 48 affordable dwelling units.
- Phase 2 proposes a 3-story building with 24 market rate units.
- Phase 3 proposes a 5-story building with 51 market rate units.

The site proposes modifications to redirect stormwater runoff generated from the site to be contained and detained within the parcels by utilizing subsurface stormwater storage systems onsite. Each project phase will feature interconnecting sidewalks and pavement for a driveway accessed from the adjacent streets.

Table 3 below provides a comparison of the existing and proposed impervious area. Collectively the overall project will produce a total of 42,078 square-feet of impervious cover over the three development sites. As demonstrated in the table below, 10,909 square-feet of non-roof impervious area is anticipated post redevelopment of all 3 phases. Please note that none of the individual project phases will generate more than 5,000 square feet of new redeveloped non-roof impervious area, as seen below.

Table 3 – Total Impervious Area by Phase		
<u>PHASE:</u>	EXISTING IMPERVIOUS AREA (SF):	TOTAL PROPOSED IMPERVIOUS AREA (SF):
Phase 1 - 197 Oxford Street:	9,982	11,970
Phase 2 - 50 Cedar Street:	16,480	18,553
Phase 3 - 158 Lancaster Street:	12,620	11,555
Totals (sf):	39,082	42,078

Overall, the project sites are currently draining Northwest, towards the Combined Sewer System within Lancaster Street. It is our understanding that there is an existing 18" Combined Sewer within Chestnut Street and Cedar Street, along with a 48" double brick Combined Sewer within Lancaster Street.

As part of the recently approved West Bayside Master Development Plan (MDP), Phase 1A – 89 Elm Street, it was proposed to extend the City's MS4 System from Preble Street to the



frontage of 89 Elm Street, the adjoining property of 50 Cedar Street. As the proposed extension is still under discussion and review with DPW and PWD, the 50 Cedar Street redevelopment site intends to tie into the proposed MS4 extension at the upstream end, as described further in this report and depicted on the plans.

All developments intend to be served by the Portland Water District, CMP, Spectrum, Consolidated Communications, and municipal sewer and storm systems. Utility mains and services are under coordination with each respective utility company. The project team will coordinate the project details further with the Department of Public Works team, to ensure proposed connections and verify the existing systems capacity, as necessary.

As the site is not located within an urban impaired stream, nor will it create one or more acre of impervious area, the project is exempt from the treatment requirements as outlined in Chapter 500.

Please note that each project phase will provide stormwater management systems and infrastructure on each site to account for the stormwater runoff generated by site. None of the sites will create more than 5,000 SF of non-roof redeveloped area; however, Phase 1 and Phase 2 will create more than 1,000 SF of new impervious area, and therefore those two phases have included stormwater treatment in tandem with the detention systems.

GENERAL STANDARDS – WATER QUALITY

The following narrative intends to meet the applicable Basic, General, and Flooding standards in Section 5 of the City of Portland Technical Manual. Please refer to the erosion and sedimentation control report for the site's compliance with the Basic Standards outlined in Chapter 500.

Treatment on both sites (Ph-1 & Ph-2) are proposed for the equivalent water quality volume to treat approximately a quarter and half of the roof area on both of the proposed buildings, respectively, which would exceed treatment of 95% of the new impervious area on site.

The following section outlines the phased projects compliance with Section 5 of the City's Technical Manual for Redevelopment Projects.

Treatment of stormwater is accomplished by utilizing Subsurface Storm filter Vault systems on Phases 1 and 2. *Table 4* below provides an overview of the redevelopment project required treatment area in addition to the proposed treatment measures on site. Given Phase 3 results in a reduction in impervious area, no treatment is required, or proposed onsite.

TABLE 4 - WATER QUALITY TREATMENT AREA		
	REQUIRED TREATMENT AREA*	PROPOSED TREATMENT AREA
PHASE 1 – 197 OXFORD STREET	1,889 SF	2,438 SF
PHASE 2 – 50 CEDAR STREET	1,969 SF	2,419 SF



TOTAL:	3,858 SF	4,857 SF
*Required Treatment Area based on 95% of new impervious area		

All treatment BMP's proposed for the development sites intend to utilize Stormfilter cartridges as a filter and have been designed to meet the requirements of the General Standards (Section 4.B) of the Chapter 500 by CONTECH Engineered Solutions LLC, Approved by the Maine DEP March 13th, 2015, last revised February 24th, 2023.

The StormFilter system proposed will provide further storage and release of a water quality volume through R-Tank subsurface chamber system. The StormFilters are proposed to provide treatment generated from the roof area. As it is not anticipated that oils and grease will be entering the StormFilter Cartridges the CONTECH provides various options of filter media for the targeted pollutant removal. Please refer to the Post Development Watershed Map for Phases 1 and 2 in Attachment B and the Civil Grading and Drainage Plans for more information on the proposed area to be treated.

In accordance with Contech's Stormfilter guidelines, each stormfilter vault system has been designed to treat the required Water Quality Volume and bypass the larger storm flows.

Treatment Area

Based on the approval letter by the MDEP when utilizing 18" cartridges it is recommended to use 34 cartridges per acre of impervious being treated. The project proposes to treat 0.11 acres of impervious surface within the Storm Filter Cartridges. See *Table 5* below:

Table 5 – StormFilter Cartridge Sizing				
	1-Year Peak Flow (cfs)	Area to be treated (acres):	Required Cartridges	Provided Cartridges
Phase 1 - Storm Filter Cartridges:	0.06	0.056	2	2
Phase 2 – Storm Filter Cartridges:	0.06	0.056	2	2
Overall		0.11	4	4
*StormFilter Vault sized with 18" Cartridges				

Per the MDEP StormFilter approval letter the system was sized to treat 90% of the average annual runoff volume.

As represented in *Table 6*, the site is in accordance with Chapter 500, General Standard rules and the MDEP approval letter for StormFilter treatment.

FLOODING STANDARDS – WATER QUANTITY

The proposed development anticipates connecting into the City's combined sewer system within Chestnut Street, further combining into the Lancaster Street Combined Sewer. The stormwater flows for a 24 hour - 1" rainfall storm over the entire redeveloped area, were computed to analyze each of the proposed on-site storage systems.

As part of the stormwater analysis, the existing sewer flows generated from the current building were analyzed. The analysis included a review of the existing water meter data (assumed to be equivalent to sewer discharge) for the existing buildings on 197 Oxford Street compared to the proposed sewer flows.

Table 6 below provides a comparison of the new sewer flows that the proposed development will add to the system as well as the runoff volume based on 1" of rainfall over the impervious area.

Detention on site is accomplished utilizing R-Tank subsurface chambers. The subsurface chamber systems have been sized to provide a storage volume for 1" of rainfall over the impervious area draining to the system. Table 6 below provides an overview of the stormwater detention provided on each site. The system was sized to meet the City's request and to drain between 24 to 48 hours.

Table 6: Required Detention Volume			
	Phase 1 - 197 Oxford Street:	Phase 2 – 50 Cedar Street:	Phase 3 – 158 Lancaster Street:
1" of rainfall over the redeveloped impervious area:	998 CF	643 CF	963 CF
Projected 24 hour daily sanitary flows:	770 CF (Net New: 340 CF)	385 CF	818 CF
R-Tank Storage Provided onsite:	1,015 CF	660 CF	1,015 CF

R-Tank Subsurface Stormwater Detention Systems

Each development site proposes a subsurface stormwater detention system utilizing the R-Tank System by Ferguson Waterworks, formerly manufactured by ACF Environmental.

The proposed subsurface storage systems will be utilizing double stacked R-tanks modules with various layouts to achieve the required/ proposed storage volume. Each of the systems' storage volume was measured by the available area within the R-Tank System and stone area from the bottom of the stone on the system to the invert of the overflow pipes out. Each system has been designed with a series of overflow pipes set below the top of the tanks, and underdrains set within the stone below the tanks to ensure the system can store the required volume and drain out between 24 to 48 hours after a storm.



The overflow pipes from the R-Tanks were set at the top of the system to ensure maximum storage is provided within the system prior to entering the overflow pipes. Each of the systems will utilize a series of wye connections and header pipes to relay the systems overflow from the R-Tank into a header pipe, to facilitate a single overflow pipe out of the R-Tank system, into the downstream stormwater infrastructure and furthermore into the City's Combined Sewer.

Each of the 4" underdrains from the R-Tank systems are intended to have a cap placed on the outfall pipe within the downstream F-Basin, with an orifice drilled into the cap eccentrically. The PVC cap can be easily inspected, removed, or replaced, if necessary, as accessed from a manhole.

The City has requested the outflow for a 1" storm event be equal to 0.1 CFS per acre of watershed area draining to the detention systems. To meet this request, the proposed orifice sizes on each system range from a 1" to 1.5" diameter. It should be noted that the R tank system is utilizing a 1" orifice for , which is typically the lowest diameter orifice that's considered best practice. Diameters lower than this size are less resilient to clogging from debris and therefore may inadvertently short circuit the system.

Please refer to the Grading and Drainage plans for Phases 1-3 and Civil Drainage Details Sheet 2 for more information on the R-Tank system proposed on each site.

Pre and Post Development Subcatchments:

Time of Concentration (Tc)

The times of concentration for subcatchments in both the pre and post conditions were calculated by entering the flow path with the associated ground cover and slopes. HydroCAD then calculated the Tc's and incorporated the total Tc for each subcatchment into the model. When the calculated Tc was less than six minutes (0.1 hours), a direct entry of six minutes was used as advised by the TR-55 model.

Curve Number (CN)

Within the pre-development model, the vegetated areas were generally considered fair or poor grass conditions due to the interrupted growth and lack of maintenance or robust plantings.

The post development landscaped areas were given a good rating for new landscaped or loam/seeded areas and fair rating for the vegetated areas to remain. Refer to the attached pre and post development maps provides a visual representation of the land covers from the pre and post conditions.

Pre and Post Development Calculations:

Each of the proposed project phases were modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25-year storm events were used. The corresponding rainfall amounts for these storms are 3.10", 4.60", and 5.80" respectively. Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering, Inc. to round to the nearest whole number. However, due to the small size of the project sites, the stormwater runoff was rounded to the nearest tenth of a cubic feet per second (cfs).

➤ **Phase 1 - 197 Oxford Street:**

The pre and post redevelopment surface runoff conditions maintained the same three general points of interest: Cedar Street, Oxford Street, and Chestnut Street. As the proposed development intends to tie into the Chestnut Street Combined sewer, the overall drainage point analyzed for the project was considered to be the Lancaster Street Combined Sewer which intercepts the Combined sewers within Cedar and Chestnut Street.

Table 7 below provides the pre and post development flows modeled in HydroCAD from Phase 1 of the proposed redevelopment project.

Table 7 – 197 OXFORD STREET: Comparison of Peak Flows for 197 Oxford Street at POI #99						
Drainage Area	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
POI #99*	0.7	0.5	1.2	1.2	1.6	1.6
*POI #99 is represented in the Post Development HydroCAD and is located at the Chestnut St. and Lancaster St. intersection and is the primary drainage point for the development for both pre and post conditions.						

➤ **Phase 2 – 50 Cedar Street:**

Given the parcel layout on 50 Cedar Street the catchments areas analyzed for the pre and post redevelopment conditions were divided into two catchments with various subcatchments within them.

Table 8 below provides the pre and post development flows modeled in HydroCAD from Phase 2 of the proposed redevelopment project.

Table 8 – 50 CEDAR STREET: Comparison of Peak Flows for 197 Oxford Street at POI #99						
Drainage Area	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
POI #99*	0.9	0.4	1.4	1.4	1.9	1.8

*POI #99 is represents Lancaster Street within the Post Development HydroCAD.

➤ **Phase 3 – 158 Lancaster Street:**

The pre and post site conditions will maintain the same overall drainage point being the Lancaster Street Combined Sewer. Currently the 158 Lancaster Street site is occupied by a surface parking lot with surface runoff sheeting towards Lancaster and Chestnut Street. Post development conditions proposed a subsurface R-Tank detention system on site which intends to collect and store flow generated from Subcatchment 1. The remainder of the site area is proposed to be captured through various F-Basins and field inlets. This area will then be combined with the discharge from the R-Tanks and further routed to the proposed doghouse manhole on the Chestnut Street combined sewer.

Table 9 below provides the pre and post development flows modeled in HydroCAD from Phase 3 of the proposed redevelopment project.

Table 9 – 158 LANCASTER STREET: Comparison of Peak Flows for 197 Oxford Street at POI #99						
Drainage Area	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
POI #99*	0.8	0.4	1.4	1.2	1.9	1.5
*POI #99 is represented in the Post Development HydroCAD and is located at the Chestnut St. and Lancaster St. intersection and is the primary drainage point for the development for both pre and post conditions.						

As shown in Tables 7-9, the project proposes to maintain or reduce the peak flows from each Phased Site. A post-development watershed map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment C of this report.

SOILS

Onsite soil information has been derived from the following resources:

- Soil Conservation Service Medium Intensity Soil Survey for York County

The site consists of soils within hydrological groups A, which have been inputted into HydroCAD accordingly. In accordance with Maine Best Management Practices (BMP). The USDA soil report has been submitted as part of this submission.



CONCLUSION

This narrative was prepared to demonstrate how the proposed development was designed to meet the City of Portland Stormwater requirements.

The site was designed with the intent to minimize the total area of impervious surface on the site and overall reducing both the volume and rate of runoff leaving the site. This was accomplished by providing an R-Tank subsurface stormwater storage system on each site to collect and detain stormwater runoff draining to each system to meet the water quantity standards. As demonstrated in this report, Stormwater quality is achieved through the use of subsurface Storm Filter cartridges on Phases 1 and 2 to treat approximately 25% and 50% of the proposed roof area, respectively.

Overall, the development will be reducing the flow rate leaving the parcel and into the City's combined sewer system from the pre to post development conditions. This is achieved through the use of subsurface storage systems to detain runoff onsite prior to discharging into the public system.

Please find the following attachments for more information on the stormwater analysis in addition to the proposed construction and maintenance plan for the development.

STORMWATER REPORT ATTACHMENTS:

- Attachment A.1: Pre-Development Watershed Map – Phase 1: 197 Oxford Street
- Attachment A.2: Pre-Development Watershed Map – Phase 2: 50 Cedar Street
- Attachment A.3: Pre-Development Watershed Map – Phase 3: 158 Lancaster Street

- Attachment B.1: Post-Development Watershed Map – Phase 1: 197 Oxford Street
- Attachment B.2: Post-Development Watershed Map – Phase 2: 50 Cedar Street
- Attachment B.3: Post-Development Watershed Map – Phase 3: 158 Lancaster Street

- Attachment C.1: HydroCAD Calculations – Phase 1: 197 Oxford Street
- Attachment C.2: HydroCAD Calculations – Phase 2: 50 Cedar Street
- Attachment C.3: HydroCAD Calculations – Phase 3: 158 Lancaster Street

- Attachment D: Soil Survey



SECTION J

STORMWATER MANAGMENT REPORT

Attachment A: Pre Development Watershed Map

PHASE 1 - 197 OXFORD STREET



SECTION J

STORMWATER MANAGMENT REPORT

Attachment A: Pre Development Watershed Map

PHASE 2 - 50 CEDAR STREET





ISSUED FOR	BY
JOINT MAJOR SITE PLAN APPLICATION	DATE
	7/2024
DRAWING NAME: PHASE 2- PRE DEVELOPMENT WATERSHED MAP	
PROJECT NAME: PHASE 2 -PHASED OXFORD STREET REDEVELOPMENT	
CLIENT: REVELER DEVELOPMENT 188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101	
ACO ENGINEERING, INC. ACO ENGINEERING, INC. PO BOX 3372, PORTLAND MAINE 04104 (207) 775-2655 THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACOB ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED WITHOUT LIABILITY TO ACOB ENGINEERING, INC.	
FILE: 1212.2_AE_CIVIL	
JN: 1212	
SCALE: AS NOTED	
DESIGNED BY: SUL	
DRAWN BY: DNM	
CHECKED BY: SUL	
DRAWING NO. PRE	

SECTION J

STORMWATER MANAGMENT REPORT

Attachment A: Pre Development Watershed Map

PHASE 3 - 158 LANCASTER STREET





SUBCATCHMENT LEGEND:

1

SUBCATCHMENT NUMBER

[Dashed Blue Box]

SUBCATCHMENT EXTENTS

POI #1

POINT OF INTEREST (POI)

1

POND

[Wavy Line]

FLOW PATH ARROWS

LEGEND:

EXISTING IMPERVIOUS AREAS:

EXISTING GREEN/ LANDSCAPED SPACE:

GENERAL NOTES:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

ISSUED FOR

JOINT SITE PLAN APPLICATION

BY

DATE

SJL

4/16/24

PHASE 3: PRE DEVELOPMENT WATERSHED MAP

PHASE 3 - PHASED OXFORD STREET REDEVELOPMENT

DRAWING NAME:

PROJECT NAME:

CLIENT:

ACORN ENGINEERING, INC.

1212_AE_CIVIL

ACORN ENGINEERING, INC.

PO BOX 3372, PORTLAND MAINE 04104

(207) 775-2655

JN:

SCALE:

DESIGNED BY:

DRAWN BY:

CHECKED BY:

1212

AS NOTED

SJL

DNM

SJL

DRAWING NO.

PRE

TM 26-A-12

N/F JAMES W. HALL

SARAH MICHNIEWICZ

23909/341

TM 26-A-8

N/F ALBERT

BRESETTE

7951/275

TM 26-A-10

N/F D. AMES

POI #99: LANCASTER STREET COMBINED SEWER

POI #1: CHESTNUT STREET COMBINED SEWER

CHESTNUT ST. TWO-WAY

LANCASTER ST. TWO-WAY

FEEDER LINE

FEEDER LINE

HALL COURT

10

0

10

20

SCALE: 1"=10'

PERMIT LEVEL

NOT ISSUED FOR

CONSTRUCTION

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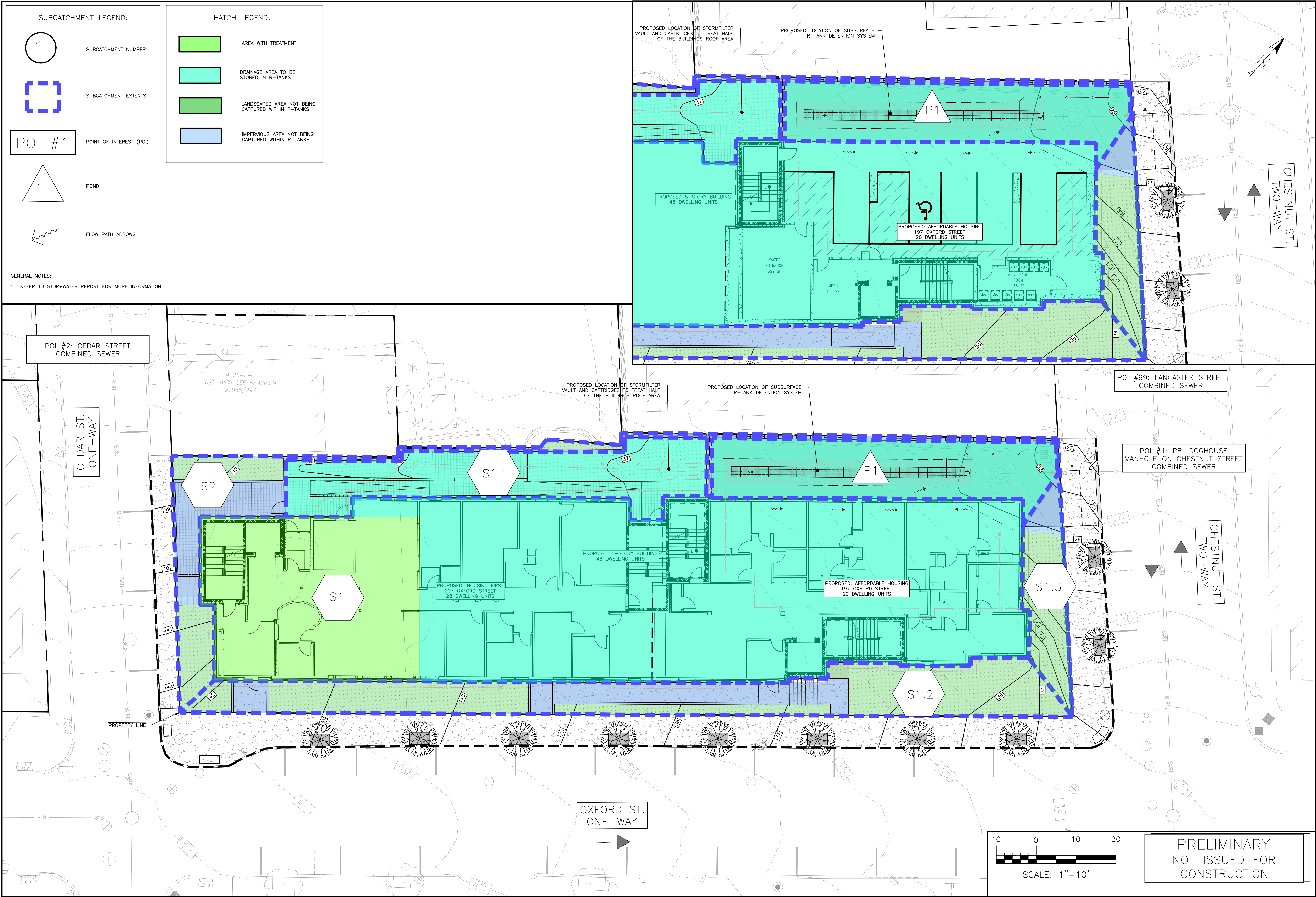
SECTION J

STORMWATER MANAGMENT REPORT

Attachment B: Post Development Watershed Map

PHASE 1 - 197 OXFORD STREET





ISSUED FOR	BY
JOINT MAJOR SITE PLAN APPLICATION	SJL
	7/11/22

POST RE-DEVELOPMENT WATERSHED MAP

PHASE 1 - PHASED OXFORD STREET REDEVELOPMENT

AVESTA HOUSING

307 CUMBERLAND AVE, PORTLAND, ME 04101

ACORN ENGINEERING, INC.

PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

FILE: 1212.1_AE_CWML
JN: 1212.1
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: DNM
CHECKED BY: SJL

STATE OF MAINE
SAMUEL J. LEBEL
16508
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
POST

SECTION J

STORMWATER MANAGMENT REPORT

Attachment B: Post Development Watershed Map

PHASE 2 - 50 CEDAR STREET





SUBCATCHMENT LEGEND:

1

SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1

POINT OF INTEREST (POI)

1

POND

FLOW PATH ARROWS

HATCH LEGEND:

AREA WITH TREATMENT

DRAINAGE AREA TO BE STORED IN R-TANKS

LANDSCAPED AREA NOT BEING CAPTURED WITHIN R-TANKS

IMPERVIOUS AREA NOT BEING CAPTURED WITHIN R-TANKS

GENERAL NOTES:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

ISSUED FOR
JOINT MAJOR SITE
PLAN APPLICATION

BY
DATE
S.J.L.
4/10/24

DRAWING NAME:
PHASE 2 – POST DEVELOPMENT WATERSHED MAP

PROJECT NAME:
PHASE 2 – PHASED OXFORD STREET REDEVELOPMENT

CLIENT:
REVELER DEVELOPMENT
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

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FILE: 1212.2_AE_CIVIL

JN: 1212

SCALE: AS NOTED

DESIGNED BY: SJL

DRAWN BY: DNM

CHECKED BY: SJL

STATE OF MAINE

SAMUEL J. LABEL

16596

REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.

POST

Page 131

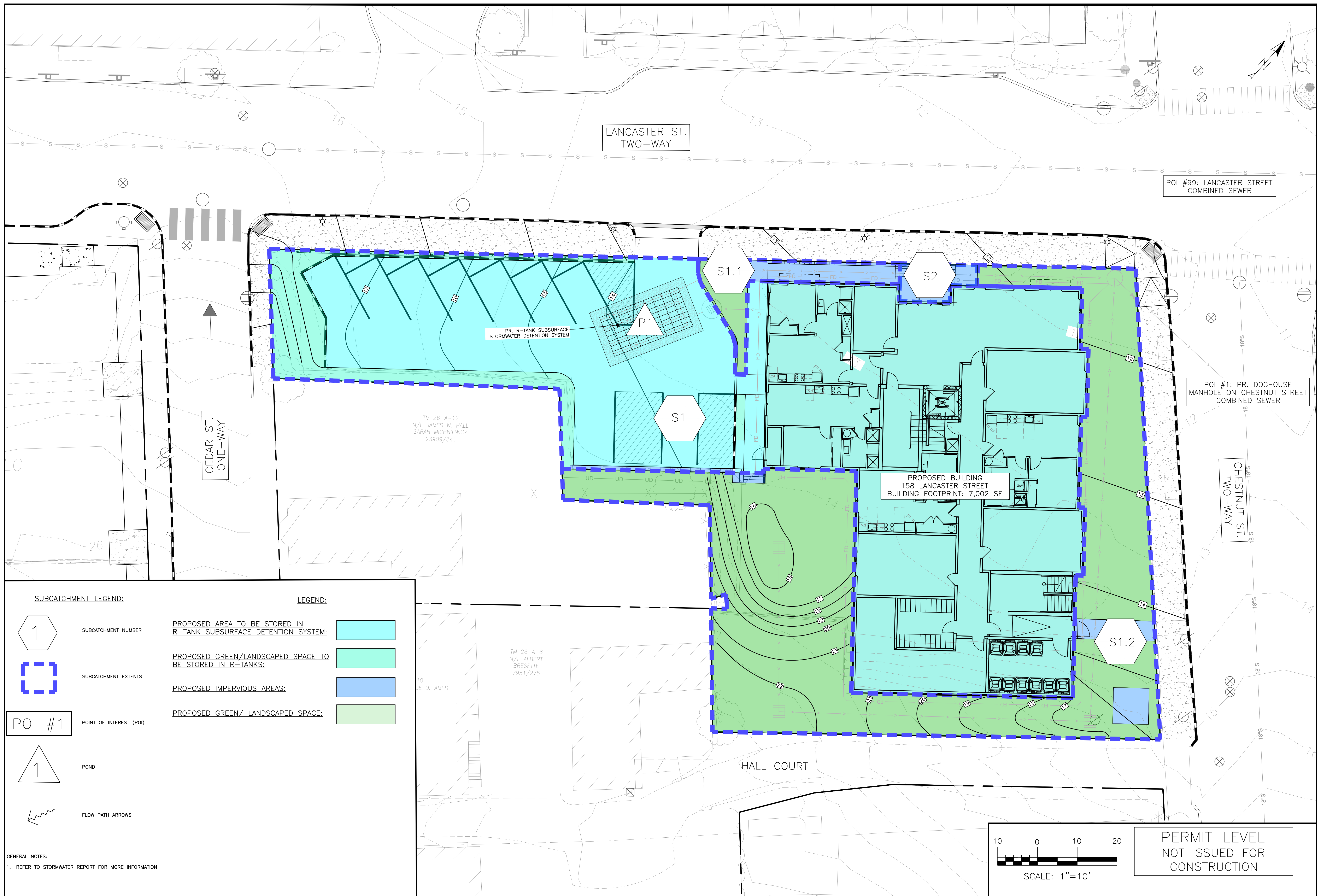
SECTION J

STORMWATER MANAGMENT REPORT

Attachment B: Post Development Watershed Map

PHASE 3 - 158 LANCASTER STREET



[illegible]

SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: HydroCAD Calculations

PHASE 1 - 197 OXFORD STREET



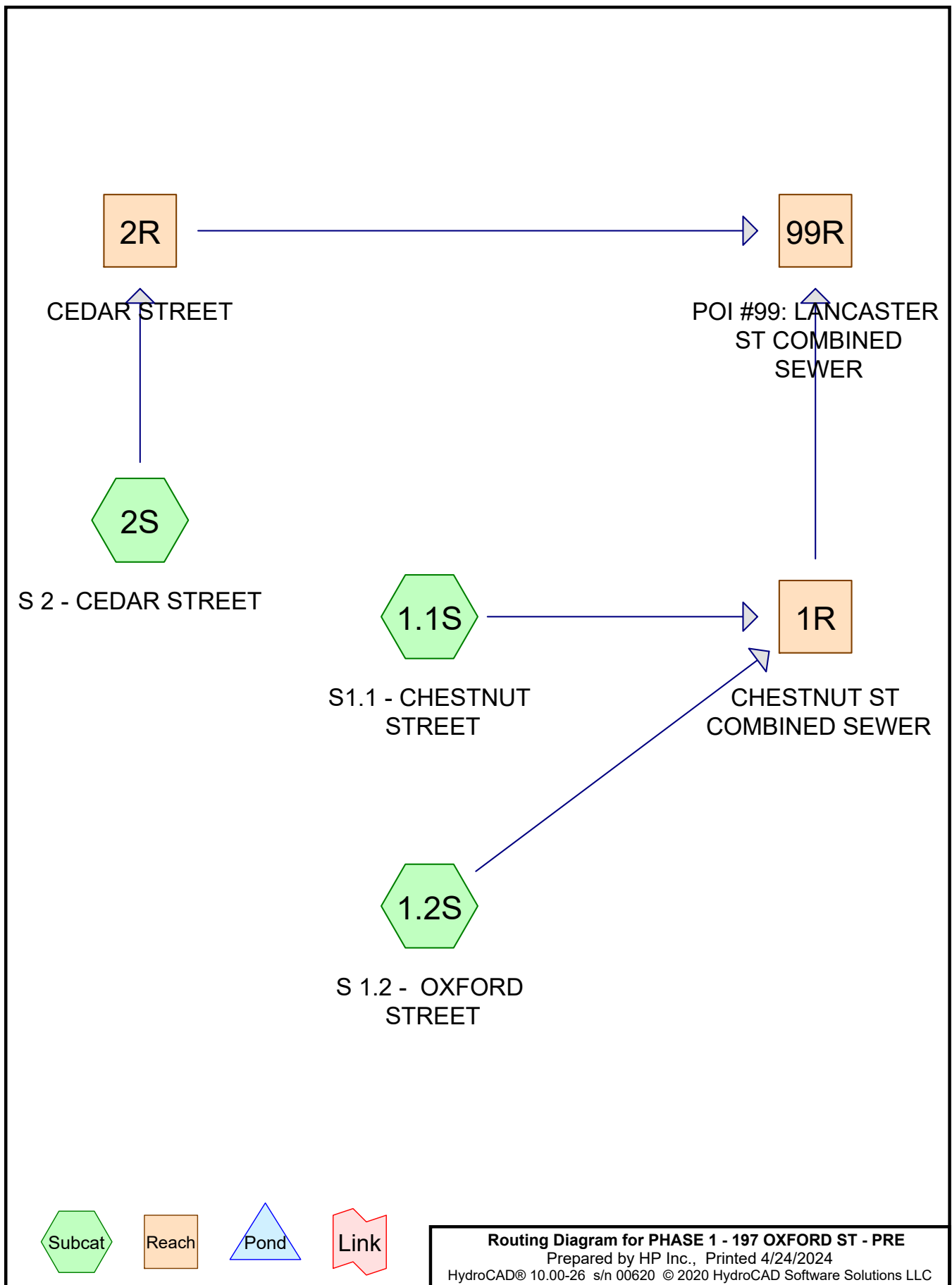
SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Pre Development HydroCAD

PHASE 1 - 197 OXFORD STREET





PHASE 1 - 197 OXFORD ST - PRE

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.121	68	<50% Grass cover, Poor, HSG A (1.1S, 2S)
0.016	48	Brush, Poor, HSG A (1.1S)
0.059	96	Gravel surface, HSG A (1.2S, 2S)
0.135	98	Roof (1.1S, 1.2S, 2S)
0.020	98	Unconnected pavement, HSG A (1.1S, 1.2S, 2S)
0.350	85	TOTAL AREA

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.216	HSG A	1.1S, 1.2S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.135	Other	1.1S, 1.2S, 2S
0.350		TOTAL AREA

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.121	0.000	0.000	0.000	0.000	0.121	<50% Grass cover, Poor	1.1S, 2S
0.016	0.000	0.000	0.000	0.000	0.016	Brush, Poor	1.1S
0.059	0.000	0.000	0.000	0.000	0.059	Gravel surface	1.2S, 2S
0.000	0.000	0.000	0.000	0.135	0.135	Roof	1.1S, 1.2S, 2S
0.020	0.000	0.000	0.000	0.000	0.020	Unconnected pavement	1.1S, 1.2S, 2S
0.216	0.000	0.000	0.000	0.135	0.350	TOTAL AREA	

PHASE 1 - 197 OXFORD ST - PRE*Type III 24-hr 2-year Rainfall=3.10"*

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Page 5

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S1.1 - CHESTNUT Runoff Area=7,971 sf 36.57% Impervious Runoff Depth=1.14"
Tc=6.0 min CN=77 Runoff=0.24 cfs 0.017 af

Subcatchment1.2S: S 1.2 - OXFORD Runoff Area=5,013 sf 69.14% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=0.34 cfs 0.026 af

Subcatchment2S: S 2 - CEDAR STREET Runoff Area=2,269 sf 15.16% Impervious Runoff Depth=1.67"
Tc=6.0 min CN=85 Runoff=0.10 cfs 0.007 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=0.58 cfs 0.044 af
Outflow=0.58 cfs 0.044 af

Reach 2R: CEDAR STREET Inflow=0.10 cfs 0.007 af
Outflow=0.10 cfs 0.007 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=0.68 cfs 0.051 af
Outflow=0.68 cfs 0.051 af

Total Runoff Area = 0.350 ac Runoff Volume = 0.051 af Average Runoff Depth = 1.75"
55.91% Pervious = 0.196 ac 44.09% Impervious = 0.154 ac

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Type III 24-hr 2-year Rainfall=3.10"

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Page 6

Summary for Subcatchment 1.1S: S1.1 - CHESTNUT STREET

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 1.14"

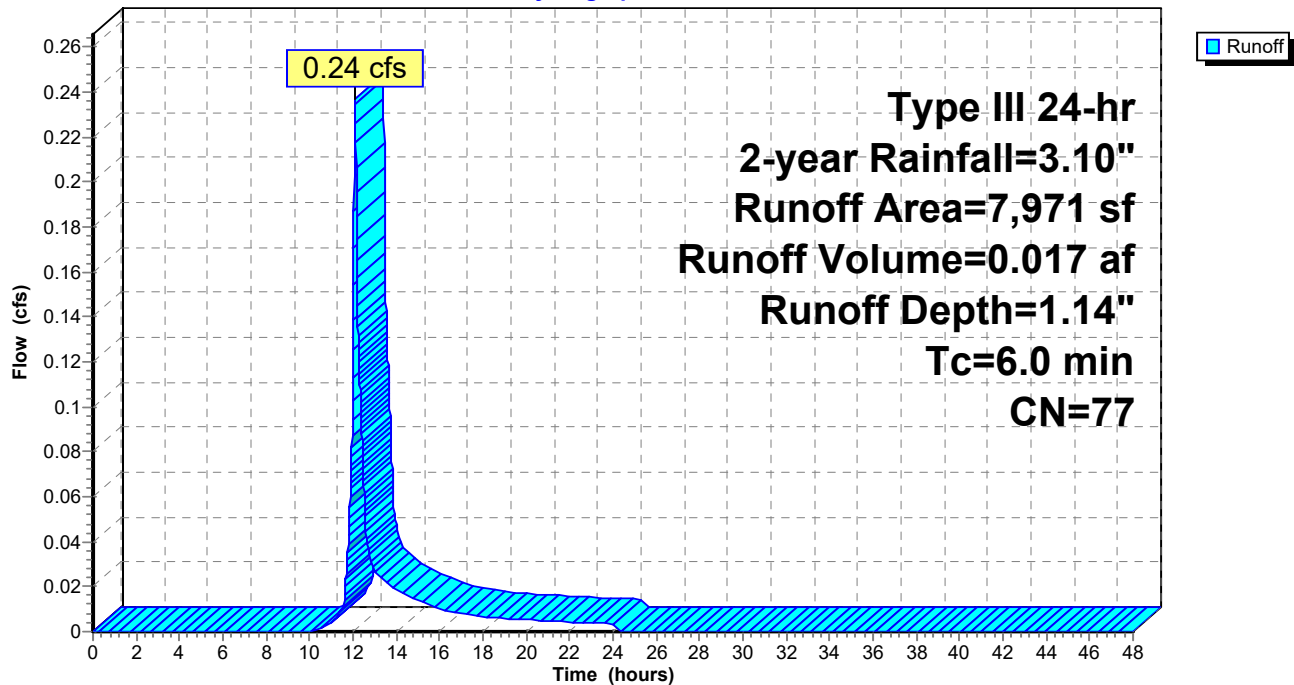
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,308	98	Roof
	607	98	Unconnected pavement, HSG A
	1,344	68	<50% Grass cover, Poor, HSG A
	690	48	Brush, Poor, HSG A
	3,022	68	<50% Grass cover, Poor, HSG A
	7,971	77	Weighted Average
	5,056		63.43% Pervious Area
	2,915		36.57% Impervious Area
	607		20.82% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S1.1 - CHESTNUT STREET

Hydrograph



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Page 7

Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.34 cfs @ 12.08 hrs, Volume= 0.026 af, Depth= 2.76"

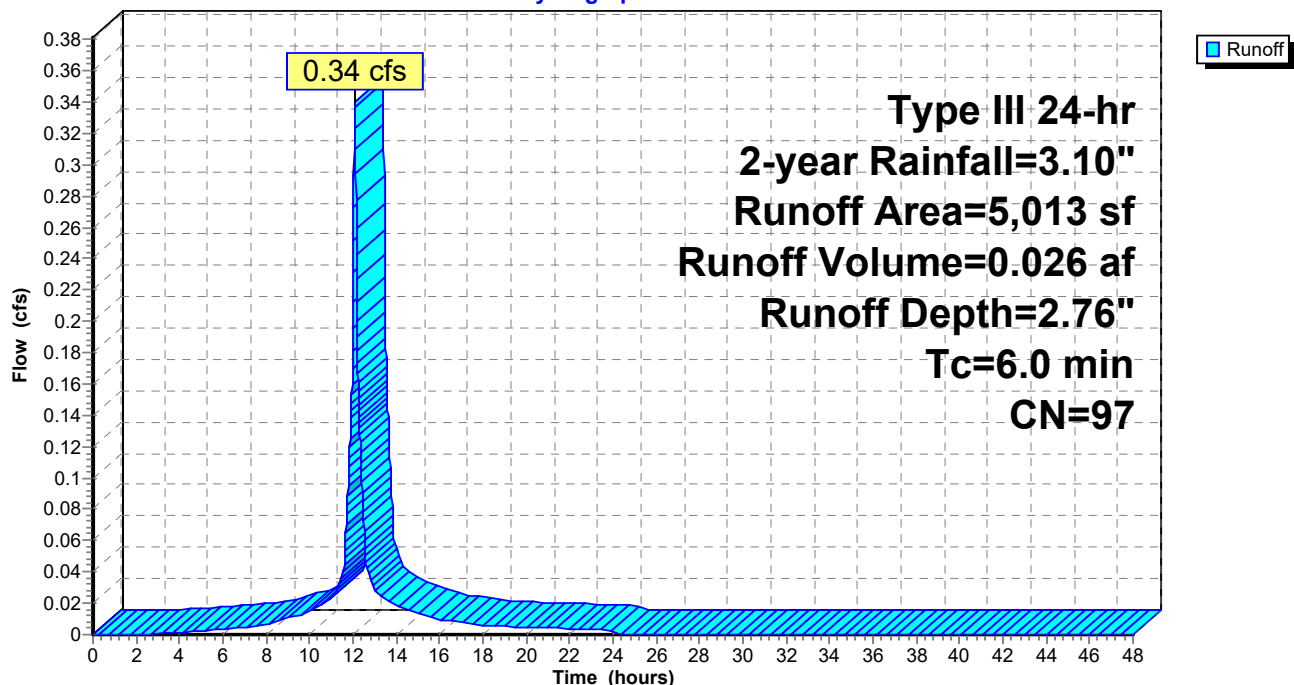
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,244	98	Roof
	222	98	Unconnected pavement, HSG A
	1,547	96	Gravel surface, HSG A
	5,013	97	Weighted Average
	1,547		30.86% Pervious Area
	3,466		69.14% Impervious Area
	222		6.41% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Page 8

Summary for Subcatchment 2S: S 2 - CEDAR STREET

Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af, Depth= 1.67"

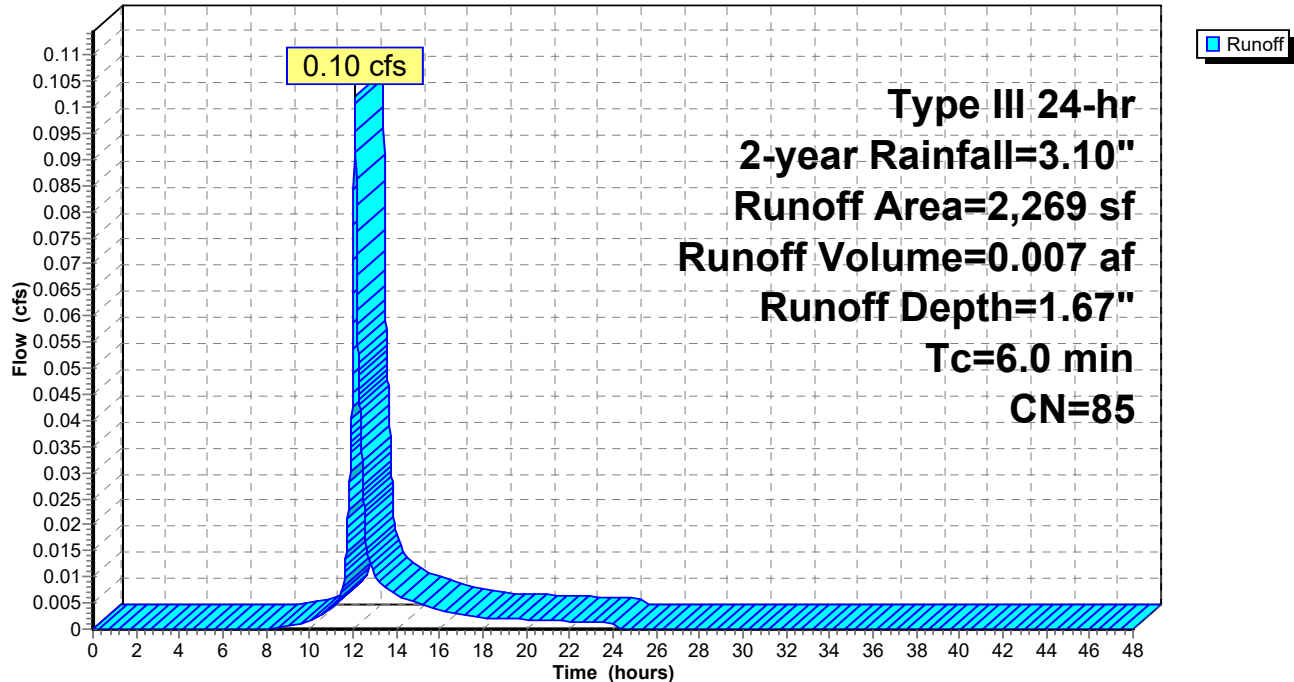
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	311	98	Roof
	33	98	Unconnected pavement, HSG A
	904	68	<50% Grass cover, Poor, HSG A
	1,021	96	Gravel surface, HSG A
	2,269	85	Weighted Average
	1,925		84.84% Pervious Area
	344		15.16% Impervious Area
	33		9.59% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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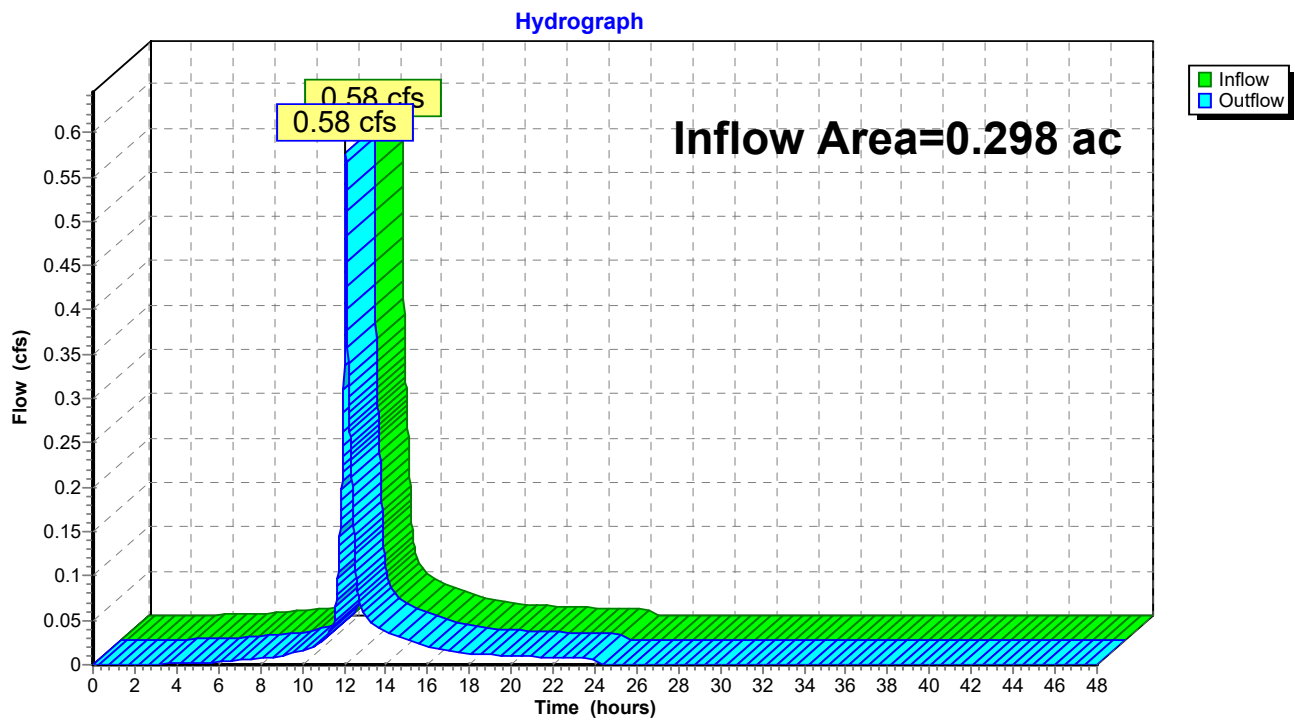
Page 9

Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.298 ac, 49.15% Impervious, Inflow Depth = 1.77" for 2-year event
Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af
Outflow = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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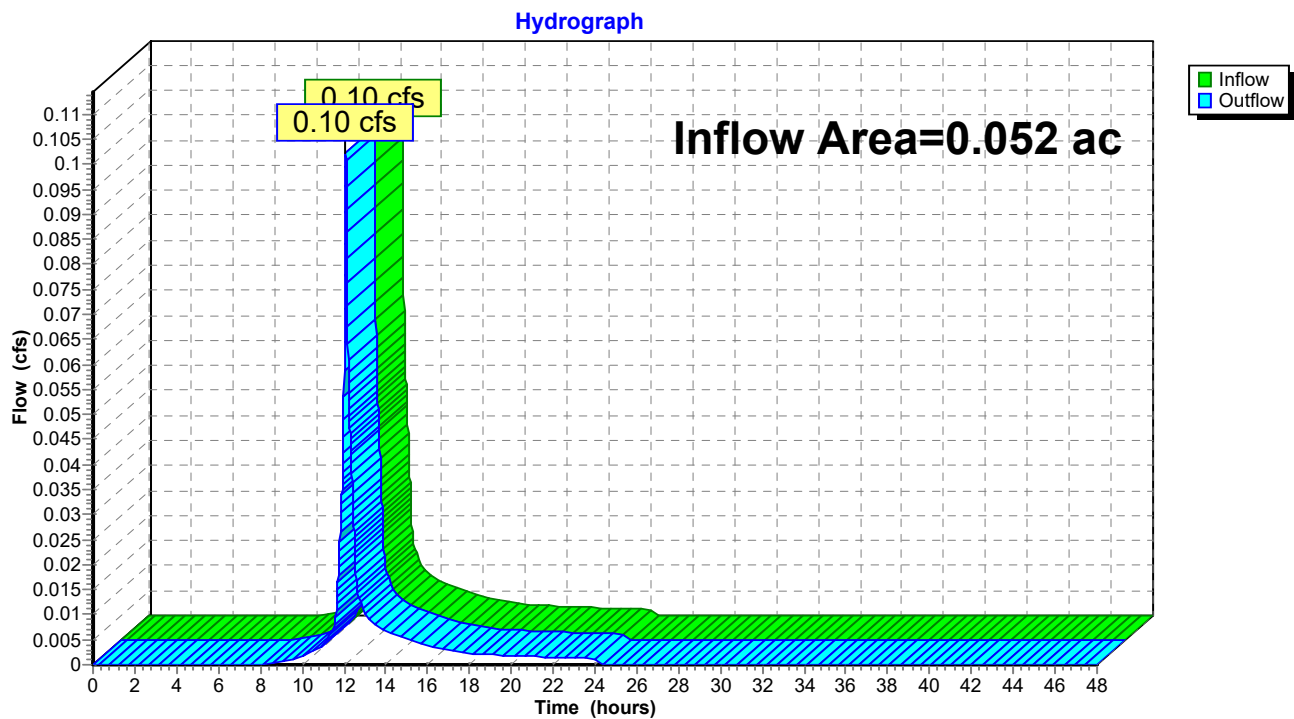
Page 10

Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.052 ac, 15.16% Impervious, Inflow Depth = 1.67" for 2-year event
Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af
Outflow = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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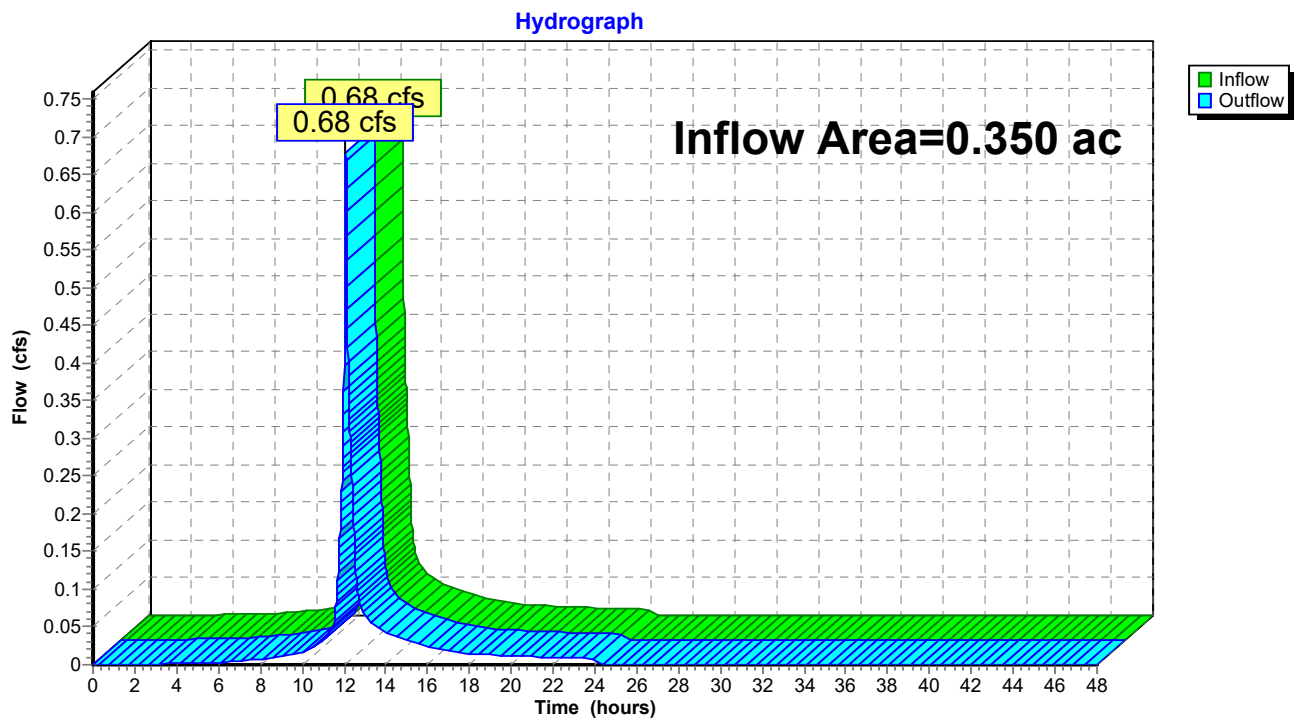
Page 11

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.350 ac, 44.09% Impervious, Inflow Depth = 1.75" for 2-year event
Inflow = 0.68 cfs @ 12.09 hrs, Volume= 0.051 af
Outflow = 0.68 cfs @ 12.09 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - PRE*Type III 24-hr 10-year Rainfall=4.60"*

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Page 12

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S1.1 - CHESTNUT Runoff Area=7,971 sf 36.57% Impervious Runoff Depth=2.29"
Tc=6.0 min CN=77 Runoff=0.49 cfs 0.035 af

Subcatchment1.2S: S 1.2 - OXFORD Runoff Area=5,013 sf 69.14% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=0.51 cfs 0.041 af

Subcatchment2S: S 2 - CEDAR STREET Runoff Area=2,269 sf 15.16% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=85 Runoff=0.18 cfs 0.013 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.00 cfs 0.076 af
Outflow=1.00 cfs 0.076 af

Reach 2R: CEDAR STREET Inflow=0.18 cfs 0.013 af
Outflow=0.18 cfs 0.013 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.19 cfs 0.089 af
Outflow=1.19 cfs 0.089 af

Total Runoff Area = 0.350 ac Runoff Volume = 0.089 af Average Runoff Depth = 3.04"
55.91% Pervious = 0.196 ac 44.09% Impervious = 0.154 ac

PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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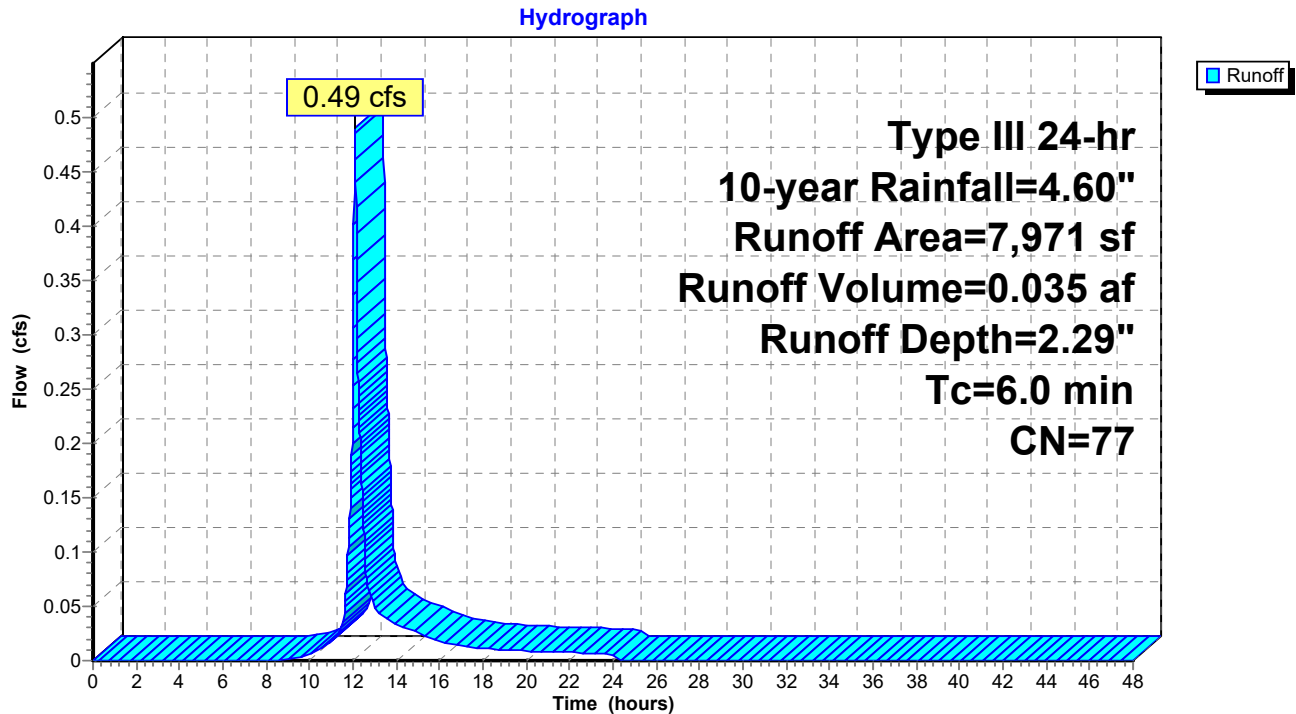
Summary for Subcatchment 1.1S: S1.1 - CHESTNUT STREET

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,308	98	Roof
	607	98	Unconnected pavement, HSG A
	1,344	68	<50% Grass cover, Poor, HSG A
	690	48	Brush, Poor, HSG A
	3,022	68	<50% Grass cover, Poor, HSG A
	7,971	77	Weighted Average
	5,056		63.43% Pervious Area
	2,915		36.57% Impervious Area
	607		20.82% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S1.1 - CHESTNUT STREET

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.041 af, Depth= 4.25"

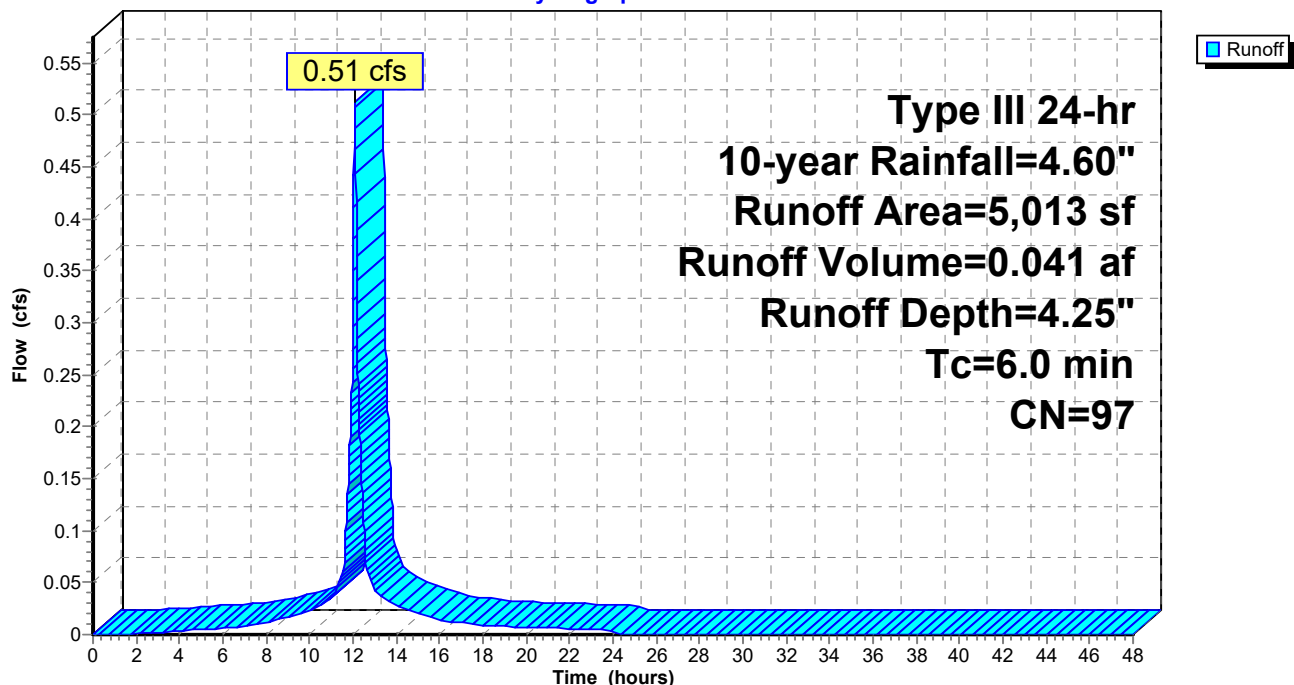
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	3,244	98	Roof
	222	98	Unconnected pavement, HSG A
	1,547	96	Gravel surface, HSG A
	5,013	97	Weighted Average
	1,547		30.86% Pervious Area
	3,466		69.14% Impervious Area
	222		6.41% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2S: S 2 - CEDAR STREET

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 3.00"

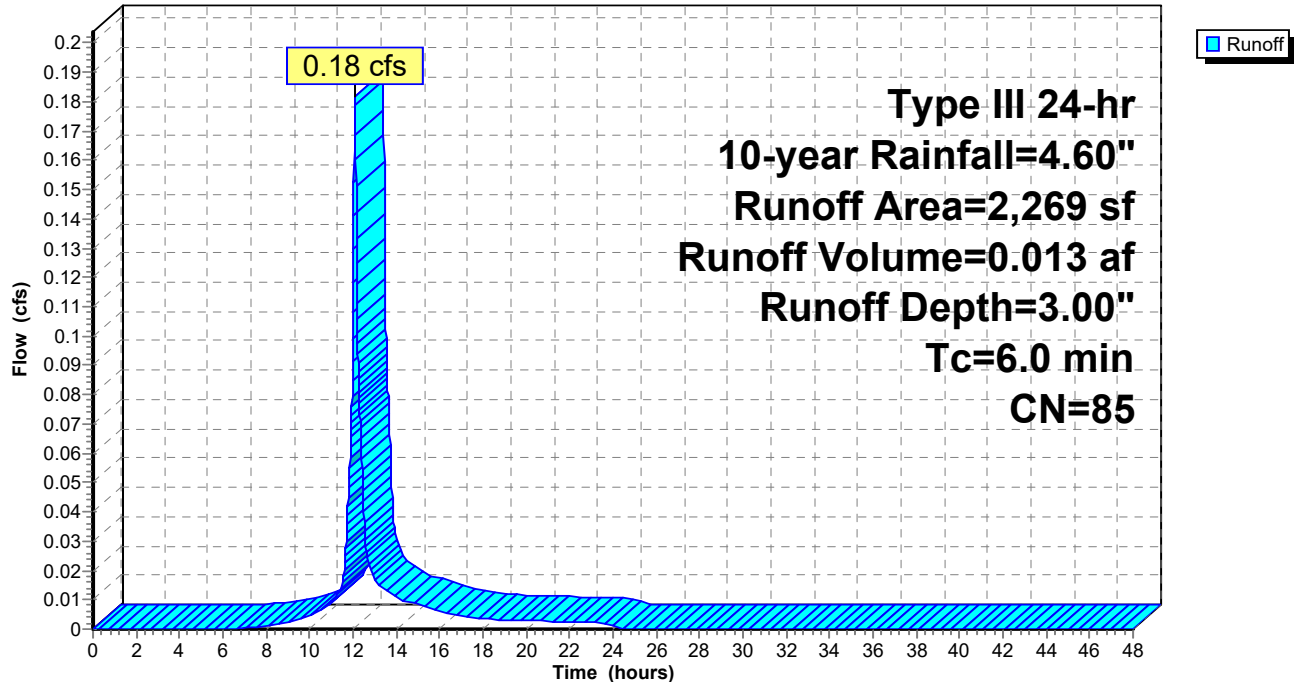
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	311	98	Roof
	33	98	Unconnected pavement, HSG A
	904	68	<50% Grass cover, Poor, HSG A
	1,021	96	Gravel surface, HSG A
	2,269	85	Weighted Average
	1,925		84.84% Pervious Area
	344		15.16% Impervious Area
	33		9.59% Unconnected

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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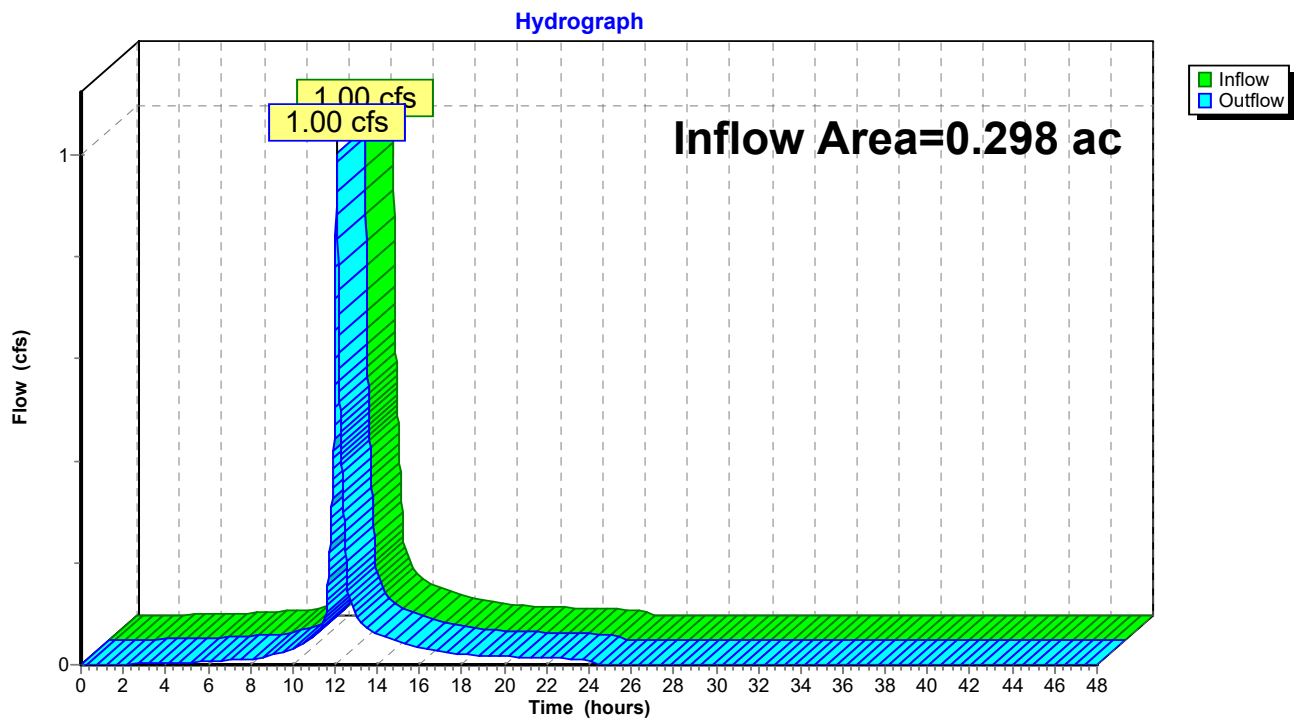
Page 16

Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.298 ac, 49.15% Impervious, Inflow Depth = 3.05" for 10-year event
Inflow = 1.00 cfs @ 12.09 hrs, Volume= 0.076 af
Outflow = 1.00 cfs @ 12.09 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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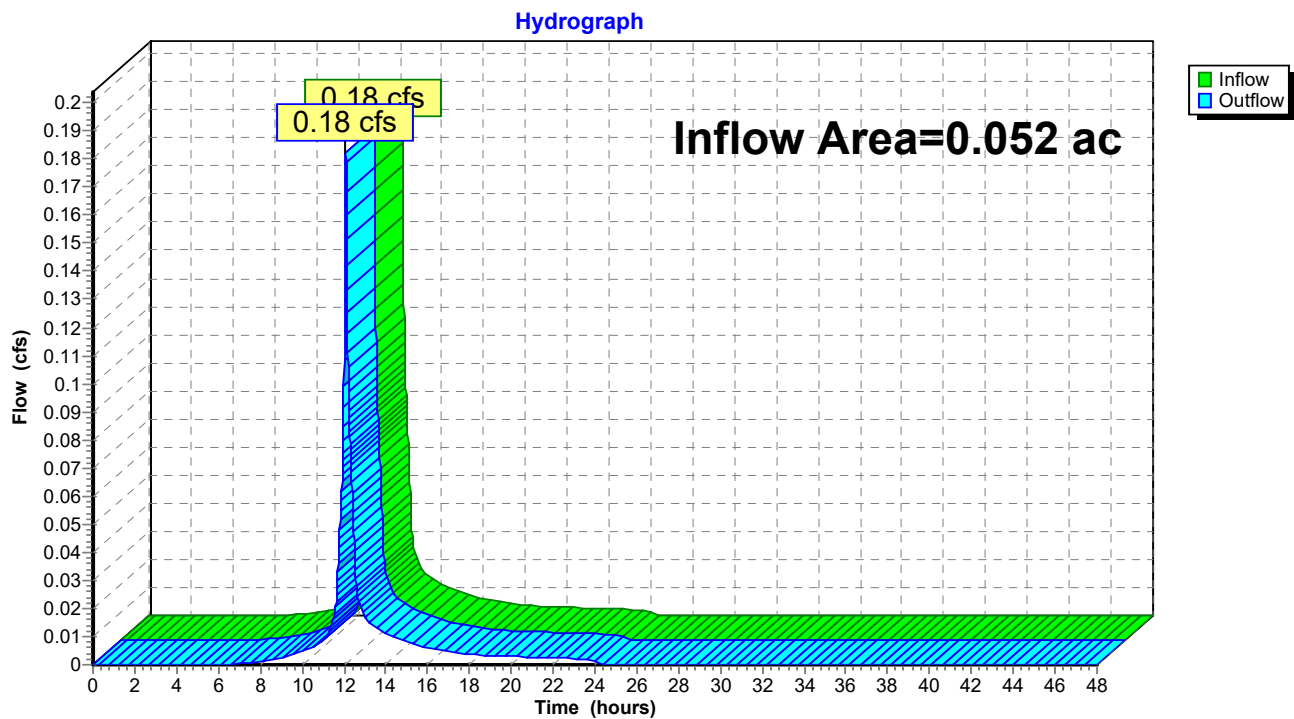
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Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.052 ac, 15.16% Impervious, Inflow Depth = 3.00" for 10-year event
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af
Outflow = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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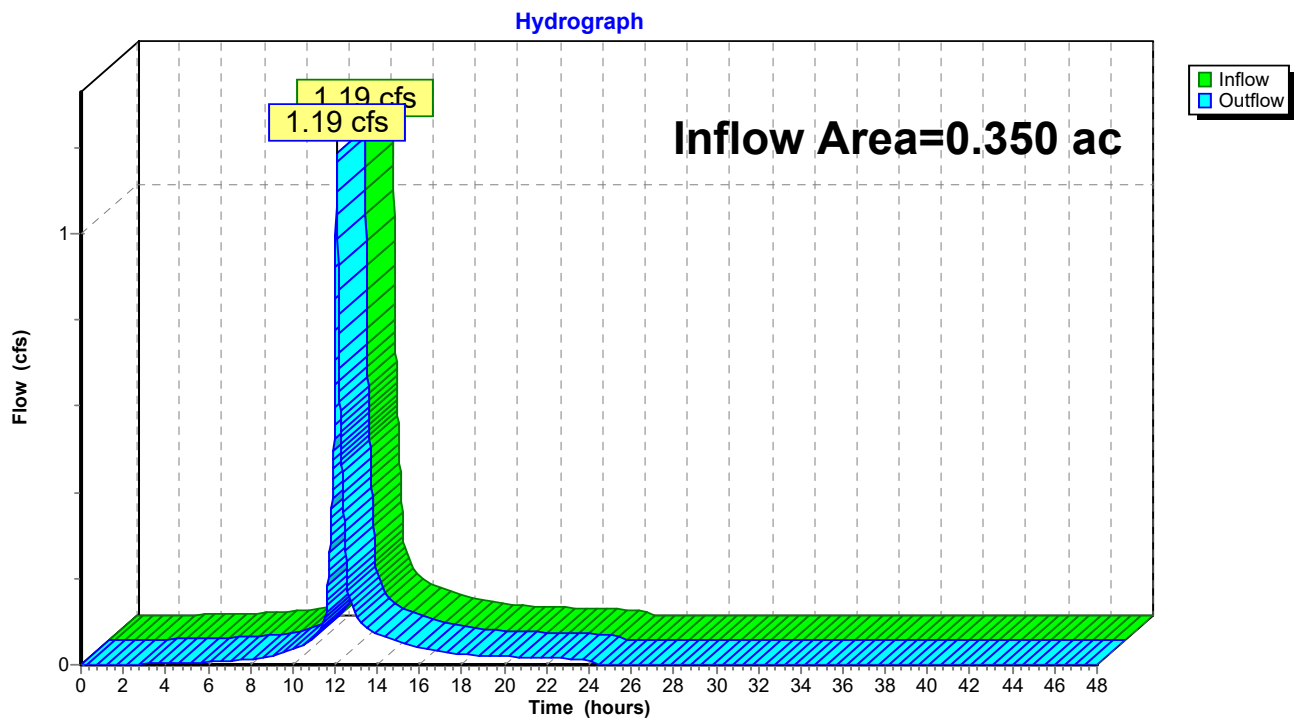
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Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.350 ac, 44.09% Impervious, Inflow Depth = 3.04" for 10-year event
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.089 af
Outflow = 1.19 cfs @ 12.09 hrs, Volume= 0.089 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - PRE*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S1.1 - CHESTNUT Runoff Area=7,971 sf 36.57% Impervious Runoff Depth=3.31"
Tc=6.0 min CN=77 Runoff=0.71 cfs 0.050 af

Subcatchment1.2S: S 1.2 - OXFORD Runoff Area=5,013 sf 69.14% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=0.65 cfs 0.052 af

Subcatchment2S: S 2 - CEDAR STREET Runoff Area=2,269 sf 15.16% Impervious Runoff Depth=4.11"
Tc=6.0 min CN=85 Runoff=0.25 cfs 0.018 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.36 cfs 0.103 af
Outflow=1.36 cfs 0.103 af

Reach 2R: CEDAR STREET Inflow=0.25 cfs 0.018 af
Outflow=0.25 cfs 0.018 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.61 cfs 0.120 af
Outflow=1.61 cfs 0.120 af

Total Runoff Area = 0.350 ac Runoff Volume = 0.120 af Average Runoff Depth = 4.13"
55.91% Pervious = 0.196 ac 44.09% Impervious = 0.154 ac

PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.1S: S1.1 - CHESTNUT STREET

Runoff = 0.71 cfs @ 12.09 hrs, Volume= 0.050 af, Depth= 3.31"

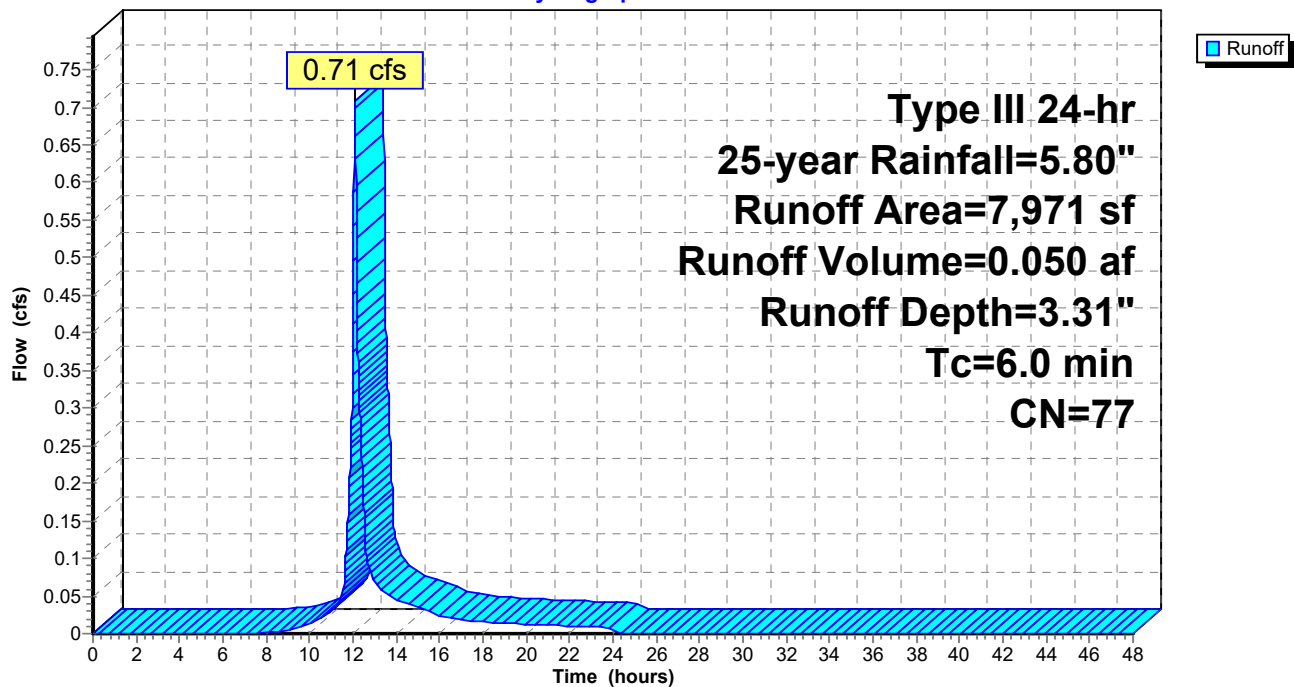
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,308	98	Roof
	607	98	Unconnected pavement, HSG A
	1,344	68	<50% Grass cover, Poor, HSG A
	690	48	Brush, Poor, HSG A
	3,022	68	<50% Grass cover, Poor, HSG A
	7,971	77	Weighted Average
	5,056		63.43% Pervious Area
	2,915		36.57% Impervious Area
	607		20.82% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S1.1 - CHESTNUT STREET

Hydrograph



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.65 cfs @ 12.08 hrs, Volume= 0.052 af, Depth= 5.44"

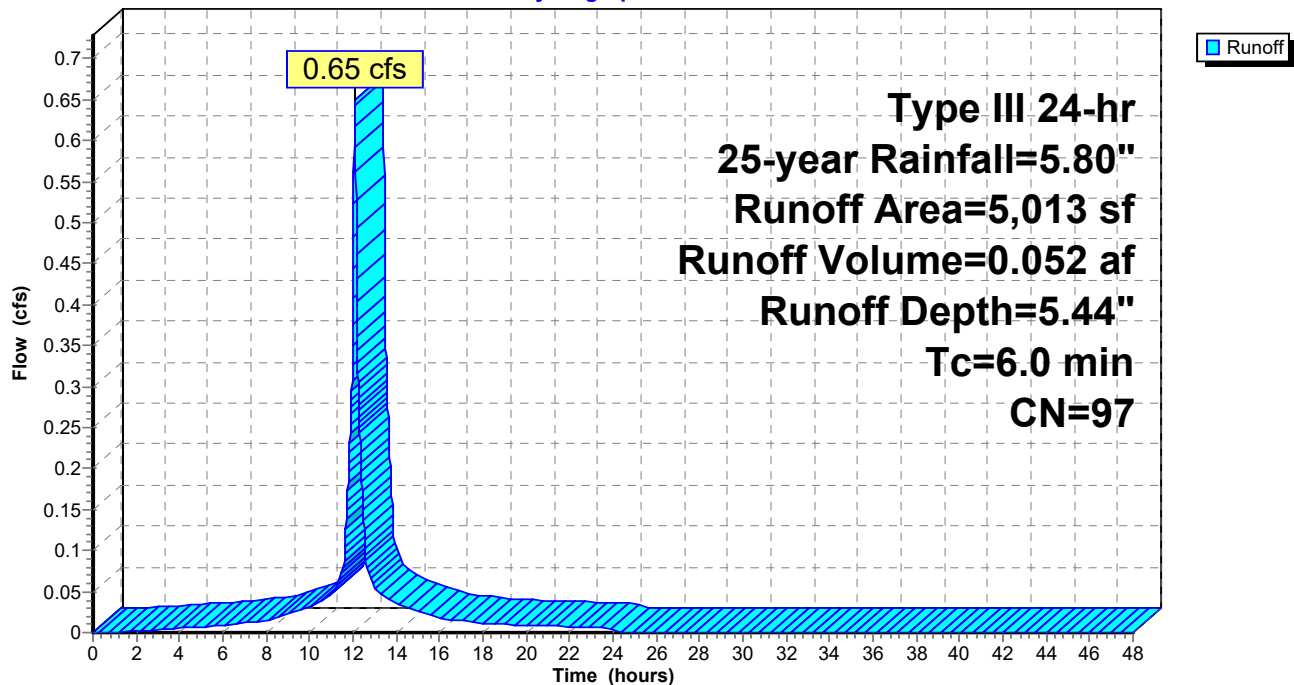
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,244	98	Roof
	222	98	Unconnected pavement, HSG A
	1,547	96	Gravel surface, HSG A
	5,013	97	Weighted Average
	1,547		30.86% Pervious Area
	3,466		69.14% Impervious Area
	222		6.41% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2S: S 2 - CEDAR STREET

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 4.11"

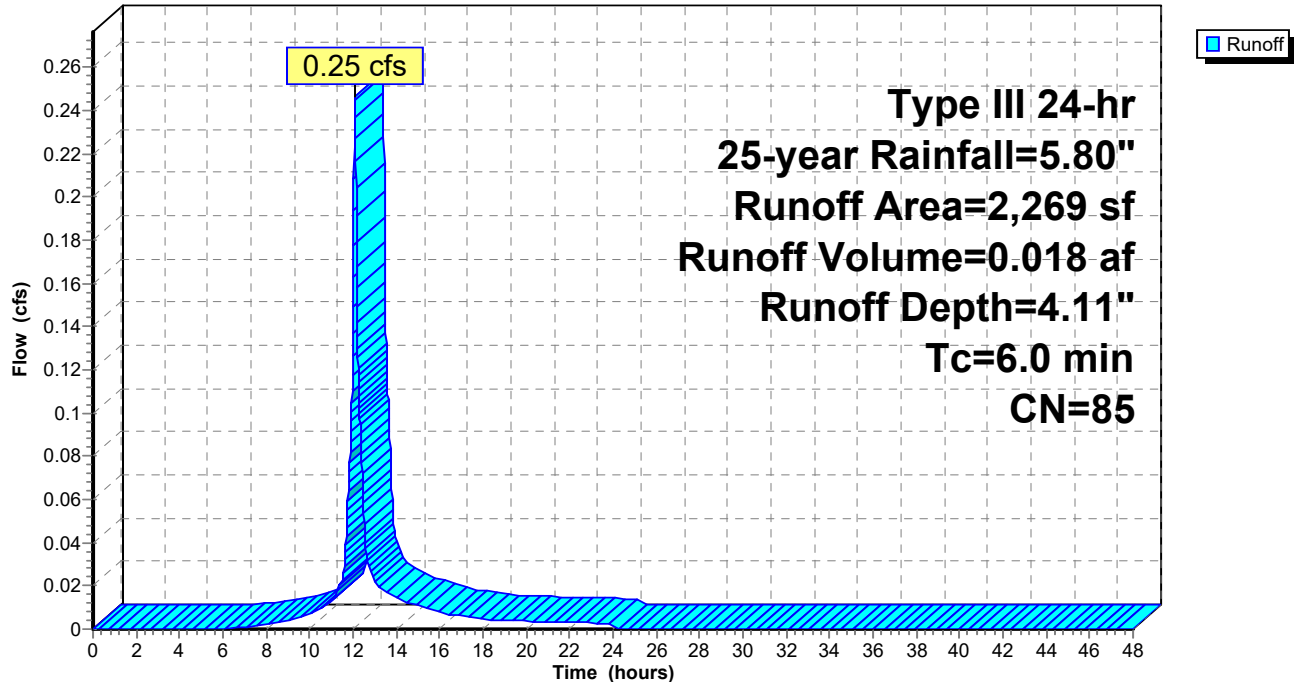
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	311	98	Roof
	33	98	Unconnected pavement, HSG A
	904	68	<50% Grass cover, Poor, HSG A
	1,021	96	Gravel surface, HSG A
	2,269	85	Weighted Average
	1,925		84.84% Pervious Area
	344		15.16% Impervious Area
	33		9.59% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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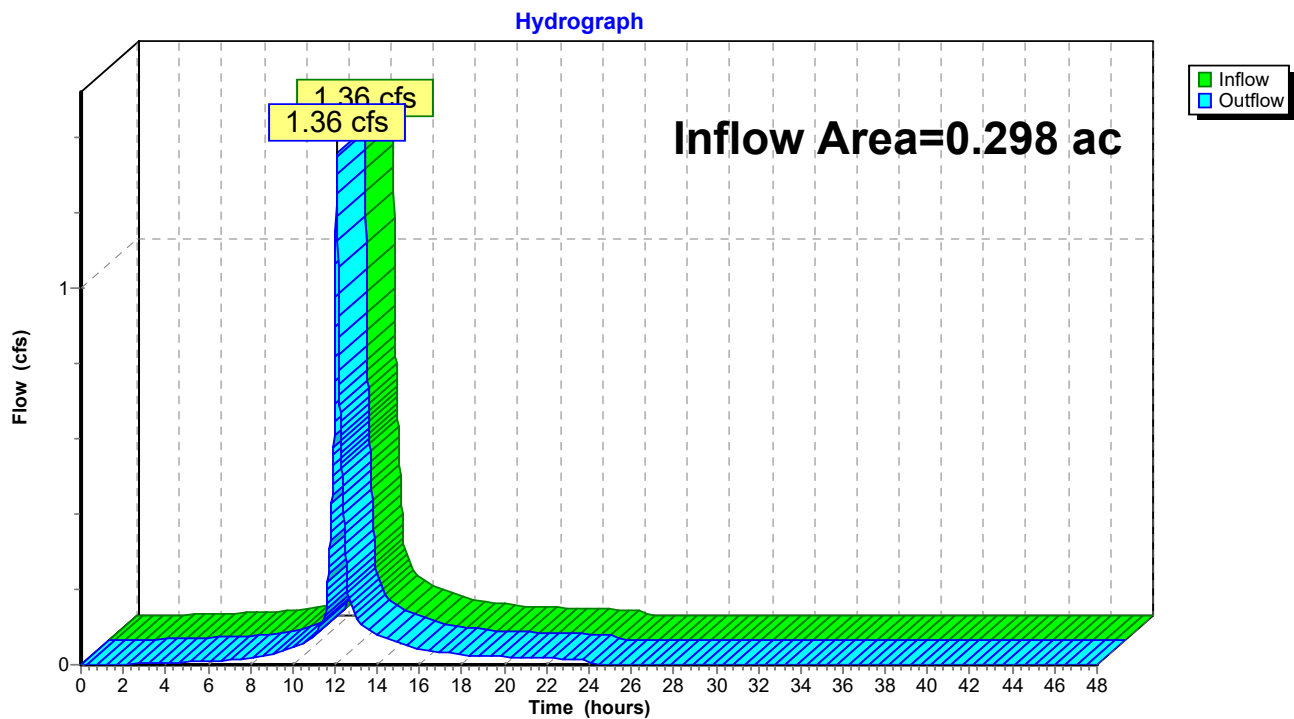
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.298 ac, 49.15% Impervious, Inflow Depth = 4.13" for 25-year event
Inflow = 1.36 cfs @ 12.09 hrs, Volume= 0.103 af
Outflow = 1.36 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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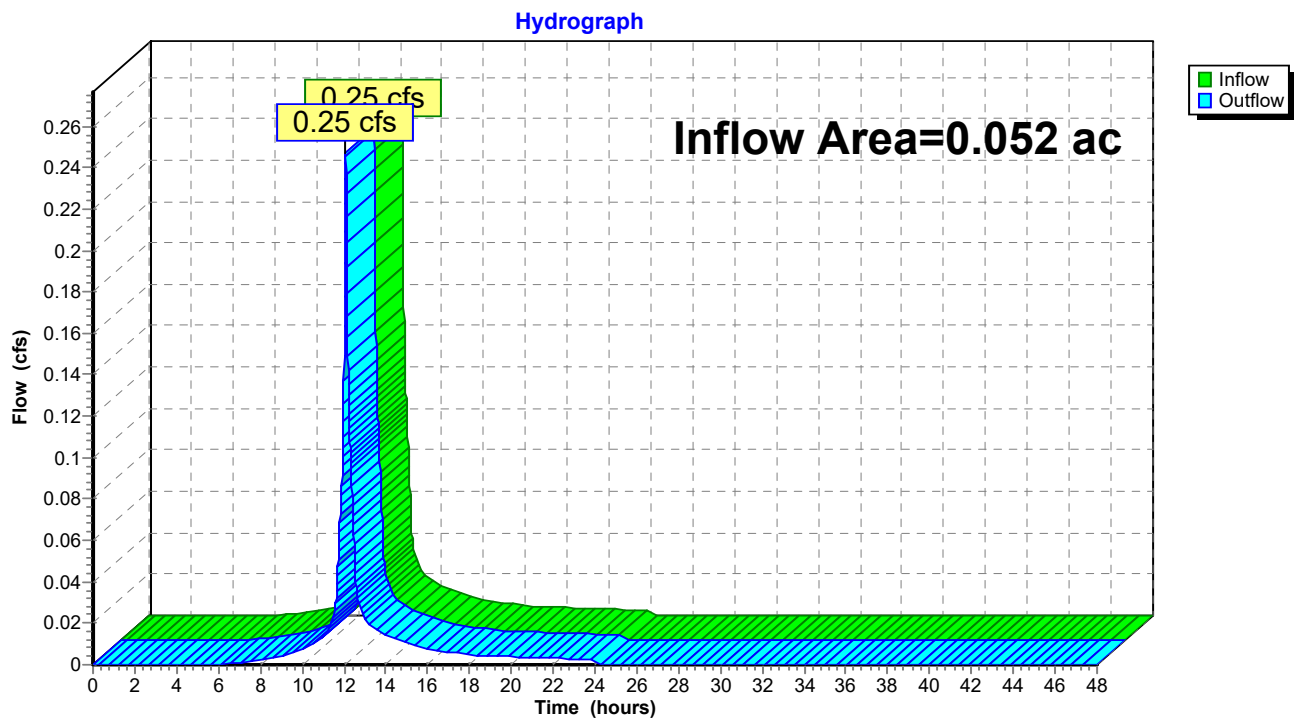
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Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.052 ac, 15.16% Impervious, Inflow Depth = 4.11" for 25-year event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 1 - 197 OXFORD ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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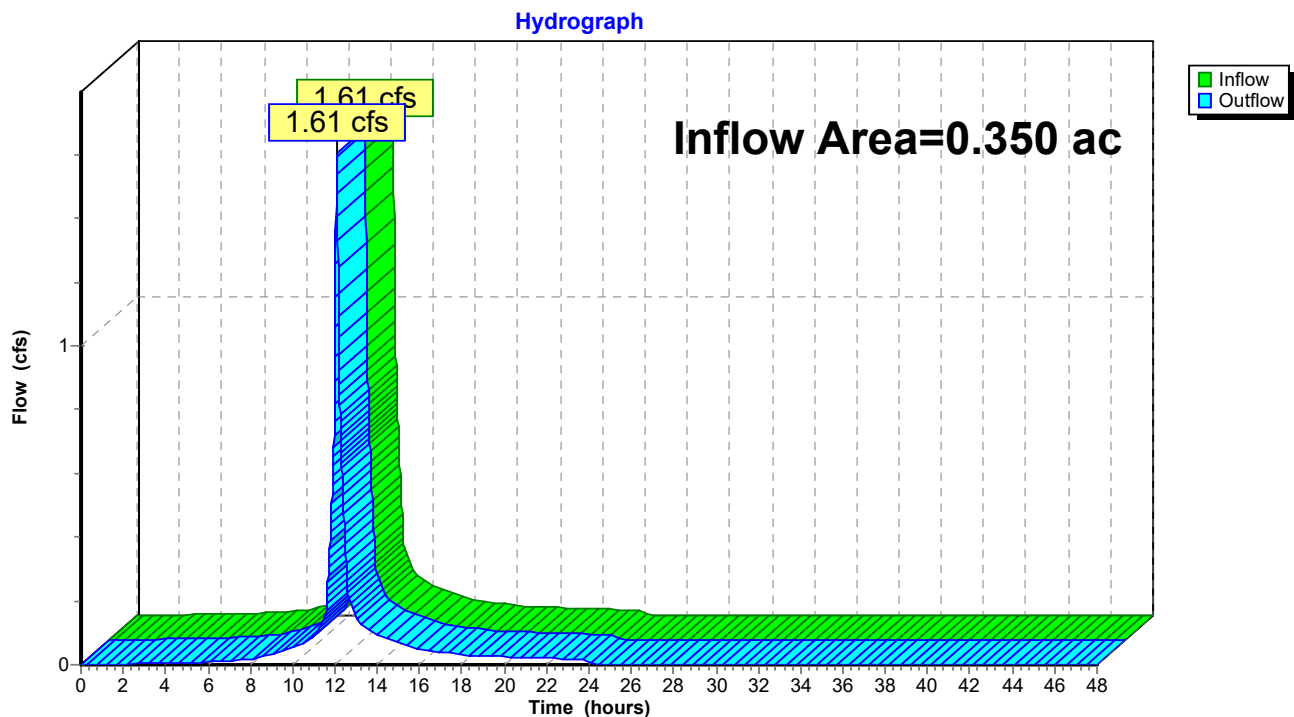
Page 25

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.350 ac, 44.09% Impervious, Inflow Depth = 4.13" for 25-year event
Inflow = 1.61 cfs @ 12.09 hrs, Volume= 0.120 af
Outflow = 1.61 cfs @ 12.09 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



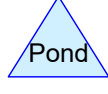
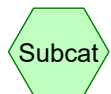
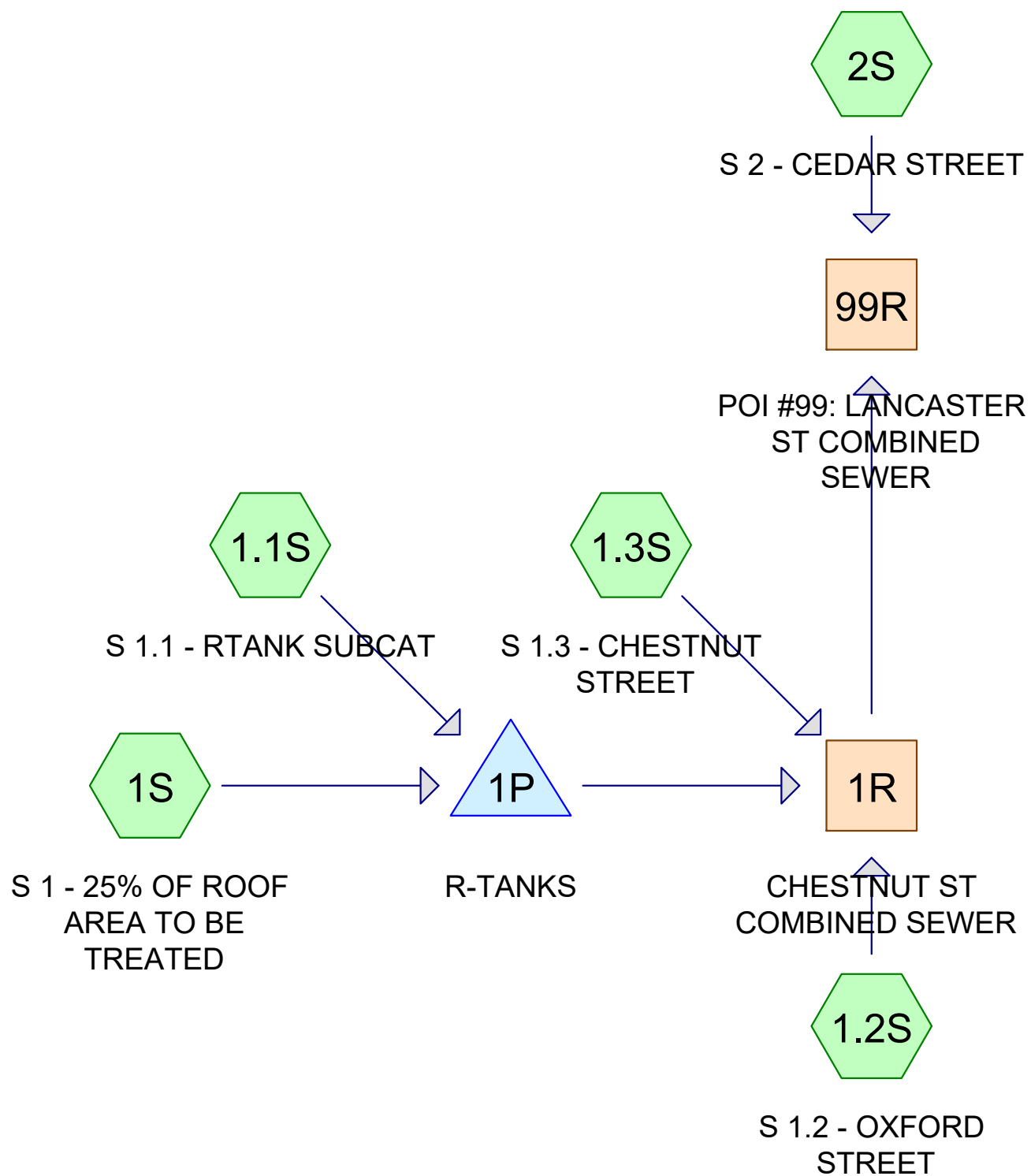
SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Post Development HydroCAD

PHASE 1 - 197 OXFORD STREET





Routing Diagram for PHASE 1 - 197 OXFORD ST - POST
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PHASE 1 - 197 OXFORD ST - POST

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.059	39	>75% Grass cover, Good, HSG A (1.1S, 1.2S, 2S)
0.068	98	Paved parking, HSG A (1.1S, 1.2S, 1.3S)
0.155	98	REMAINING ROOF AREA (1.1S)
0.052	98	Roofs, HSG A (1S)
0.015	98	Unconnected pavement, HSG A (1.3S, 2S)
0.349	88	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.194	HSG A	1.1S, 1.2S, 1.3S, 1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.155	Other	1.1S
0.349		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.059	0.000	0.000	0.000	0.000	0.059	>75% Grass cover, Good	1.1S, 1.2S, 2S
0.068	0.000	0.000	0.000	0.000	0.068	Paved parking	1.1S, 1.2S, 1.3S
0.000	0.000	0.000	0.000	0.155	0.155	REMAINING ROOF AREA	1.1S
0.052	0.000	0.000	0.000	0.000	0.052	Roofs	1S
0.015	0.000	0.000	0.000	0.000	0.015	Unconnected pavement	1.3S, 2S
0.194	0.000	0.000	0.000	0.155	0.349	TOTAL AREA	

PHASE 1 - 197 OXFORD ST - POST*Type III 24-hr 2-year Rainfall=3.10"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S 1.1 - RTANK SUBCAT Runoff Area=9,399 sf 93.32% Impervious Runoff Depth=2.45"
Tc=6.0 min CN=94 Runoff=0.59 cfs 0.044 af

Subcatchment1.2S: S 1.2 - OXFORD Runoff Area=2,048 sf 27.15% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=55 Runoff=0.00 cfs 0.001 af

Subcatchment1.3S: S 1.3 - CHESTNUT Runoff Area=589 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment1S: S 1 - 25% OF ROOF Runoff Area=2,253 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.012 af

Subcatchment2S: S 2 - CEDAR STREET Runoff Area=920 sf 49.24% Impervious Runoff Depth=0.68"
Tc=6.0 min CN=68 Runoff=0.01 cfs 0.001 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=0.49 cfs 0.060 af
Outflow=0.49 cfs 0.060 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=0.50 cfs 0.061 af
Outflow=0.50 cfs 0.061 af

Pond 1P: R-TANKS Peak Elev=26.08' Storage=856 cf Inflow=0.75 cfs 0.056 af
Outflow=0.46 cfs 0.055 af

Total Runoff Area = 0.349 ac Runoff Volume = 0.062 af Average Runoff Depth = 2.12"
17.01% Pervious = 0.059 ac 82.99% Impervious = 0.290 ac

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Type III 24-hr 2-year Rainfall=3.10"

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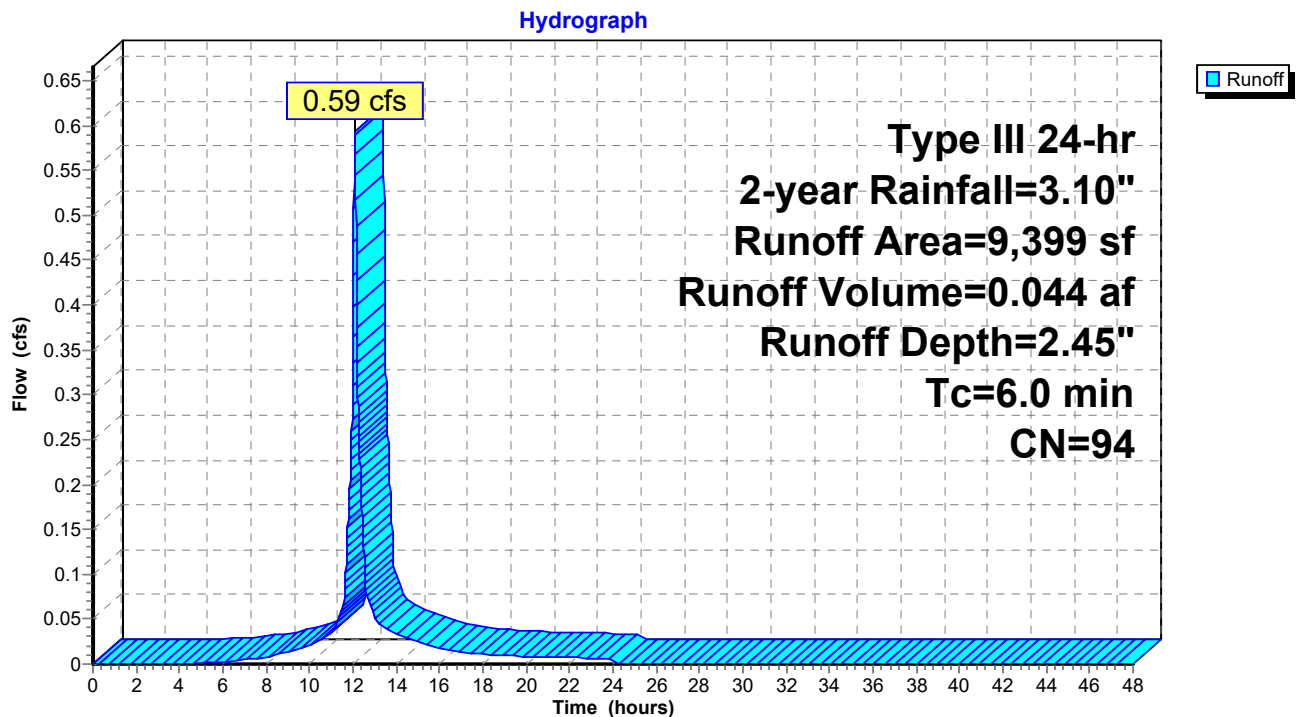
Summary for Subcatchment 1.1S: S 1.1 - RTANK SUBCAT

Runoff = 0.59 cfs @ 12.08 hrs, Volume= 0.044 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
2,011	98	Paved parking, HSG A
628	39	>75% Grass cover, Good, HSG A
* 6,760	98	REMAINING ROOF AREA
9,399	94	Weighted Average
628	39	6.68% Pervious Area
8,771	98	93.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1.1 - RTANK SUBCAT

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.00 cfs @ 12.35 hrs, Volume= 0.001 af, Depth= 0.22"

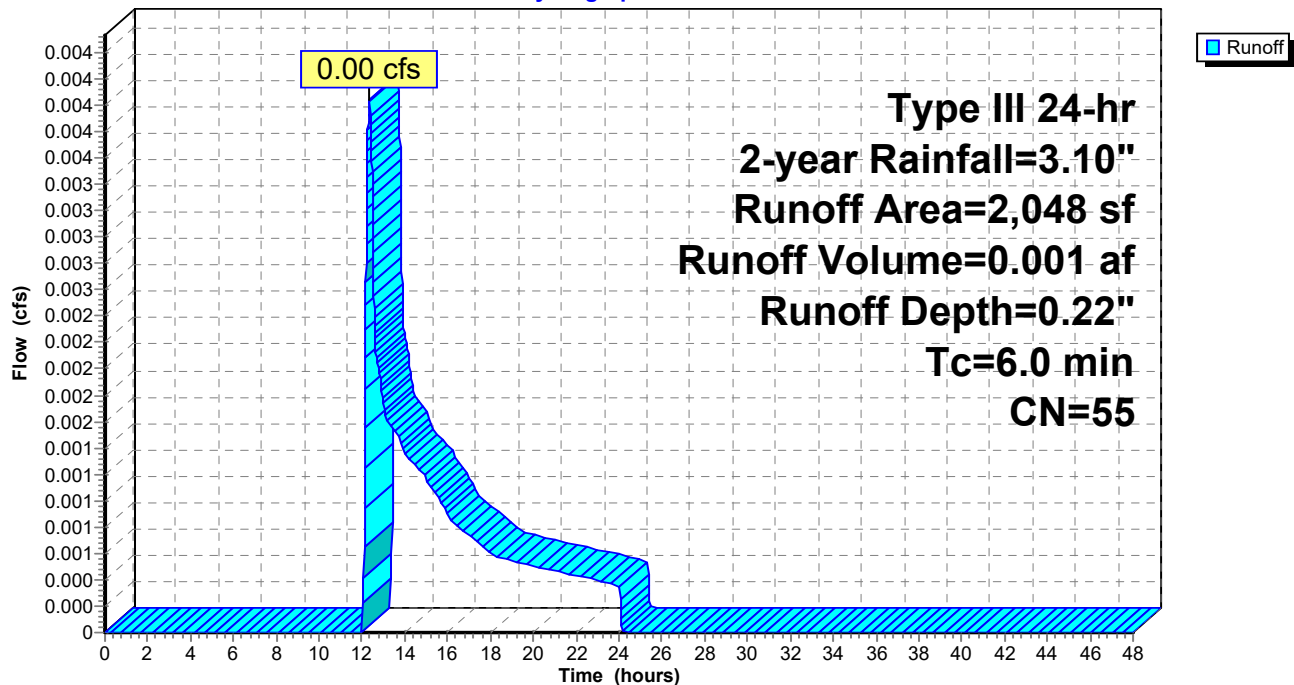
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
556	98	Paved parking, HSG A
1,492	39	>75% Grass cover, Good, HSG A
2,048	55	Weighted Average
1,492	39	72.85% Pervious Area
556	98	27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.3S: S 1.3 - CHESTNUT STREET

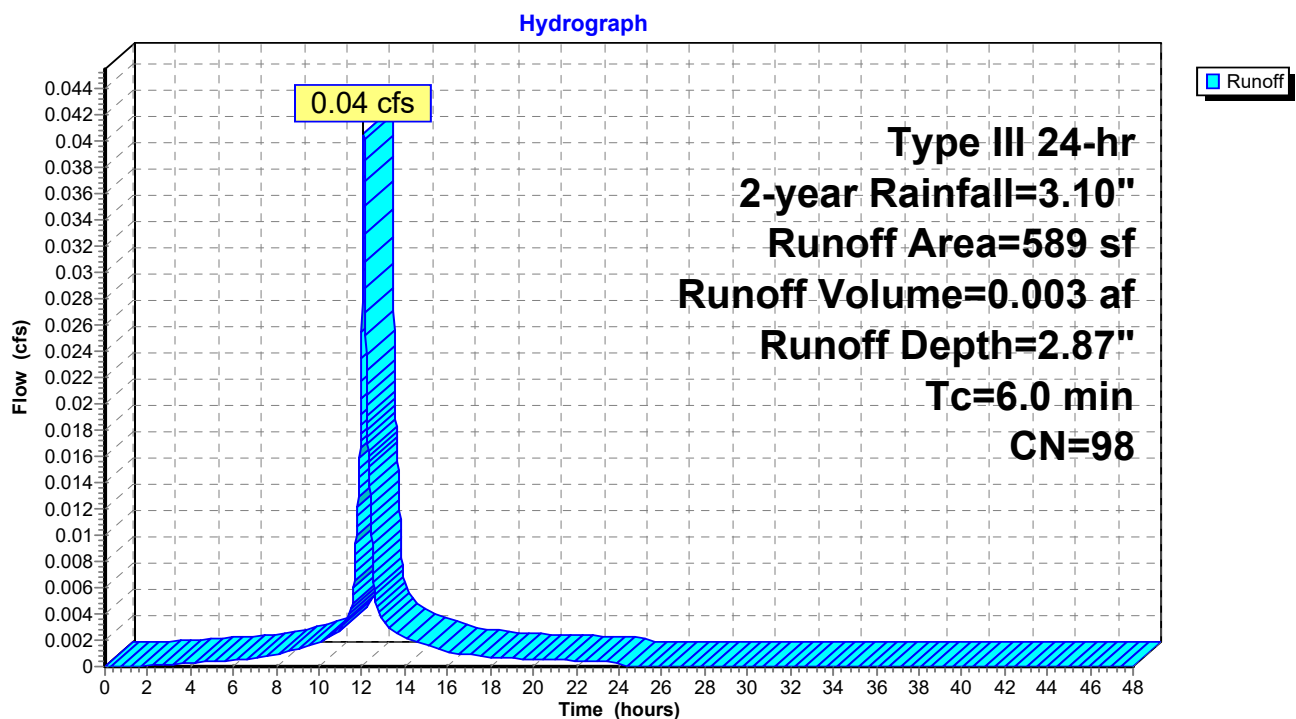
Runoff = 0.04 cfs @ 12.08 hrs, Volume= 0.003 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
190	98	Unconnected pavement, HSG A
399	98	Paved parking, HSG A
589	98	Weighted Average
589	98	100.00% Impervious Area
190		32.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - CHESTNUT STREET



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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 2.87"

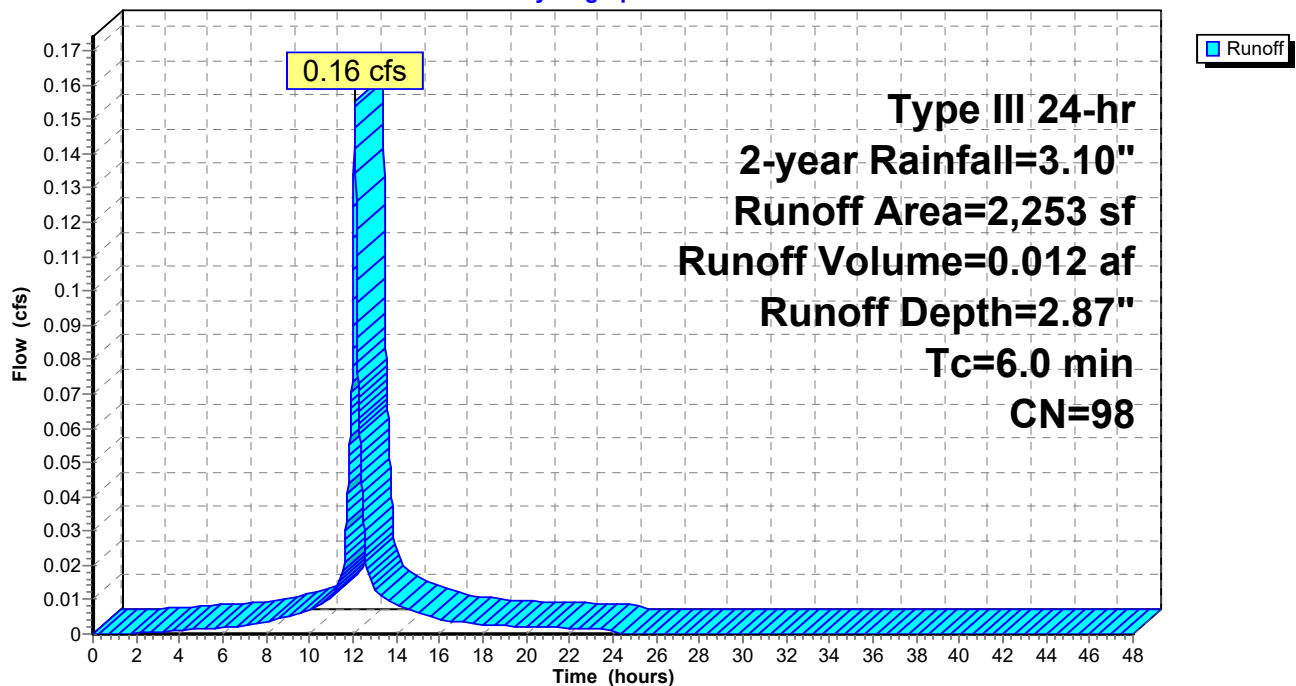
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
2,253	98	Roofs, HSG A
2,253	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2S: S 2 - CEDAR STREET

Runoff = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Depth= 0.68"

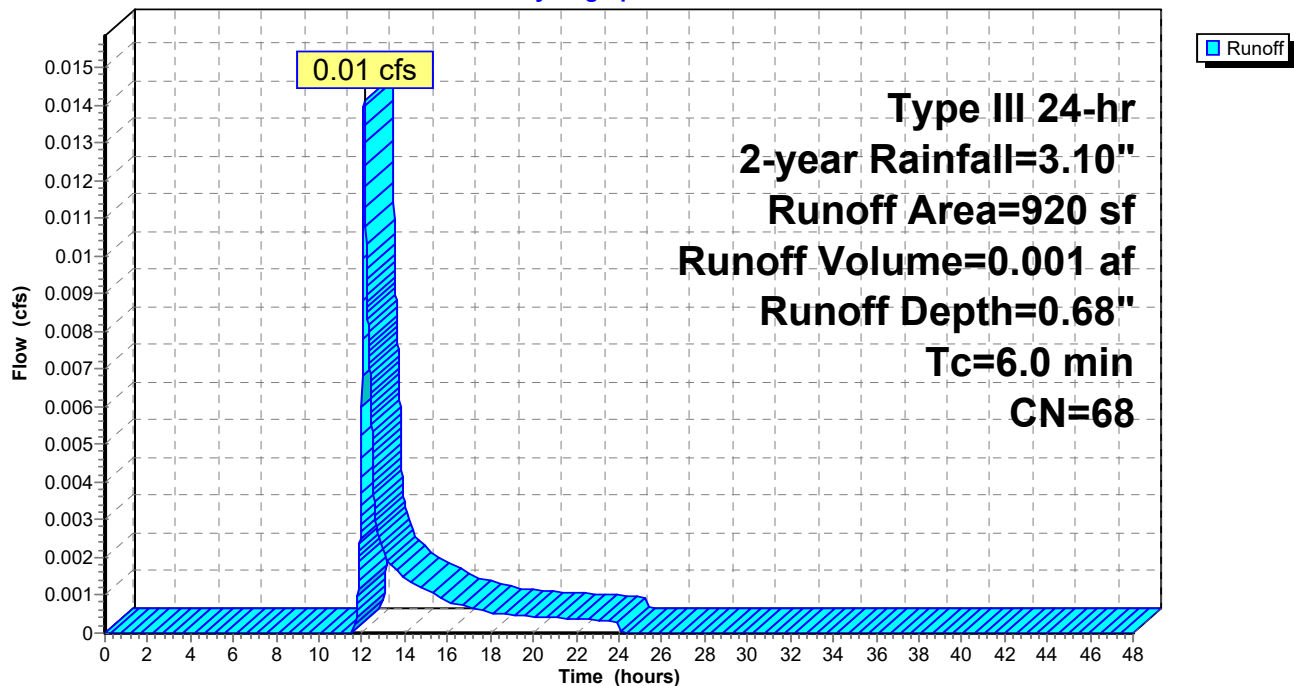
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
467	39	>75% Grass cover, Good, HSG A
453	98	Unconnected pavement, HSG A
920	68	Weighted Average
467	39	50.76% Pervious Area
453	98	49.24% Impervious Area
453		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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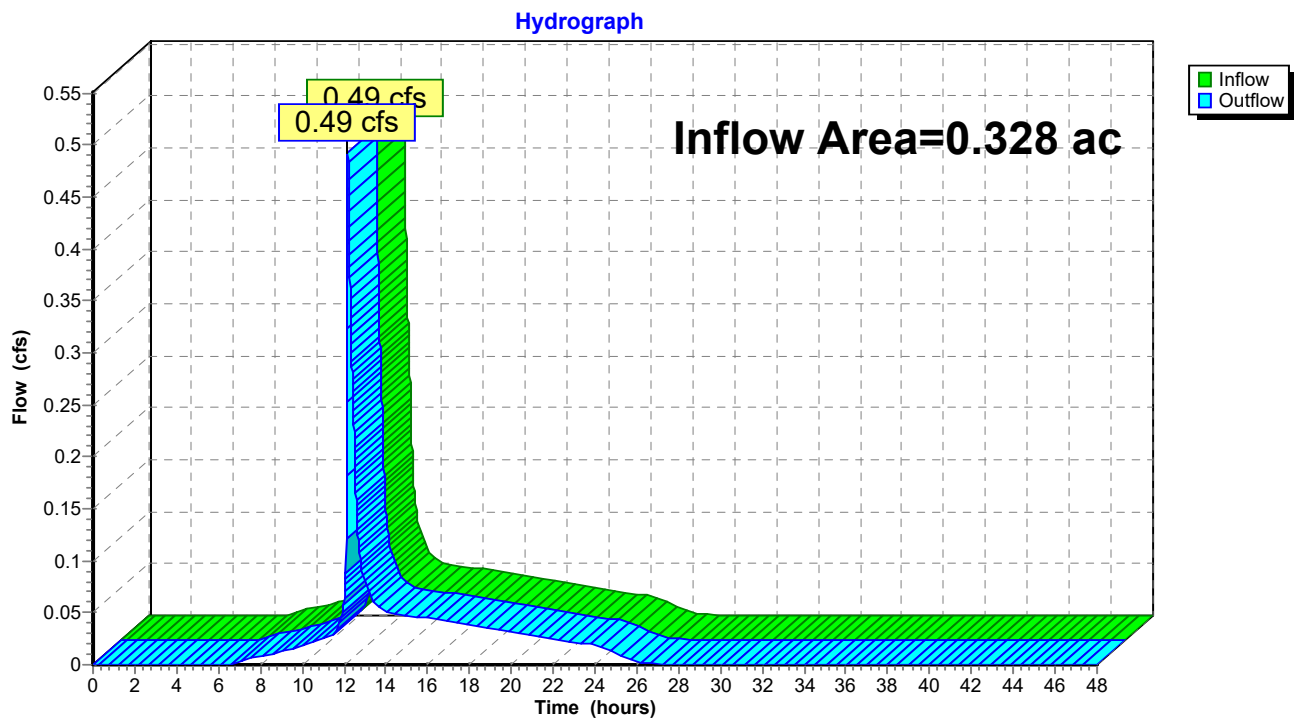
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.328 ac, 85.16% Impervious, Inflow Depth = 2.18" for 2-year event
Inflow = 0.49 cfs @ 12.18 hrs, Volume= 0.060 af
Outflow = 0.49 cfs @ 12.18 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 2-year Rainfall=3.10"

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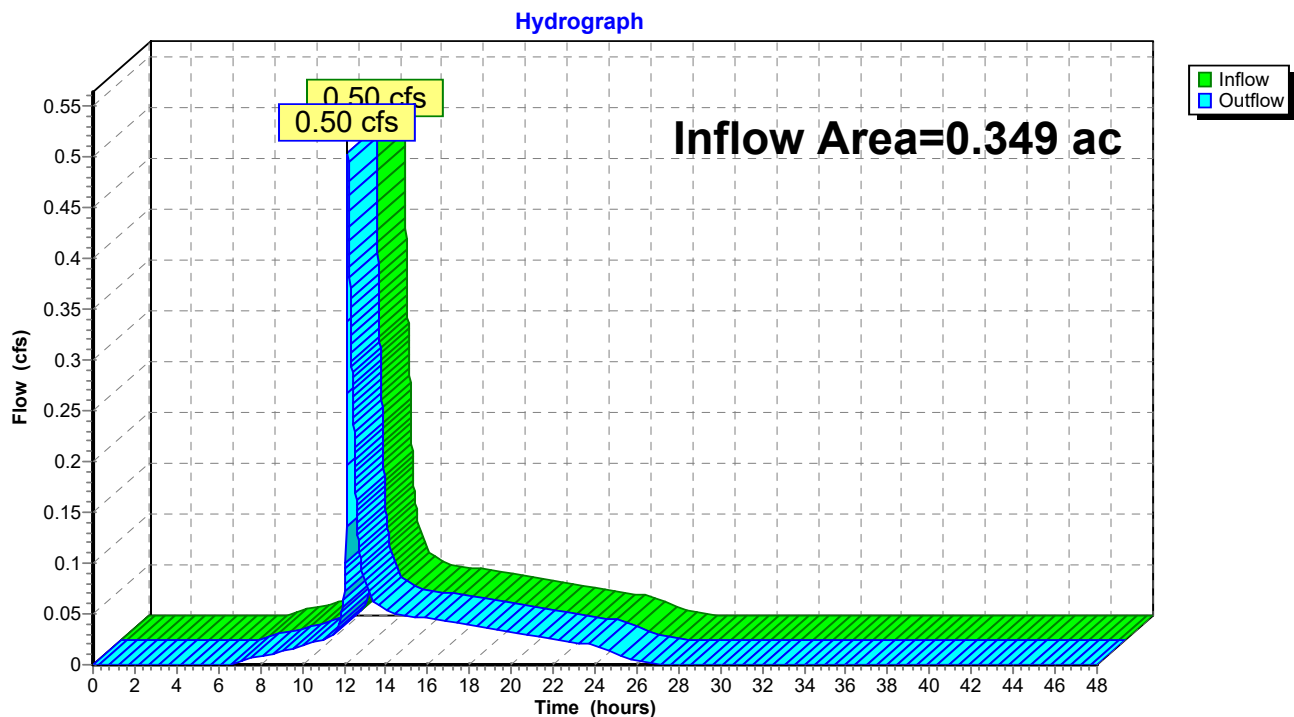
Page 12

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.349 ac, 82.99% Impervious, Inflow Depth = 2.09" for 2-year event
Inflow = 0.50 cfs @ 12.18 hrs, Volume= 0.061 af
Outflow = 0.50 cfs @ 12.18 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - POST

Type III 24-hr 2-year Rainfall=3.10"

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Summary for Pond 1P: R-TANKS

Inflow Area = 0.267 ac, 94.61% Impervious, Inflow Depth = 2.53" for 2-year event
 Inflow = 0.75 cfs @ 12.08 hrs, Volume= 0.056 af
 Outflow = 0.46 cfs @ 12.18 hrs, Volume= 0.055 af, Atten= 38%, Lag= 5.9 min
 Primary = 0.46 cfs @ 12.18 hrs, Volume= 0.055 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 26.08' @ 12.18 hrs Surf.Area= 415 sf Storage= 856 cf
 Flood Elev= 29.00' Surf.Area= 415 sf Storage= 1,001 cf

Plug-Flow detention time= 165.6 min calculated for 0.055 af (98% of inflow)
 Center-of-Mass det. time= 155.9 min (937.2 - 781.3)

Volume	Invert	Avail.Storage	Storage Description
#1B	22.38'	583 cf	6.62'W x 62.65'L x 4.57'H Field B 1,897 cf Overall - 440 cf Embedded = 1,457 cf x 40.0% Voids
#2B	23.13'	413 cf	ACF R-Tank HD 2 x 50 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 50 Chambers in 2 Rows
#3	22.75'	5 cf	4.0" Round Pipe Storage Inside #1 L= 63.0' S= 0.0100 'f
		1,001 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	22.31'	10.0" Round 10" Main Outlet L= 40.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 22.31' / 21.51' S= 0.0200 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	22.61'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	25.63'	10.0" Round Culvert L= 2.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 25.63' / 25.62' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	25.63'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=0.46 cfs @ 12.18 hrs HW=26.08' (Free Discharge)

- 1=10" Main Outlet (Passes 0.46 cfs of 4.24 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 8.91 fps)
- 3=Culvert (Barrel Controls 0.41 cfs @ 2.01 fps)
- 4=4" Overflows (4) (Passes 0.41 cfs of 0.89 cfs potential flow)

PHASE 1 - 197 OXFORD ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Pond 1P: R-TANKS - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

25 Chambers/Row x 2.35' Long = 58.65' Row Length +24.0" End Stone x 2 = 62.65' Base Length

2 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 6.62' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

50 Chambers x 8.3 cf = 412.6 cf Chamber Storage

50 Chambers x 8.7 cf = 434.3 cf Displacement

1,897.2 cf Field - 434.3 cf Chambers = 1,462.9 cf Stone x 40.0% Voids = 585.2 cf Stone Storage

Chamber Storage + Stone Storage = 997.7 cf = 0.023 af

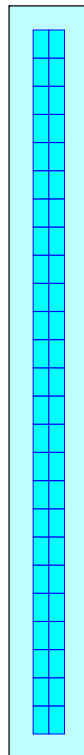
Overall Storage Efficiency = 52.6%

Overall System Size = 62.65' x 6.62' x 4.57'

50 Chambers

70.3 cy Field

54.2 cy Stone



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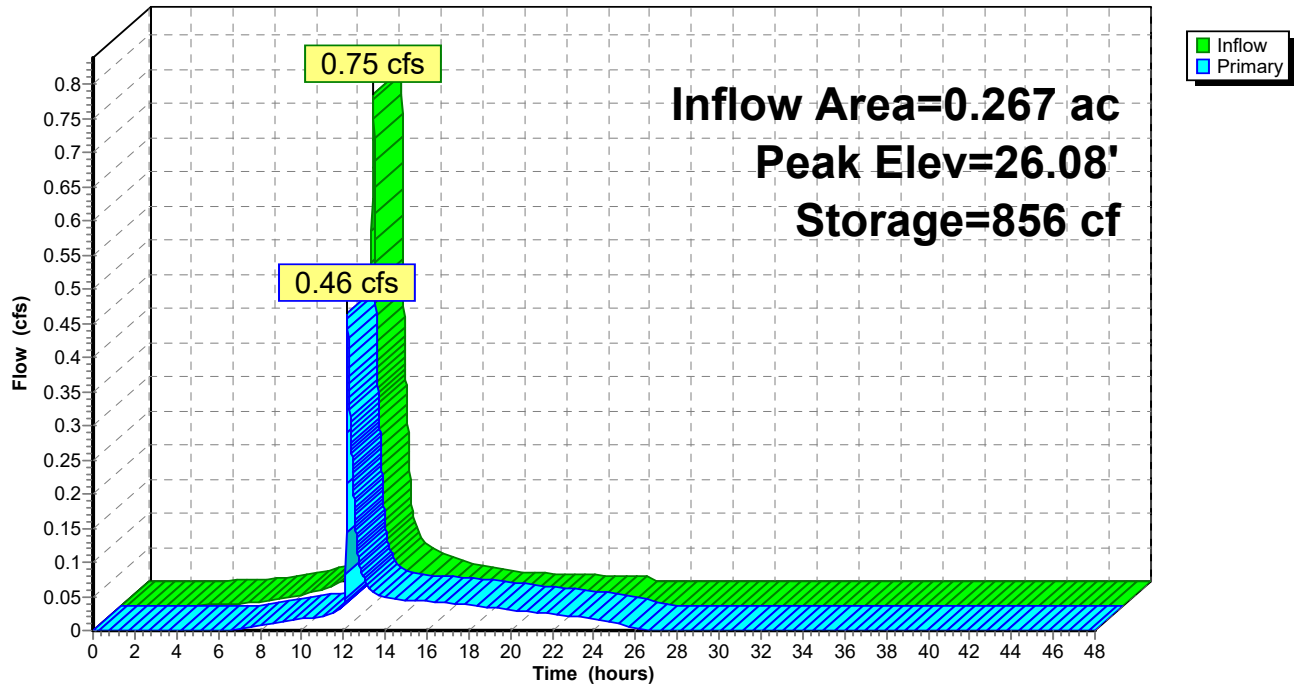
Type III 24-hr 2-year Rainfall=3.10"

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Pond 1P: R-TANKS

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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Stage-Area-Storage for Pond 1P: R-TANKS

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
22.38	0	27.68	1,001
22.48	17	27.78	1,001
22.58	33	27.88	1,001
22.68	50	27.98	1,001
22.78	66	28.08	1,001
22.88	83	28.18	1,001
22.98	100	28.28	1,001
23.08	117	28.38	1,001
23.18	138	28.48	1,001
23.28	164	28.58	1,001
23.38	190	28.68	1,001
23.48	215	28.78	1,001
23.58	240	28.88	1,001
23.68	266	28.98	1,001
23.78	291		
23.88	316		
23.98	341		
24.08	366		
24.18	391		
24.28	416		
24.38	441		
24.48	466		
24.58	491		
24.68	516		
24.78	541		
24.88	566		
24.98	592		
25.08	617		
25.18	642		
25.28	667		
25.38	692		
25.48	717		
25.58	742		
25.68	767		
25.78	792		
25.88	817		
25.98	840		
26.08	856		
26.18	873		
26.28	890		
26.38	906		
26.48	923		
26.58	939		
26.68	956		
26.78	973		
26.88	989		
26.98	1,001		
27.08	1,001		
27.18	1,001		
27.28	1,001		
27.38	1,001		
27.48	1,001		
27.58	1,001		

PHASE 1 - 197 OXFORD ST - POST

Type III 24-hr 10-year Rainfall=4.60"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: S 1.1 - RTANK SUBCAT Runoff Area=9,399 sf 93.32% Impervious Runoff Depth=3.91"
Tc=6.0 min CN=94 Runoff=0.93 cfs 0.070 af

Subcatchment 1.2S: S 1.2 - OXFORD Runoff Area=2,048 sf 27.15% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=55 Runoff=0.03 cfs 0.003 af

Subcatchment 1.3S: S 1.3 - CHESTNUT Runoff Area=589 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment 1S: S 1 - 25% OF ROOF Runoff Area=2,253 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af

Subcatchment 2S: S 2 - CEDAR STREET Runoff Area=920 sf 49.24% Impervious Runoff Depth=1.60"
Tc=6.0 min CN=68 Runoff=0.04 cfs 0.003 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.21 cfs 0.096 af
Outflow=1.21 cfs 0.096 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.25 cfs 0.099 af
Outflow=1.25 cfs 0.099 af

Pond 1P: R-TANKS Peak Elev=26.41' Storage=911 cf Inflow=1.16 cfs 0.089 af
Outflow=1.12 cfs 0.088 af

Total Runoff Area = 0.349 ac Runoff Volume = 0.100 af Average Runoff Depth = 3.44"
17.01% Pervious = 0.059 ac 82.99% Impervious = 0.290 ac

PHASE 1 - 197 OXFORD ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.1S: S 1.1 - RTANK SUBCAT

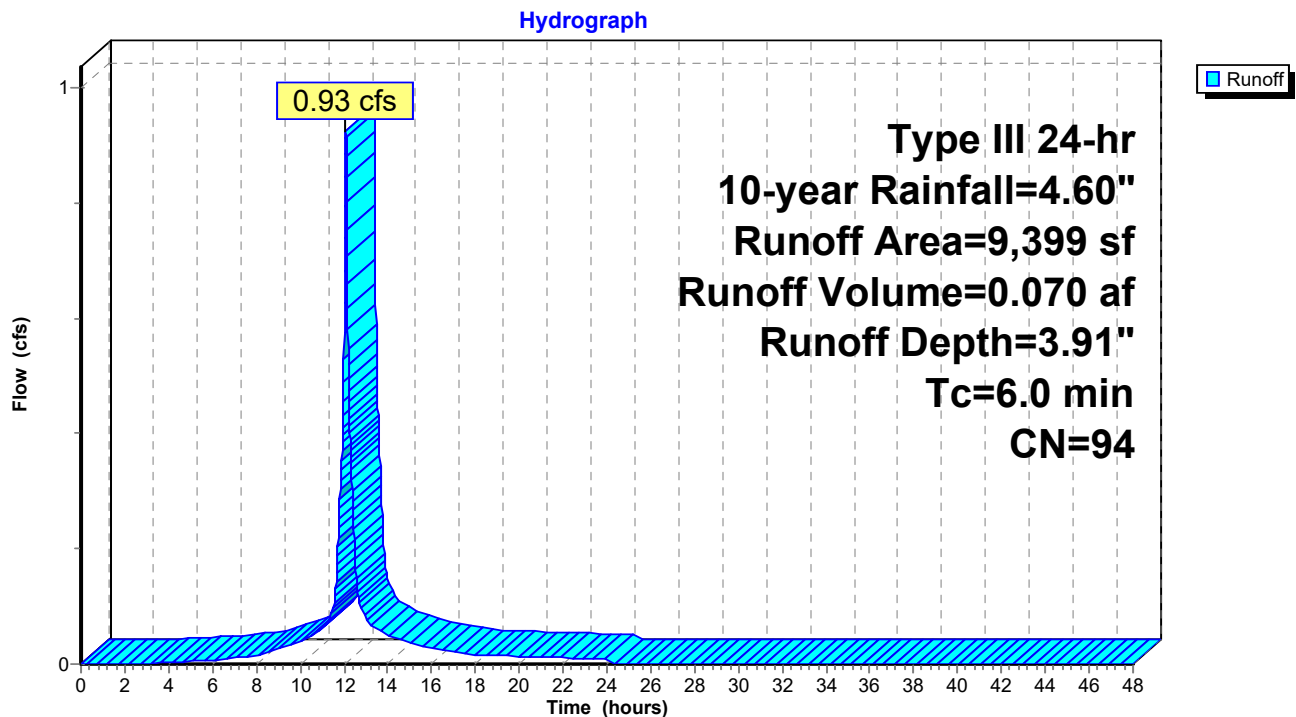
Runoff = 0.93 cfs @ 12.08 hrs, Volume= 0.070 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
2,011	98	Paved parking, HSG A
628	39	>75% Grass cover, Good, HSG A
* 6,760	98	REMAINING ROOF AREA
9,399	94	Weighted Average
628	39	6.68% Pervious Area
8,771	98	93.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1.1 - RTANK SUBCAT



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.03 cfs @ 12.11 hrs, Volume= 0.003 af, Depth= 0.79"

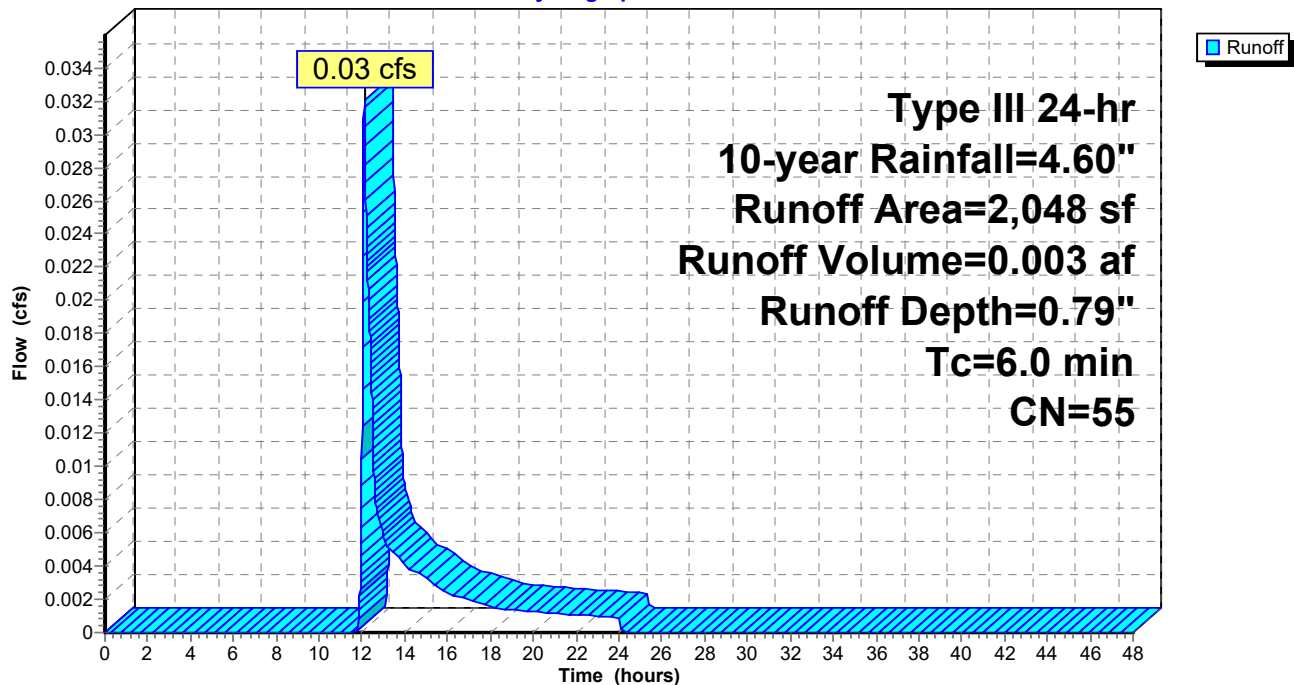
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
556	98	Paved parking, HSG A
1,492	39	>75% Grass cover, Good, HSG A
2,048	55	Weighted Average
1,492	39	72.85% Pervious Area
556	98	27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.3S: S 1.3 - CHESTNUT STREET

Runoff = 0.06 cfs @ 12.08 hrs, Volume= 0.005 af, Depth= 4.36"

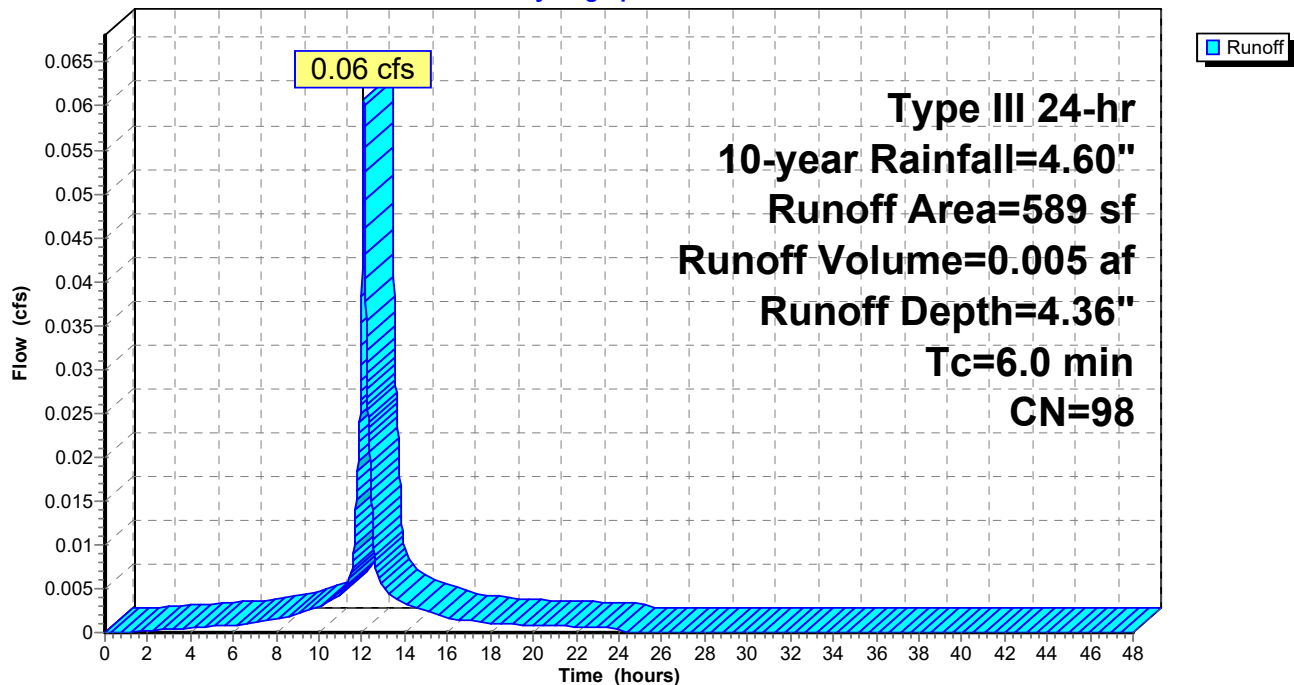
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
190	98	Unconnected pavement, HSG A
399	98	Paved parking, HSG A
589	98	Weighted Average
589	98	100.00% Impervious Area
190		32.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - CHESTNUT STREET

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 0.019 af, Depth= 4.36"

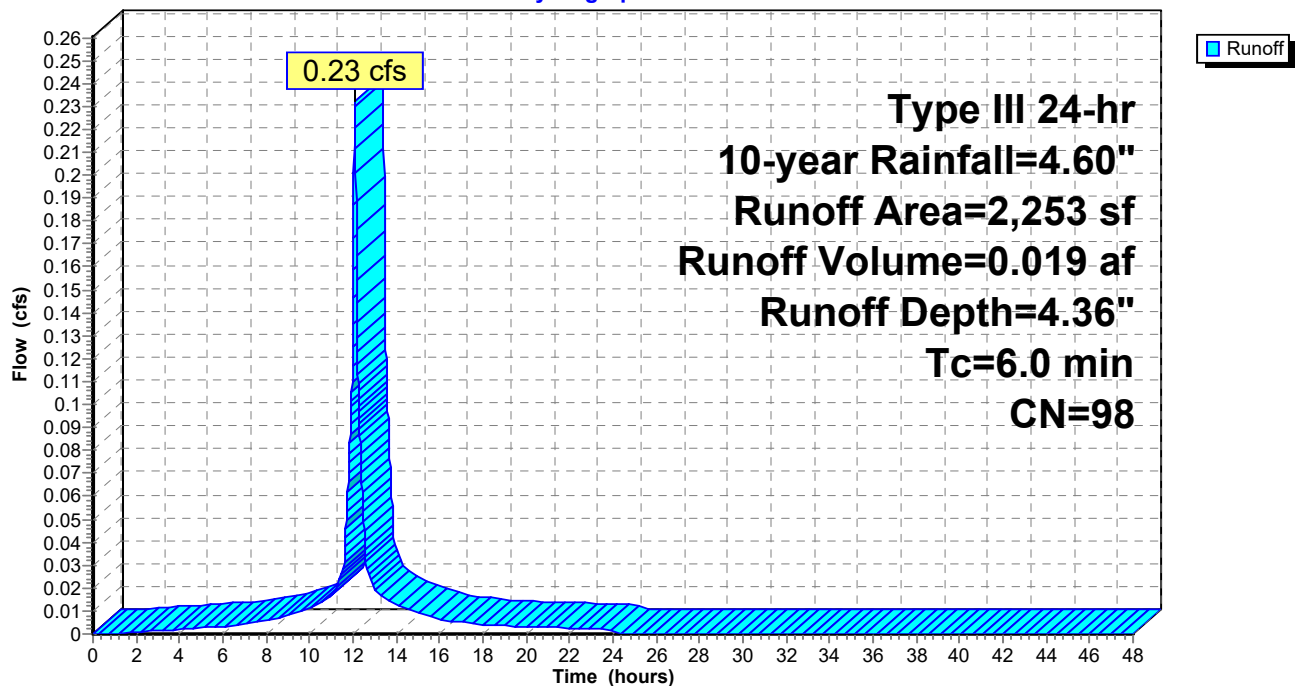
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
2,253	98	Roofs, HSG A
2,253	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2S: S 2 - CEDAR STREET

Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af, Depth= 1.60"

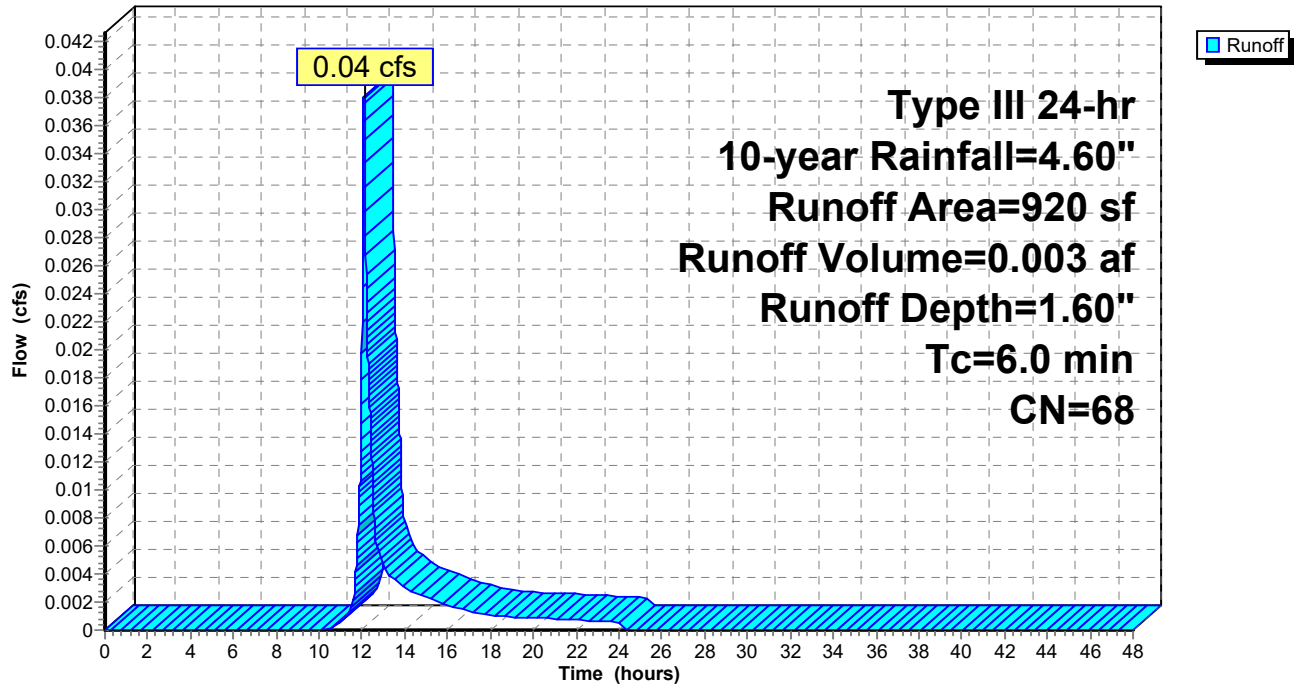
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
467	39	>75% Grass cover, Good, HSG A
453	98	Unconnected pavement, HSG A
920	68	Weighted Average
467	39	50.76% Pervious Area
453	98	49.24% Impervious Area
453		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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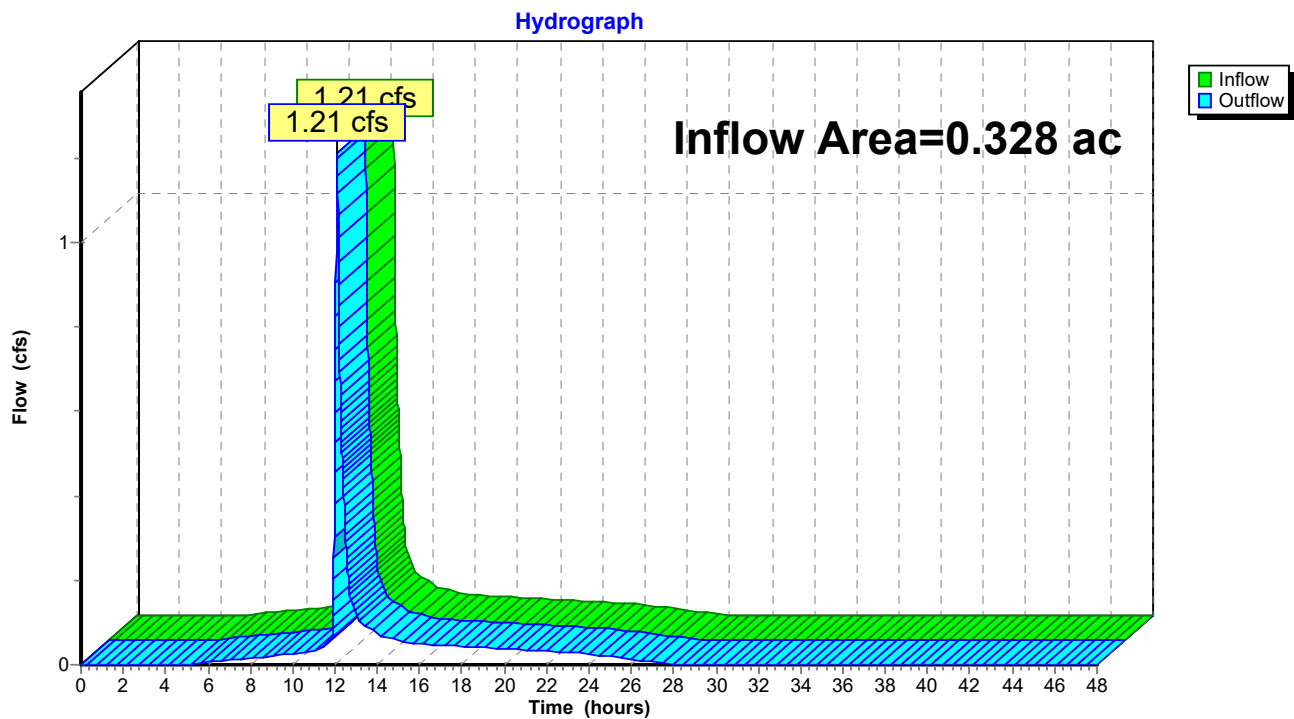
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.328 ac, 85.16% Impervious, Inflow Depth = 3.52" for 10-year event
Inflow = 1.21 cfs @ 12.10 hrs, Volume= 0.096 af
Outflow = 1.21 cfs @ 12.10 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 10-year Rainfall=4.60"

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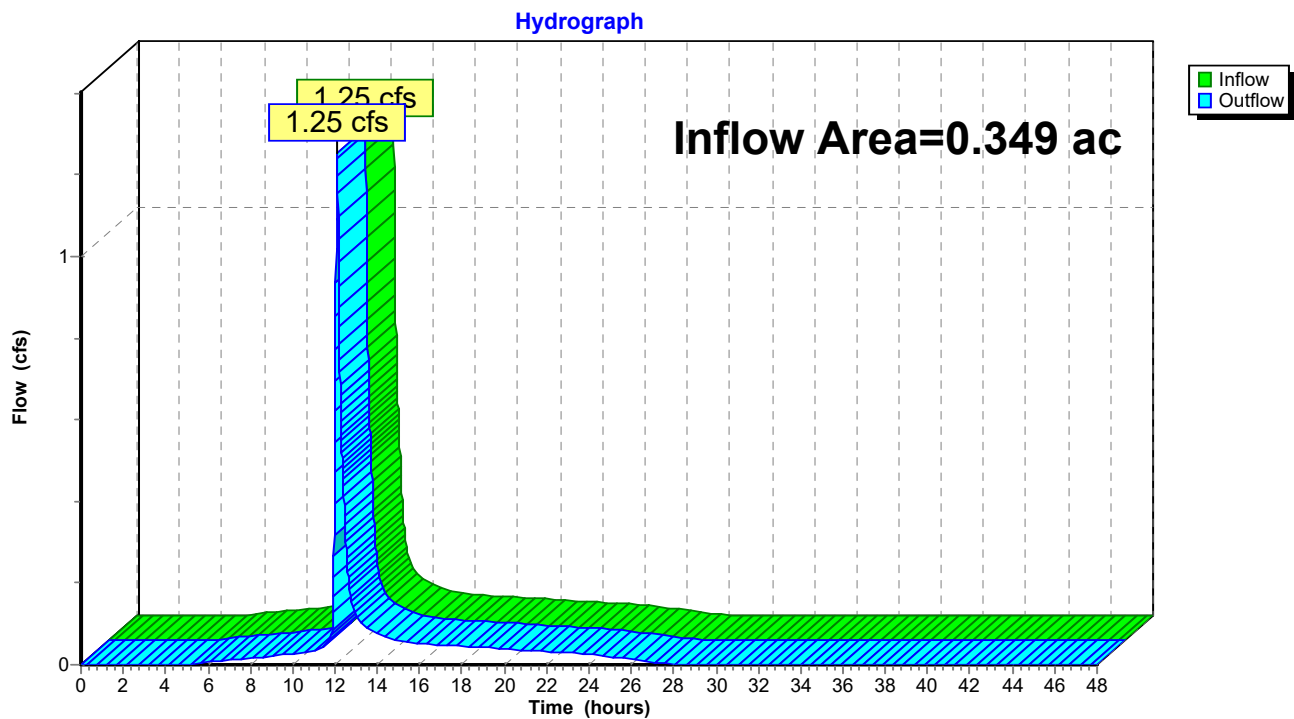
Page 24

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.349 ac, 82.99% Impervious, Inflow Depth = 3.41" for 10-year event
Inflow = 1.25 cfs @ 12.10 hrs, Volume= 0.099 af
Outflow = 1.25 cfs @ 12.10 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - POST

Type III 24-hr 10-year Rainfall=4.60"

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Summary for Pond 1P: R-TANKS

Inflow Area = 0.267 ac, 94.61% Impervious, Inflow Depth = 4.00" for 10-year event
 Inflow = 1.16 cfs @ 12.08 hrs, Volume= 0.089 af
 Outflow = 1.12 cfs @ 12.10 hrs, Volume= 0.088 af, Atten= 3%, Lag= 1.2 min
 Primary = 1.12 cfs @ 12.10 hrs, Volume= 0.088 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 26.41' @ 12.10 hrs Surf.Area= 415 sf Storage= 911 cf
 Flood Elev= 29.00' Surf.Area= 415 sf Storage= 1,001 cf

Plug-Flow detention time= 132.5 min calculated for 0.088 af (99% of inflow)
 Center-of-Mass det. time= 126.1 min (896.4 - 770.3)

Volume	Invert	Avail.Storage	Storage Description
#1B	22.38'	583 cf	6.62'W x 62.65'L x 4.57'H Field B 1,897 cf Overall - 440 cf Embedded = 1,457 cf x 40.0% Voids
#2B	23.13'	413 cf	ACF R-Tank HD 2 x 50 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 50 Chambers in 2 Rows
#3	22.75'	5 cf	4.0" Round Pipe Storage Inside #1 L= 63.0' S= 0.0100 'f
		1,001 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	22.31'	10.0" Round 10" Main Outlet L= 40.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 22.31' / 21.51' S= 0.0200 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	22.61'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	25.63'	10.0" Round Culvert L= 2.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 25.63' / 25.62' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	25.63'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=1.12 cfs @ 12.10 hrs HW=26.41' (Free Discharge)

- 1=10" Main Outlet (Passes 1.12 cfs of 4.45 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 9.34 fps)
- 3=Culvert (Barrel Controls 1.07 cfs @ 2.61 fps)
- 4=4" Overflows (4) (Passes 1.07 cfs of 1.32 cfs potential flow)

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Type III 24-hr 10-year Rainfall=4.60"

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Pond 1P: R-TANKS - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

25 Chambers/Row x 2.35' Long = 58.65' Row Length +24.0" End Stone x 2 = 62.65' Base Length

2 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 6.62' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

50 Chambers x 8.3 cf = 412.6 cf Chamber Storage

50 Chambers x 8.7 cf = 434.3 cf Displacement

1,897.2 cf Field - 434.3 cf Chambers = 1,462.9 cf Stone x 40.0% Voids = 585.2 cf Stone Storage

Chamber Storage + Stone Storage = 997.7 cf = 0.023 af

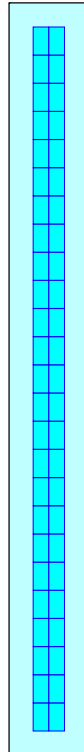
Overall Storage Efficiency = 52.6%

Overall System Size = 62.65' x 6.62' x 4.57'

50 Chambers

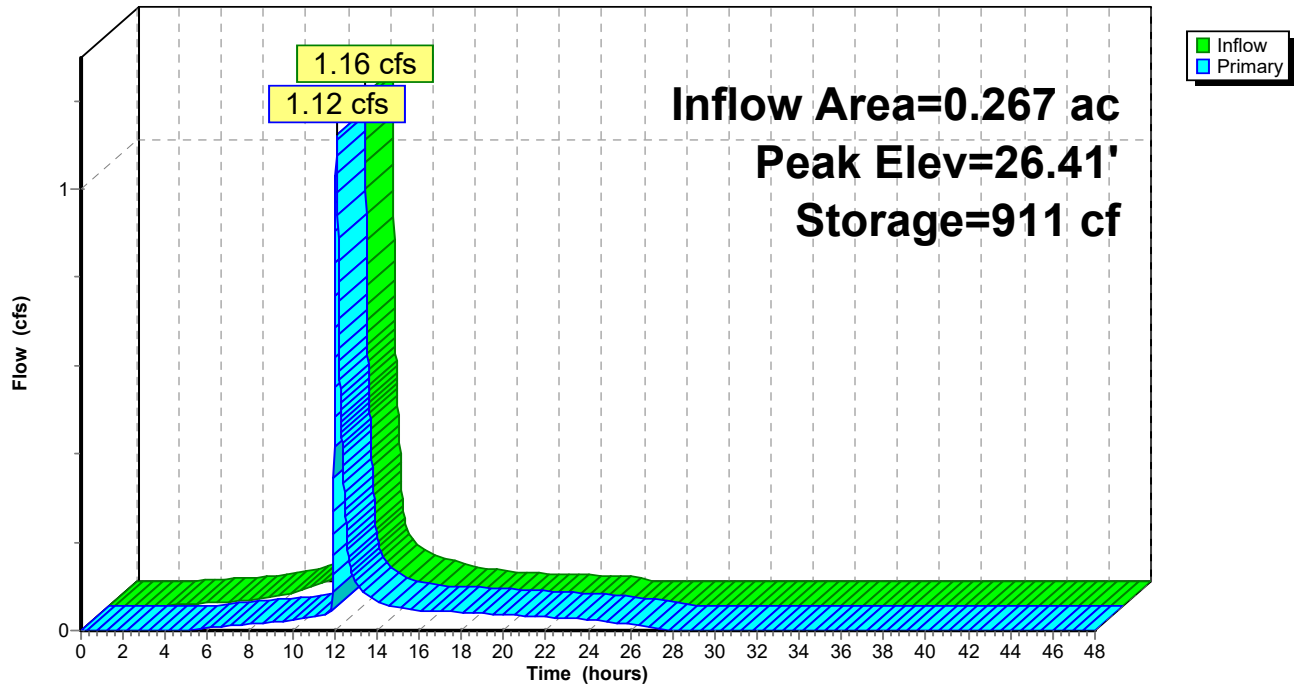
70.3 cy Field

54.2 cy Stone



Pond 1P: R-TANKS

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Stage-Area-Storage for Pond 1P: R-TANKS

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
22.38	0	27.68	1,001
22.48	17	27.78	1,001
22.58	33	27.88	1,001
22.68	50	27.98	1,001
22.78	66	28.08	1,001
22.88	83	28.18	1,001
22.98	100	28.28	1,001
23.08	117	28.38	1,001
23.18	138	28.48	1,001
23.28	164	28.58	1,001
23.38	190	28.68	1,001
23.48	215	28.78	1,001
23.58	240	28.88	1,001
23.68	266	28.98	1,001
23.78	291		
23.88	316		
23.98	341		
24.08	366		
24.18	391		
24.28	416		
24.38	441		
24.48	466		
24.58	491		
24.68	516		
24.78	541		
24.88	566		
24.98	592		
25.08	617		
25.18	642		
25.28	667		
25.38	692		
25.48	717		
25.58	742		
25.68	767		
25.78	792		
25.88	817		
25.98	840		
26.08	856		
26.18	873		
26.28	890		
26.38	906		
26.48	923		
26.58	939		
26.68	956		
26.78	973		
26.88	989		
26.98	1,001		
27.08	1,001		
27.18	1,001		
27.28	1,001		
27.38	1,001		
27.48	1,001		
27.58	1,001		

PHASE 1 - 197 OXFORD ST - POST*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S 1.1 - RTANK SUBCAT Runoff Area=9,399 sf 93.32% Impervious Runoff Depth=5.10"
Tc=6.0 min CN=94 Runoff=1.19 cfs 0.092 af

Subcatchment1.2S: S 1.2 - OXFORD Runoff Area=2,048 sf 27.15% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=55 Runoff=0.07 cfs 0.006 af

Subcatchment1.3S: S 1.3 - CHESTNUT Runoff Area=589 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.08 cfs 0.006 af

Subcatchment1S: S 1 - 25% OF ROOF Runoff Area=2,253 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.29 cfs 0.024 af

Subcatchment2S: S 2 - CEDAR STREET Runoff Area=920 sf 49.24% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=68 Runoff=0.06 cfs 0.004 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.58 cfs 0.127 af
Outflow=1.58 cfs 0.127 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.64 cfs 0.131 af
Outflow=1.64 cfs 0.131 af

Pond 1P: R-TANKS Peak Elev=26.56' Storage=936 cf Inflow=1.48 cfs 0.116 af
Outflow=1.43 cfs 0.115 af

Total Runoff Area = 0.349 ac Runoff Volume = 0.132 af Average Runoff Depth = 4.53"
17.01% Pervious = 0.059 ac 82.99% Impervious = 0.290 ac

PHASE 1 - 197 OXFORD ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.1S: S 1.1 - RTANK SUBCAT

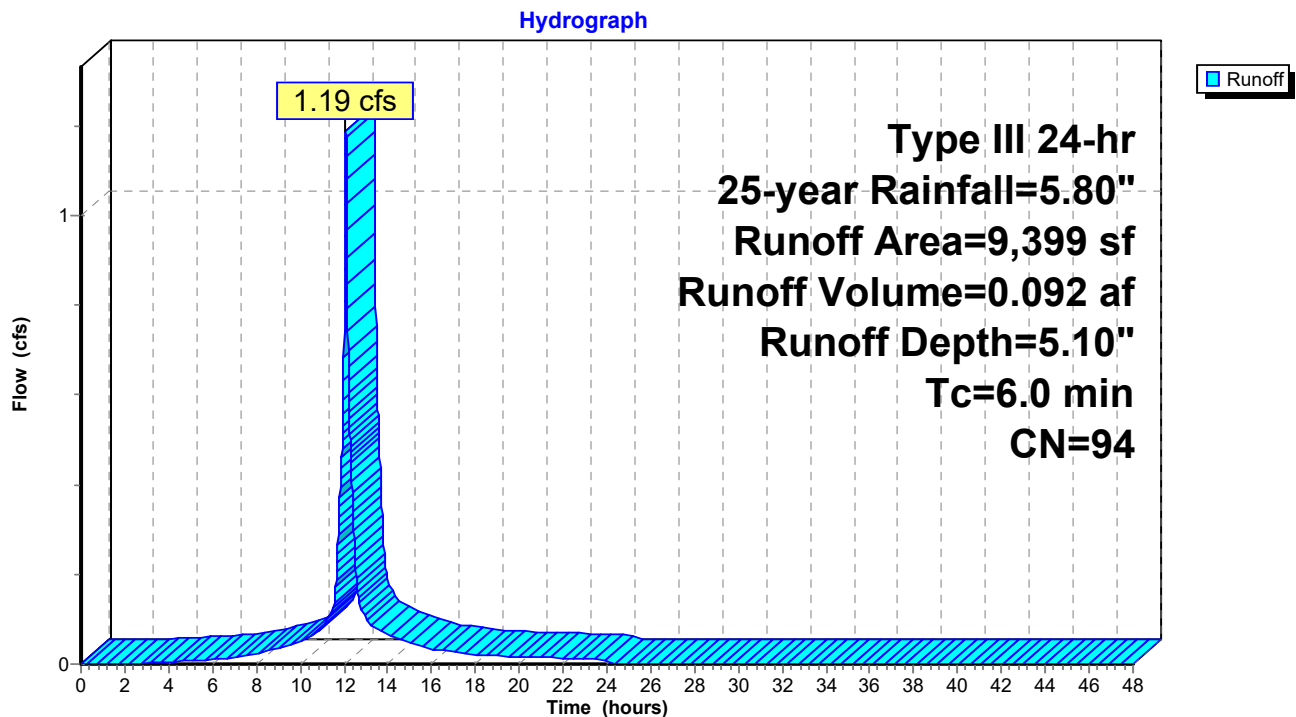
Runoff = 1.19 cfs @ 12.08 hrs, Volume= 0.092 af, Depth= 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
2,011	98	Paved parking, HSG A
628	39	>75% Grass cover, Good, HSG A
* 6,760	98	REMAINING ROOF AREA
9,399	94	Weighted Average
628	39	6.68% Pervious Area
8,771	98	93.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1.1 - RTANK SUBCAT



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.2S: S 1.2 - OXFORD STREET

Runoff = 0.07 cfs @ 12.10 hrs, Volume= 0.006 af, Depth= 1.40"

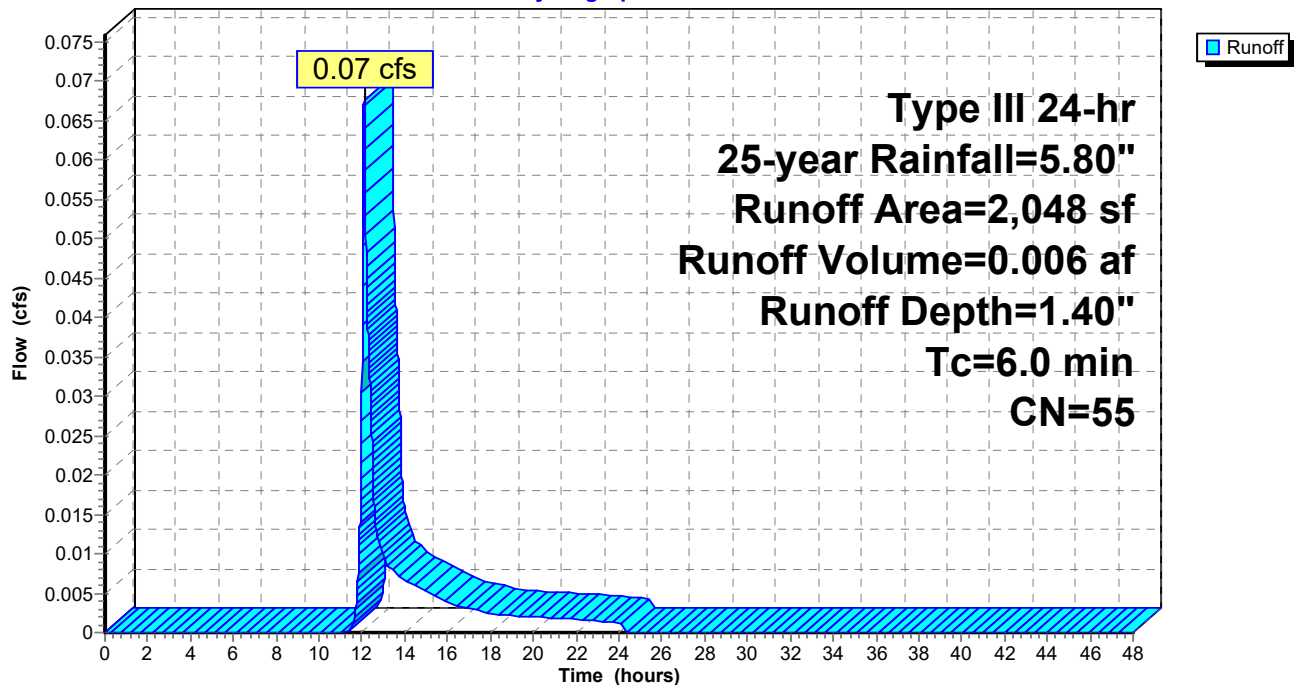
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
556	98	Paved parking, HSG A
1,492	39	>75% Grass cover, Good, HSG A
2,048	55	Weighted Average
1,492	39	72.85% Pervious Area
556	98	27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - OXFORD STREET

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.3S: S 1.3 - CHESTNUT STREET

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth= 5.56"

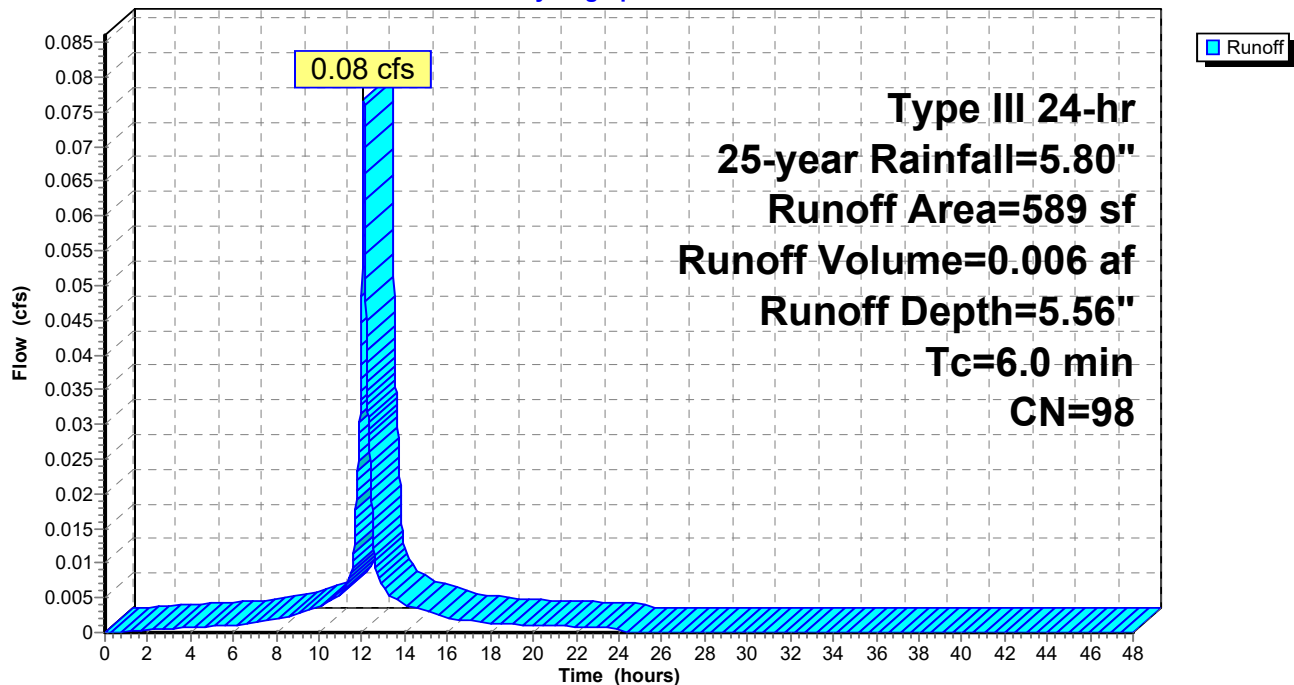
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
190	98	Unconnected pavement, HSG A
399	98	Paved parking, HSG A
589	98	Weighted Average
589	98	100.00% Impervious Area
190		32.26% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - CHESTNUT STREET

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Runoff = 0.29 cfs @ 12.08 hrs, Volume= 0.024 af, Depth= 5.56"

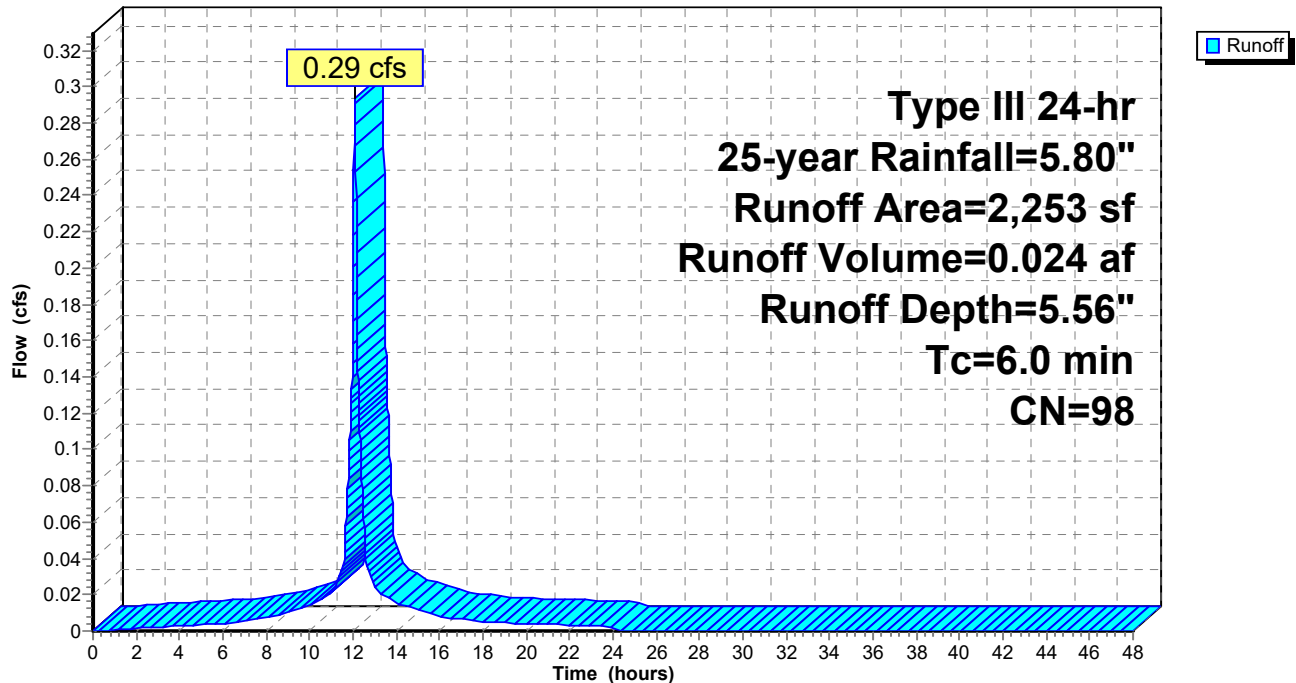
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
2,253	98	Roofs, HSG A
2,253	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - 25% OF ROOF AREA TO BE TREATED

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2S: S 2 - CEDAR STREET

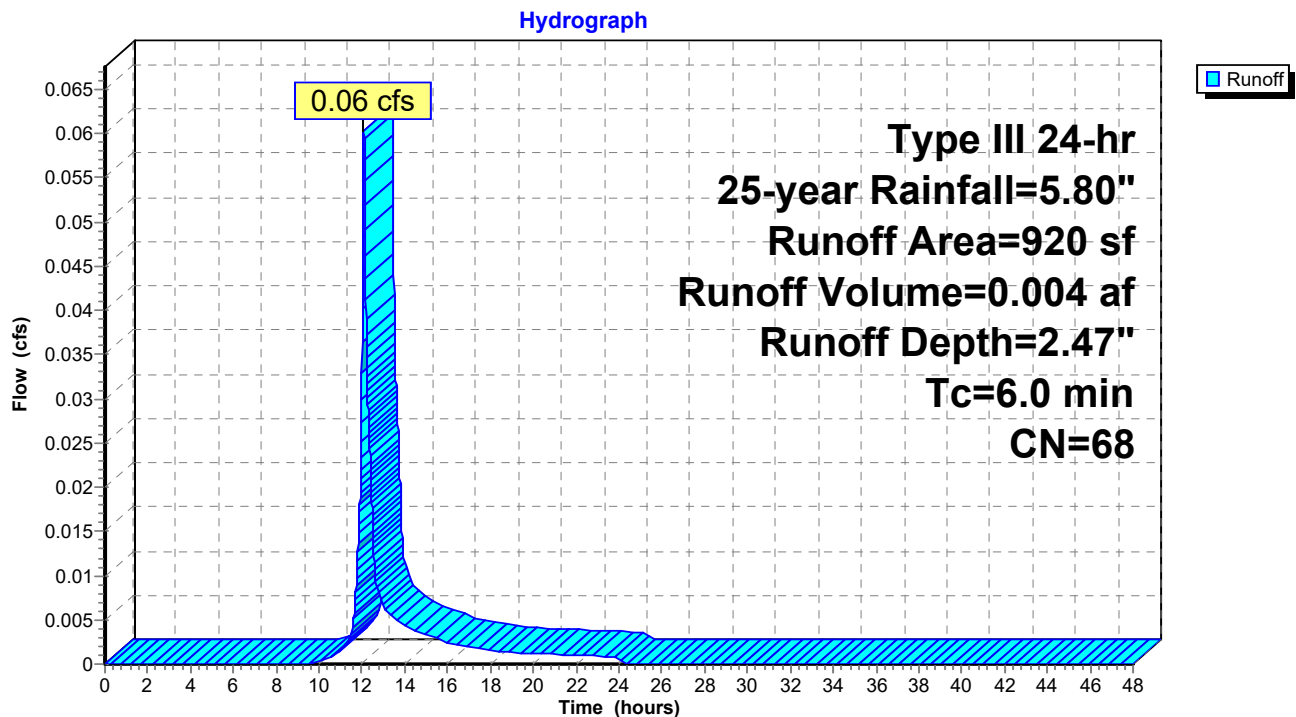
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
467	39	>75% Grass cover, Good, HSG A
453	98	Unconnected pavement, HSG A
920	68	Weighted Average
467	39	50.76% Pervious Area
453	98	49.24% Impervious Area
453		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S 2 - CEDAR STREET



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Type III 24-hr 25-year Rainfall=5.80"

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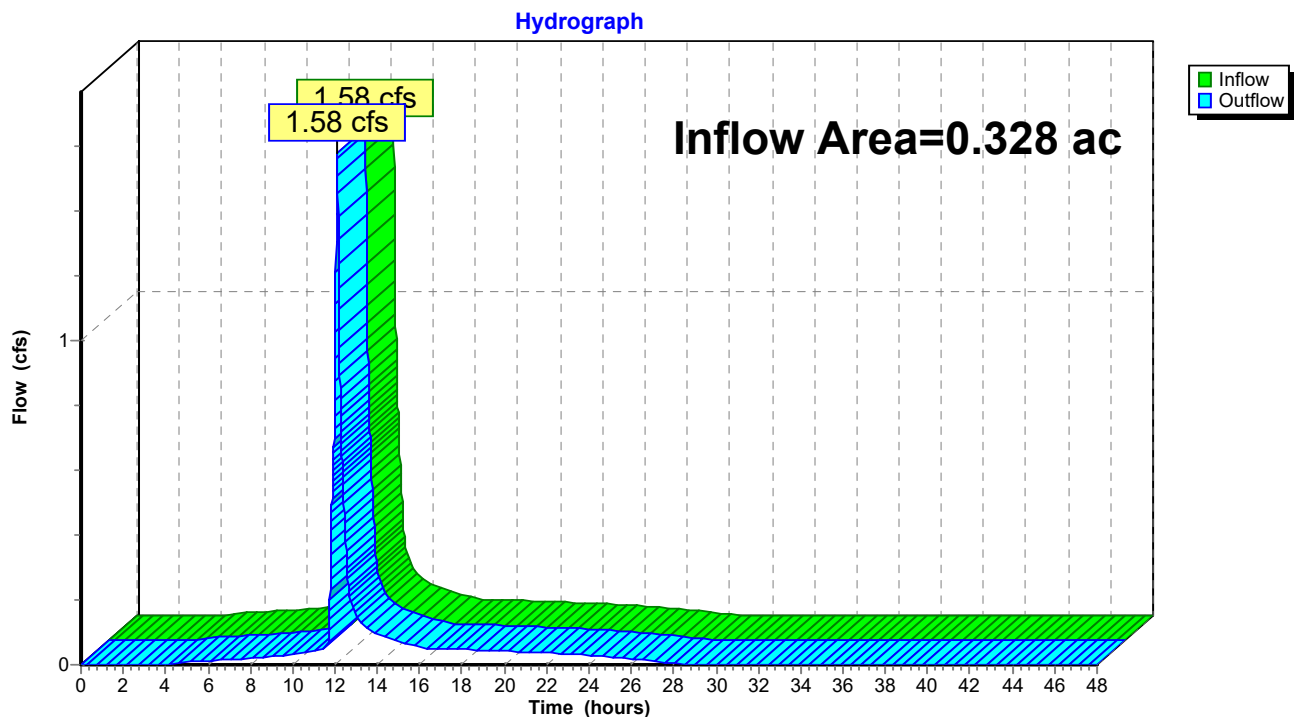
Page 35

Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.328 ac, 85.16% Impervious, Inflow Depth = 4.63" for 25-year event
Inflow = 1.58 cfs @ 12.10 hrs, Volume= 0.127 af
Outflow = 1.58 cfs @ 12.10 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 25-year Rainfall=5.80"

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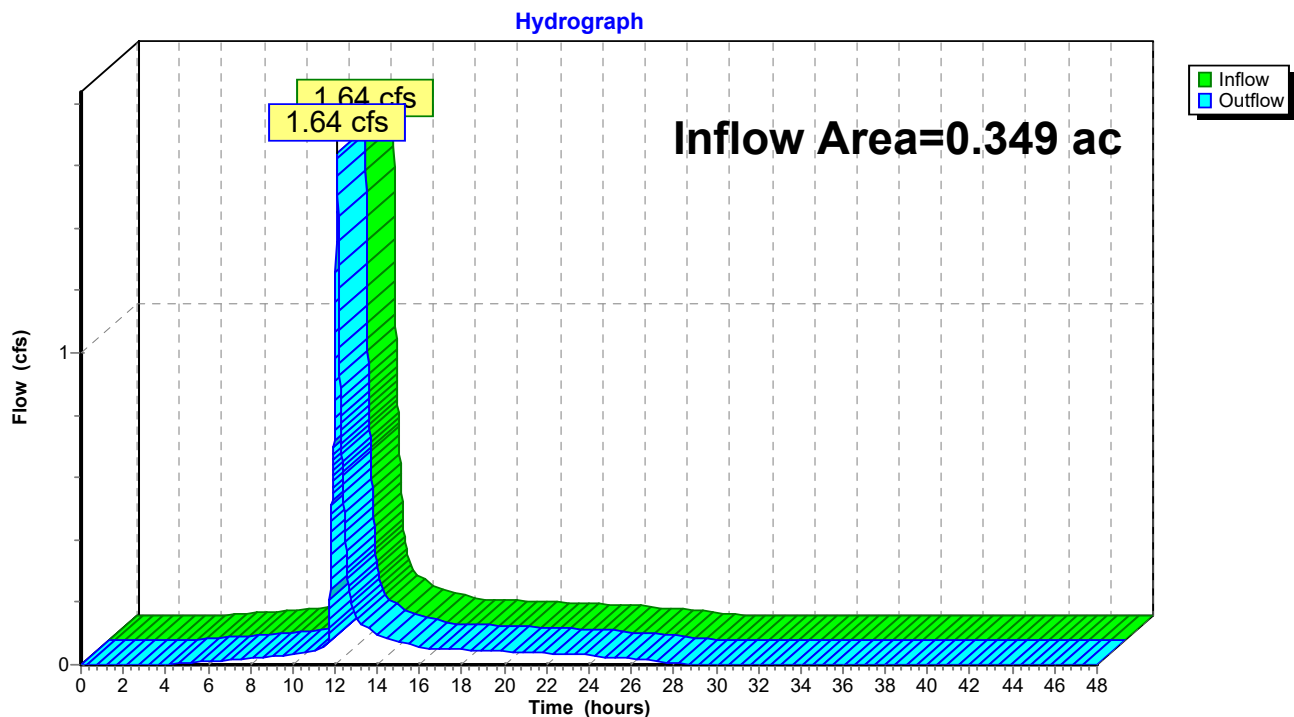
Page 36

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.349 ac, 82.99% Impervious, Inflow Depth = 4.50" for 25-year event
Inflow = 1.64 cfs @ 12.10 hrs, Volume= 0.131 af
Outflow = 1.64 cfs @ 12.10 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 1 - 197 OXFORD ST - POST

Type III 24-hr 25-year Rainfall=5.80"

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Summary for Pond 1P: R-TANKS

Inflow Area = 0.267 ac, 94.61% Impervious, Inflow Depth = 5.19" for 25-year event
 Inflow = 1.48 cfs @ 12.08 hrs, Volume= 0.116 af
 Outflow = 1.43 cfs @ 12.10 hrs, Volume= 0.115 af, Atten= 3%, Lag= 1.2 min
 Primary = 1.43 cfs @ 12.10 hrs, Volume= 0.115 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 26.56' @ 12.10 hrs Surf.Area= 415 sf Storage= 936 cf
 Flood Elev= 29.00' Surf.Area= 415 sf Storage= 1,001 cf

Plug-Flow detention time= 117.4 min calculated for 0.115 af (99% of inflow)
 Center-of-Mass det. time= 112.3 min (876.8 - 764.5)

Volume	Invert	Avail.Storage	Storage Description
#1B	22.38'	583 cf	6.62'W x 62.65'L x 4.57'H Field B 1,897 cf Overall - 440 cf Embedded = 1,457 cf x 40.0% Voids
#2B	23.13'	413 cf	ACF R-Tank HD 2 x 50 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 50 Chambers in 2 Rows
#3	22.75'	5 cf	4.0" Round Pipe Storage Inside #1 L= 63.0' S= 0.0100 'f
		1,001 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	22.31'	10.0" Round 10" Main Outlet L= 40.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 22.31' / 21.51' S= 0.0200 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	22.61'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	25.63'	10.0" Round Culvert L= 2.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 25.63' / 25.62' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	25.63'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=1.43 cfs @ 12.10 hrs HW=26.56' (Free Discharge)

- 1=10" Main Outlet (Passes 1.43 cfs of 4.54 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 9.52 fps)
- 3=Culvert (Barrel Controls 1.38 cfs @ 2.84 fps)
- 4=4" Overflows (4) (Passes 1.38 cfs of 1.47 cfs potential flow)

PHASE 1 - 197 OXFORD ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Pond 1P: R-TANKS - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

25 Chambers/Row x 2.35' Long = 58.65' Row Length +24.0" End Stone x 2 = 62.65' Base Length

2 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 6.62' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

50 Chambers x 8.3 cf = 412.6 cf Chamber Storage

50 Chambers x 8.7 cf = 434.3 cf Displacement

1,897.2 cf Field - 434.3 cf Chambers = 1,462.9 cf Stone x 40.0% Voids = 585.2 cf Stone Storage

Chamber Storage + Stone Storage = 997.7 cf = 0.023 af

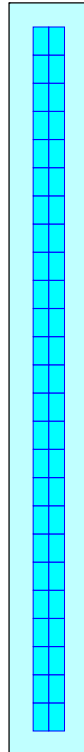
Overall Storage Efficiency = 52.6%

Overall System Size = 62.65' x 6.62' x 4.57'

50 Chambers

70.3 cy Field

54.2 cy Stone



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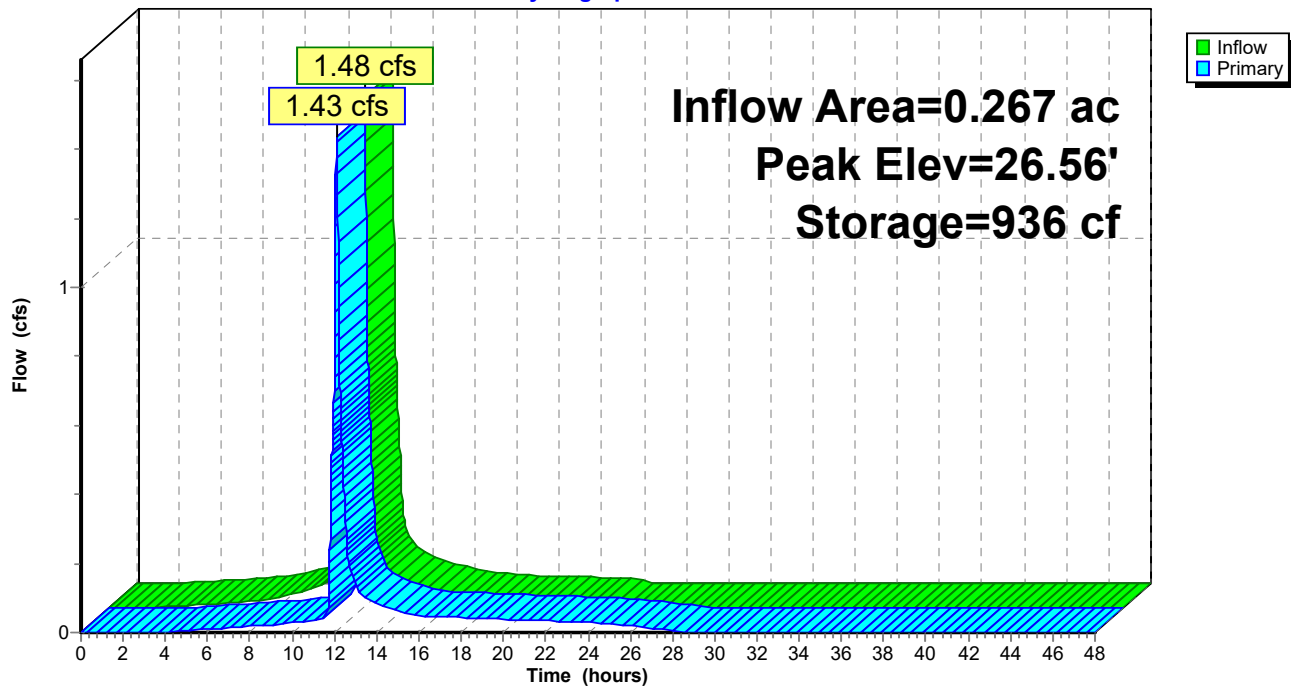
Type III 24-hr 25-year Rainfall=5.80"

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Pond 1P: R-TANKS

Hydrograph



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Stage-Area-Storage for Pond 1P: R-TANKS

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
22.38	0	27.68	1,001
22.48	17	27.78	1,001
22.58	33	27.88	1,001
22.68	50	27.98	1,001
22.78	66	28.08	1,001
22.88	83	28.18	1,001
22.98	100	28.28	1,001
23.08	117	28.38	1,001
23.18	138	28.48	1,001
23.28	164	28.58	1,001
23.38	190	28.68	1,001
23.48	215	28.78	1,001
23.58	240	28.88	1,001
23.68	266	28.98	1,001
23.78	291		
23.88	316		
23.98	341		
24.08	366		
24.18	391		
24.28	416		
24.38	441		
24.48	466		
24.58	491		
24.68	516		
24.78	541		
24.88	566		
24.98	592		
25.08	617		
25.18	642		
25.28	667		
25.38	692		
25.48	717		
25.58	742		
25.68	767		
25.78	792		
25.88	817		
25.98	840		
26.08	856		
26.18	873		
26.28	890		
26.38	906		
26.48	923		
26.58	939		
26.68	956		
26.78	973		
26.88	989		
26.98	1,001		
27.08	1,001		
27.18	1,001		
27.28	1,001		
27.38	1,001		
27.48	1,001		
27.58	1,001		

SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: HydroCAD Calculations

PHASE 2 - 50 CEDAR STREET



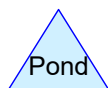
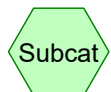
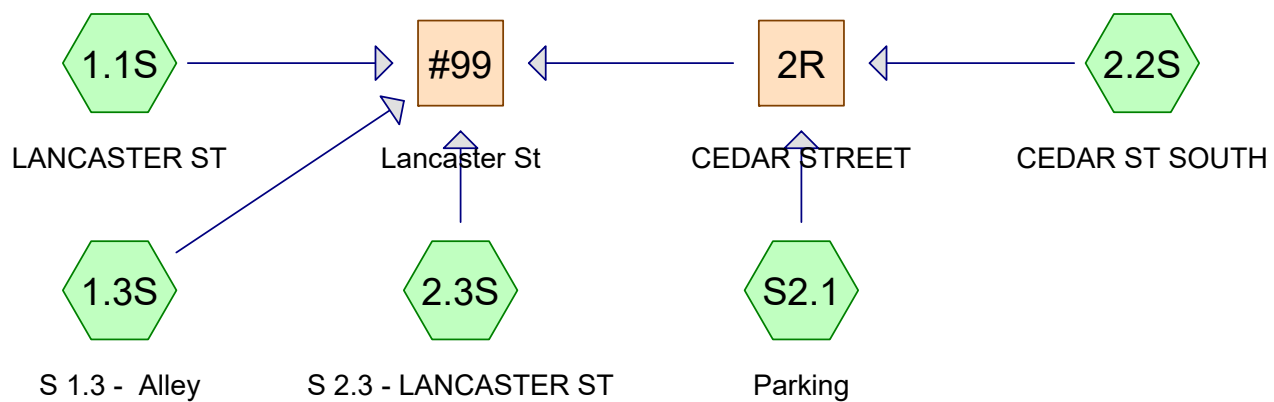
SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Pre Development HydroCAD

PHASE 2 - 50 CEDAR STREET





Routing Diagram for PHASE 2 - 50 CEDAR ST - PRE
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PHASE 2 - 50 CEDAR ST - PRE

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.120	68	<50% Grass cover, Poor, HSG A (1.3S, 2.2S, 2.3S)
0.046	98	Parking (S2.1)
0.215	98	Paved parking, HSG A (1.1S, 1.3S, 2.2S, 2.3S)
0.381	89	TOTAL AREA

PHASE 2 - 50 CEDAR ST - PRE

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.335	HSG A	1.1S, 1.3S, 2.2S, 2.3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.046	Other	S2.1
0.381		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.120	0.000	0.000	0.000	0.000	0.120	<50% Grass cover, Poor	1.3S, 2.2S, 2.3S
0.000	0.000	0.000	0.000	0.046	0.046	Parking	S2.1
0.215	0.000	0.000	0.000	0.000	0.215	Paved parking	1.1S, 1.3S, 2.2S, 2.3S
0.335	0.000	0.000	0.000	0.046	0.381	TOTAL AREA	

PHASE 2 - 50 CEDAR ST - PRE*Type III 24-hr 2-year Rainfall=3.10"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: LANCASTER ST Runoff Area=1,862 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment1.3S: S 1.3 - Alley Runoff Area=1,251 sf 84.89% Impervious Runoff Depth=2.35"
Tc=6.0 min CN=93 Runoff=0.08 cfs 0.006 af

Subcatchment2.2S: CEDAR ST SOUTH Runoff Area=6,494 sf 74.28% Impervious Runoff Depth=2.08"
Tc=6.0 min CN=90 Runoff=0.36 cfs 0.026 af

Subcatchment2.3S: S 2.3 - LANCASTER ST Runoff Area=4,993 sf 32.53% Impervious Runoff Depth=1.20"
Tc=6.0 min CN=78 Runoff=0.16 cfs 0.011 af

SubcatchmentS2.1: Parking Runoff Area=2,008 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.14 cfs 0.011 af

Reach #99: Lancaster St Inflow=0.86 cfs 0.064 af
Outflow=0.86 cfs 0.064 af

Reach 2R: CEDAR STREET Inflow=0.50 cfs 0.037 af
Outflow=0.50 cfs 0.037 af

Total Runoff Area = 0.381 ac Runoff Volume = 0.064 af Average Runoff Depth = 2.02"
31.48% Pervious = 0.120 ac 68.52% Impervious = 0.261 ac

PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.1S: LANCASTER ST

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.010 af, Depth= 2.87"

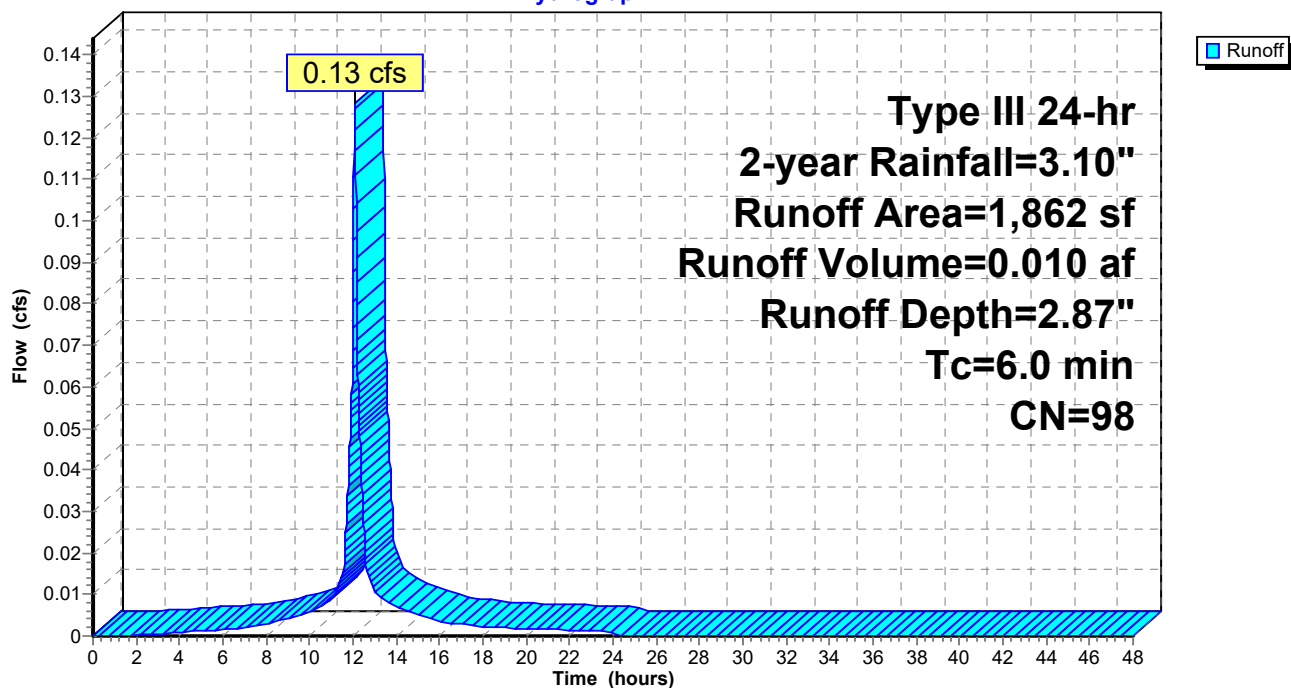
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
1,862	98	Paved parking, HSG A
1,862	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.3S: S 1.3 - Alley

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 2.35"

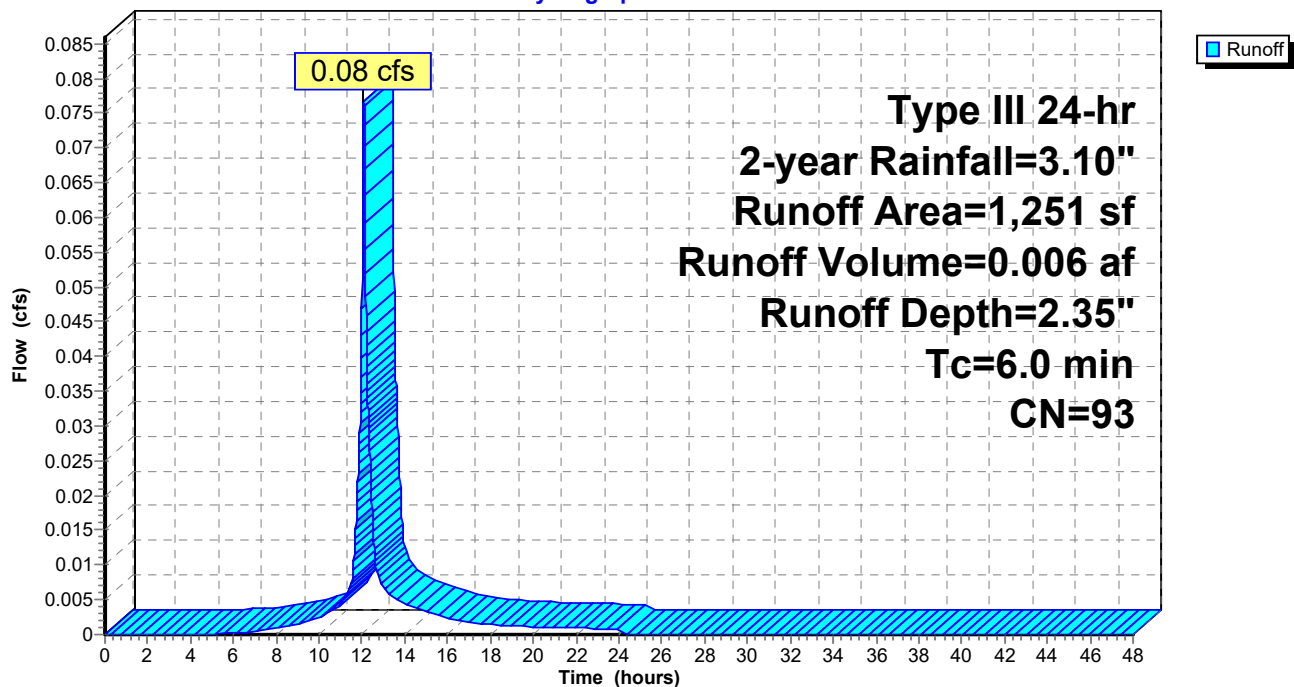
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
189	68	<50% Grass cover, Poor, HSG A
1,062	98	Paved parking, HSG A
1,251	93	Weighted Average
189	68	15.11% Pervious Area
1,062	98	84.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - Alley

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2.2S: CEDAR ST SOUTH

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 2.08"

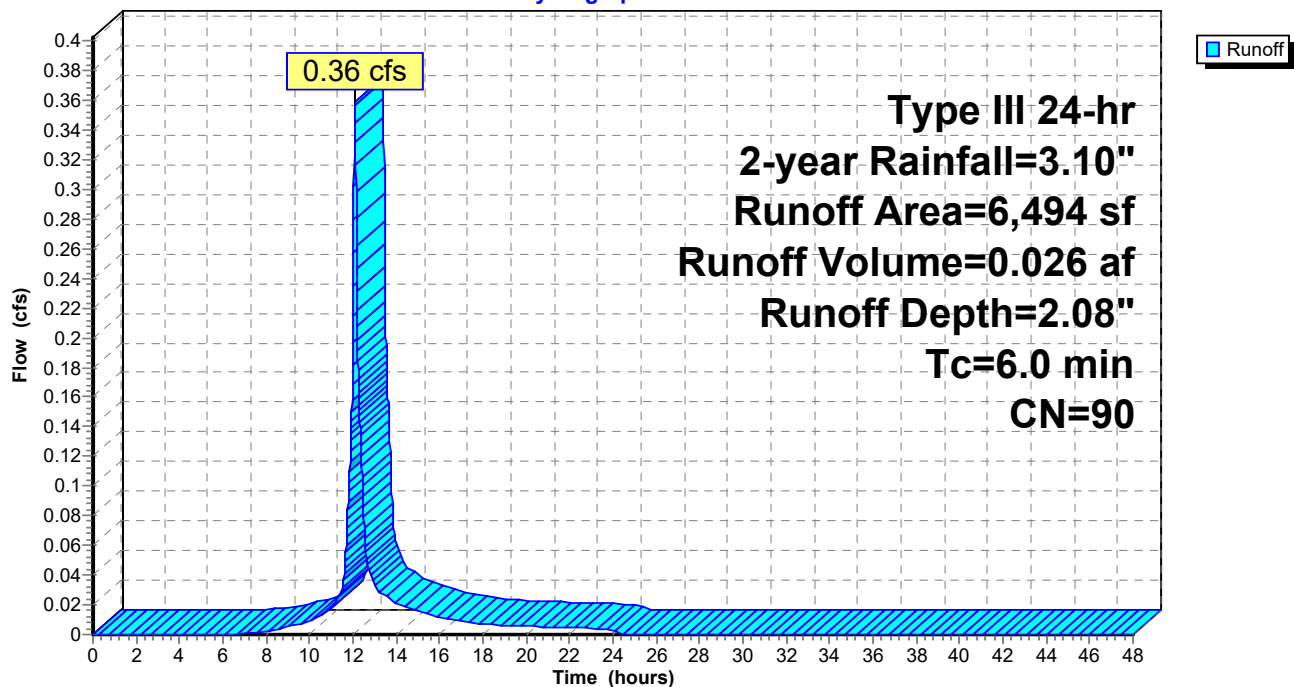
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
1,670	68	<50% Grass cover, Poor, HSG A
4,824	98	Paved parking, HSG A
6,494	90	Weighted Average
1,670	68	25.72% Pervious Area
4,824	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: CEDAR ST SOUTH

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER ST

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.011 af, Depth= 1.20"

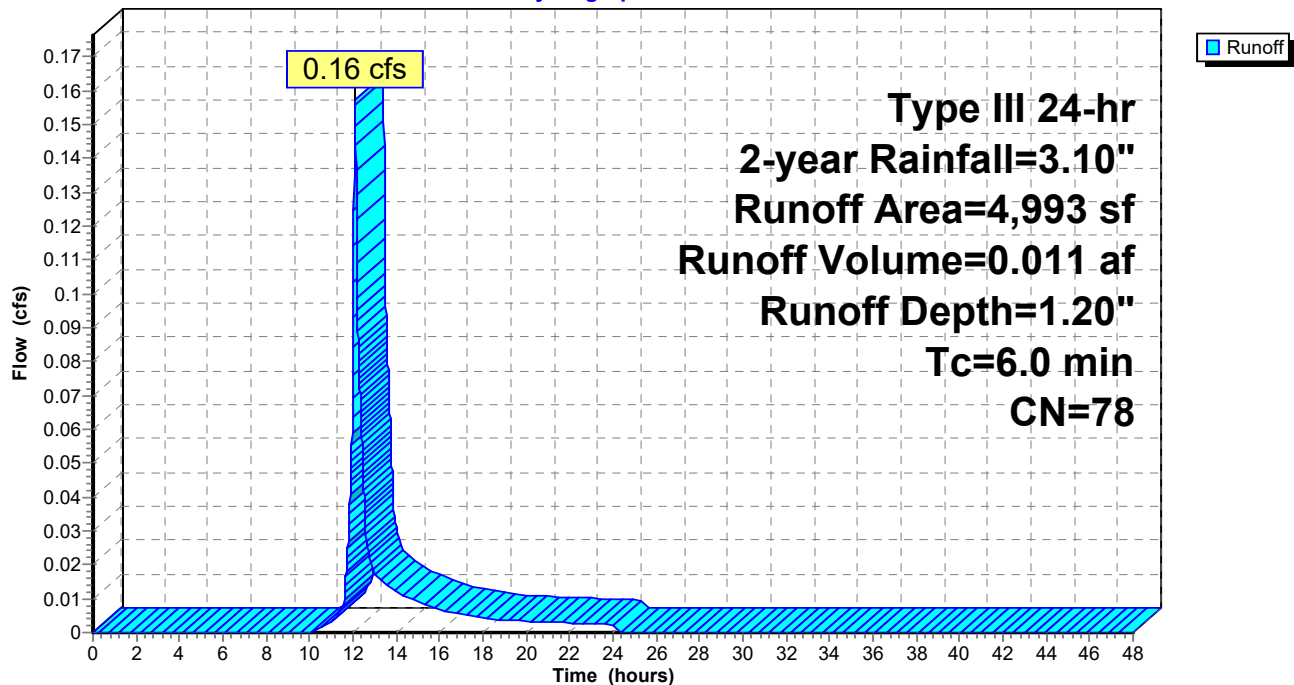
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
3,369	68	<50% Grass cover, Poor, HSG A
1,624	98	Paved parking, HSG A
4,993	78	Weighted Average
3,369	68	67.47% Pervious Area
1,624	98	32.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment S2.1: Parking

Runoff = 0.14 cfs @ 12.08 hrs, Volume= 0.011 af, Depth= 2.87"

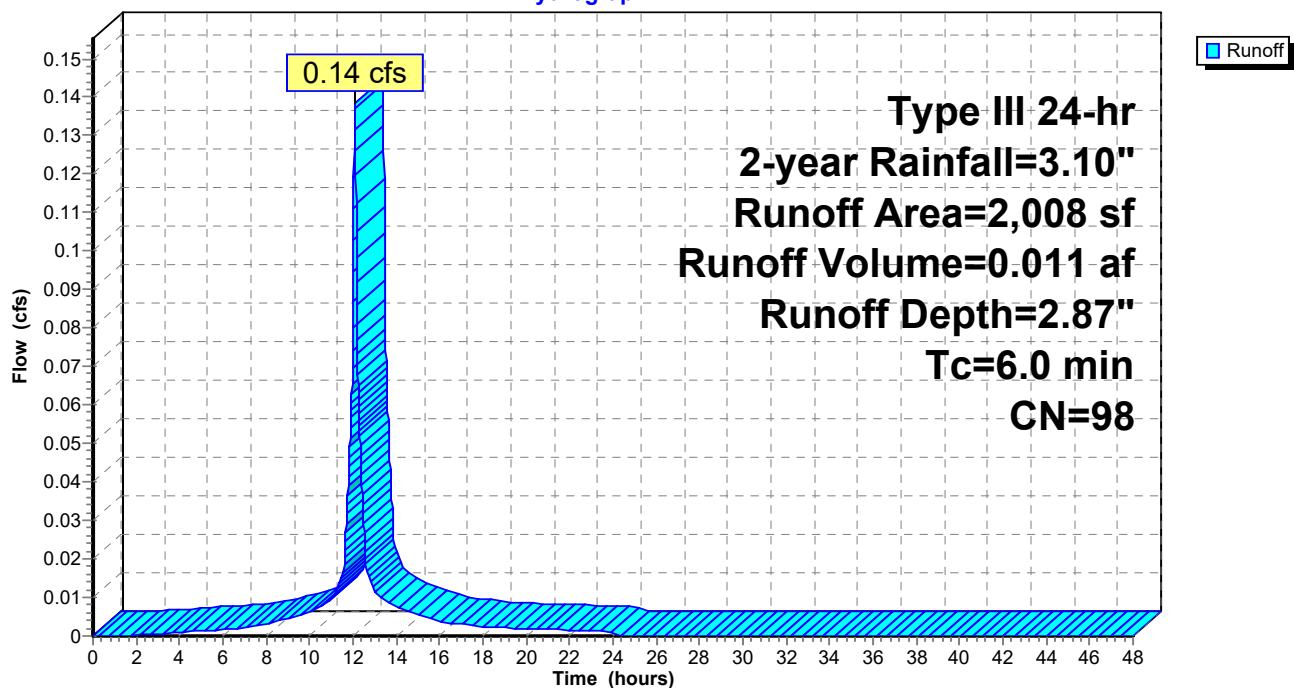
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,008	98	Parking
	2,008	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct

Subcatchment S2.1: Parking

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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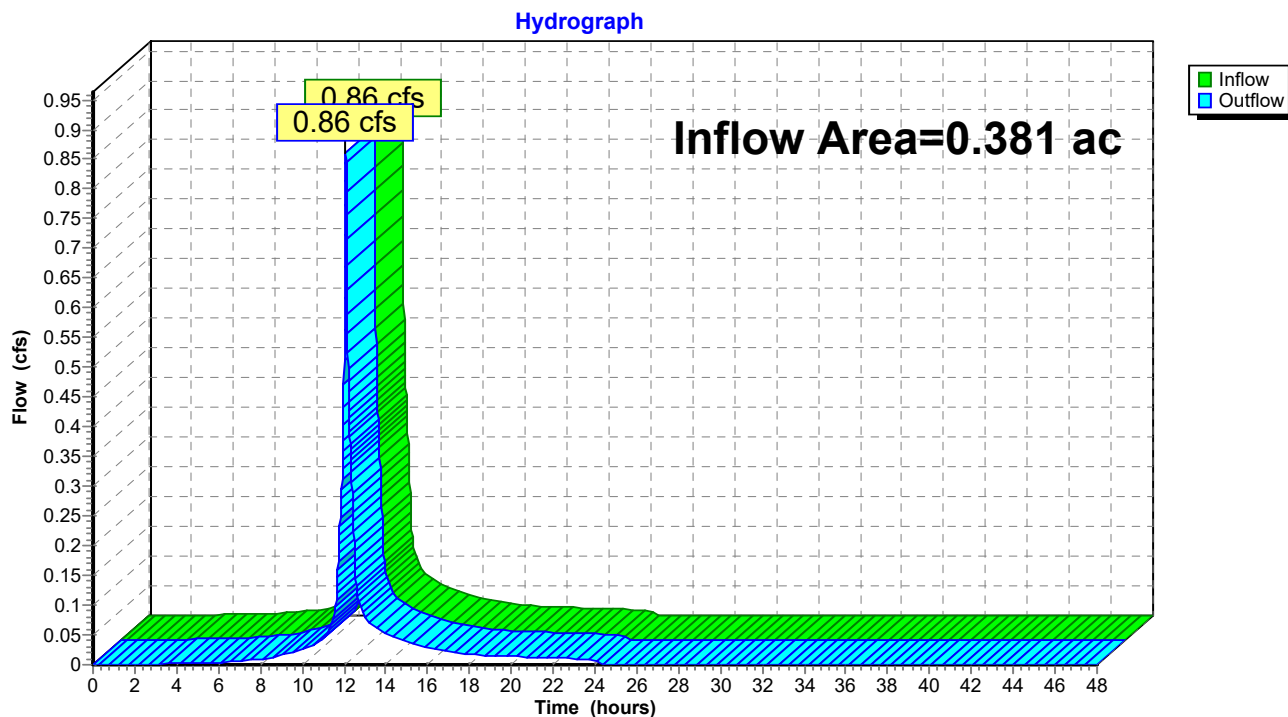
Page 11

Summary for Reach #99: Lancaster St

Inflow Area = 0.381 ac, 68.52% Impervious, Inflow Depth = 2.02" for 2-year event
Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.064 af
Outflow = 0.86 cfs @ 12.09 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster St



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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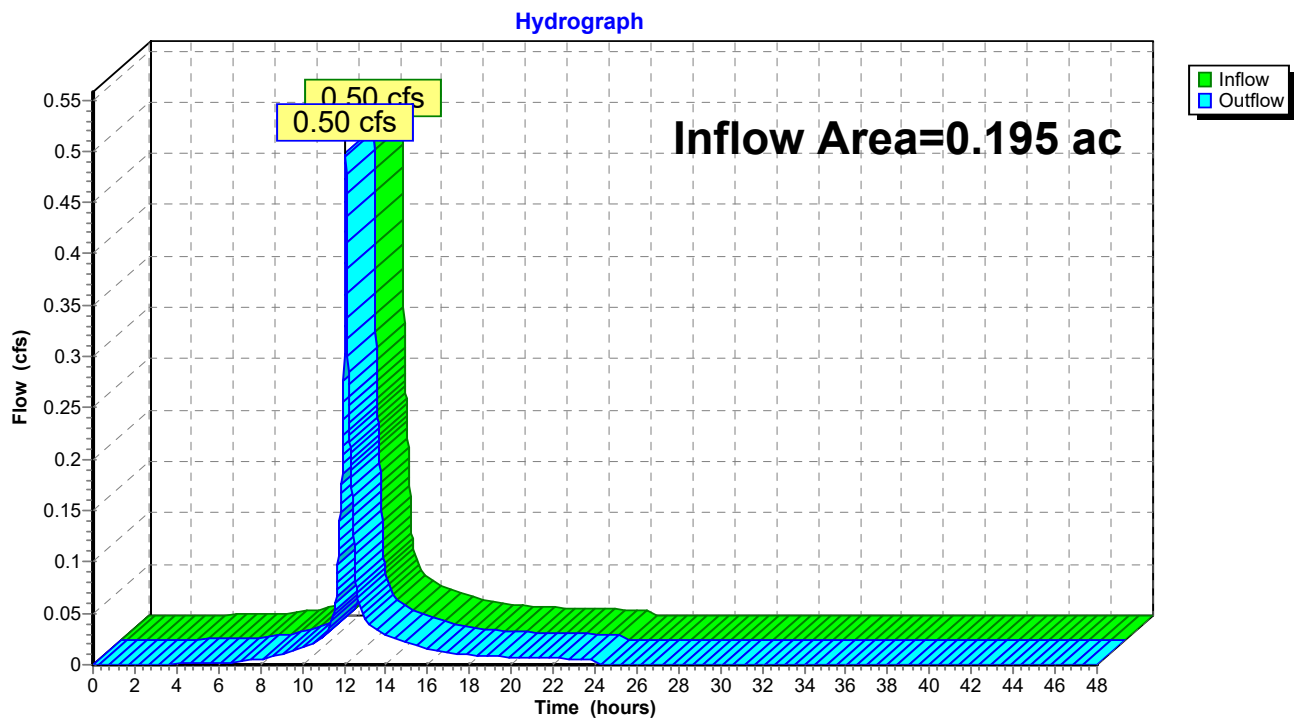
Page 12

Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.195 ac, 80.36% Impervious, Inflow Depth = 2.26" for 2-year event
Inflow = 0.50 cfs @ 12.09 hrs, Volume= 0.037 af
Outflow = 0.50 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 2 - 50 CEDAR ST - PRE*Type III 24-hr 10-year Rainfall=4.60"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: LANCASTER ST Runoff Area=1,862 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.016 af

Subcatchment1.3S: S 1.3 - Alley Runoff Area=1,251 sf 84.89% Impervious Runoff Depth=3.81"
Tc=6.0 min CN=93 Runoff=0.12 cfs 0.009 af

Subcatchment2.2S: CEDAR ST SOUTH Runoff Area=6,494 sf 74.28% Impervious Runoff Depth=3.49"
Tc=6.0 min CN=90 Runoff=0.59 cfs 0.043 af

Subcatchment2.3S: S 2.3 - LANCASTER ST Runoff Area=4,993 sf 32.53% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=78 Runoff=0.32 cfs 0.023 af

SubcatchmentS2.1: Parking Runoff Area=2,008 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af

Reach #99: Lancaster St Inflow=1.43 cfs 0.107 af
Outflow=1.43 cfs 0.107 af

Reach 2R: CEDAR STREET Inflow=0.80 cfs 0.060 af
Outflow=0.80 cfs 0.060 af

Total Runoff Area = 0.381 ac Runoff Volume = 0.107 af Average Runoff Depth = 3.38"
31.48% Pervious = 0.120 ac 68.52% Impervious = 0.261 ac

PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.1S: LANCASTER ST

Runoff = 0.19 cfs @ 12.08 hrs, Volume= 0.016 af, Depth= 4.36"

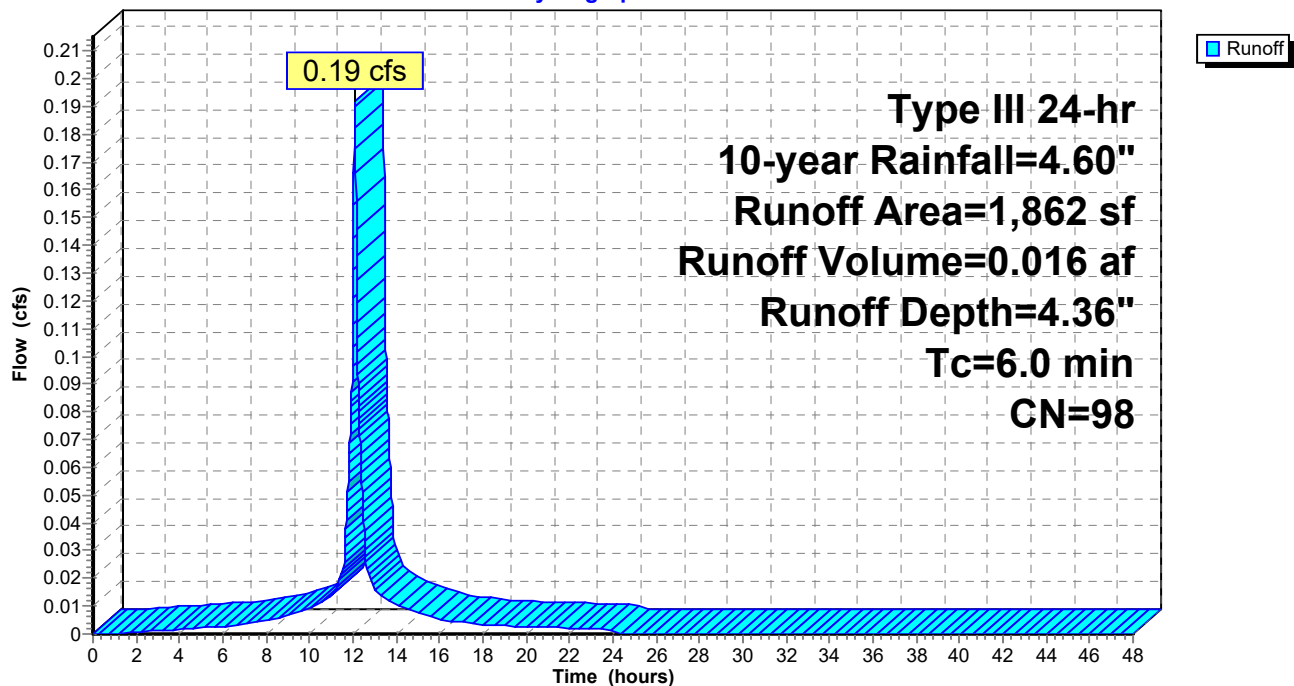
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
1,862	98	Paved parking, HSG A
1,862	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.3S: S 1.3 - Alley

Runoff = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af, Depth= 3.81"

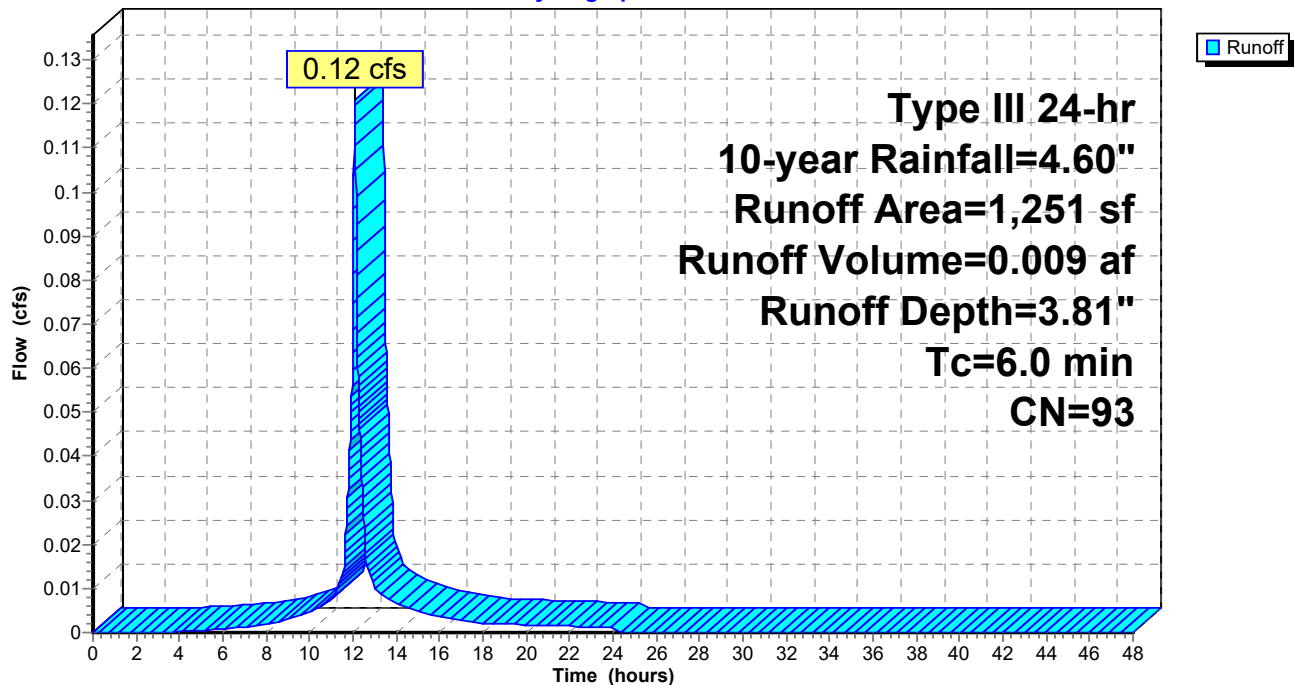
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
189	68	<50% Grass cover, Poor, HSG A
1,062	98	Paved parking, HSG A
1,251	93	Weighted Average
189	68	15.11% Pervious Area
1,062	98	84.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - Alley

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2.2S: CEDAR ST SOUTH

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 3.49"

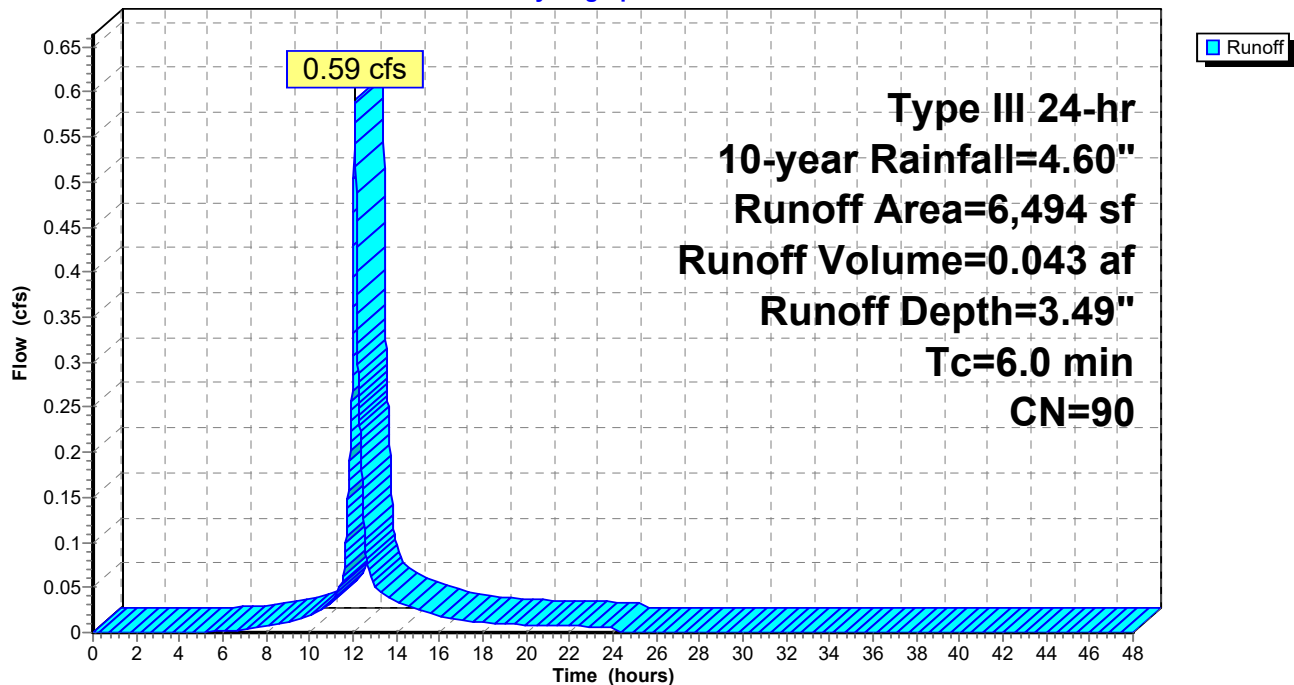
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
1,670	68	<50% Grass cover, Poor, HSG A
4,824	98	Paved parking, HSG A
6,494	90	Weighted Average
1,670	68	25.72% Pervious Area
4,824	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: CEDAR ST SOUTH

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER ST

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 2.38"

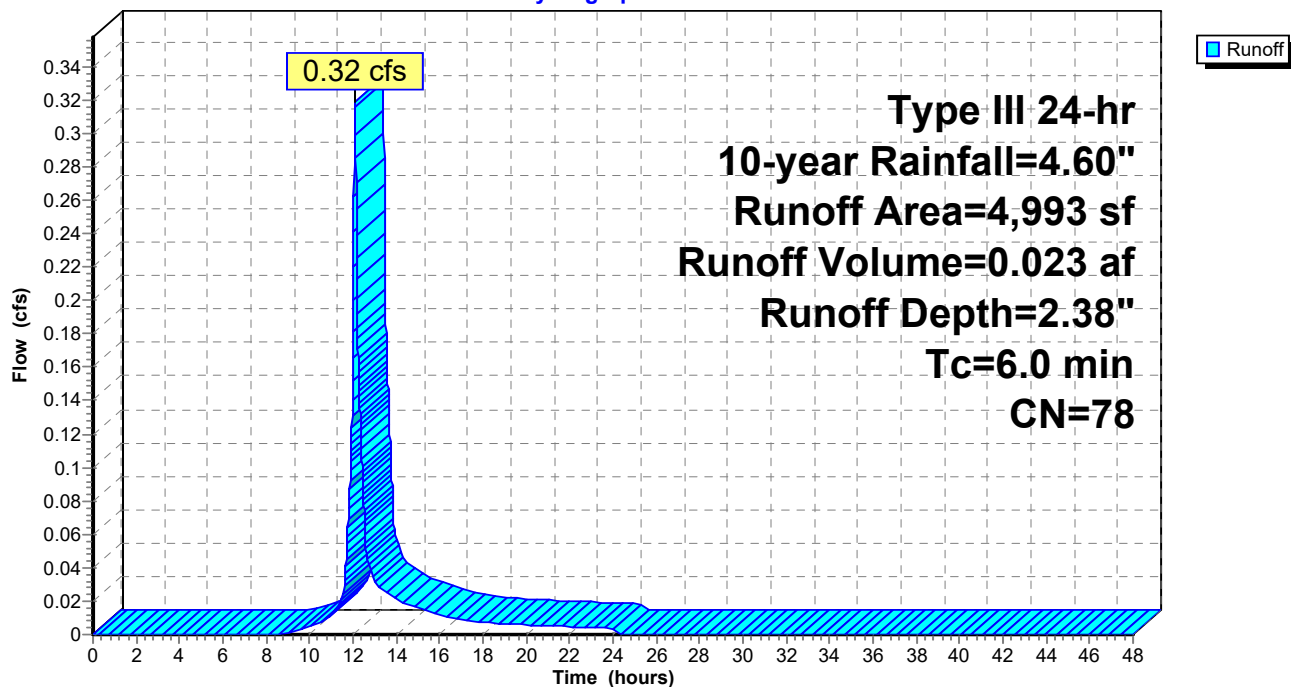
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
3,369	68	<50% Grass cover, Poor, HSG A
1,624	98	Paved parking, HSG A
4,993	78	Weighted Average
3,369	68	67.47% Pervious Area
1,624	98	32.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment S2.1: Parking

Runoff = 0.21 cfs @ 12.08 hrs, Volume= 0.017 af, Depth= 4.36"

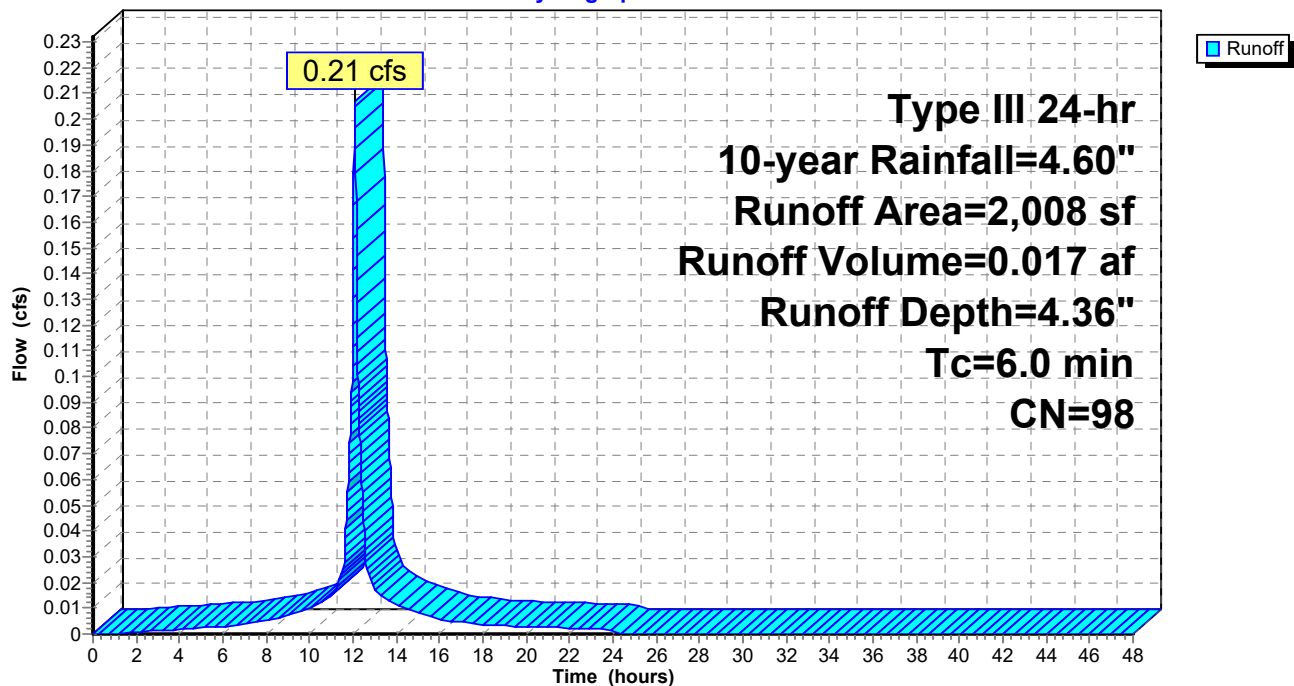
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,008	98	Parking
	2,008	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct

Subcatchment S2.1: Parking

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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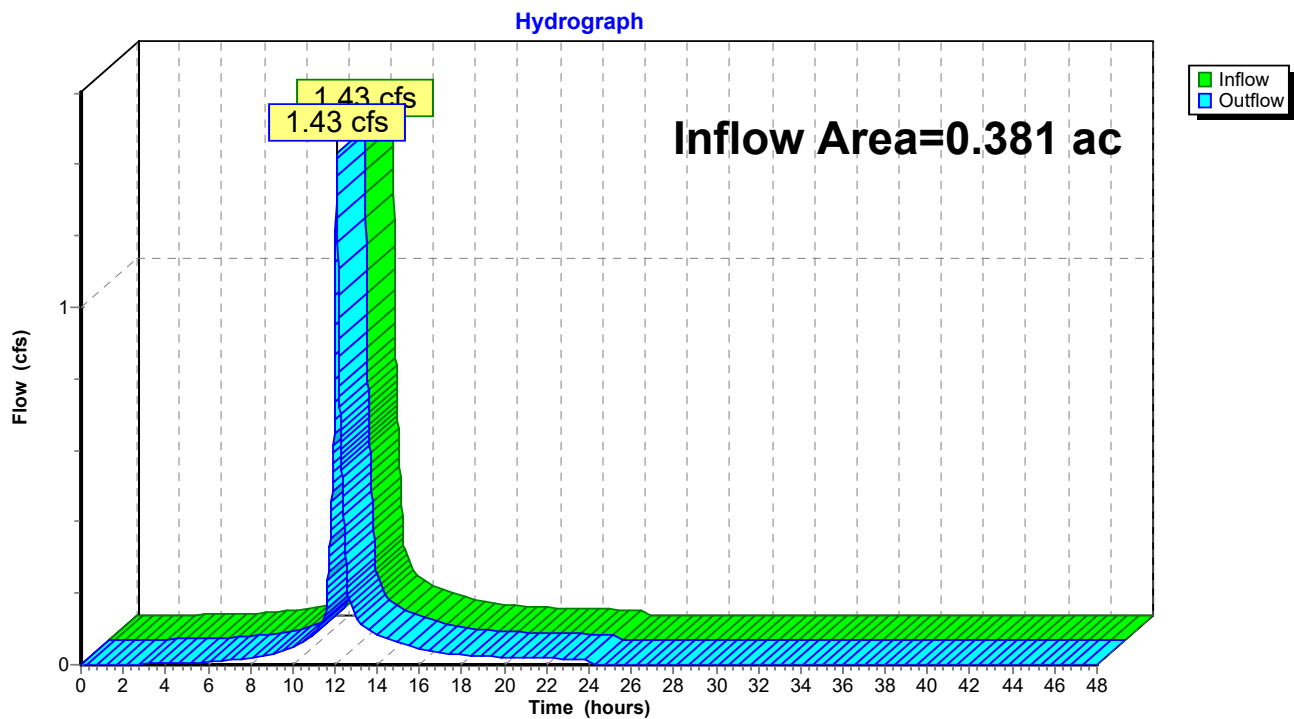
Page 19

Summary for Reach #99: Lancaster St

Inflow Area = 0.381 ac, 68.52% Impervious, Inflow Depth = 3.38" for 10-year event
Inflow = 1.43 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 1.43 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster St



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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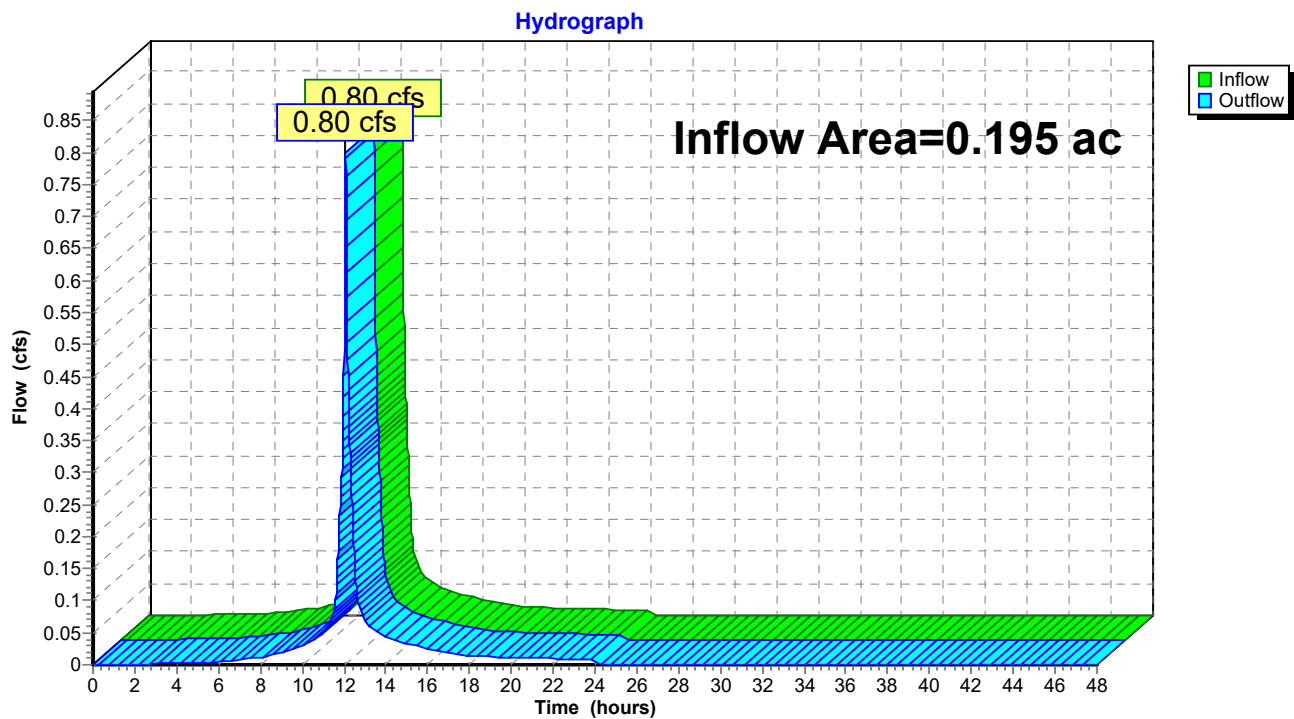
Page 20

Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.195 ac, 80.36% Impervious, Inflow Depth = 3.70" for 10-year event
Inflow = 0.80 cfs @ 12.08 hrs, Volume= 0.060 af
Outflow = 0.80 cfs @ 12.08 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 2 - 50 CEDAR ST - PRE*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: LANCASTER ST Runoff Area=1,862 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af

Subcatchment1.3S: S 1.3 - Alley Runoff Area=1,251 sf 84.89% Impervious Runoff Depth=4.99"
Tc=6.0 min CN=93 Runoff=0.16 cfs 0.012 af

Subcatchment2.2S: CEDAR ST SOUTH Runoff Area=6,494 sf 74.28% Impervious Runoff Depth=4.65"
Tc=6.0 min CN=90 Runoff=0.78 cfs 0.058 af

Subcatchment2.3S: S 2.3 - LANCASTER ST Runoff Area=4,993 sf 32.53% Impervious Runoff Depth=3.40"
Tc=6.0 min CN=78 Runoff=0.46 cfs 0.033 af

SubcatchmentS2.1: Parking Runoff Area=2,008 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.26 cfs 0.021 af

Reach #99: Lancaster St Inflow=1.89 cfs 0.143 af
Outflow=1.89 cfs 0.143 af

Reach 2R: CEDAR STREET Inflow=1.04 cfs 0.079 af
Outflow=1.04 cfs 0.079 af

Total Runoff Area = 0.381 ac Runoff Volume = 0.143 af Average Runoff Depth = 4.51"
31.48% Pervious = 0.120 ac 68.52% Impervious = 0.261 ac

PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.1S: LANCASTER ST

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 5.56"

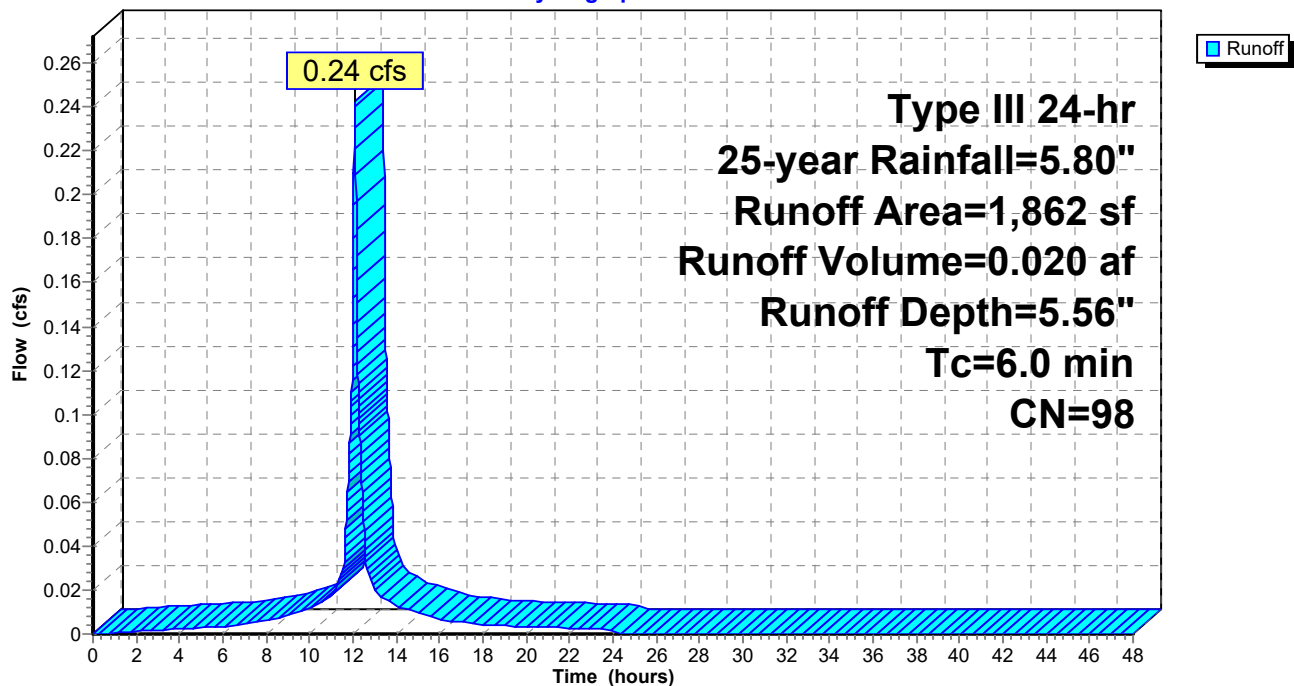
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
1,862	98	Paved parking, HSG A
1,862	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.3S: S 1.3 - Alley

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 4.99"

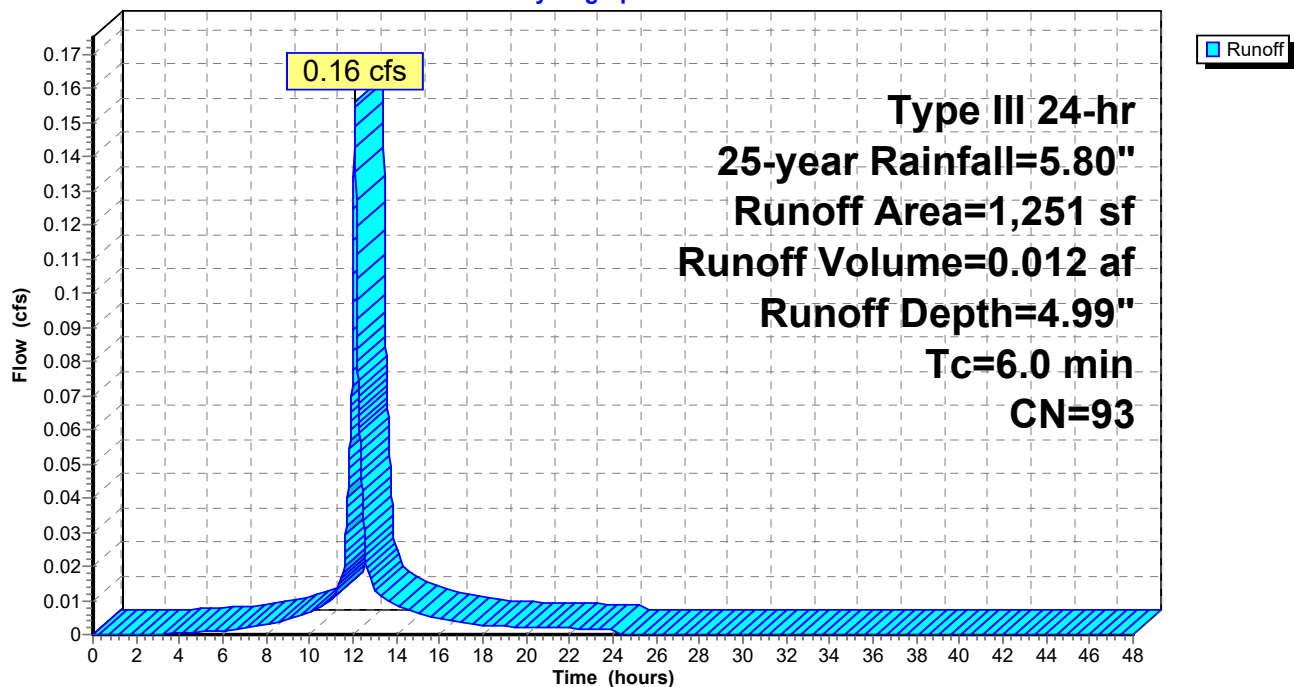
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
189	68	<50% Grass cover, Poor, HSG A
1,062	98	Paved parking, HSG A
1,251	93	Weighted Average
189	68	15.11% Pervious Area
1,062	98	84.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - Alley

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2.2S: CEDAR ST SOUTH

Runoff = 0.78 cfs @ 12.08 hrs, Volume= 0.058 af, Depth= 4.65"

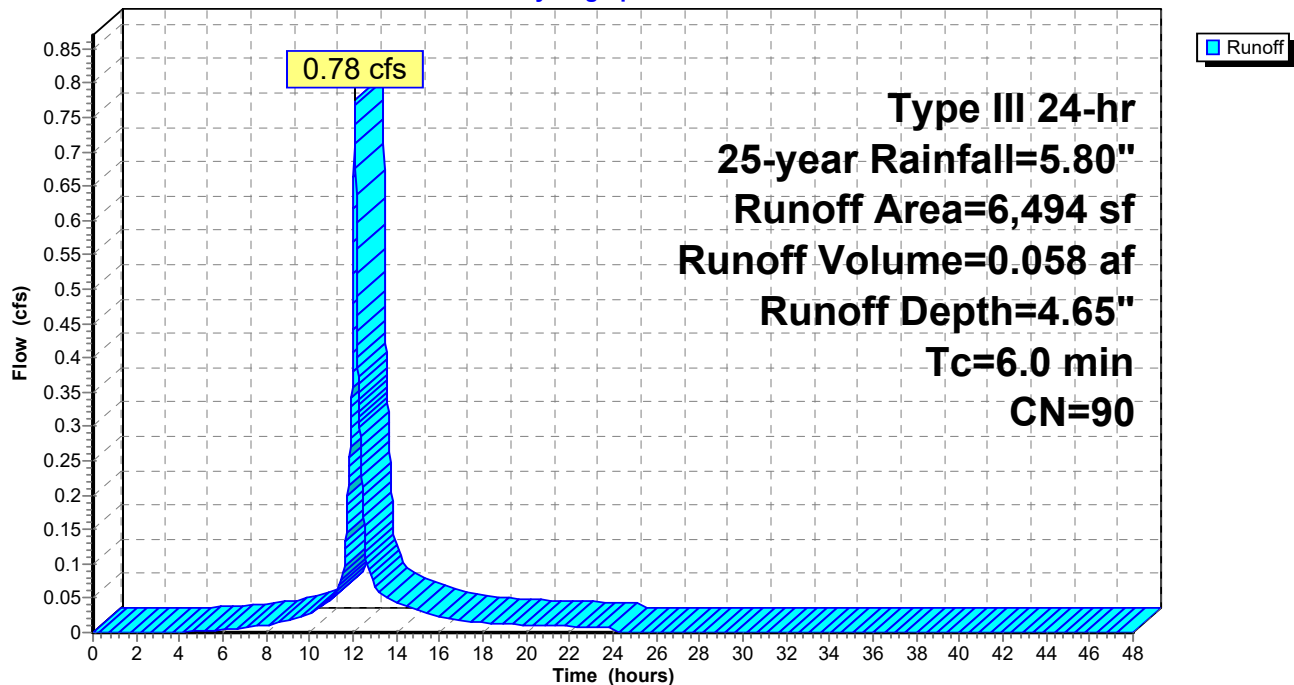
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
1,670	68	<50% Grass cover, Poor, HSG A
4,824	98	Paved parking, HSG A
6,494	90	Weighted Average
1,670	68	25.72% Pervious Area
4,824	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: CEDAR ST SOUTH

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER ST

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 3.40"

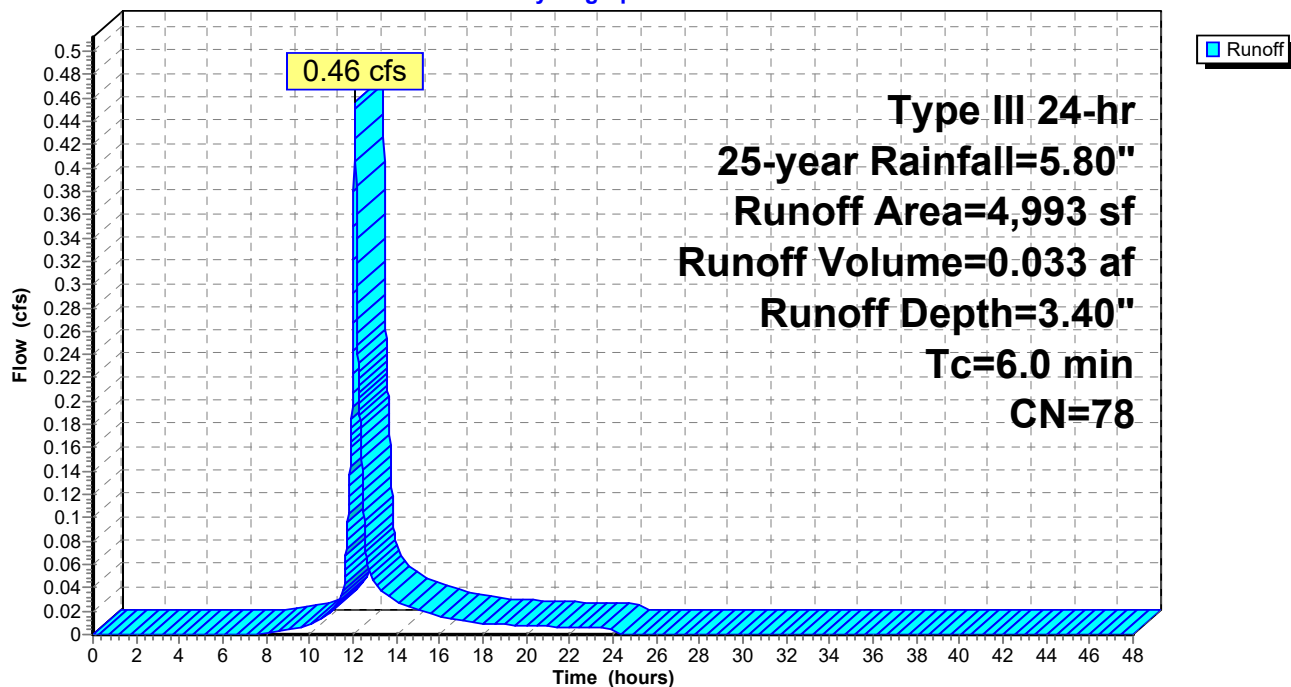
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
3,369	68	<50% Grass cover, Poor, HSG A
1,624	98	Paved parking, HSG A
4,993	78	Weighted Average
3,369	68	67.47% Pervious Area
1,624	98	32.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER ST

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment S2.1: Parking

Runoff = 0.26 cfs @ 12.08 hrs, Volume= 0.021 af, Depth= 5.56"

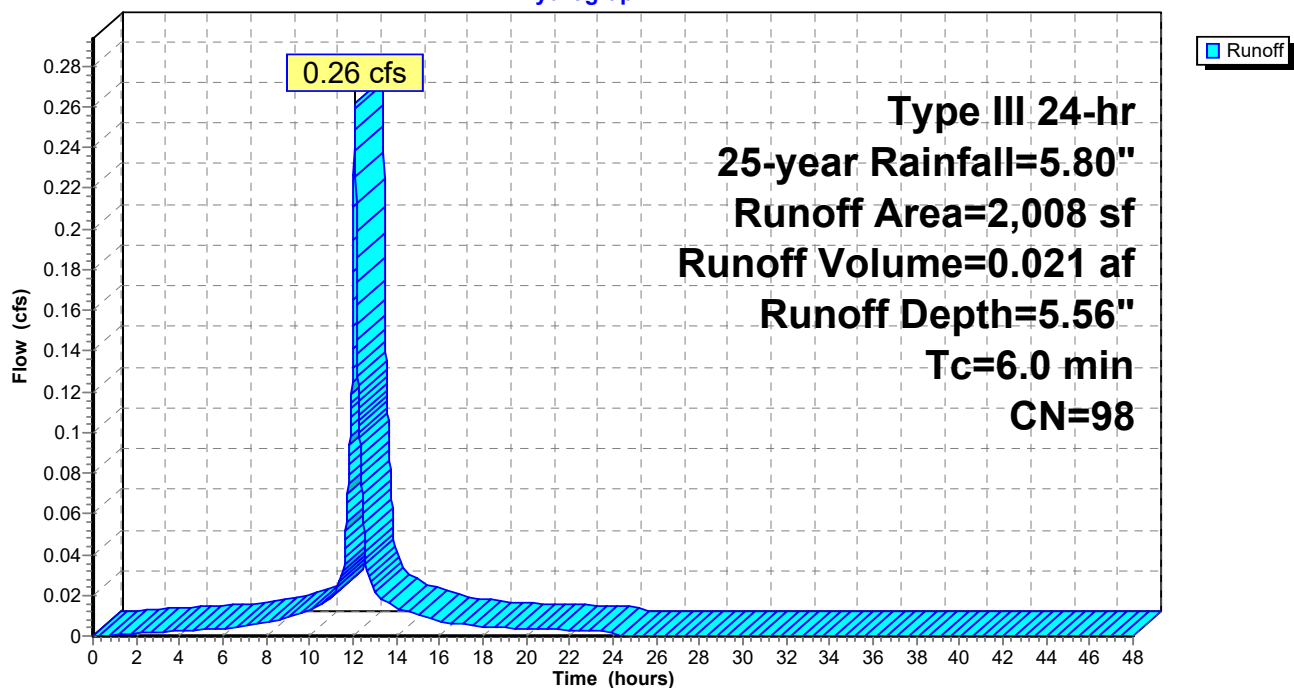
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,008	98	Parking
	2,008	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct

Subcatchment S2.1: Parking

Hydrograph



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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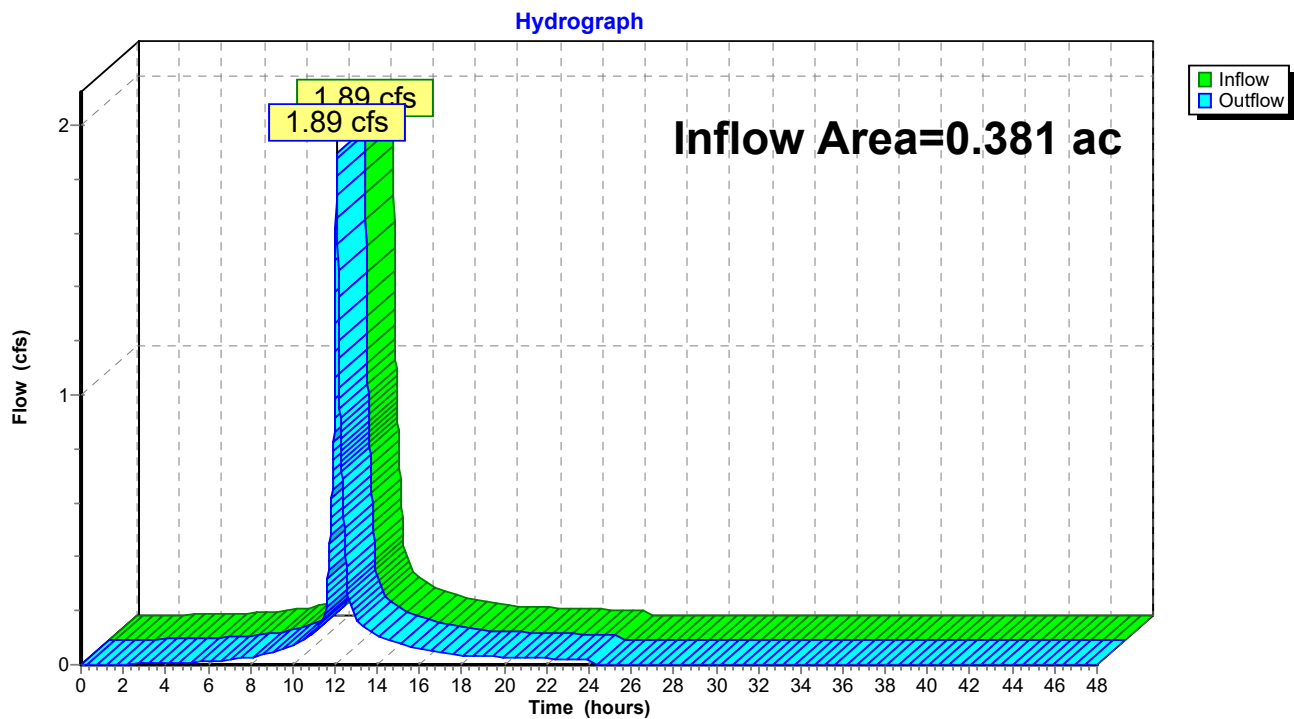
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Summary for Reach #99: Lancaster St

Inflow Area = 0.381 ac, 68.52% Impervious, Inflow Depth = 4.51" for 25-year event
Inflow = 1.89 cfs @ 12.09 hrs, Volume= 0.143 af
Outflow = 1.89 cfs @ 12.09 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster St



PHASE 2 - 50 CEDAR ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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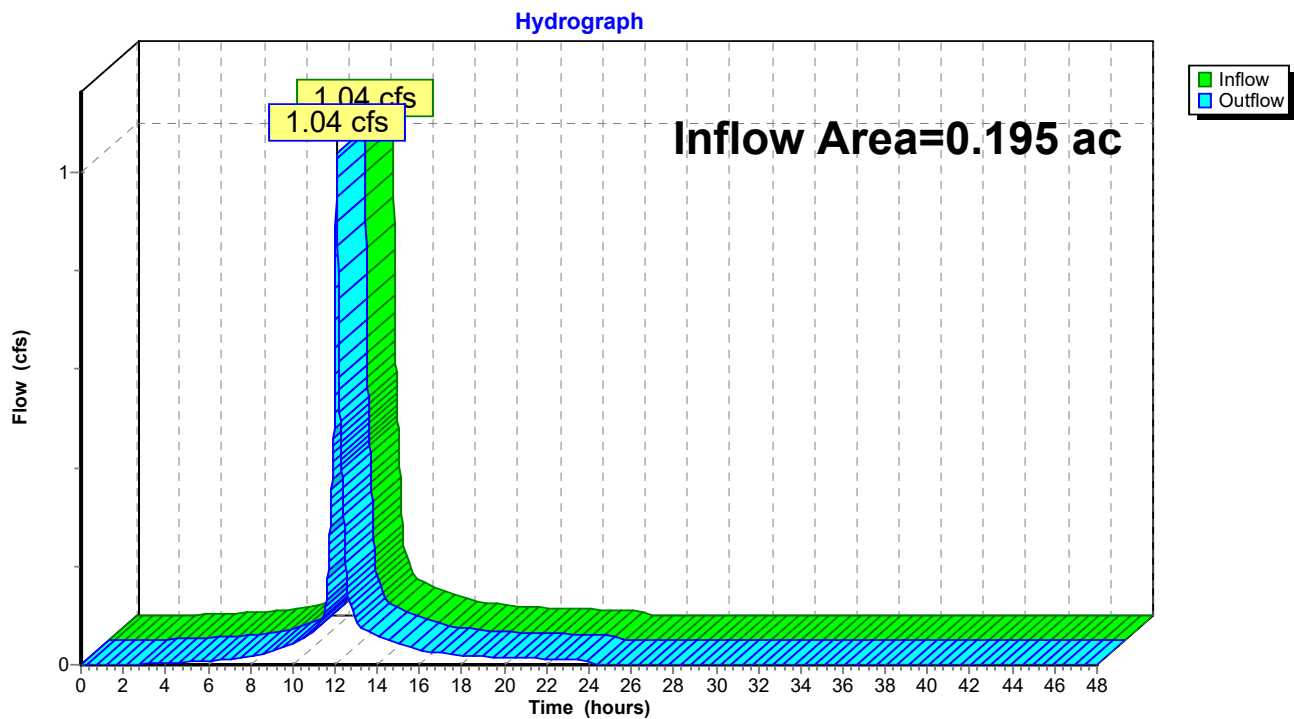
Page 28

Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.195 ac, 80.36% Impervious, Inflow Depth = 4.87" for 25-year event
Inflow = 1.04 cfs @ 12.08 hrs, Volume= 0.079 af
Outflow = 1.04 cfs @ 12.08 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



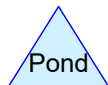
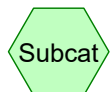
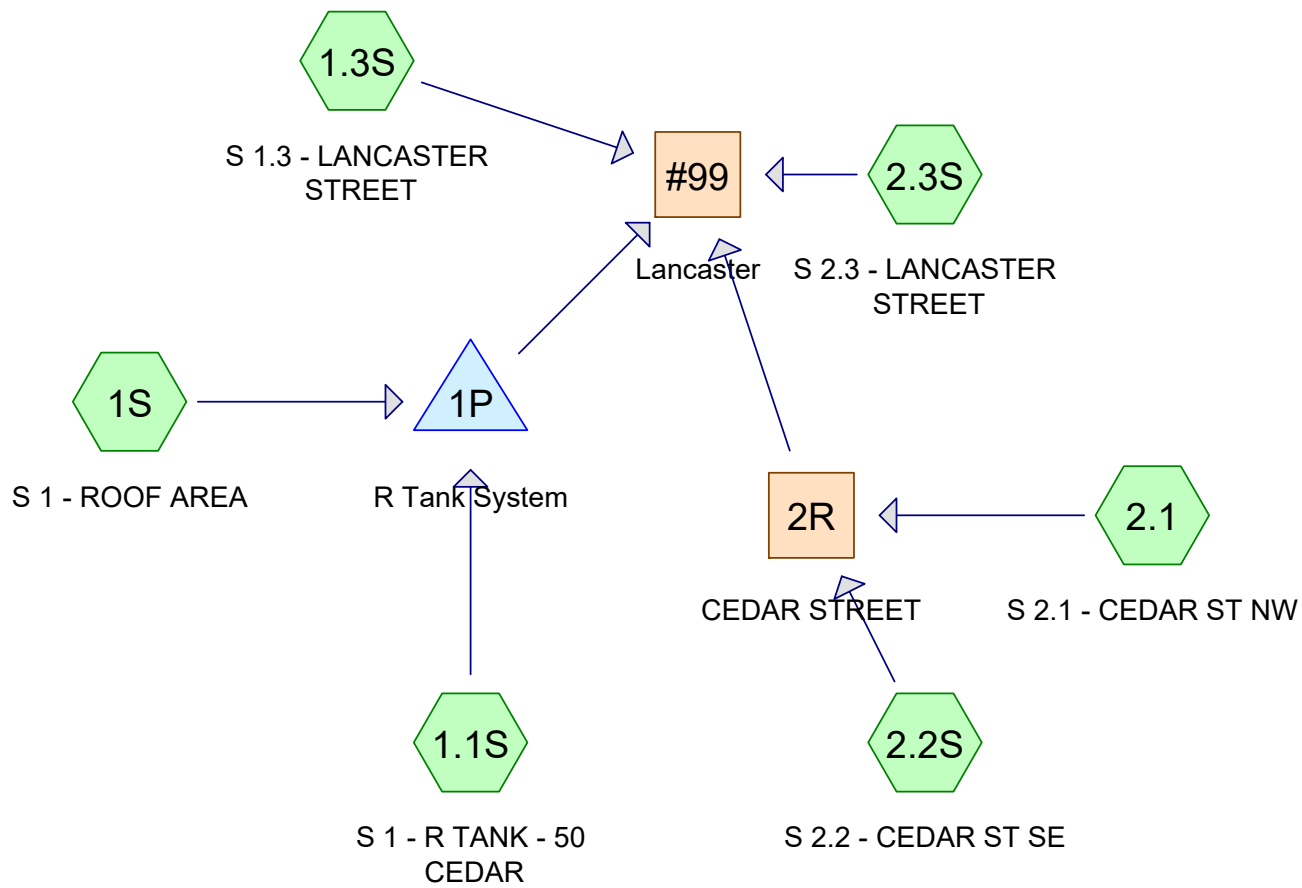
SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Post Development HydroCAD

PHASE 2 - 50 CEDAR STREET





Routing Diagram for PHASE 2 - 50 CEDAR ST - POST
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PHASE 2 - 50 CEDAR ST - POST

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.068	39	>75% Grass cover, Good, HSG A (1.3S, 2.1, 2.2S, 2.3S)
0.202	98	Paved parking, HSG A (1.1S, 1.3S, 2.1, 2.2S, 2.3S)
0.111	98	Roof and Pave (1S)

PHASE 2 - 50 CEDAR ST - POST

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.269	HSG A	1.1S, 1.3S, 2.1, 2.2S, 2.3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.111	Other	1S

PHASE 2 - 50 CEDAR ST - POST

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.068	0.000	0.000	0.000	0.000	0.068	>75% Grass cover, Good	1.3S, 2.1, 2.2S, 2.3S
0.202	0.000	0.000	0.000	0.000	0.202	Paved parking	1.1S, 1.3S, 2.1, 2.2S, 2.3S
0.000	0.000	0.000	0.000	0.111	0.111	Roof and Pave	1S

PHASE 2 - 50 CEDAR ST - POST*Type III 24-hr 2-year Rainfall=3.10"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S 1 - R TANK - 50	Runoff Area=1,944 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.13 cfs 0.011 af
Subcatchment1.3S: S 1.3 - LANCASTER	Runoff Area=1,733 sf 72.01% Impervious Runoff Depth=1.39" Tc=6.0 min CN=81 Runoff=0.06 cfs 0.005 af
Subcatchment1S: S 1 - ROOF AREA	Runoff Area=4,851 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af
Subcatchment2.1: S 2.1 - CEDAR ST NW	Runoff Area=1,397 sf 43.31% Impervious Runoff Depth=0.55" Tc=6.0 min CN=65 Runoff=0.02 cfs 0.001 af
Subcatchment2.2S: S 2.2 - CEDAR ST SE	Runoff Area=6,321 sf 76.29% Impervious Runoff Depth=1.60" Tc=6.0 min CN=84 Runoff=0.27 cfs 0.019 af
Subcatchment2.3S: S 2.3 - LANCASTER	Runoff Area=328 sf 48.48% Impervious Runoff Depth=0.68" Tc=6.0 min CN=68 Runoff=0.01 cfs 0.000 af
Reach #99: Lancaster	Inflow=0.40 cfs 0.062 af Outflow=0.40 cfs 0.062 af
Reach 2R: CEDAR STREET	Inflow=0.29 cfs 0.021 af Outflow=0.29 cfs 0.021 af
Pond 1P: R Tank System	Peak Elev=25.21' Storage=546 cf Inflow=0.47 cfs 0.037 af Outflow=0.21 cfs 0.036 af

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.011 af, Depth= 2.87"

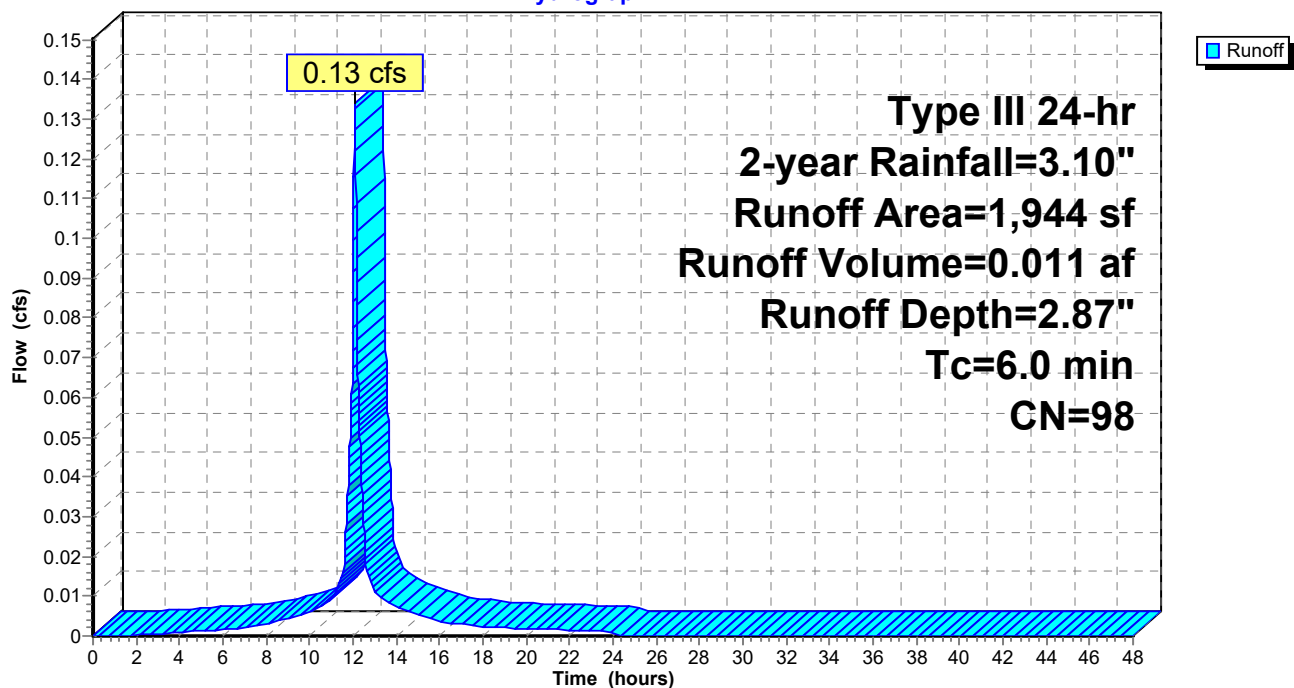
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
1,944	98	Paved parking, HSG A
1,944		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.3S: S 1.3 - LANCASTER STREET

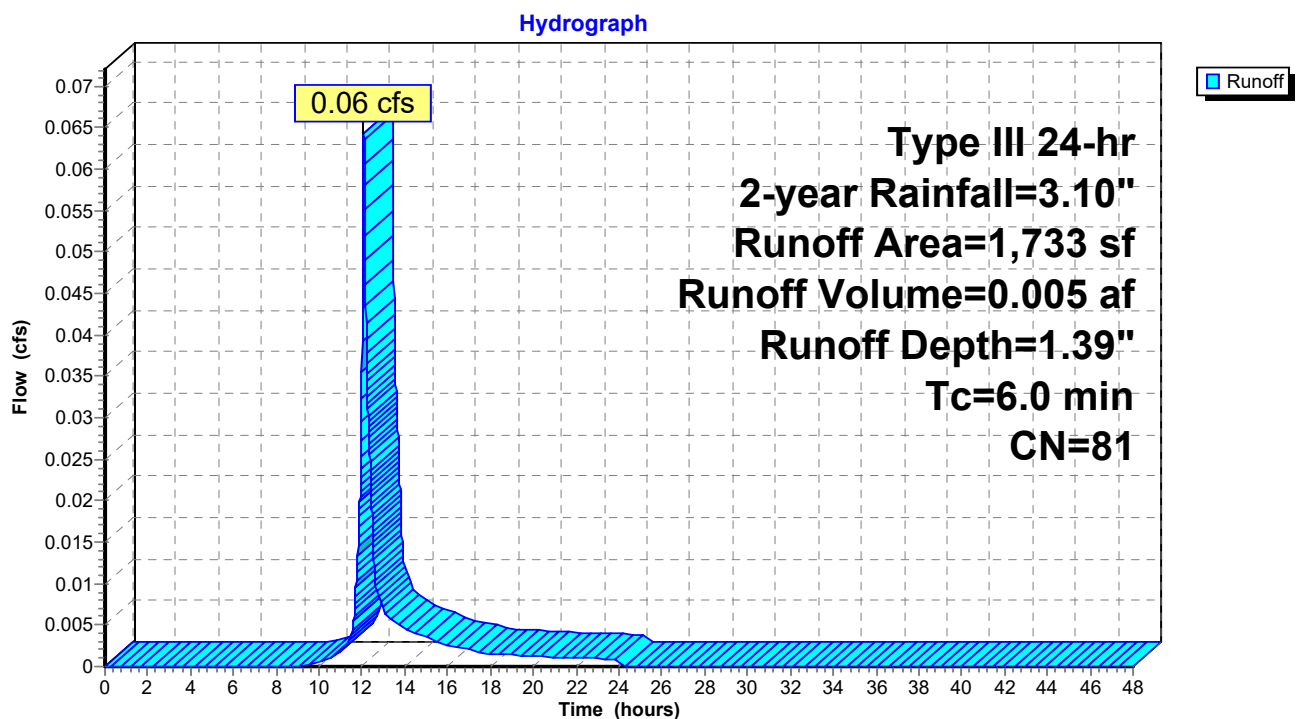
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
485	39	>75% Grass cover, Good, HSG A
1,248	98	Paved parking, HSG A
1,733	81	Weighted Average
485		27.99% Pervious Area
1,248		72.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - LANCASTER STREET



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1S: S 1 - ROOF AREA

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.027 af, Depth= 2.87"

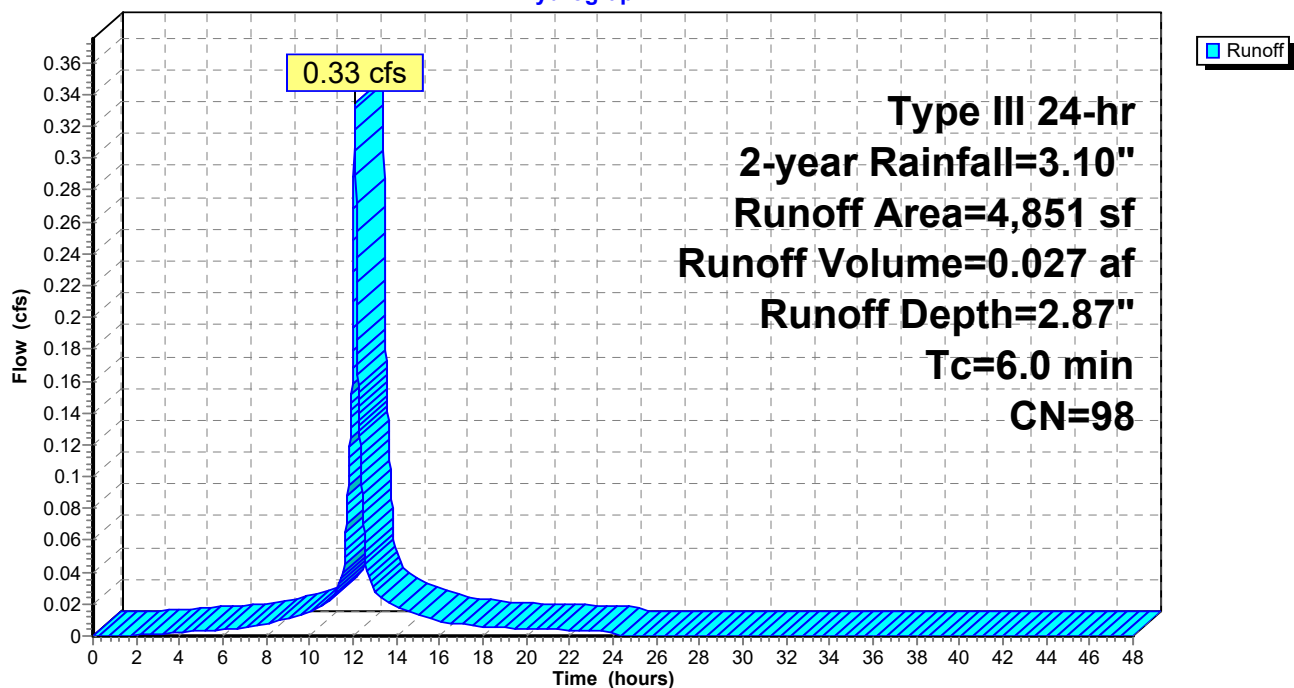
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,851	98	Roof and Pave
	4,851		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - ROOF AREA

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2.1: S 2.1 - CEDAR ST NW

Runoff = 0.02 cfs @ 12.11 hrs, Volume= 0.001 af, Depth= 0.55"

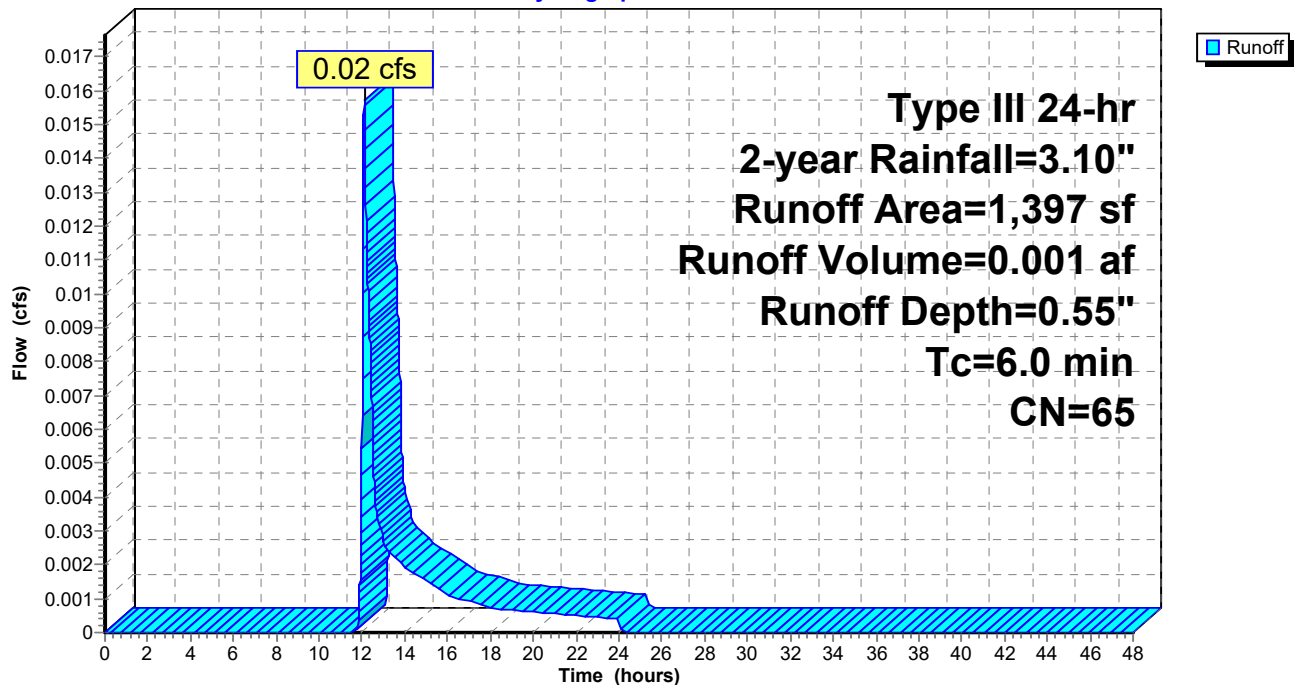
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
792	39	>75% Grass cover, Good, HSG A
605	98	Paved parking, HSG A
1,397	65	Weighted Average
792		56.69% Pervious Area
605		43.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.1: S 2.1 - CEDAR ST NW

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2.2S: S 2.2 - CEDAR ST SE

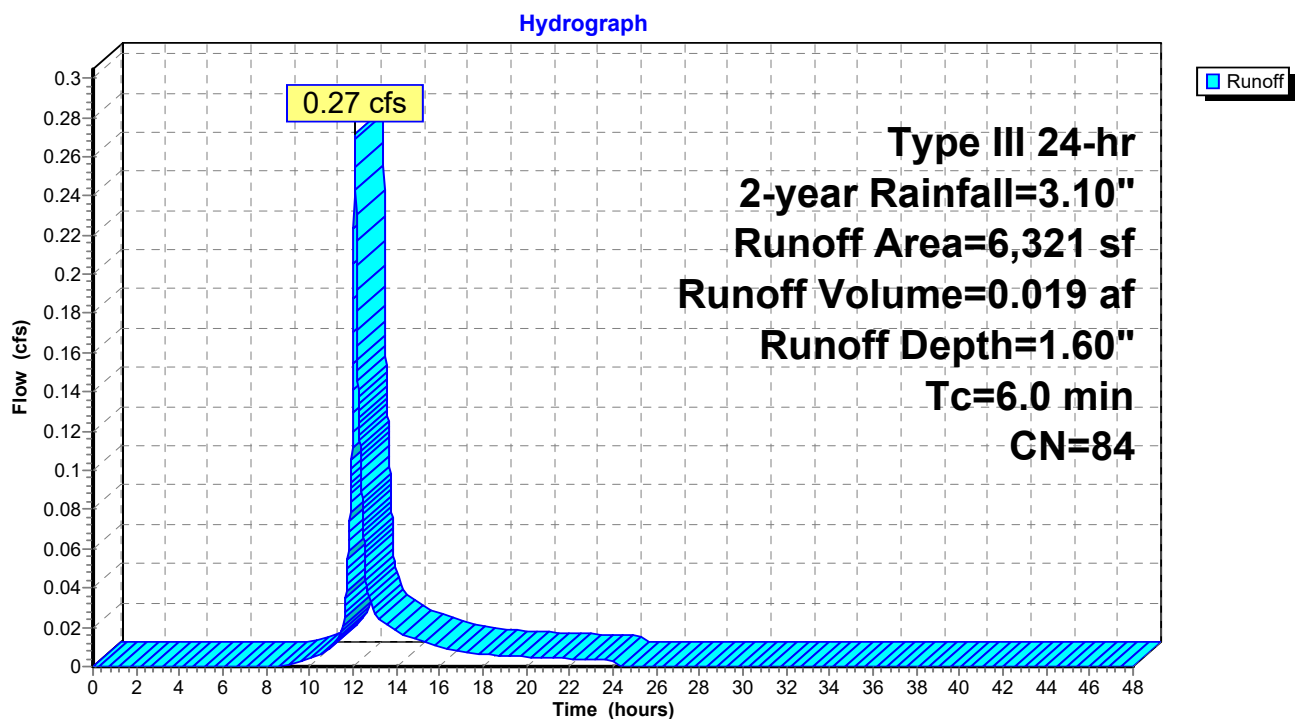
Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
1,499	39	>75% Grass cover, Good, HSG A
4,822	98	Paved parking, HSG A
6,321	84	Weighted Average
1,499		23.71% Pervious Area
4,822		76.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: S 2.2 - CEDAR ST SE



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER STREET

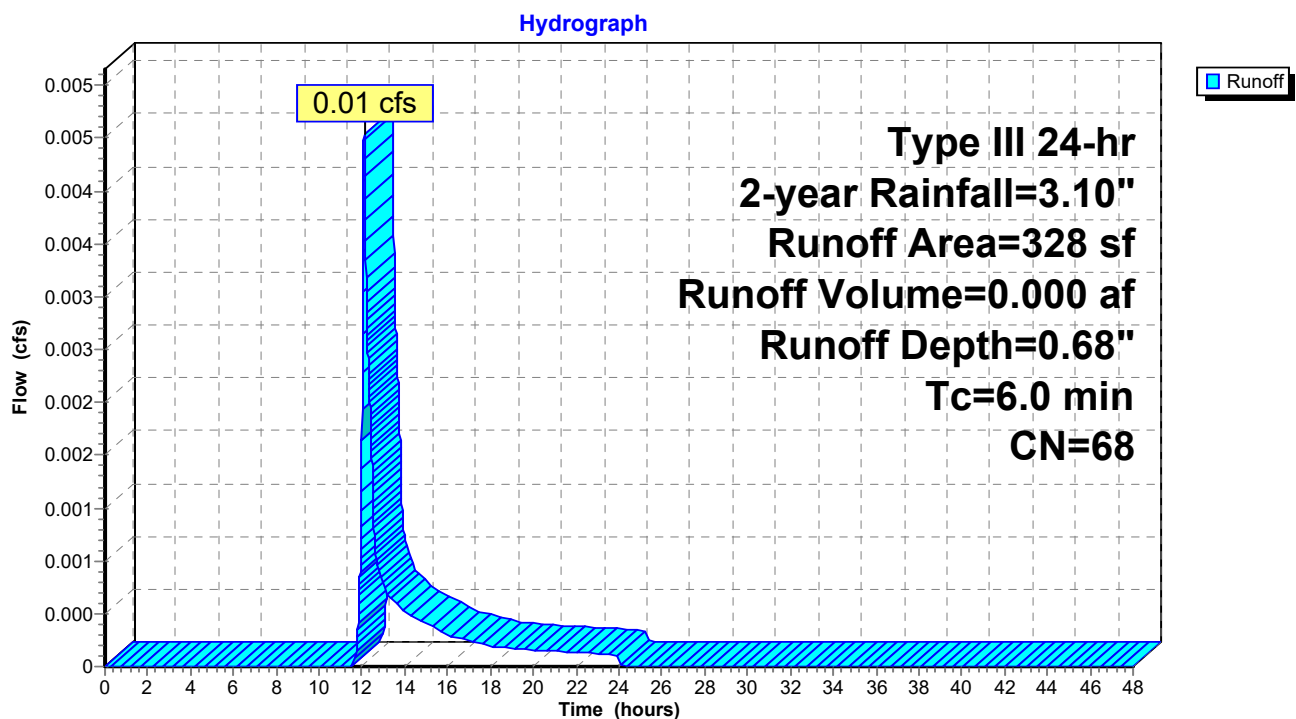
Runoff = 0.01 cfs @ 12.10 hrs, Volume= 0.000 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
169	39	>75% Grass cover, Good, HSG A
159	98	Paved parking, HSG A
328	68	Weighted Average
169		51.52% Pervious Area
159		48.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER STREET



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Type III 24-hr 2-year Rainfall=3.10"

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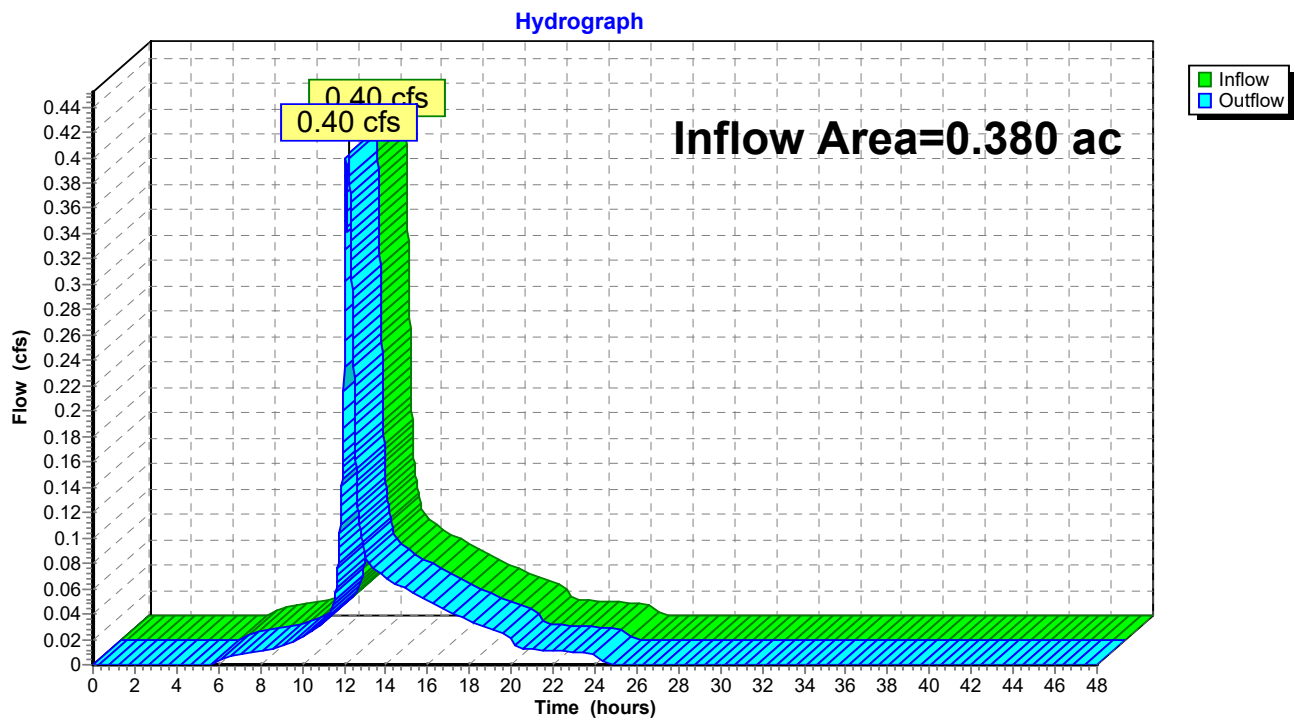
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Summary for Reach #99: Lancaster

Inflow Area = 0.380 ac, 82.23% Impervious, Inflow Depth = 1.96" for 2-year event
Inflow = 0.40 cfs @ 12.22 hrs, Volume= 0.062 af
Outflow = 0.40 cfs @ 12.22 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster



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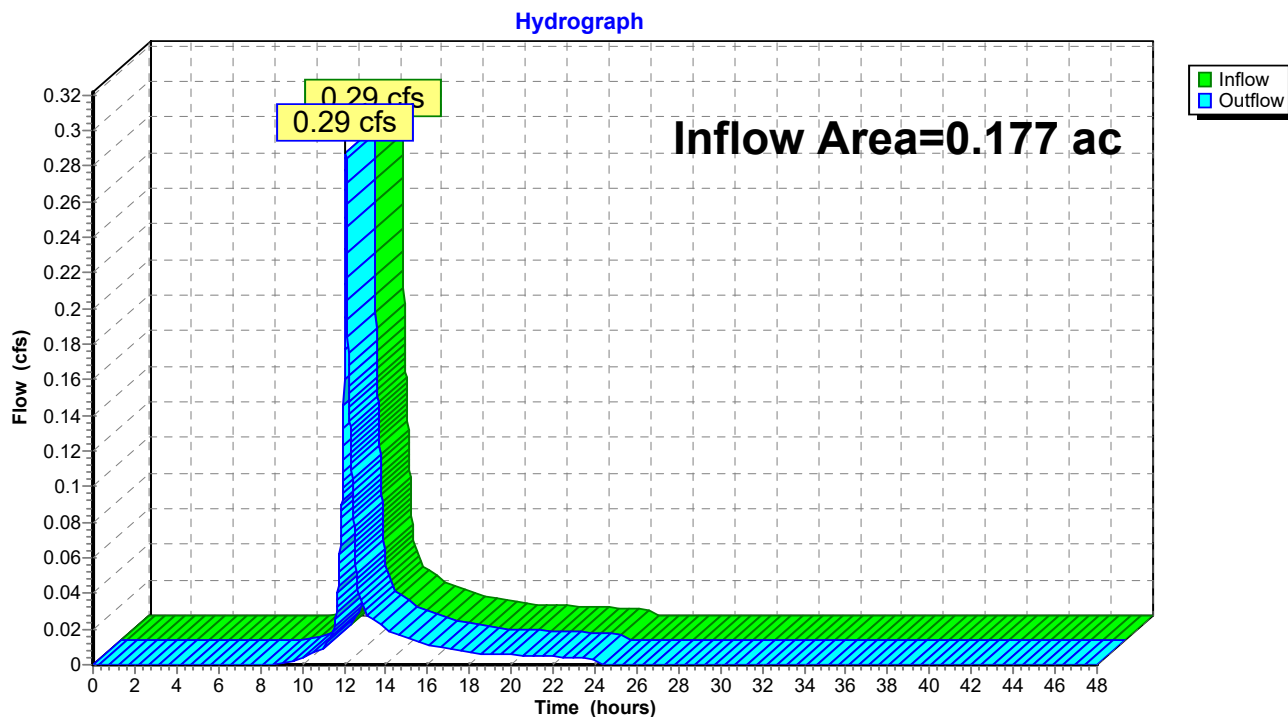
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Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.177 ac, 70.32% Impervious, Inflow Depth = 1.41" for 2-year event
Inflow = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af
Outflow = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 2 - 50 CEDAR ST - POST

Type III 24-hr 2-year Rainfall=3.10"

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Summary for Pond 1P: R Tank System

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 2.87" for 2-year event
 Inflow = 0.47 cfs @ 12.08 hrs, Volume = 0.037 af
 Outflow = 0.21 cfs @ 12.25 hrs, Volume = 0.036 af, Atten = 55%, Lag = 10.2 min
 Primary = 0.21 cfs @ 12.25 hrs, Volume = 0.036 af

Routing by Stor-Ind method, Time Span = 0.00-48.00 hrs, dt = 0.01 hrs
 Peak Elev = 25.21' @ 12.25 hrs Surf.Area = 254 sf Storage = 546 cf
 Flood Elev = 26.75' Surf.Area = 254 sf Storage = 656 cf

Plug-Flow detention time = 114.0 min calculated for 0.036 af (97% of inflow)
 Center-of-Mass det. time = 97.9 min (855.0 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1B	21.68'	325 cf	9.25'W x 27.46'L x 4.57'H Field B 1,161 cf Overall - 347 cf Embedded = 814 cf x 40.0% Voids
#2B	22.43'	330 cf	ACF R-Tank HD 2 x 40 Inside #1 Inside = 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside = 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 40 Chambers in 4 Rows
		656 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	21.74'	10.0" Round 10" Culvert L = 9.0' CPP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 21.74' / 21.70' S = 0.0044 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.55 sf
#2	Device 1	21.84'	1.0" Vert. 1" Orifice C = 0.600
#3	Device 2	22.09'	4.0" Round 4" UNDERDRAIN L = 50.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 22.09' / 21.84' S = 0.0050 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.09 sf
#4	Device 1	24.92'	8.0" Round 8" COMBINED OVERFLOW PIPE L = 3.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 24.92' / 24.90' S = 0.0067 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.35 sf
#5	Device 4	24.92'	4.0" Round 3 - 4" OVERFLOW PIPES X 3.00 L = 2.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 24.92' / 24.91' S = 0.0050 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.09 sf

Primary OutFlow Max = 0.21 cfs @ 12.25 hrs HW = 25.20' (Free Discharge)

1 = 10" Culvert (Passes 0.21 cfs of 3.62 cfs potential flow)
 2 = 1" Orifice (Orifice Controls 0.05 cfs @ 8.78 fps)
 3 = 4" UNDERDRAIN (Passes 0.05 cfs of 0.50 cfs potential flow)
 4 = 8" COMBINED OVERFLOW PIPE (Barrel Controls 0.16 cfs @ 1.69 fps)
 5 = 3 - 4" OVERFLOW PIPES (Passes 0.16 cfs of 0.28 cfs potential flow)

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Pond 1P: R Tank System - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

10 Chambers/Row x 2.35' Long = 23.46' Row Length +24.0" End Stone x 2 = 27.46' Base Length

4 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 9.25' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

40 Chambers x 8.3 cf = 330.1 cf Chamber Storage

40 Chambers x 8.7 cf = 347.4 cf Displacement

1,161.0 cf Field - 347.4 cf Chambers = 813.6 cf Stone x 40.0% Voids = 325.4 cf Stone Storage

Chamber Storage + Stone Storage = 655.5 cf = 0.015 af

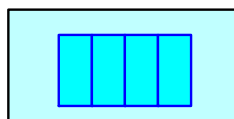
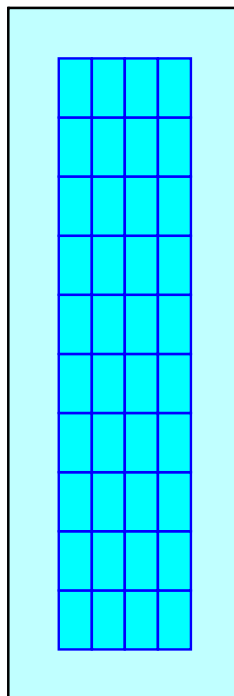
Overall Storage Efficiency = 56.5%

Overall System Size = 27.46' x 9.25' x 4.57'

40 Chambers

43.0 cy Field

30.1 cy Stone



PHASE 2 - 50 CEDAR ST - POST

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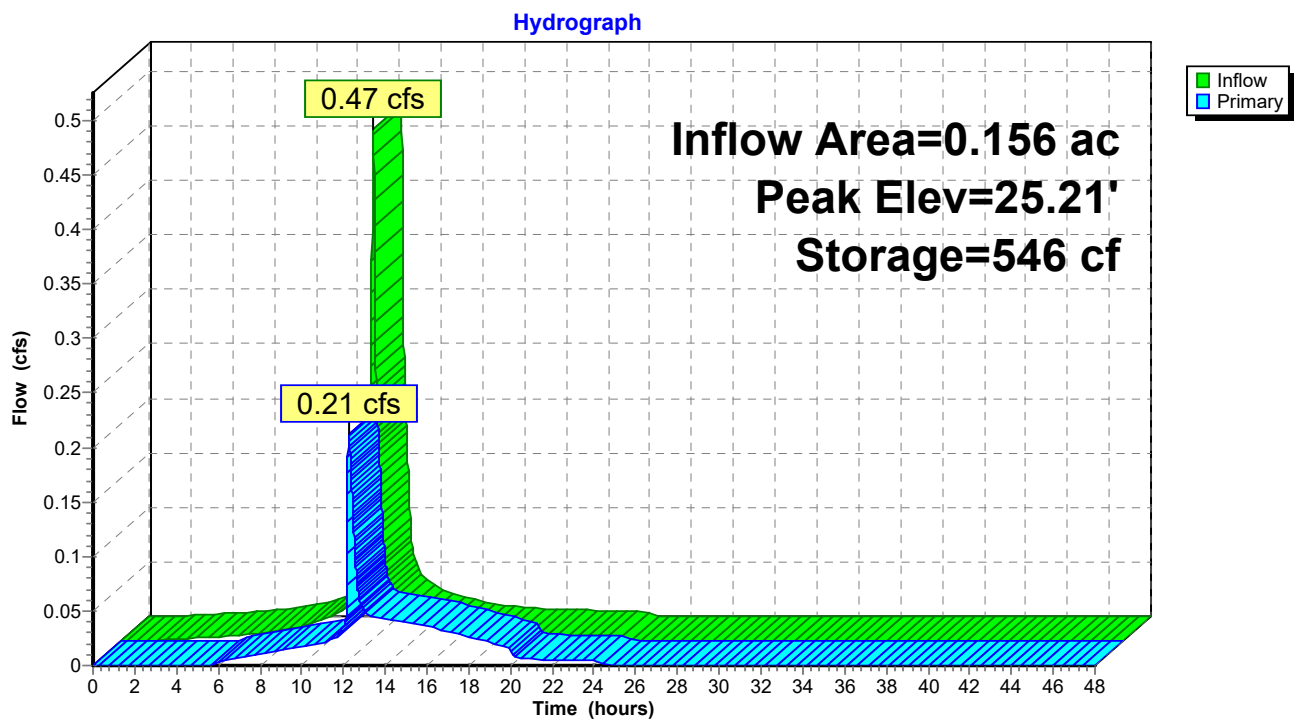
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Type III 24-hr 2-year Rainfall=3.10"

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Pond 1P: R Tank System



PHASE 2 - 50 CEDAR ST - POST*Type III 24-hr 2-year Rainfall=3.10"*

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Stage-Area-Storage for Pond 1P: R Tank System

Elevation (feet)	Storage (cubic-feet)
21.68	0
21.78	10
21.88	20
21.98	30
22.08	41
22.18	51
22.28	61
22.38	71
22.48	85
22.58	102
22.68	119
22.78	135
22.88	152
22.98	169
23.08	186
23.18	203
23.28	220
23.38	237
23.48	254
23.58	271
23.68	288
23.78	305
23.88	322
23.98	339
24.08	356
24.18	372
24.28	389
24.38	406
24.48	423
24.58	440
24.68	457
24.78	474
24.88	491
24.98	508
25.08	525
25.18	542
25.28	557
25.38	567
25.48	577
25.58	587
25.68	597
25.78	608
25.88	618
25.98	628
26.08	638
26.18	648
26.28	656
26.38	656
26.48	656
26.58	656
26.68	656

PHASE 2 - 50 CEDAR ST - POST*Type III 24-hr 10-year Rainfall=4.60"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S 1 - R TANK - 50	Runoff Area=1,944 sf 100.00% Impervious Runoff Depth=4.36" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment1.3S: S 1.3 - LANCASTER	Runoff Area=1,733 sf 72.01% Impervious Runoff Depth=2.63" Tc=6.0 min CN=81 Runoff=0.12 cfs 0.009 af
Subcatchment1S: S 1 - ROOF AREA	Runoff Area=4,851 sf 100.00% Impervious Runoff Depth=4.36" Tc=6.0 min CN=98 Runoff=0.50 cfs 0.040 af
Subcatchment2.1: S 2.1 - CEDAR ST NW	Runoff Area=1,397 sf 43.31% Impervious Runoff Depth=1.39" Tc=6.0 min CN=65 Runoff=0.05 cfs 0.004 af
Subcatchment2.2S: S 2.2 - CEDAR ST SE	Runoff Area=6,321 sf 76.29% Impervious Runoff Depth=2.91" Tc=6.0 min CN=84 Runoff=0.49 cfs 0.035 af
Subcatchment2.3S: S 2.3 - LANCASTER	Runoff Area=328 sf 48.48% Impervious Runoff Depth=1.60" Tc=6.0 min CN=68 Runoff=0.01 cfs 0.001 af
Reach #99: Lancaster	Inflow=1.35 cfs 0.104 af Outflow=1.35 cfs 0.104 af
Reach 2R: CEDAR STREET	Inflow=0.54 cfs 0.039 af Outflow=0.54 cfs 0.039 af
Pond 1P: R Tank System	Peak Elev=25.54' Storage=584 cf Inflow=0.70 cfs 0.057 af Outflow=0.68 cfs 0.056 af

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.016 af, Depth= 4.36"

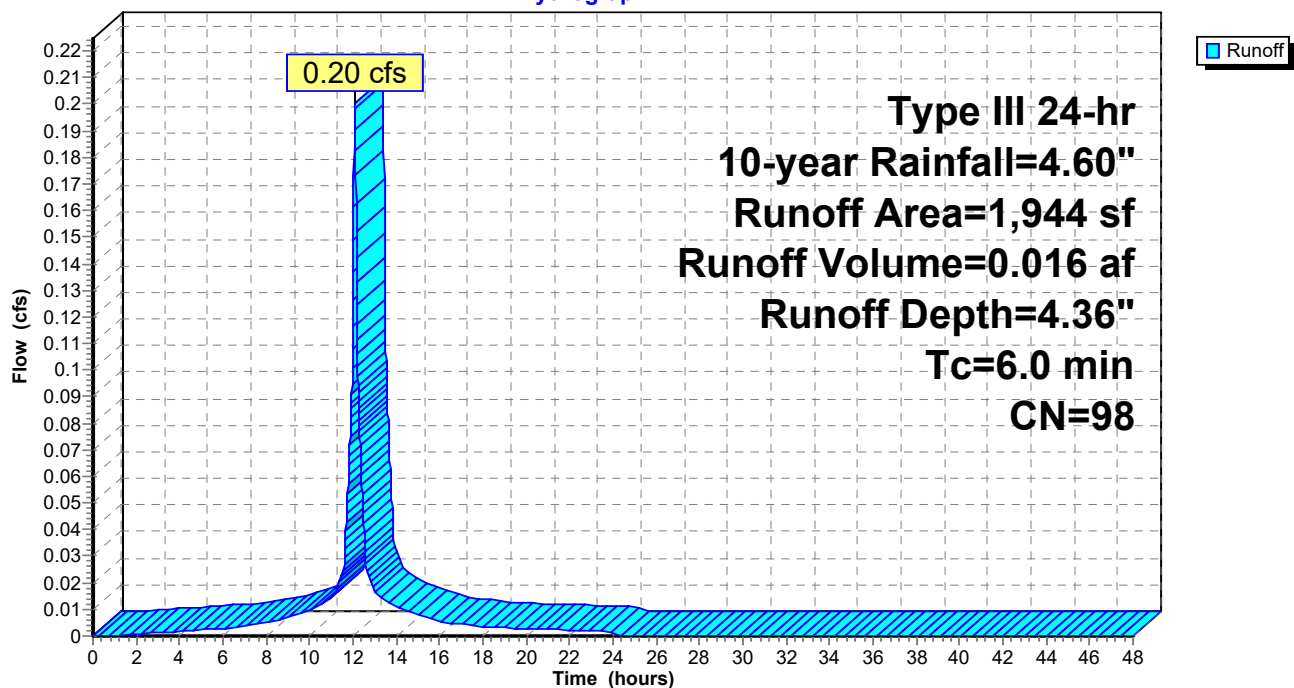
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
1,944	98	Paved parking, HSG A
1,944		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.3S: S 1.3 - LANCASTER STREET

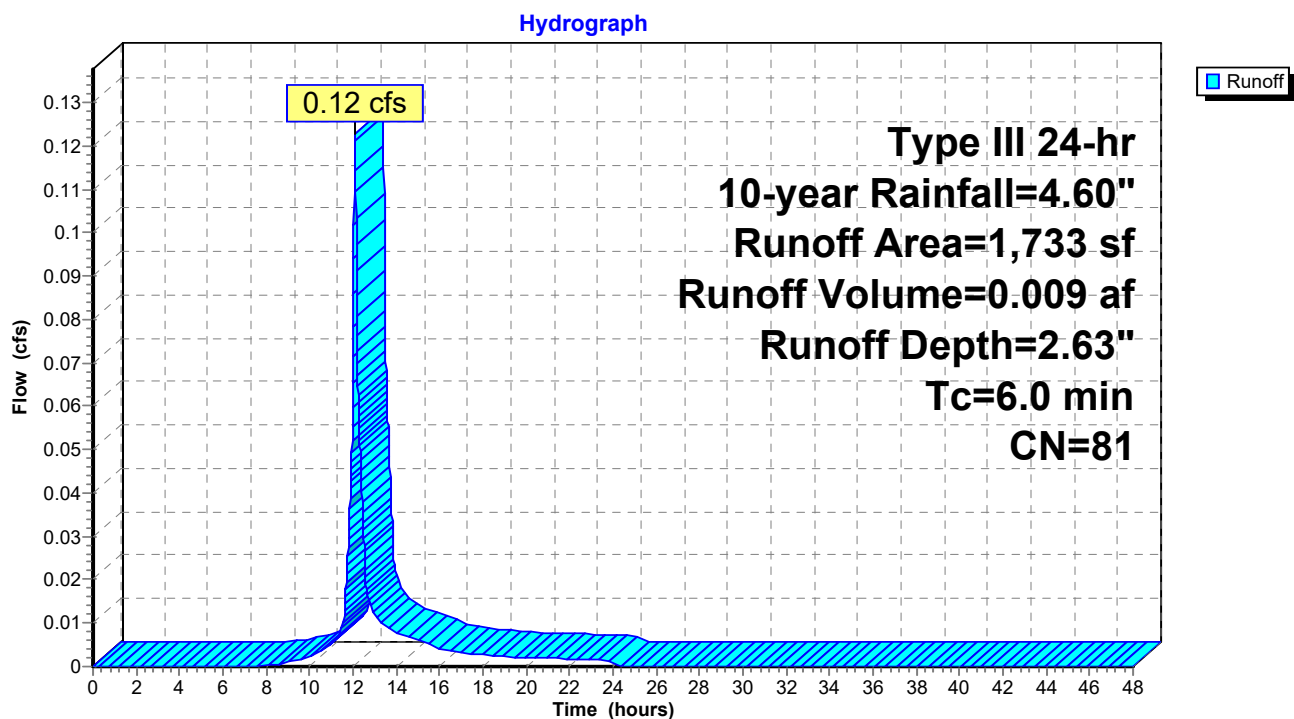
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
485	39	>75% Grass cover, Good, HSG A
1,248	98	Paved parking, HSG A
1,733	81	Weighted Average
485		27.99% Pervious Area
1,248		72.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - LANCASTER STREET



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1S: S 1 - ROOF AREA

Runoff = 0.50 cfs @ 12.08 hrs, Volume= 0.040 af, Depth= 4.36"

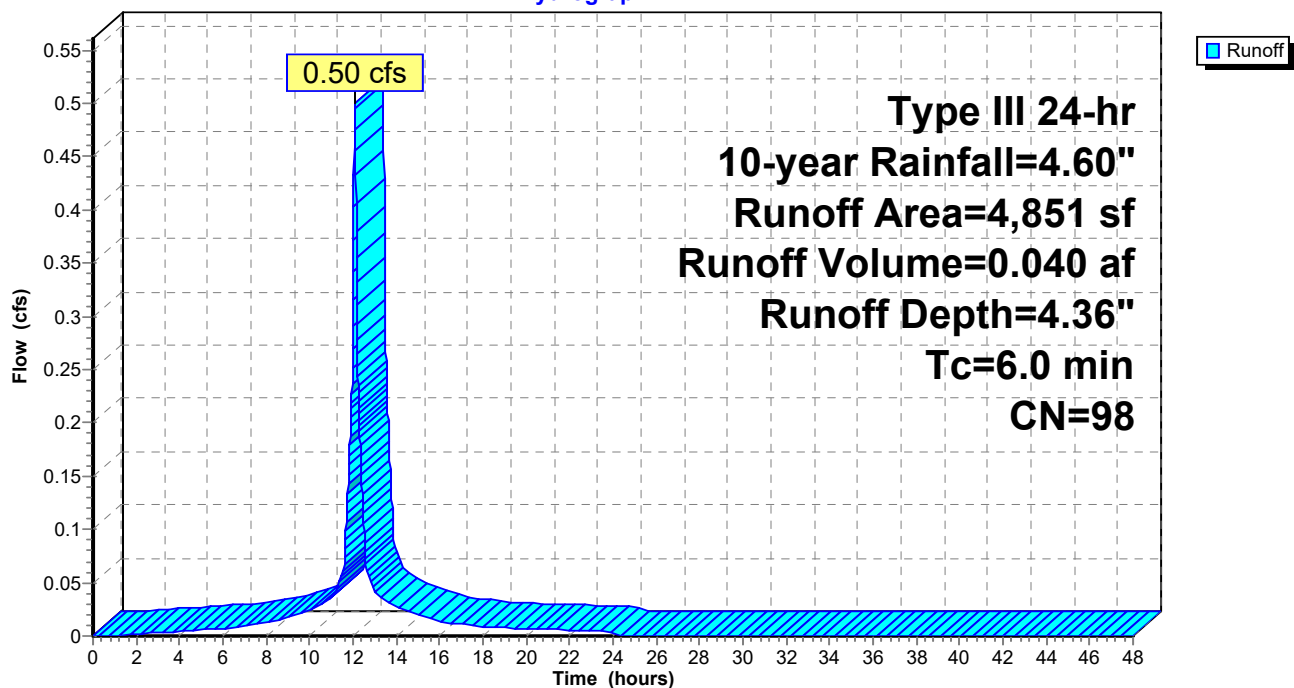
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,851	98	Roof and Pave
	4,851		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - ROOF AREA

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2.1: S 2.1 - CEDAR ST NW

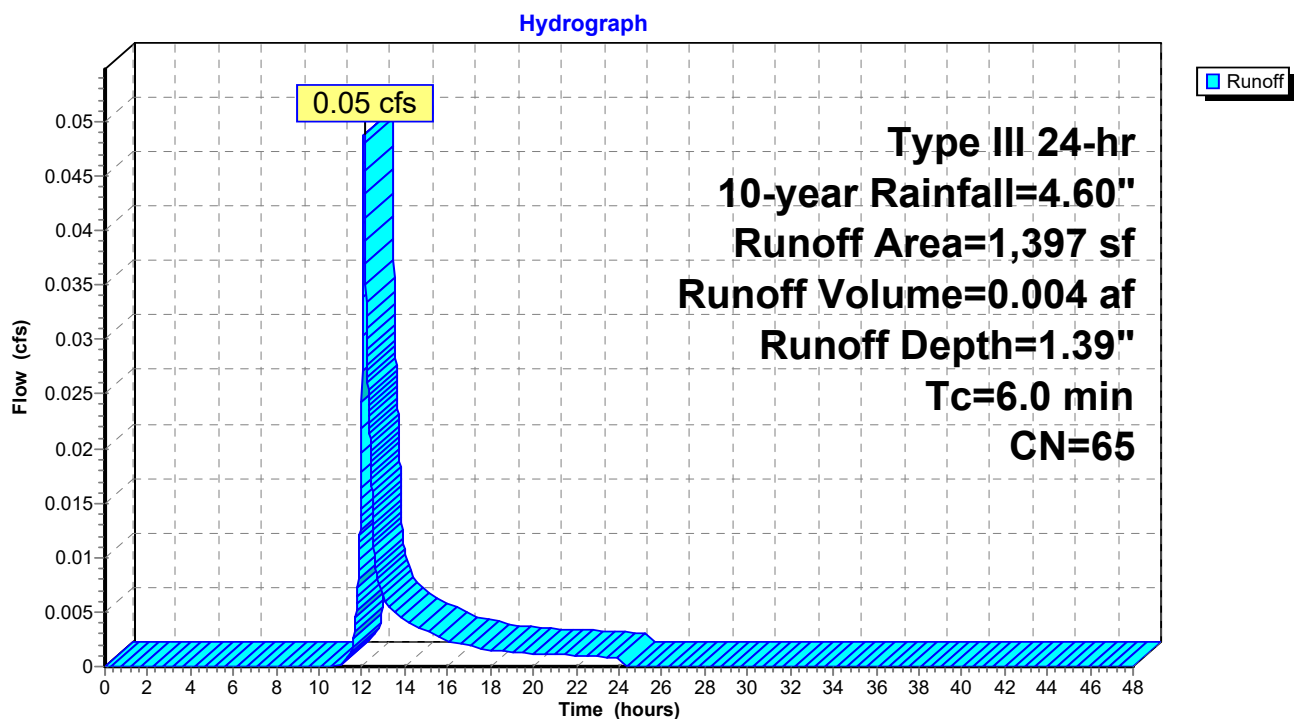
Runoff = 0.05 cfs @ 12.10 hrs, Volume= 0.004 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
792	39	>75% Grass cover, Good, HSG A
605	98	Paved parking, HSG A
1,397	65	Weighted Average
792		56.69% Pervious Area
605		43.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.1: S 2.1 - CEDAR ST NW



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2.2S: S 2.2 - CEDAR ST SE

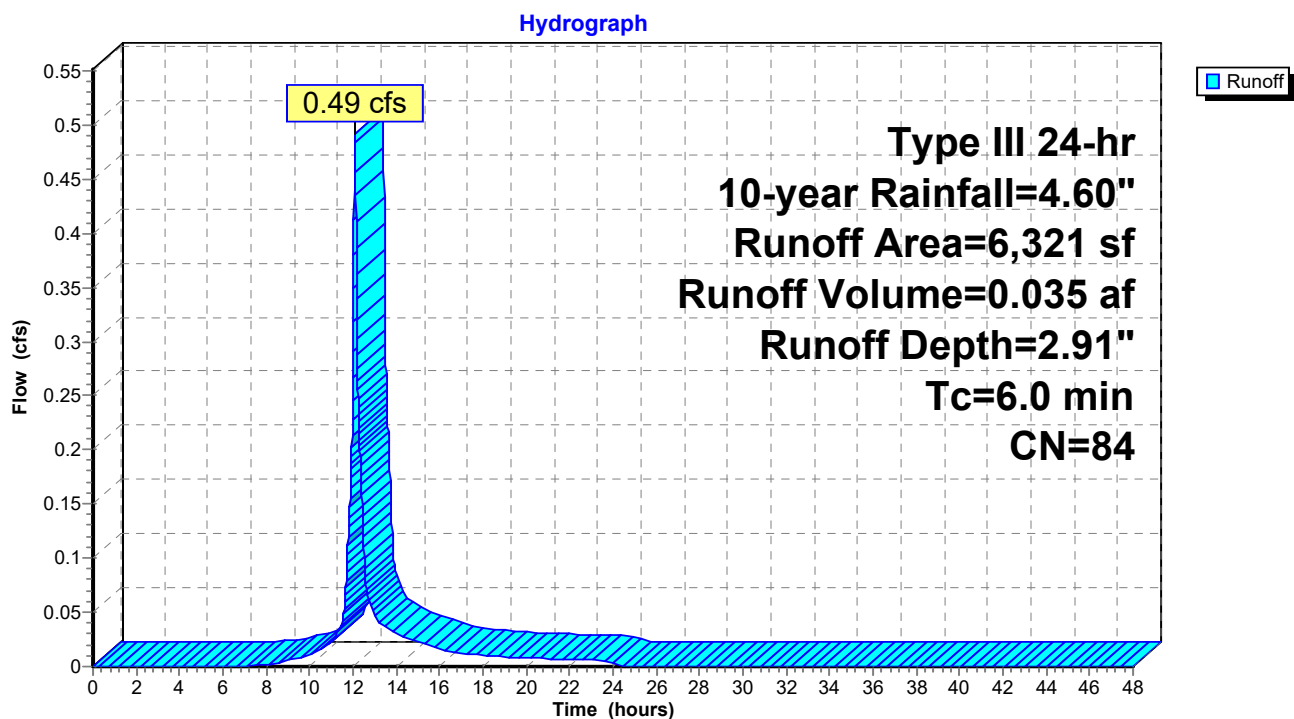
Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
1,499	39	>75% Grass cover, Good, HSG A
4,822	98	Paved parking, HSG A
6,321	84	Weighted Average
1,499		23.71% Pervious Area
4,822		76.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: S 2.2 - CEDAR ST SE



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER STREET

Runoff = 0.01 cfs @ 12.09 hrs, Volume= 0.001 af, Depth= 1.60"

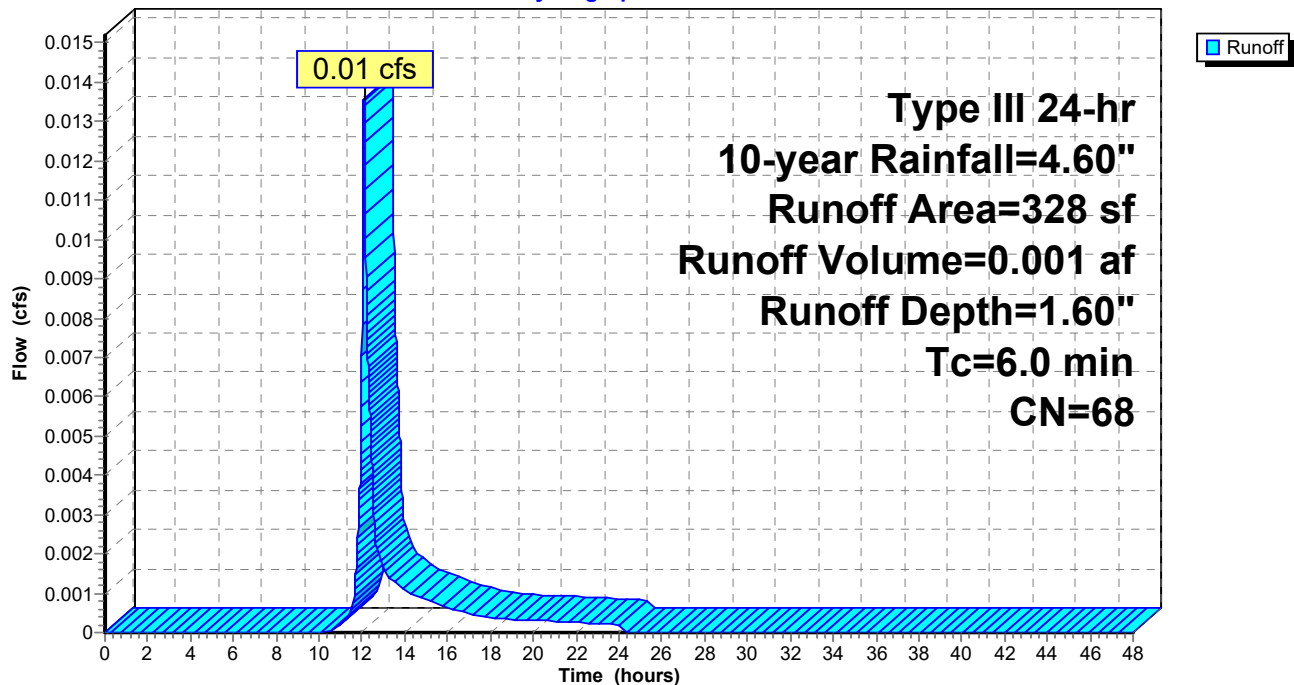
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
169	39	>75% Grass cover, Good, HSG A
159	98	Paved parking, HSG A
328	68	Weighted Average
169		51.52% Pervious Area
159		48.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER STREET

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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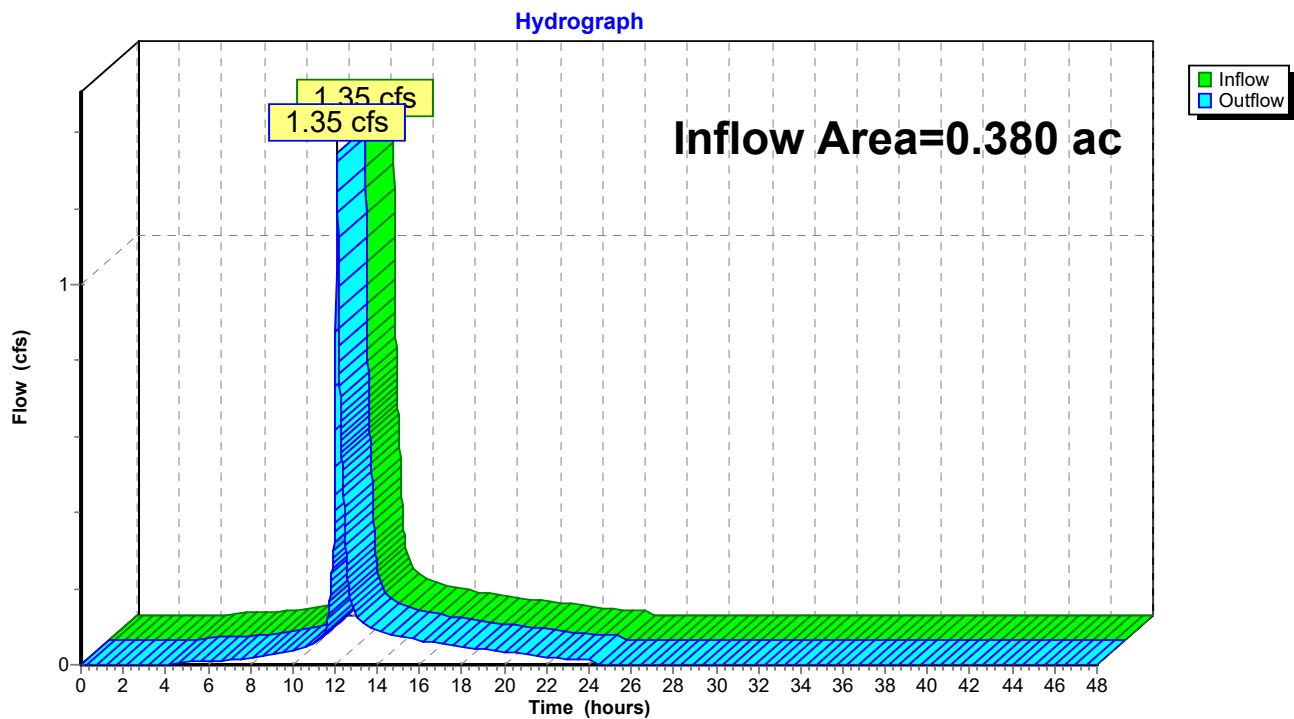
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Summary for Reach #99: Lancaster

Inflow Area = 0.380 ac, 82.23% Impervious, Inflow Depth = 3.29" for 10-year event
Inflow = 1.35 cfs @ 12.10 hrs, Volume= 0.104 af
Outflow = 1.35 cfs @ 12.10 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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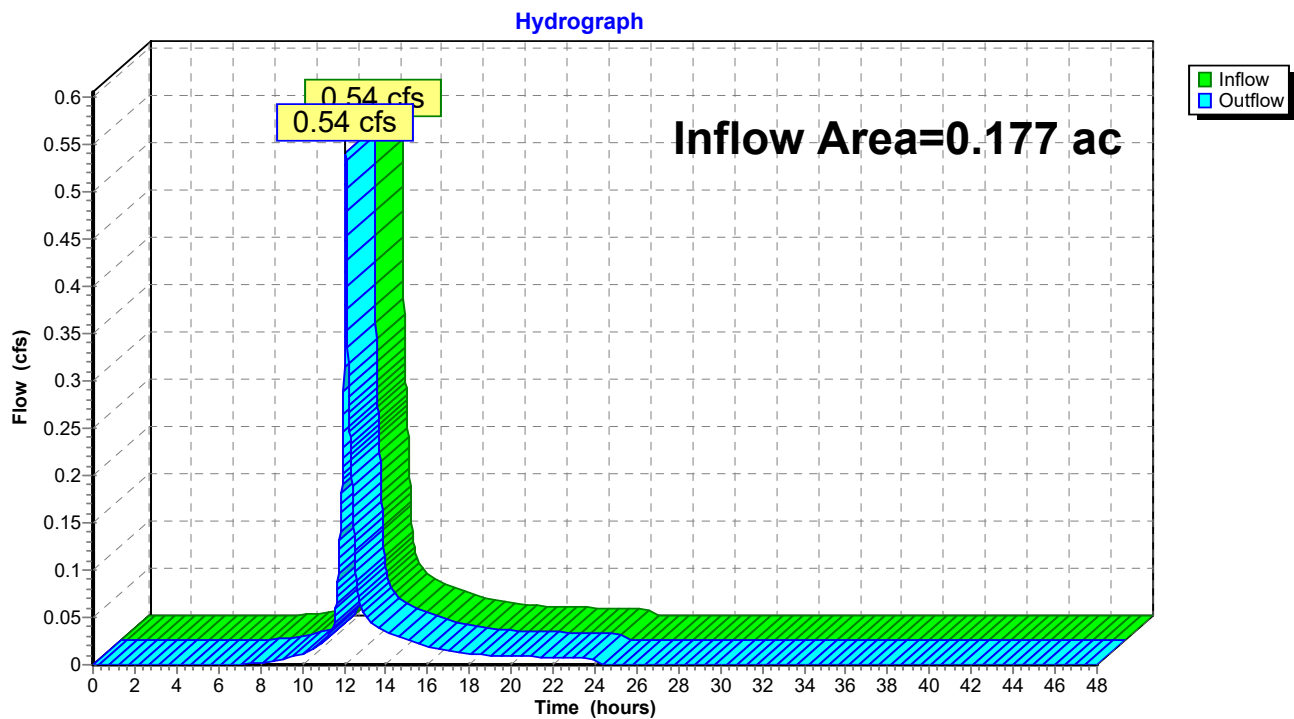
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Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.177 ac, 70.32% Impervious, Inflow Depth = 2.63" for 10-year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 2 - 50 CEDAR ST - POST

Type III 24-hr 10-year Rainfall=4.60"

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Summary for Pond 1P: R Tank System

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 4.36" for 10-year event
 Inflow = 0.70 cfs @ 12.08 hrs, Volume= 0.057 af
 Outflow = 0.68 cfs @ 12.10 hrs, Volume= 0.056 af, Atten= 3%, Lag= 1.3 min
 Primary = 0.68 cfs @ 12.10 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 25.54' @ 12.10 hrs Surf.Area= 254 sf Storage= 584 cf
 Flood Elev= 26.75' Surf.Area= 254 sf Storage= 656 cf

Plug-Flow detention time= 95.2 min calculated for 0.056 af (98% of inflow)
 Center-of-Mass det. time= 84.1 min (833.5 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1B	21.68'	325 cf	9.25'W x 27.46'L x 4.57'H Field B 1,161 cf Overall - 347 cf Embedded = 814 cf x 40.0% Voids
#2B	22.43'	330 cf	ACF R-Tank HD 2 x 40 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 40 Chambers in 4 Rows
		656 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	21.74'	10.0" Round 10" Culvert L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 21.74' / 21.70' S= 0.0044 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	21.84'	1.0" Vert. 1" Orifice C= 0.600
#3	Device 2	22.09'	4.0" Round 4" UNDERDRAIN L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 22.09' / 21.84' S= 0.0050 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Device 1	24.92'	8.0" Round 8" COMBINED OVERFLOW PIPE L= 3.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 24.92' / 24.90' S= 0.0067 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#5	Device 4	24.92'	4.0" Round 3 - 4" OVERFLOW PIPES X 3.00 L= 2.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 24.92' / 24.91' S= 0.0050 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.68 cfs @ 12.10 hrs HW=25.54' (Free Discharge)

- 1=10" Culvert (Passes 0.68 cfs of 3.82 cfs potential flow)
- 2=1" Orifice (Orifice Controls 0.05 cfs @ 9.21 fps)
- 3=4" UNDERDRAIN (Passes 0.05 cfs of 0.53 cfs potential flow)
- 4=8" COMBINED OVERFLOW PIPE (Barrel Controls 0.63 cfs @ 2.39 fps)
- 5=3 - 4" OVERFLOW PIPES (Passes 0.63 cfs of 0.67 cfs potential flow)

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Pond 1P: R Tank System - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

10 Chambers/Row x 2.35' Long = 23.46' Row Length +24.0" End Stone x 2 = 27.46' Base Length

4 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 9.25' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

40 Chambers x 8.3 cf = 330.1 cf Chamber Storage

40 Chambers x 8.7 cf = 347.4 cf Displacement

1,161.0 cf Field - 347.4 cf Chambers = 813.6 cf Stone x 40.0% Voids = 325.4 cf Stone Storage

Chamber Storage + Stone Storage = 655.5 cf = 0.015 af

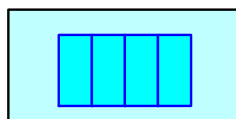
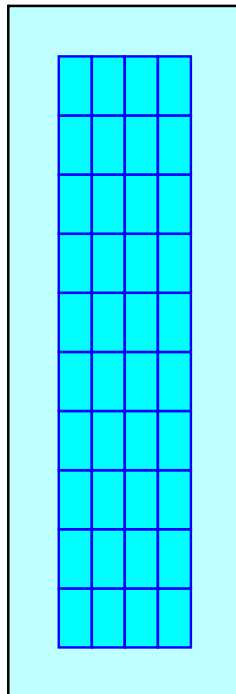
Overall Storage Efficiency = 56.5%

Overall System Size = 27.46' x 9.25' x 4.57'

40 Chambers

43.0 cy Field

30.1 cy Stone



PHASE 2 - 50 CEDAR ST - POST

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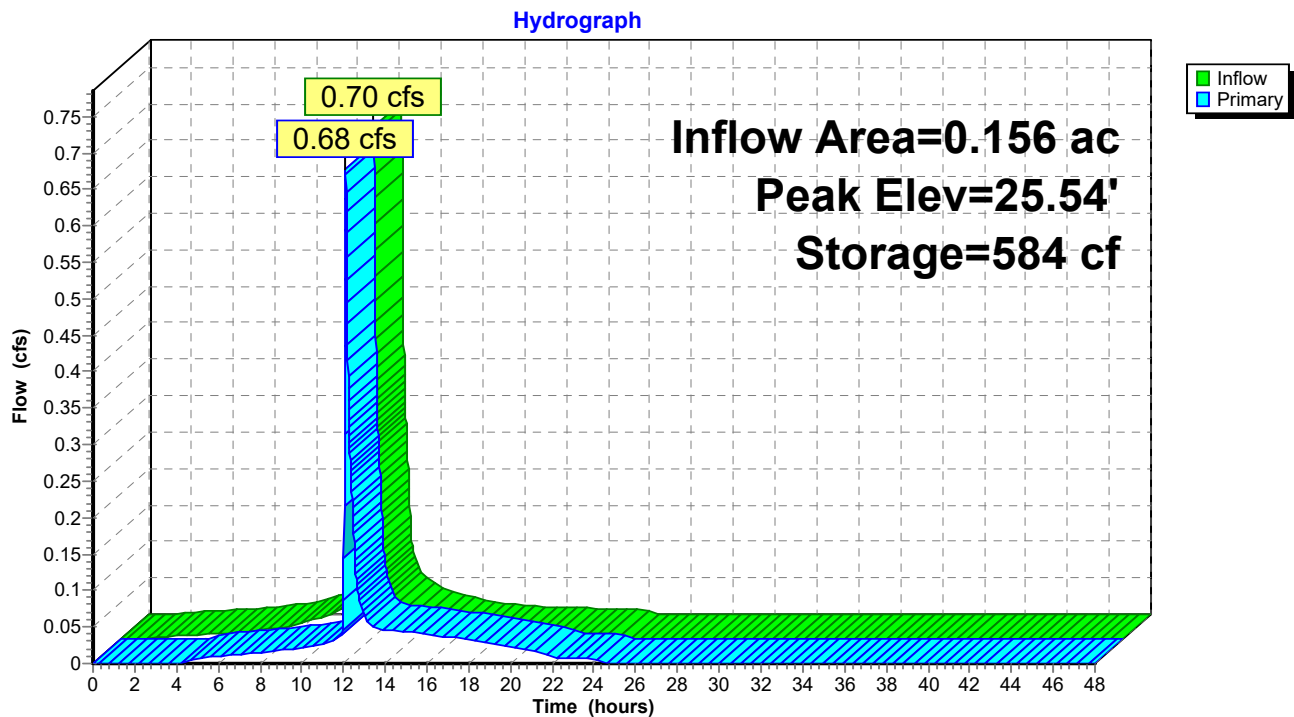
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Type III 24-hr 10-year Rainfall=4.60"

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Pond 1P: R Tank System



PHASE 2 - 50 CEDAR ST - POST*Type III 24-hr 10-year Rainfall=4.60"*

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Stage-Area-Storage for Pond 1P: R Tank System

Elevation (feet)	Storage (cubic-feet)
21.68	0
21.78	10
21.88	20
21.98	30
22.08	41
22.18	51
22.28	61
22.38	71
22.48	85
22.58	102
22.68	119
22.78	135
22.88	152
22.98	169
23.08	186
23.18	203
23.28	220
23.38	237
23.48	254
23.58	271
23.68	288
23.78	305
23.88	322
23.98	339
24.08	356
24.18	372
24.28	389
24.38	406
24.48	423
24.58	440
24.68	457
24.78	474
24.88	491
24.98	508
25.08	525
25.18	542
25.28	557
25.38	567
25.48	577
25.58	587
25.68	597
25.78	608
25.88	618
25.98	628
26.08	638
26.18	648
26.28	656
26.38	656
26.48	656
26.58	656
26.68	656

PHASE 2 - 50 CEDAR ST - POST*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: S 1 - R TANK - 50	Runoff Area=1,944 sf 100.00% Impervious Runoff Depth=5.56" Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af
Subcatchment1.3S: S 1.3 - LANCASTER	Runoff Area=1,733 sf 72.01% Impervious Runoff Depth=3.70" Tc=6.0 min CN=81 Runoff=0.17 cfs 0.012 af
Subcatchment1S: S 1 - ROOF AREA	Runoff Area=4,851 sf 100.00% Impervious Runoff Depth=5.56" Tc=6.0 min CN=98 Runoff=0.63 cfs 0.052 af
Subcatchment2.1: S 2.1 - CEDAR ST NW	Runoff Area=1,397 sf 43.31% Impervious Runoff Depth=2.21" Tc=6.0 min CN=65 Runoff=0.08 cfs 0.006 af
Subcatchment2.2S: S 2.2 - CEDAR ST SE	Runoff Area=6,321 sf 76.29% Impervious Runoff Depth=4.01" Tc=6.0 min CN=84 Runoff=0.67 cfs 0.048 af
Subcatchment2.3S: S 2.3 - LANCASTER	Runoff Area=328 sf 48.48% Impervious Runoff Depth=2.47" Tc=6.0 min CN=68 Runoff=0.02 cfs 0.002 af
Reach #99: Lancaster	Inflow=1.77 cfs 0.140 af Outflow=1.77 cfs 0.140 af
Reach 2R: CEDAR STREET	Inflow=0.75 cfs 0.054 af Outflow=0.75 cfs 0.054 af
Pond 1P: R Tank System	Peak Elev=25.71' Storage=601 cf Inflow=0.89 cfs 0.072 af Outflow=0.84 cfs 0.071 af

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 0.021 af, Depth= 5.56"

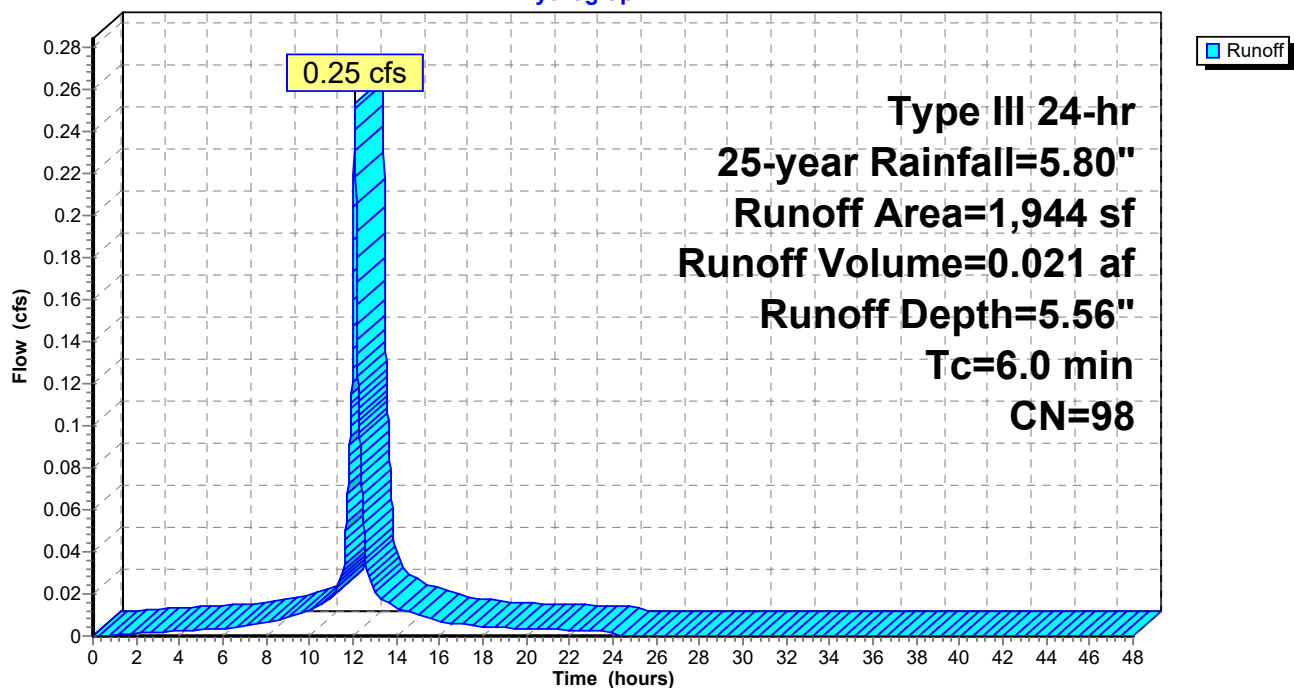
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
1,944	98	Paved parking, HSG A
1,944		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S 1 - R TANK - 50 CEDAR

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.3S: S 1.3 - LANCASTER STREET

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 3.70"

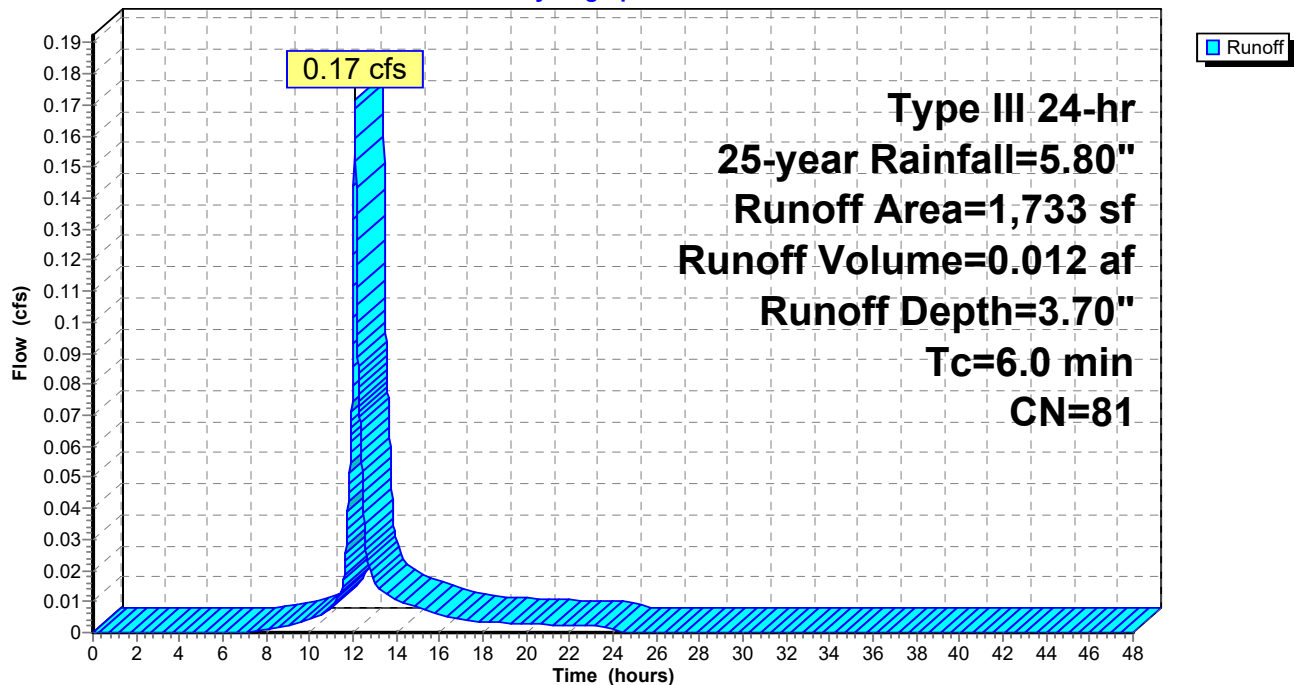
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
485	39	>75% Grass cover, Good, HSG A
1,248	98	Paved parking, HSG A
1,733	81	Weighted Average
485		27.99% Pervious Area
1,248		72.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.3S: S 1.3 - LANCASTER STREET

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1S: S 1 - ROOF AREA

Runoff = 0.63 cfs @ 12.08 hrs, Volume= 0.052 af, Depth= 5.56"

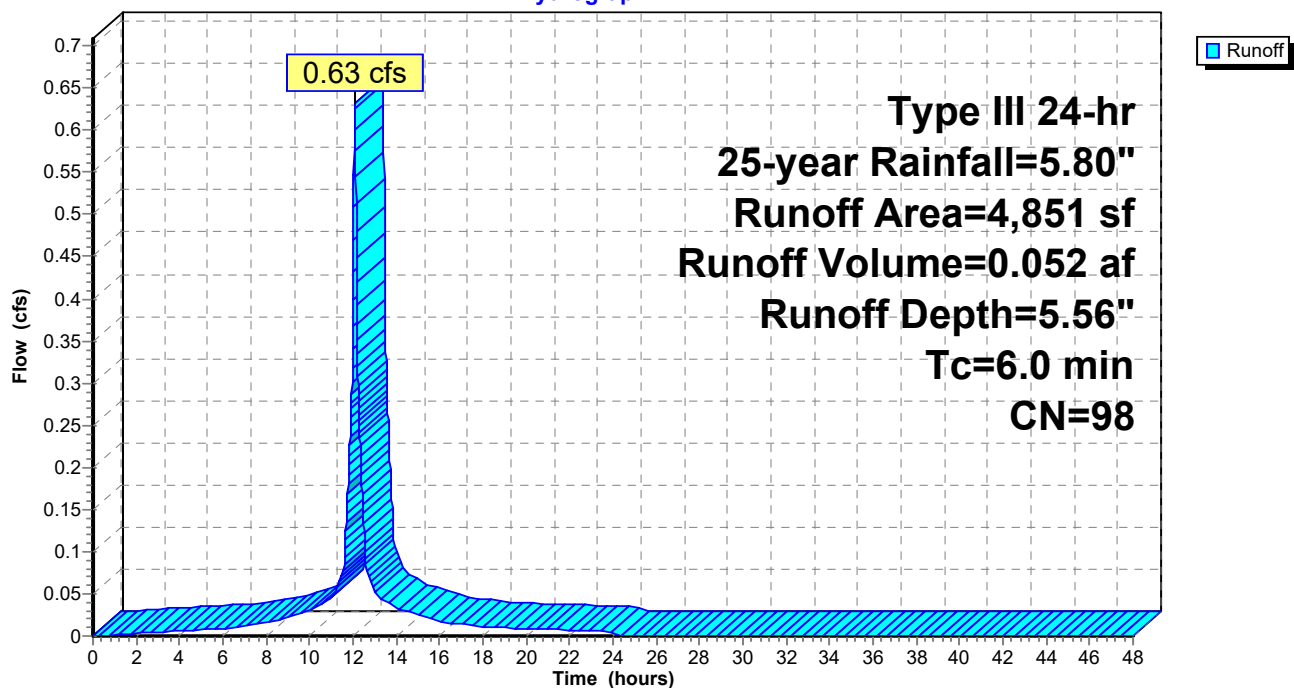
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	4,851	98	Roof and Pave
	4,851		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - ROOF AREA

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2.1: S 2.1 - CEDAR ST NW

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 2.21"

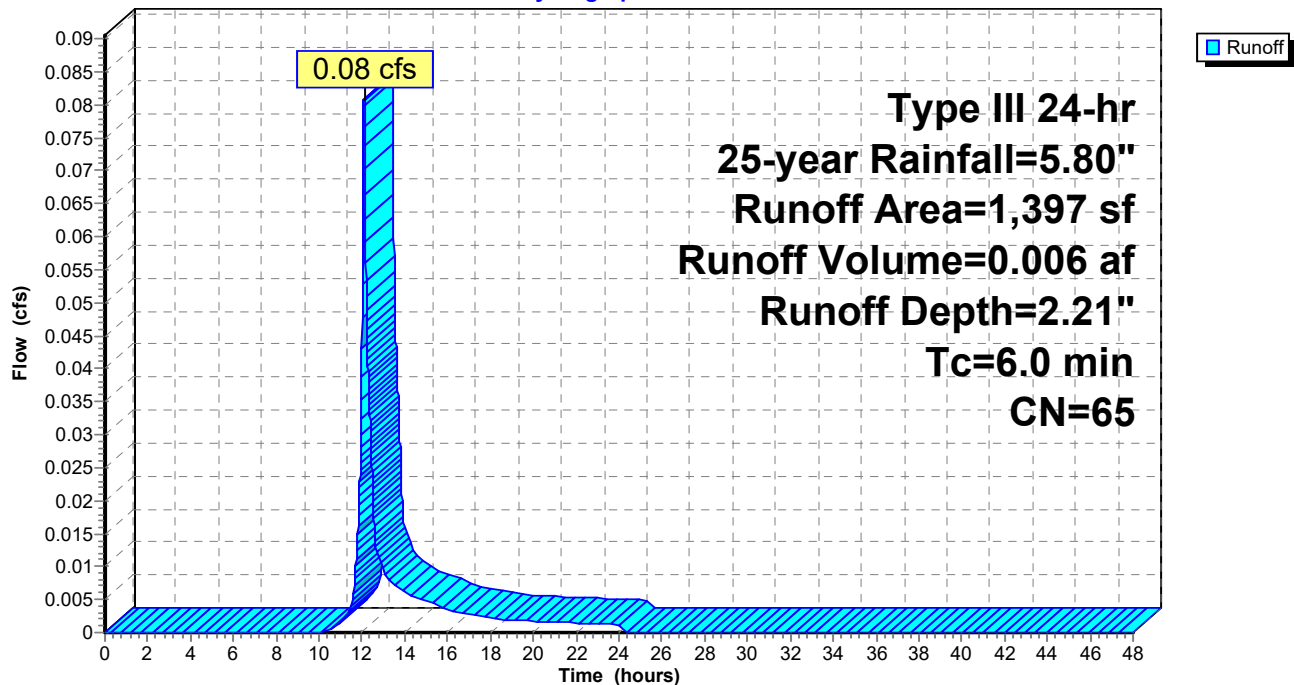
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
792	39	>75% Grass cover, Good, HSG A
605	98	Paved parking, HSG A
1,397	65	Weighted Average
792		56.69% Pervious Area
605		43.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.1: S 2.1 - CEDAR ST NW

Hydrograph



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2.2S: S 2.2 - CEDAR ST SE

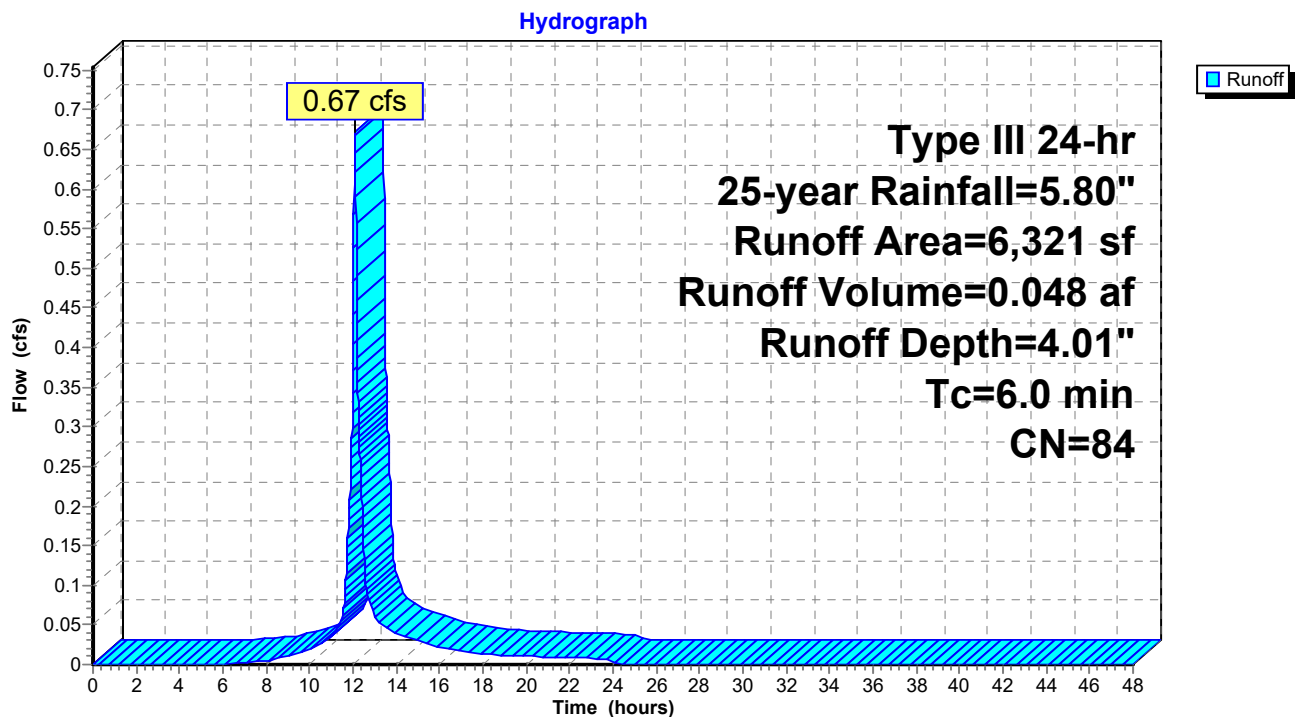
Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.048 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
1,499	39	>75% Grass cover, Good, HSG A
4,822	98	Paved parking, HSG A
6,321	84	Weighted Average
1,499		23.71% Pervious Area
4,822		76.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.2S: S 2.2 - CEDAR ST SE



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2.3S: S 2.3 - LANCASTER STREET

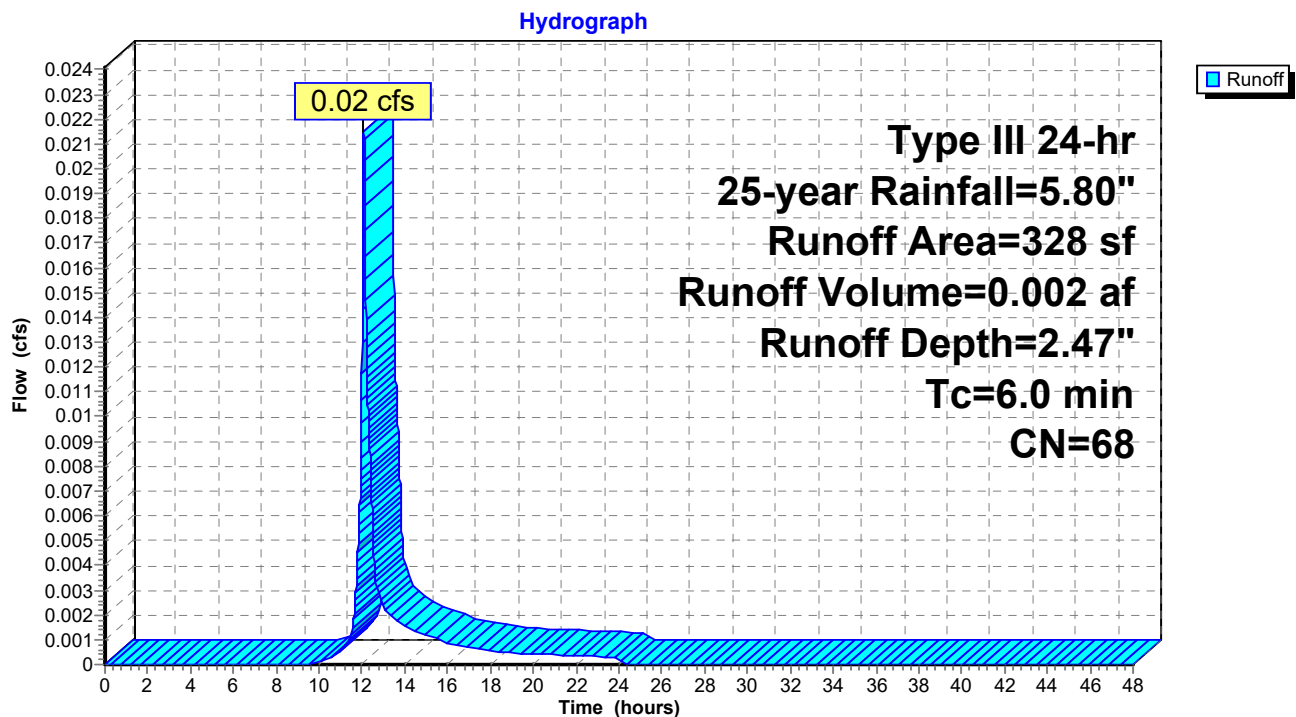
Runoff = 0.02 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
169	39	>75% Grass cover, Good, HSG A
159	98	Paved parking, HSG A
328	68	Weighted Average
169		51.52% Pervious Area
159		48.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2.3S: S 2.3 - LANCASTER STREET



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Type III 24-hr 25-year Rainfall=5.80"

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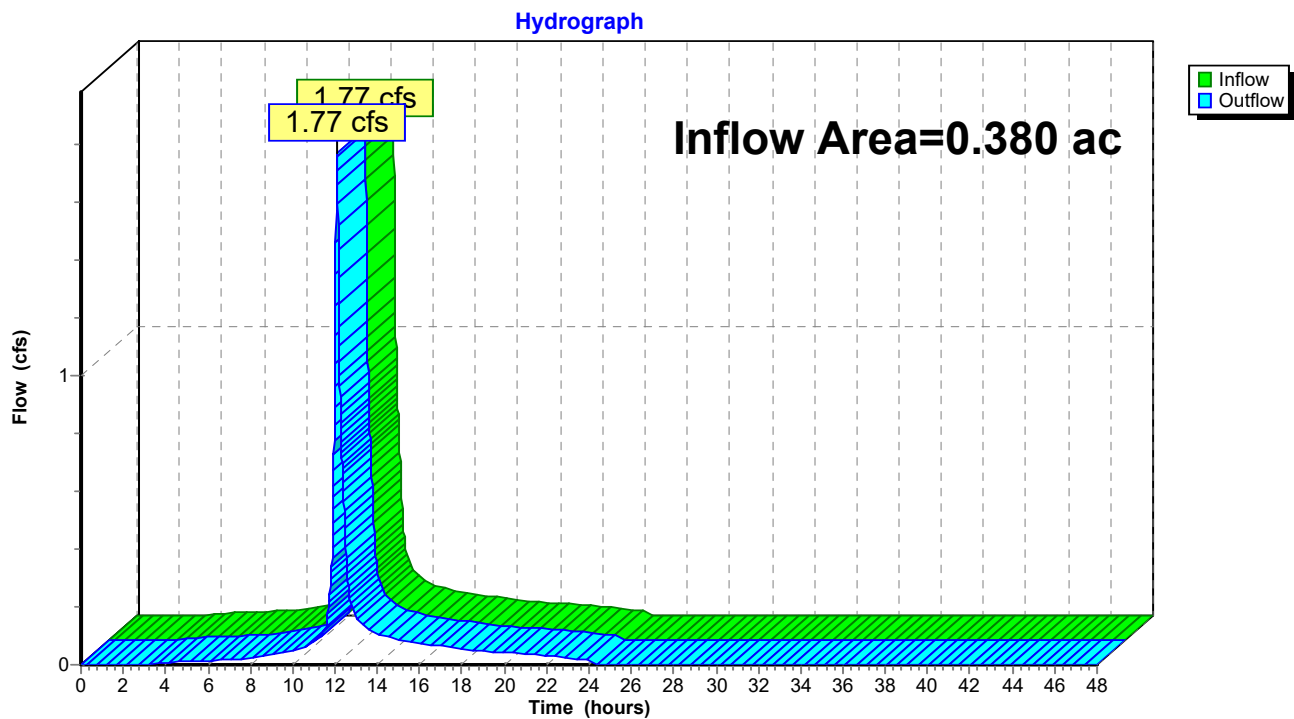
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Summary for Reach #99: Lancaster

Inflow Area = 0.380 ac, 82.23% Impervious, Inflow Depth = 4.40" for 25-year event
Inflow = 1.77 cfs @ 12.09 hrs, Volume= 0.140 af
Outflow = 1.77 cfs @ 12.09 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach #99: Lancaster



PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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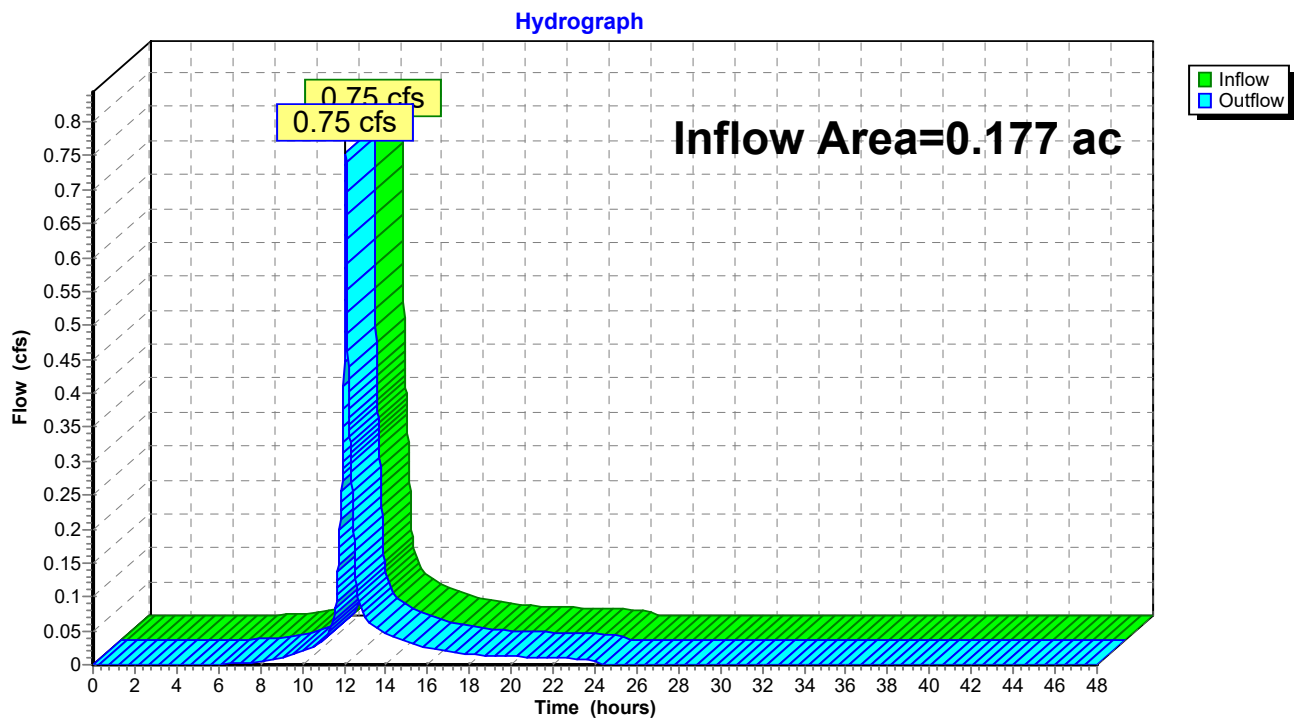
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Summary for Reach 2R: CEDAR STREET

Inflow Area = 0.177 ac, 70.32% Impervious, Inflow Depth = 3.68" for 25-year event
Inflow = 0.75 cfs @ 12.09 hrs, Volume= 0.054 af
Outflow = 0.75 cfs @ 12.09 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: CEDAR STREET



PHASE 2 - 50 CEDAR ST - POST

Type III 24-hr 25-year Rainfall=5.80"

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Summary for Pond 1P: R Tank System

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 5.56" for 25-year event
 Inflow = 0.89 cfs @ 12.08 hrs, Volume = 0.072 af
 Outflow = 0.84 cfs @ 12.11 hrs, Volume = 0.071 af, Atten = 5%, Lag = 1.6 min
 Primary = 0.84 cfs @ 12.11 hrs, Volume = 0.071 af

Routing by Stor-Ind method, Time Span = 0.00-48.00 hrs, dt = 0.01 hrs
 Peak Elev = 25.71' @ 12.11 hrs Surf.Area = 254 sf Storage = 601 cf
 Flood Elev = 26.75' Surf.Area = 254 sf Storage = 656 cf

Plug-Flow detention time = 86.8 min calculated for 0.071 af (99% of inflow)
 Center-of-Mass det. time = 77.9 min (823.6 - 745.7)

Volume	Invert	Avail.Storage	Storage Description
#1B	21.68'	325 cf	9.25'W x 27.46'L x 4.57'H Field B 1,161 cf Overall - 347 cf Embedded = 814 cf x 40.0% Voids
#2B	22.43'	330 cf	ACF R-Tank HD 2 x 40 Inside #1 Inside = 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside = 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 40 Chambers in 4 Rows
		656 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	21.74'	10.0" Round 10" Culvert L = 9.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 21.74' / 21.70' S = 0.0044 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.55 sf
#2	Device 1	21.84'	1.0" Vert. 1" Orifice C = 0.600
#3	Device 2	22.09'	4.0" Round 4" UNDERDRAIN L = 50.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 22.09' / 21.84' S = 0.0050 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.09 sf
#4	Device 1	24.92'	8.0" Round 8" COMBINED OVERFLOW PIPE L = 3.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 24.92' / 24.90' S = 0.0067 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.35 sf
#5	Device 4	24.92'	4.0" Round 3 - 4" OVERFLOW PIPES X 3.00 L = 2.0' CMP, projecting, no headwall, Ke = 0.900 Inlet / Outlet Invert = 24.92' / 24.91' S = 0.0050 '/ Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.09 sf

Primary OutFlow Max = 0.84 cfs @ 12.11 hrs HW = 25.71' (Free Discharge)

- 1 = 10" Culvert (Passes 0.84 cfs of 3.91 cfs potential flow)
- 2 = 1" Orifice (Orifice Controls 0.05 cfs @ 9.42 fps)
- 3 = 4" UNDERDRAIN (Passes 0.05 cfs of 0.54 cfs potential flow)
- 4 = 8" COMBINED OVERFLOW PIPE (Passes 0.79 cfs of 0.88 cfs potential flow)
- 5 = 3 - 4" OVERFLOW PIPES (Inlet Controls 0.79 cfs @ 3.01 fps)

PHASE 2 - 50 CEDAR ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Pond 1P: R Tank System - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

10 Chambers/Row x 2.35' Long = 23.46' Row Length +24.0" End Stone x 2 = 27.46' Base Length

4 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 9.25' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

40 Chambers x 8.3 cf = 330.1 cf Chamber Storage

40 Chambers x 8.7 cf = 347.4 cf Displacement

1,161.0 cf Field - 347.4 cf Chambers = 813.6 cf Stone x 40.0% Voids = 325.4 cf Stone Storage

Chamber Storage + Stone Storage = 655.5 cf = 0.015 af

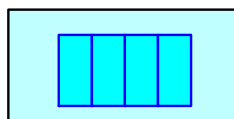
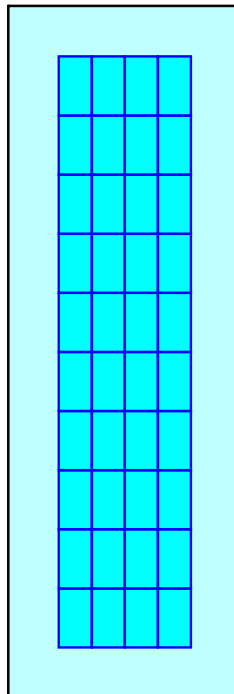
Overall Storage Efficiency = 56.5%

Overall System Size = 27.46' x 9.25' x 4.57'

40 Chambers

43.0 cy Field

30.1 cy Stone



PHASE 2 - 50 CEDAR ST - POST

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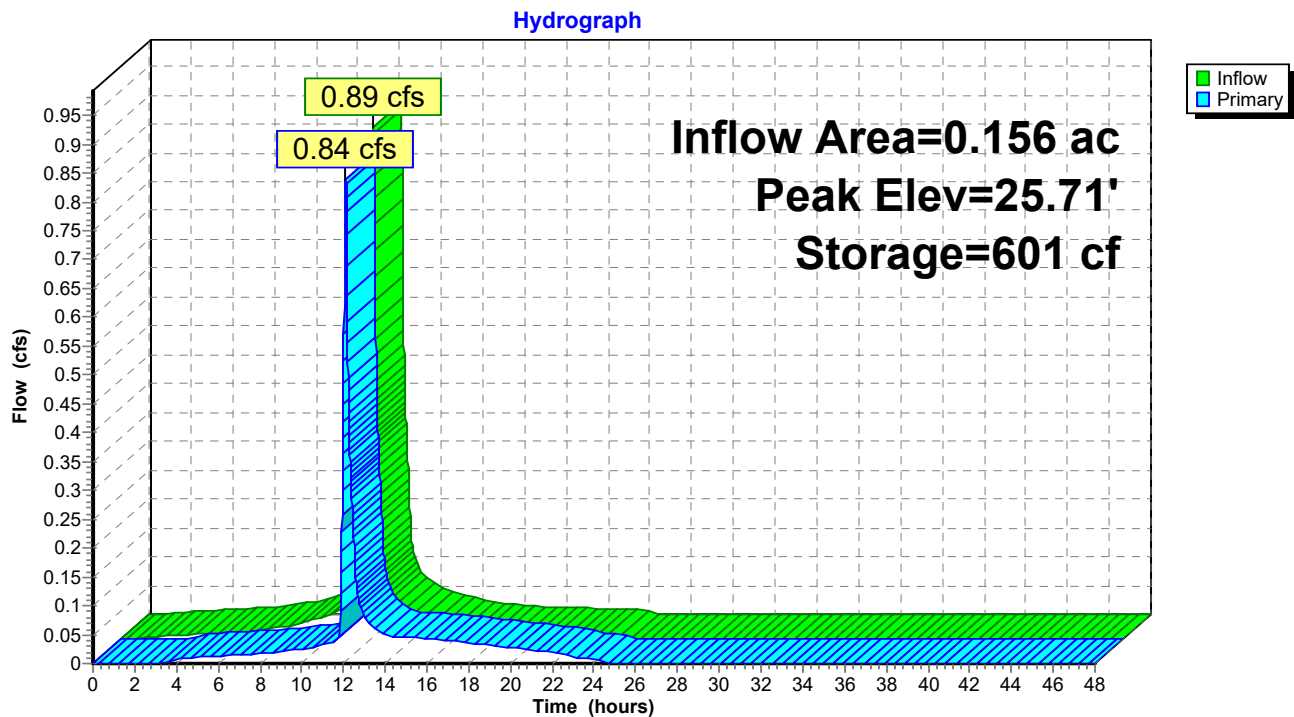
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Pond 1P: R Tank System



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Stage-Area-Storage for Pond 1P: R Tank System

Elevation (feet)	Storage (cubic-feet)
21.68	0
21.78	10
21.88	20
21.98	30
22.08	41
22.18	51
22.28	61
22.38	71
22.48	85
22.58	102
22.68	119
22.78	135
22.88	152
22.98	169
23.08	186
23.18	203
23.28	220
23.38	237
23.48	254
23.58	271
23.68	288
23.78	305
23.88	322
23.98	339
24.08	356
24.18	372
24.28	389
24.38	406
24.48	423
24.58	440
24.68	457
24.78	474
24.88	491
24.98	508
25.08	525
25.18	542
25.28	557
25.38	567
25.48	577
25.58	587
25.68	597
25.78	608
25.88	618
25.98	628
26.08	638
26.18	648
26.28	656
26.38	656
26.48	656
26.58	656
26.68	656

SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: HydroCAD Calculations

PHASE 3 - 158 LANCASTER STREET



SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Pre Development HydroCAD

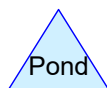
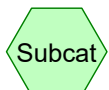
PHASE 3 - 158 LANCASTER STREET





S 1 - TOTAL RUNOFF
AREA

POI #99: LANCASTER
ST COMBINED
SEWER



Routing Diagram for PHASE 3 - 158 LANCASTER ST - PRE
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PHASE 3 - 158 LANCASTER ST - PRE

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.117	49	50-75% Grass cover, Fair, HSG A (1S)
0.290	98	Paved parking, HSG A (1S)
0.407	84	TOTAL AREA

PHASE 3 - 158 LANCASTER ST - PRE

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.407	HSG A	1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.407		TOTAL AREA

PHASE 3 - 158 LANCASTER ST - PRE

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.117	0.000	0.000	0.000	0.000	0.117	50-75% Grass cover, Fair	1S
0.290	0.000	0.000	0.000	0.000	0.290	Paved parking	1S
0.407	0.000	0.000	0.000	0.000	0.407	TOTAL AREA	

PHASE 3 - 158 LANCASTER ST - PRE

Type III 24-hr 2-year Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: S 1 - TOTAL RUNOFF Runoff Area=17,735 sf 71.16% Impervious Runoff Depth=1.60"
Tc=6.0 min CN=84 Runoff=0.76 cfs 0.054 af

Reach 99R: POI #99: LANCASTERST COMBINED SEWER

Inflow=0.76 cfs 0.054 af
Outflow=0.76 cfs 0.054 af

Total Runoff Area = 0.407 ac Runoff Volume = 0.054 af Average Runoff Depth = 1.60"
28.84% Pervious = 0.117 ac 71.16% Impervious = 0.290 ac

PHASE 3 - 158 LANCASTER ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1S: S 1 - TOTAL RUNOFF AREA

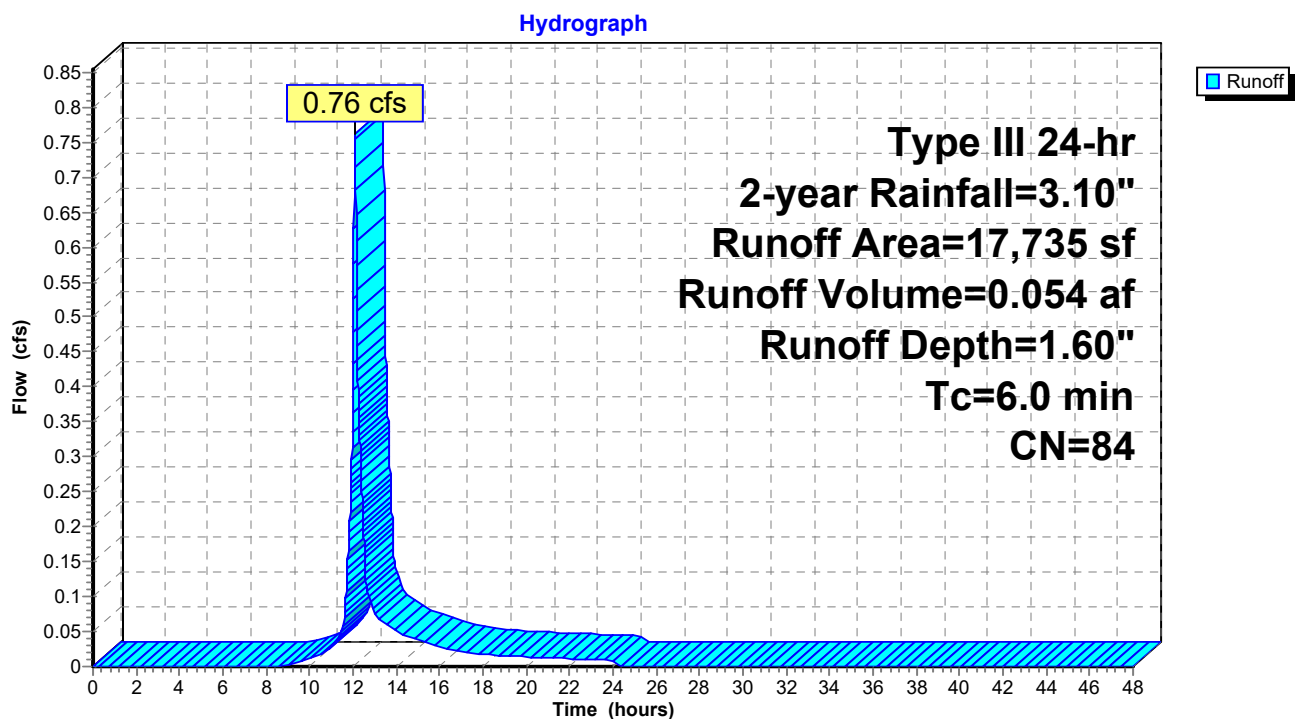
Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
12,620	98	Paved parking, HSG A
5,115	49	50-75% Grass cover, Fair, HSG A
17,735	84	Weighted Average
5,115	49	28.84% Pervious Area
12,620	98	71.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - TOTAL RUNOFF AREA



PHASE 3 - 158 LANCASTER ST - PRE

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Type III 24-hr 2-year Rainfall=3.10"

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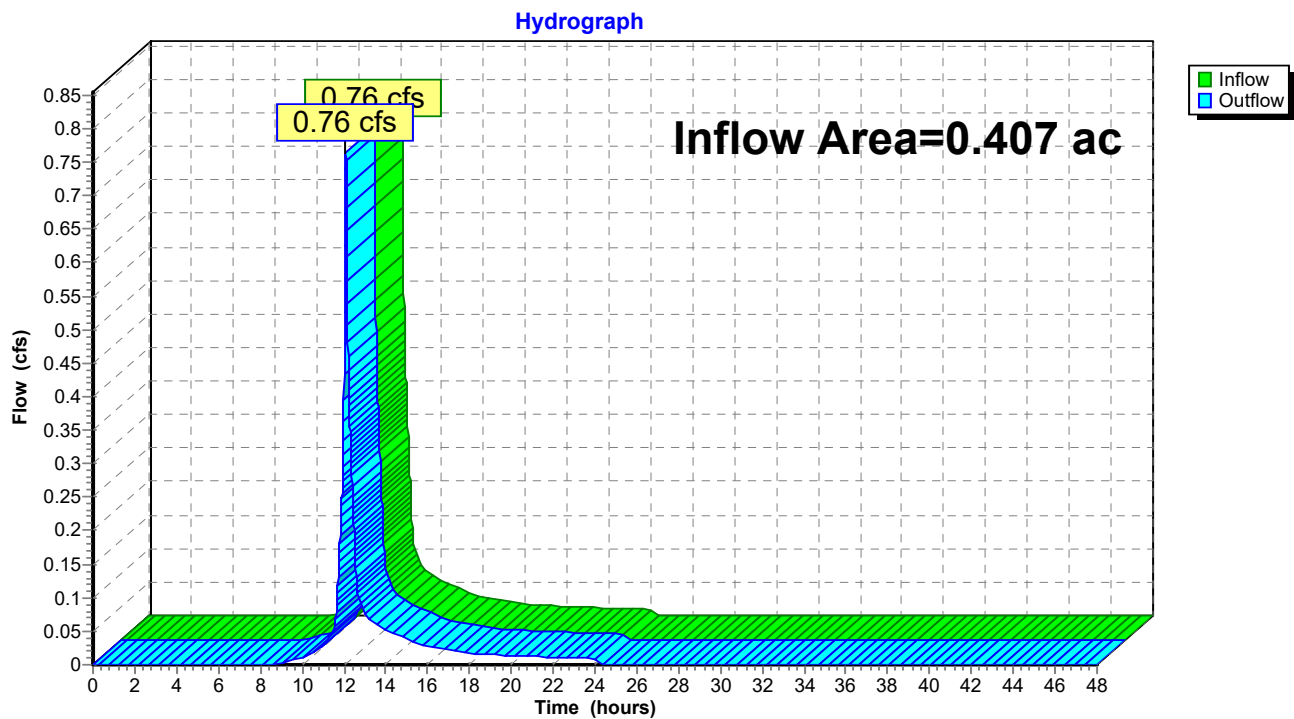
Page 7

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 71.16% Impervious, Inflow Depth = 1.60" for 2-year event
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af
Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 3 - 158 LANCASTER ST - PRE

Type III 24-hr 10-year Rainfall=4.60"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: S 1 - TOTAL RUNOFF Runoff Area=17,735 sf 71.16% Impervious Runoff Depth=2.91"
Tc=6.0 min CN=84 Runoff=1.38 cfs 0.099 af

Reach 99R: POI #99: LANCASTERST COMBINED SEWER

Inflow=1.38 cfs 0.099 af
Outflow=1.38 cfs 0.099 af

Total Runoff Area = 0.407 ac Runoff Volume = 0.099 af Average Runoff Depth = 2.91"
28.84% Pervious = 0.117 ac 71.16% Impervious = 0.290 ac

PHASE 3 - 158 LANCASTER ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1S: S 1 - TOTAL RUNOFF AREA

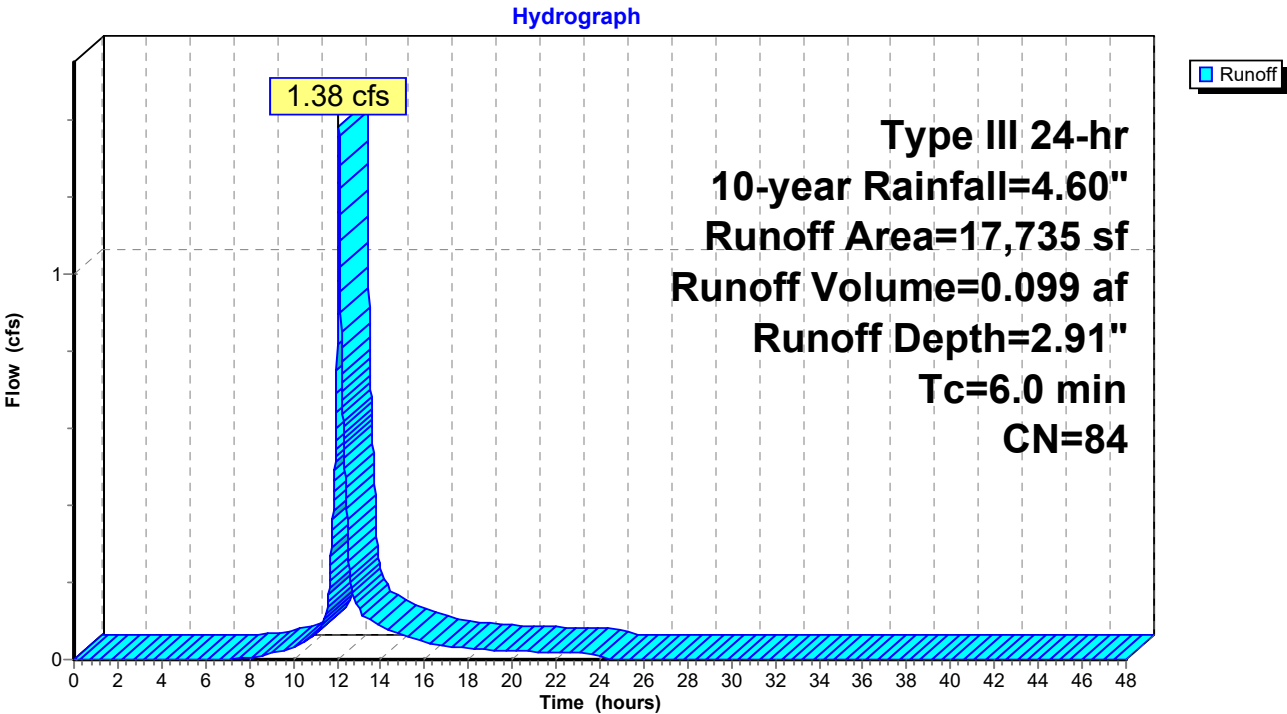
Runoff = 1.38 cfs @ 12.09 hrs, Volume= 0.099 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
12,620	98	Paved parking, HSG A
5,115	49	50-75% Grass cover, Fair, HSG A
17,735	84	Weighted Average
5,115	49	28.84% Pervious Area
12,620	98	71.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - TOTAL RUNOFF AREA



PHASE 3 - 158 LANCASTER ST - PRE

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Type III 24-hr 10-year Rainfall=4.60"

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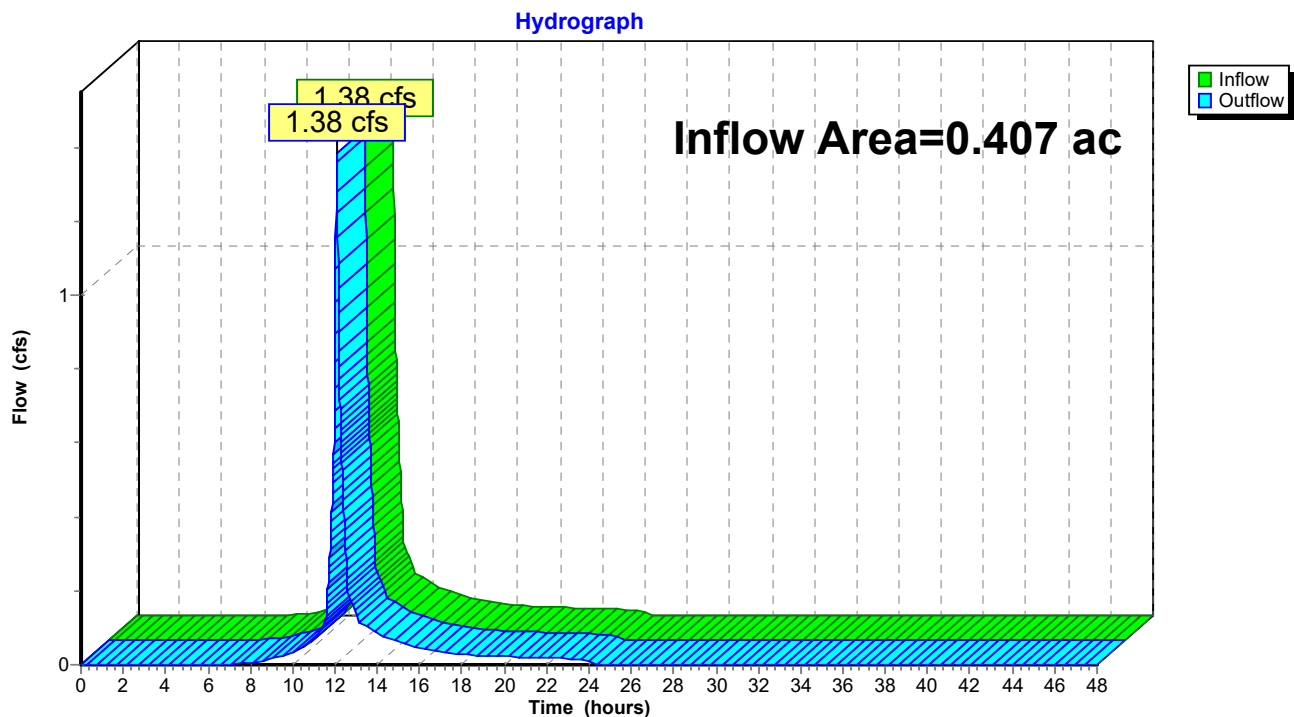
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Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 71.16% Impervious, Inflow Depth = 2.91" for 10-year event
Inflow = 1.38 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.38 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 3 - 158 LANCASTER ST - PRE

Type III 24-hr 25-year Rainfall=5.80"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: S 1 - TOTAL RUNOFF Runoff Area=17,735 sf 71.16% Impervious Runoff Depth=4.01"
Tc=6.0 min CN=84 Runoff=1.89 cfs 0.136 af

Reach 99R: POI #99: LANCASTERST COMBINED SEWER

Inflow=1.89 cfs 0.136 af
Outflow=1.89 cfs 0.136 af

Total Runoff Area = 0.407 ac Runoff Volume = 0.136 af Average Runoff Depth = 4.01"
28.84% Pervious = 0.117 ac 71.16% Impervious = 0.290 ac

PHASE 3 - 158 LANCASTER ST - PRE

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Type III 24-hr 25-year Rainfall=5.80"

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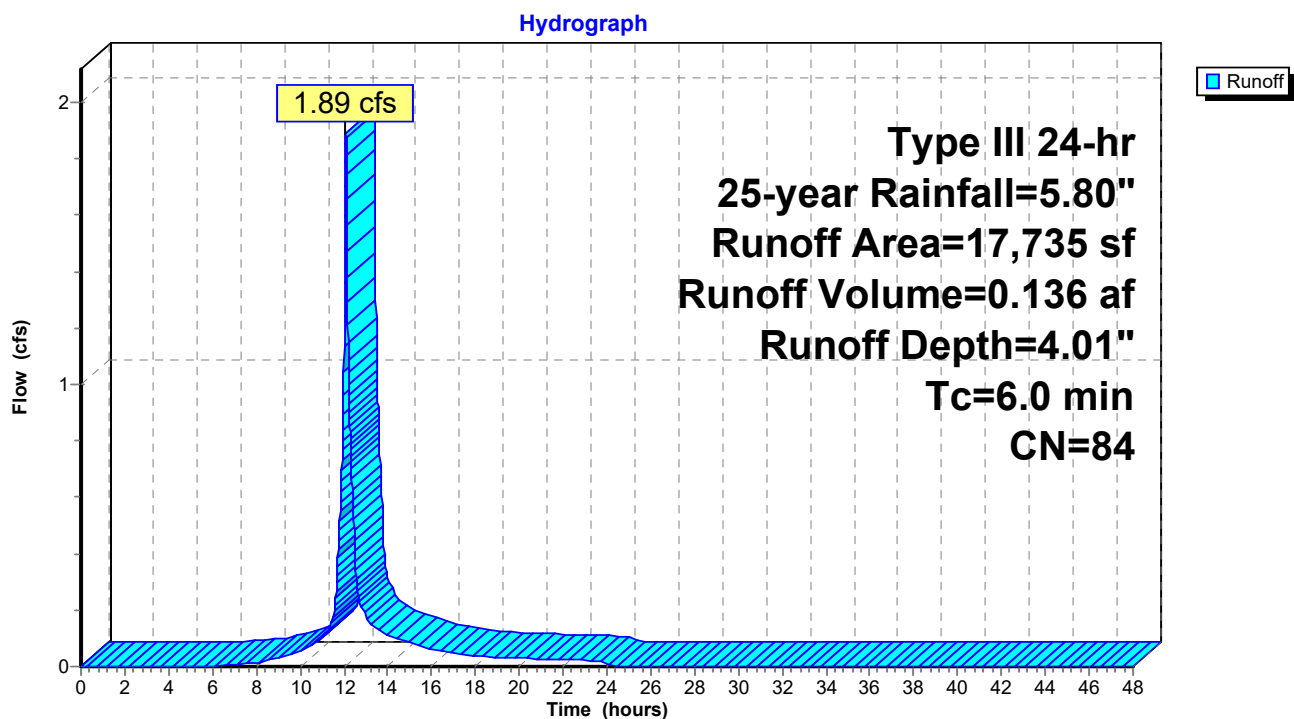
Summary for Subcatchment 1S: S 1 - TOTAL RUNOFF AREA

Runoff = 1.89 cfs @ 12.09 hrs, Volume= 0.136 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
12,620	98	Paved parking, HSG A
5,115	49	50-75% Grass cover, Fair, HSG A
17,735	84	Weighted Average
5,115	49	28.84% Pervious Area
12,620	98	71.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S 1 - TOTAL RUNOFF AREA

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Type III 24-hr 25-year Rainfall=5.80"

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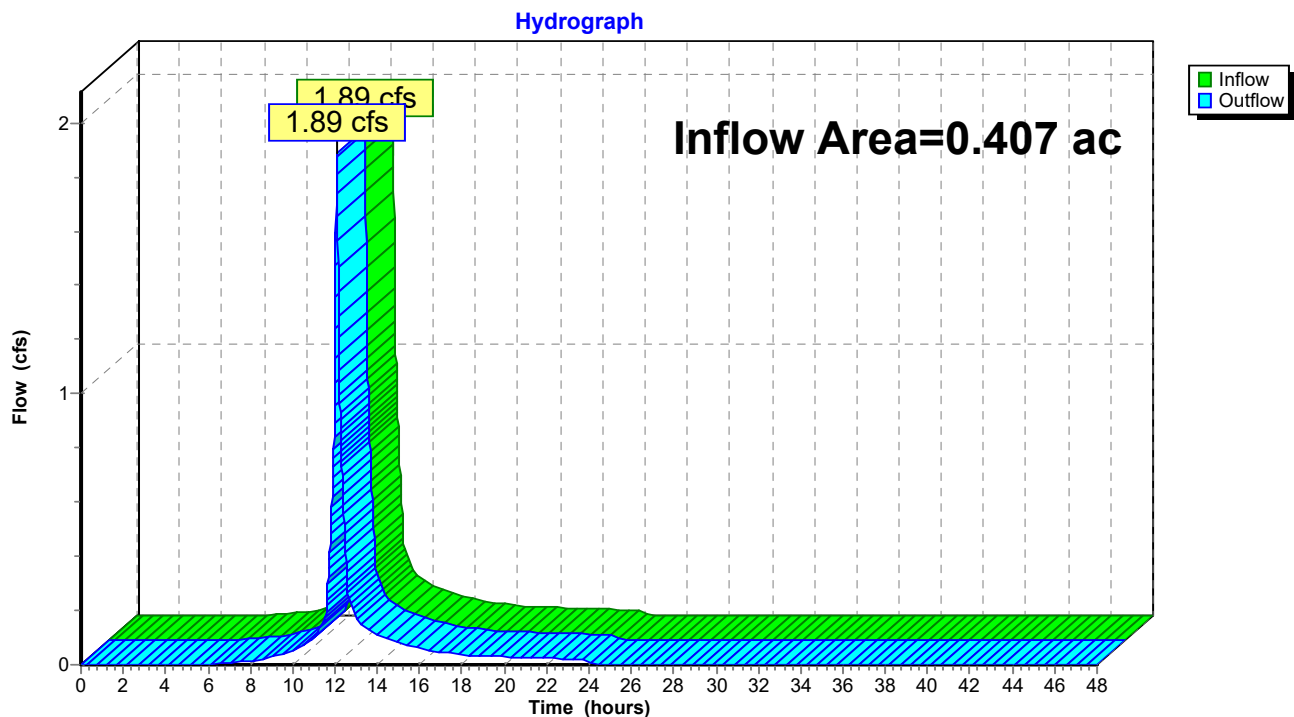
Page 13

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 71.16% Impervious, Inflow Depth = 4.01" for 25-year event
Inflow = 1.89 cfs @ 12.09 hrs, Volume= 0.136 af
Outflow = 1.89 cfs @ 12.09 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



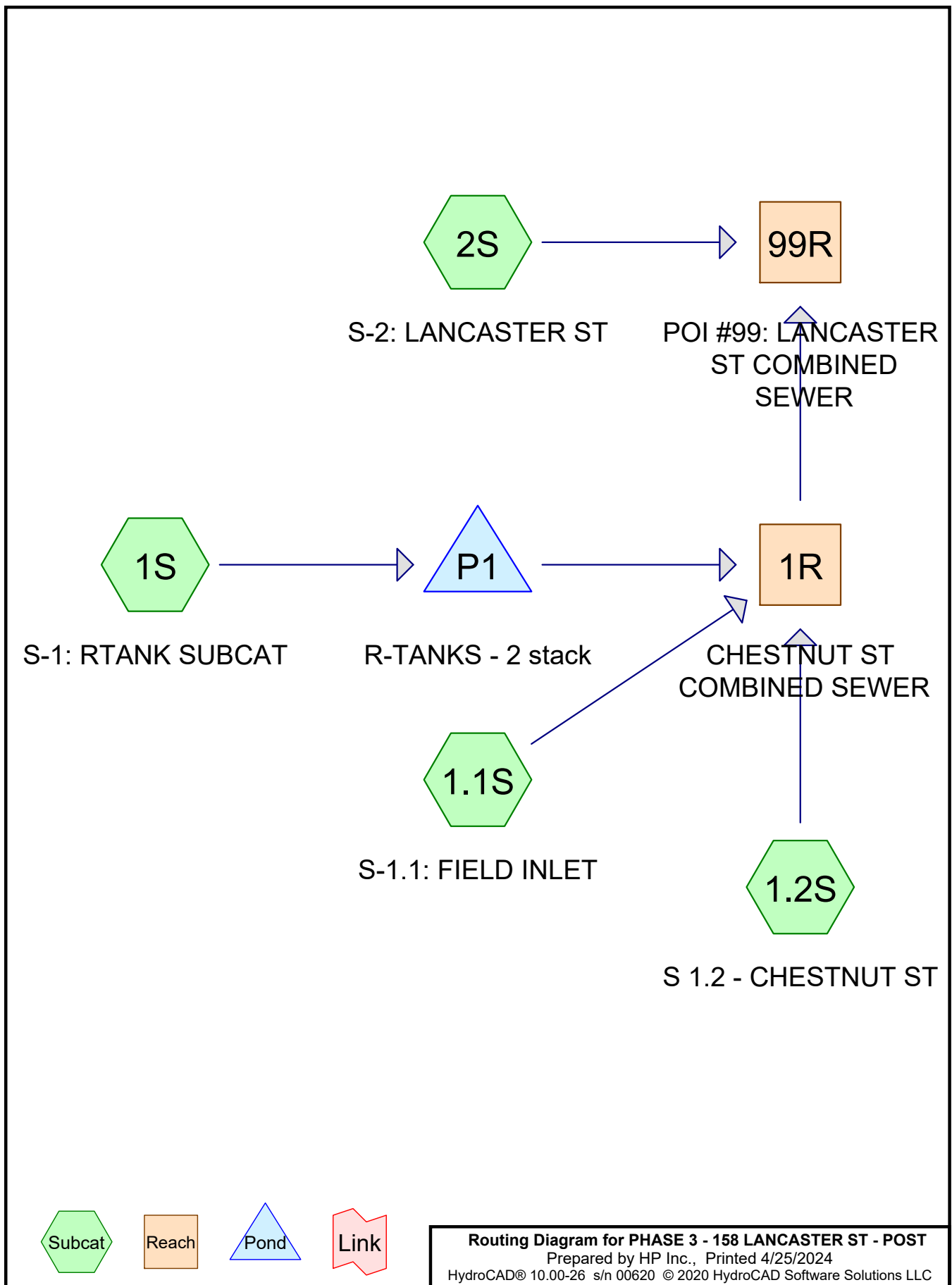
SECTION J

STORMWATER MANAGMENT REPORT

Attachment C: Post Development HydroCAD

PHASE 3 - 158 LANCASTER STREET





PHASE 3 - 158 LANCASTER ST - POST

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.142	39	>75% Grass cover, Good, HSG A (1.1S, 1.2S, 1S)
0.094	98	Paved parking, HSG A (1S)
0.158	98	ROOF AREA (1S)
0.013	98	Unconnected pavement, HSG A (1.1S, 1.2S, 2S)

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.249	HSG A	1.1S, 1.2S, 1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.158	Other	1S

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.142	0.000	0.000	0.000	0.000	0.142	>75% Grass cover, Good	1.1S, 1.2S, 1S
0.094	0.000	0.000	0.000	0.000	0.094	Paved parking	1S
0.000	0.000	0.000	0.000	0.158	0.158	ROOF AREA	1S
0.013	0.000	0.000	0.000	0.000	0.013	Unconnected pavement	1.1S, 1.2S, 2S

PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 2-year Rainfall=3.10"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: S-1.1: FIELD INLET Runoff Area=403 sf 49.88% Impervious Runoff Depth=0.68"
Tc=6.0 min CN=68 Runoff=0.01 cfs 0.001 af

Subcatchment 1.2S: S 1.2 - CHESTNUT ST Runoff Area=5,383 sf 3.79% Impervious Runoff Depth=0.00"
Tc=6.0 min UI Adjusted CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 1S: S-1: RTANK SUBCAT Runoff Area=11,771 sf 93.11% Impervious Runoff Depth=2.45"
Tc=6.0 min CN=94 Runoff=0.74 cfs 0.055 af

Subcatchment 2S: S-2: LANCASTER ST Runoff Area=157 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.01 cfs 0.001 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=0.44 cfs 0.054 af
Outflow=0.44 cfs 0.054 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=0.44 cfs 0.055 af
Outflow=0.44 cfs 0.055 af

Pond P1: R-TANKS - 2 stack Peak Elev=12.07' Storage=877 cf Inflow=0.74 cfs 0.055 af
Outflow=0.43 cfs 0.054 af

PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1.1S: S-1.1: FIELD INLET

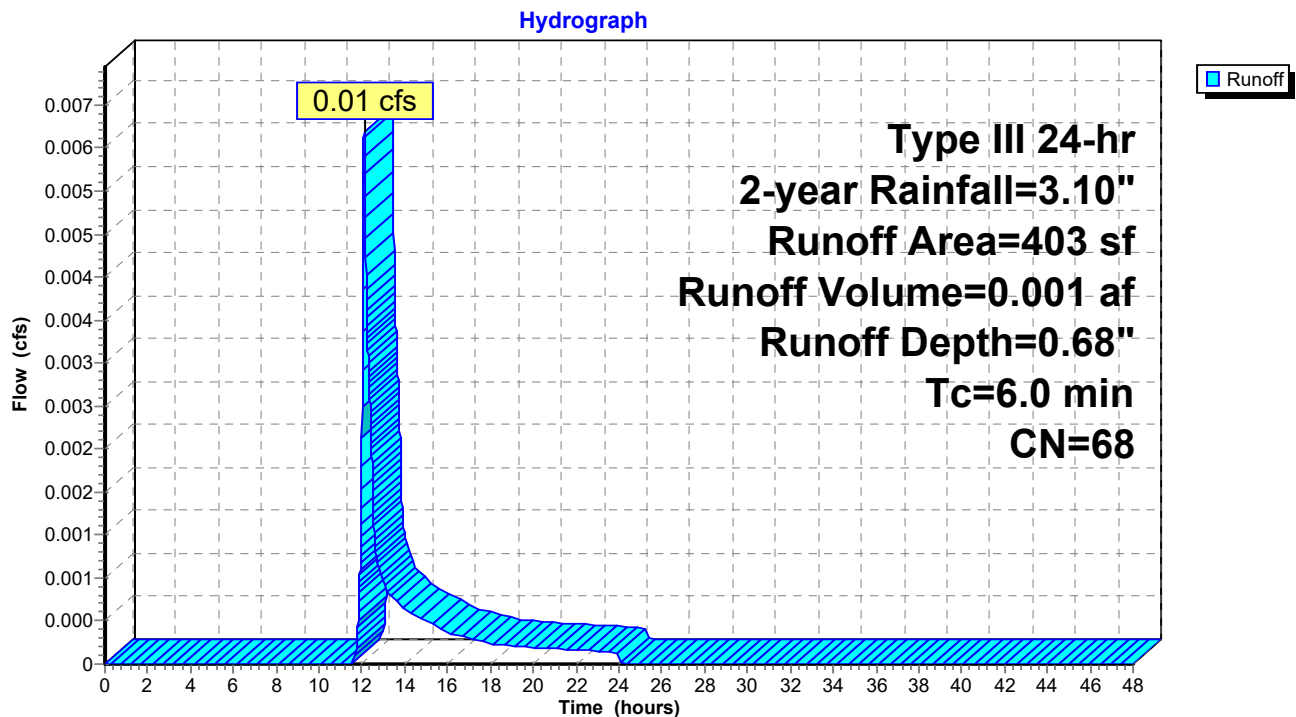
Runoff = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
201	98	Unconnected pavement, HSG A
202	39	>75% Grass cover, Good, HSG A
403	68	Weighted Average
202	39	50.12% Pervious Area
201	98	49.88% Impervious Area
201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S-1.1: FIELD INLET



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Type III 24-hr 2-year Rainfall=3.10"

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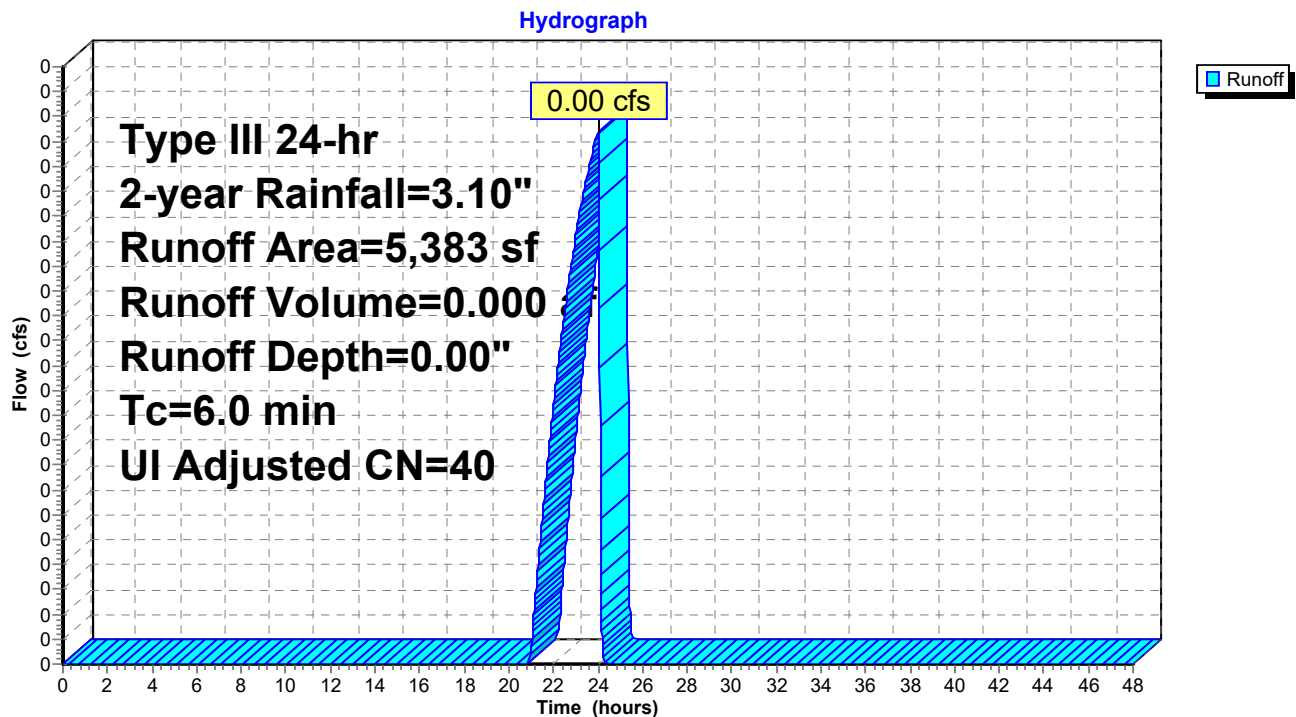
Summary for Subcatchment 1.2S: S 1.2 - CHESTNUT ST

Runoff = 0.00 cfs @ 24.01 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Adj	Description
204	98		Unconnected pavement, HSG A
5,179	39		>75% Grass cover, Good, HSG A
5,383	41	40	Weighted Average, UI Adjusted
5,179	39	39	96.21% Pervious Area
204	98	98	3.79% Impervious Area
204			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - CHESTNUT ST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1S: S-1: RTANK SUBCAT

Runoff = 0.74 cfs @ 12.08 hrs, Volume= 0.055 af, Depth= 2.45"

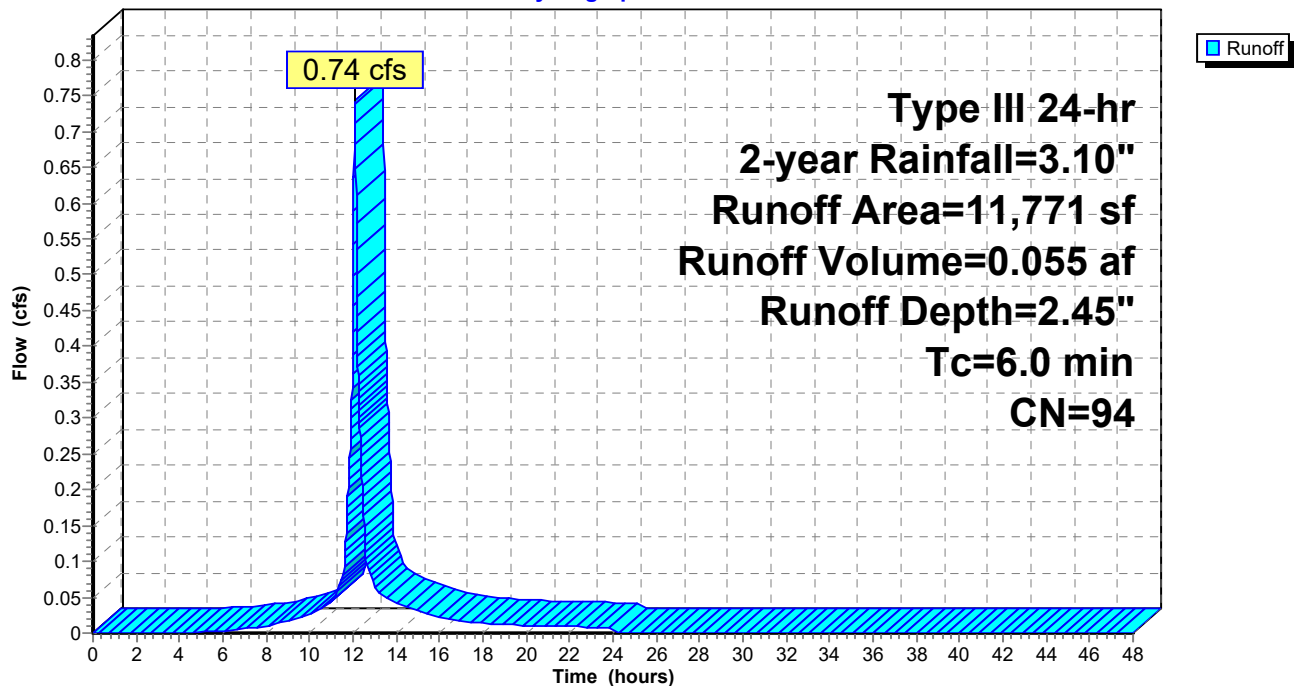
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
4,091	98	Paved parking, HSG A
811	39	>75% Grass cover, Good, HSG A
* 6,869	98	ROOF AREA
11,771	94	Weighted Average
811	39	6.89% Pervious Area
10,960	98	93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S-1: RTANK SUBCAT

Hydrograph



PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2S: S-2: LANCASTER ST

Runoff = 0.01 cfs @ 12.08 hrs, Volume= 0.001 af, Depth= 2.87"

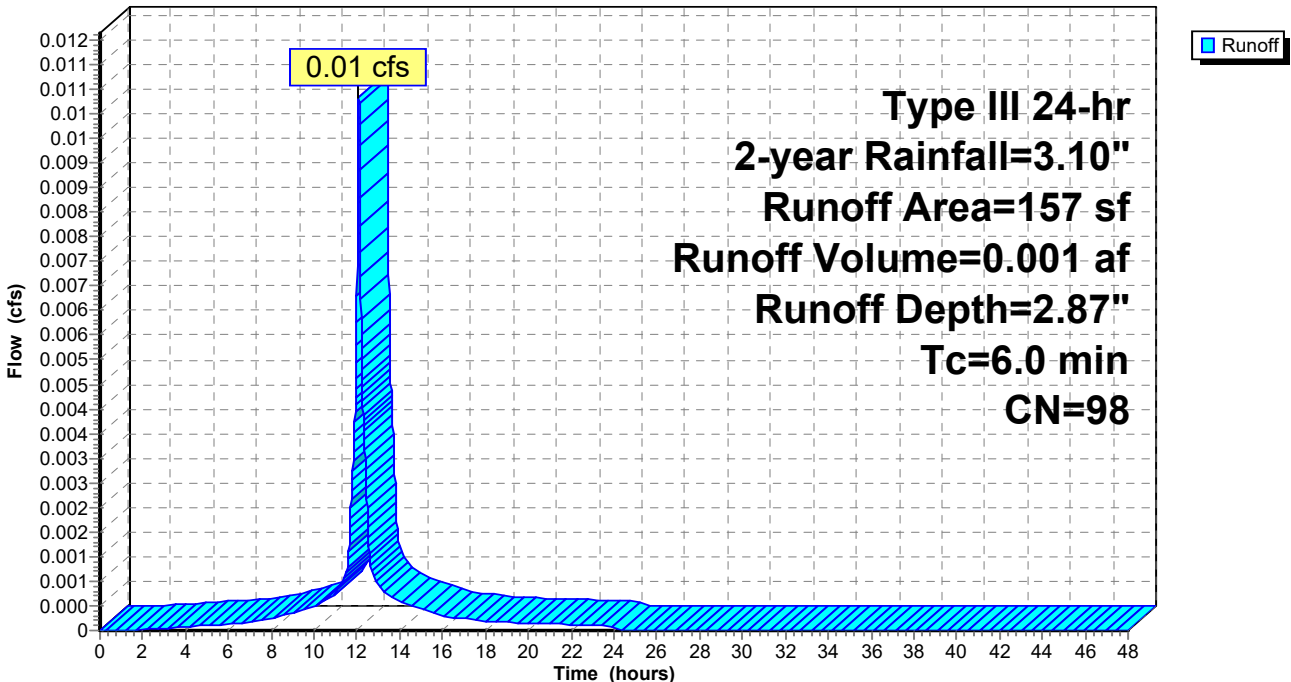
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
157	98	Unconnected pavement, HSG A
157	98	100.00% Impervious Area
157		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S-2: LANCASTER ST

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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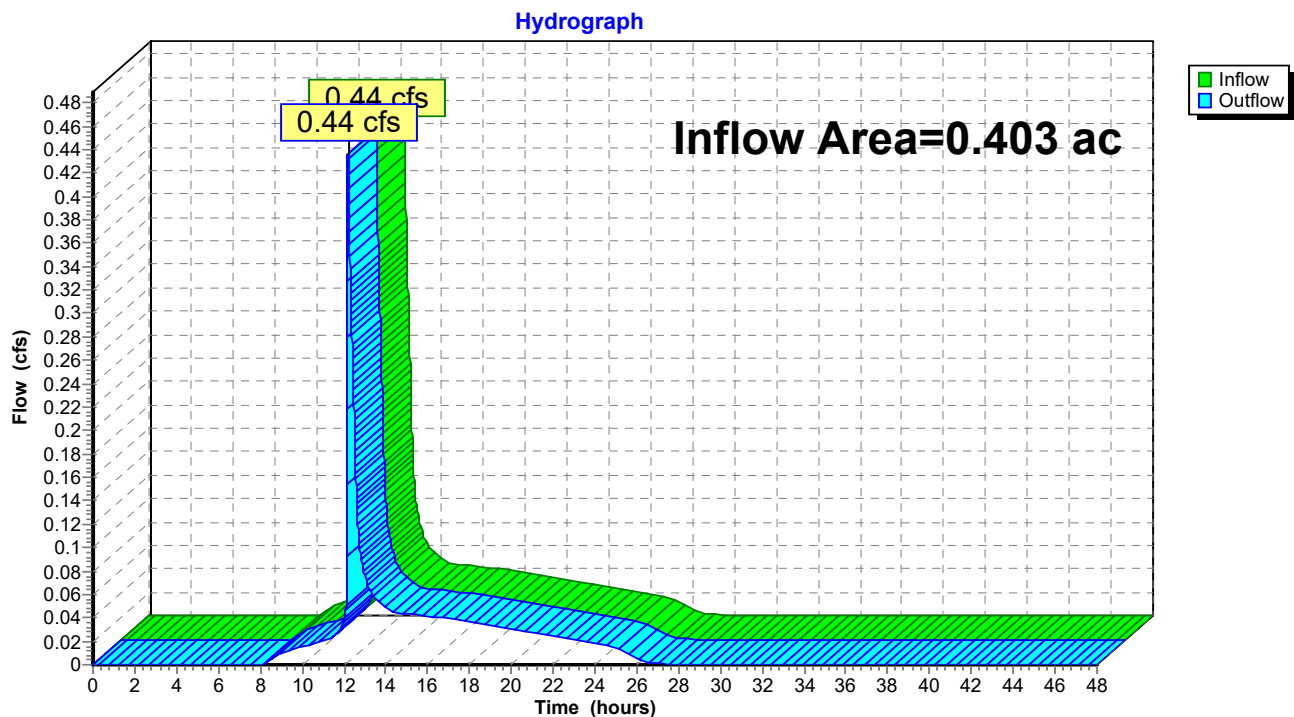
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.403 ac, 64.73% Impervious, Inflow Depth = 1.62" for 2-year event
Inflow = 0.44 cfs @ 12.20 hrs, Volume= 0.054 af
Outflow = 0.44 cfs @ 12.20 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 2-year Rainfall=3.10"

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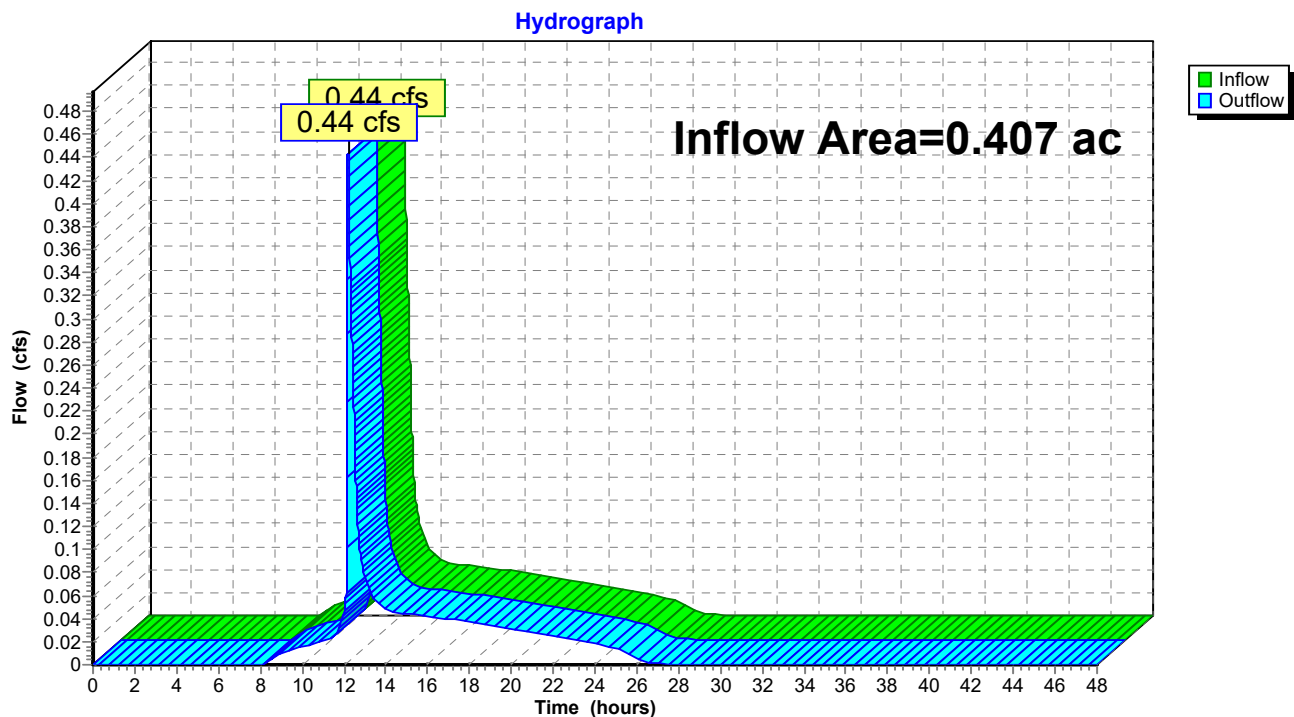
Page 11

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 65.04% Impervious, Inflow Depth = 1.63" for 2-year event
Inflow = 0.44 cfs @ 12.19 hrs, Volume= 0.055 af
Outflow = 0.44 cfs @ 12.19 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Pond P1: R-TANKS - 2 stack

Inflow Area = 0.270 ac, 93.11% Impervious, Inflow Depth = 2.45" for 2-year event
 Inflow = 0.74 cfs @ 12.08 hrs, Volume= 0.055 af
 Outflow = 0.43 cfs @ 12.20 hrs, Volume= 0.054 af, Atten= 42%, Lag= 6.6 min
 Primary = 0.43 cfs @ 12.20 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 12.07' @ 12.20 hrs Surf.Area= 364 sf Storage= 877 cf
 Flood Elev= 13.50' Surf.Area= 364 sf Storage= 1,012 cf

Plug-Flow detention time= 181.2 min calculated for 0.054 af (98% of inflow)
 Center-of-Mass det. time= 166.0 min (954.2 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	8.43'	414 cf	14.50'W x 25.11'L x 4.57'H Field B 1,664 cf Overall - 629 cf Embedded = 1,035 cf x 40.0% Voids
#2B	9.18'	594 cf	ACF R-Tank HD 2 x 72 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 72 Chambers in 8 Rows
#3	8.84'	4 cf	4.0" Round Pipe Storage Inside #1 L= 45.0' S= 0.0100 'f
		1,012 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	8.74'	10.0" Round 10" Main Outlet L= 143.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 8.74' / 8.03' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	8.84'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	11.67'	10.0" Round 10" OVERFLOW HEADER PIPE L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 11.67' / 11.61' S= 0.0067 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	11.67'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=0.43 cfs @ 12.20 hrs HW=12.07' (Free Discharge)

- 1=10" Main Outlet (Passes 0.43 cfs of 3.48 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 8.60 fps)
- 3=10" OVERFLOW HEADER PIPE (Barrel Controls 0.38 cfs @ 2.17 fps)
- 4=4" Overflows (4) (Passes 0.38 cfs of 0.81 cfs potential flow)

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Type III 24-hr 2-year Rainfall=3.10"

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Pond P1: R-TANKS - 2 stack - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

9 Chambers/Row x 2.35' Long = 21.11' Row Length +24.0" End Stone x 2 = 25.11' Base Length

8 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 14.50' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

72 Chambers x 8.3 cf = 594.1 cf Chamber Storage

72 Chambers x 8.7 cf = 625.4 cf Displacement

1,664.5 cf Field - 625.4 cf Chambers = 1,039.1 cf Stone x 40.0% Voids = 415.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,009.8 cf = 0.023 af

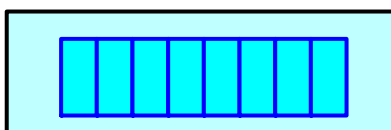
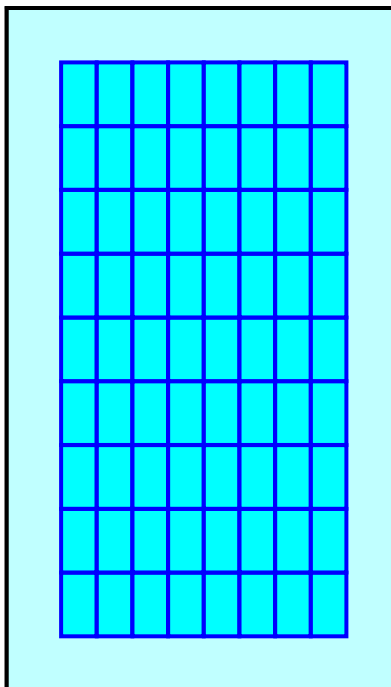
Overall Storage Efficiency = 60.7%

Overall System Size = 25.11' x 14.50' x 4.57'

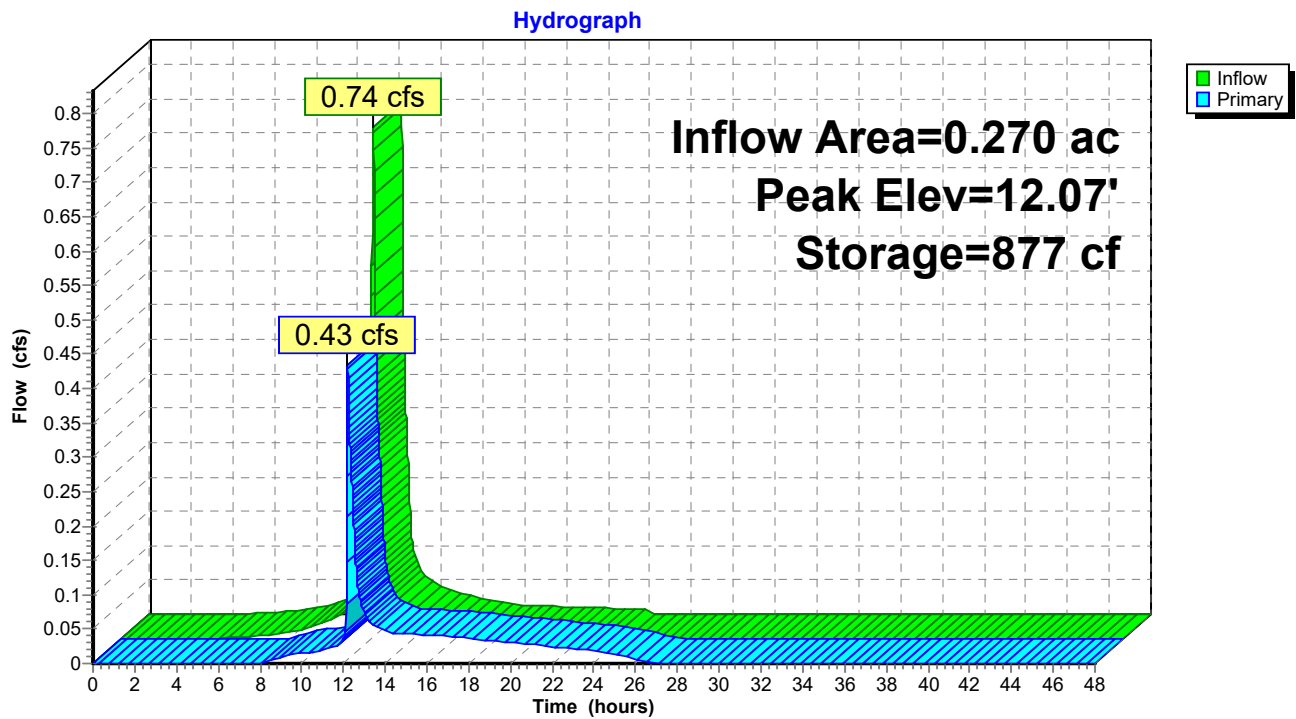
72 Chambers

61.6 cy Field

38.5 cy Stone



Pond P1: R-TANKS - 2 stack



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Type III 24-hr 2-year Rainfall=3.10"

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Stage-Area-Storage for Pond P1: R-TANKS - 2 stack

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
8.43	0	9.49	194	10.55	478
8.45	3	9.51	200	10.57	483
8.47	6	9.53	205	10.59	489
8.49	9	9.55	211	10.61	494
8.51	12	9.57	216	10.63	500
8.53	15	9.59	221	10.65	505
8.55	17	9.61	227	10.67	510
8.57	20	9.63	232	10.69	516
8.59	23	9.65	237	10.71	521
8.61	26	9.67	243	10.73	526
8.63	29	9.69	248	10.75	532
8.65	32	9.71	253	10.77	537
8.67	35	9.73	259	10.79	542
8.69	38	9.75	264	10.81	548
8.71	41	9.77	269	10.83	553
8.73	44	9.79	275	10.85	558
8.75	47	9.81	280	10.87	564
8.77	50	9.83	285	10.89	569
8.79	52	9.85	291	10.91	574
8.81	55	9.87	296	10.93	580
8.83	58	9.89	302	10.95	585
8.85	61	9.91	307	10.97	590
8.87	64	9.93	312	10.99	596
8.89	67	9.95	318	11.01	601
8.91	70	9.97	323	11.03	607
8.93	73	9.99	328	11.05	612
8.95	76	10.01	334	11.07	617
8.97	79	10.03	339	11.09	623
8.99	82	10.05	344	11.11	628
9.01	85	10.07	350	11.13	633
9.03	88	10.09	355	11.15	639
9.05	91	10.11	360	11.17	644
9.07	94	10.13	366	11.19	649
9.09	97	10.15	371	11.21	655
9.11	100	10.17	376	11.23	660
9.13	103	10.19	382	11.25	665
9.15	106	10.21	387	11.27	671
9.17	109	10.23	393	11.29	676
9.19	113	10.25	398	11.31	681
9.21	118	10.27	403	11.33	687
9.23	124	10.29	409	11.35	692
9.25	129	10.31	414	11.37	698
9.27	135	10.33	419	11.39	703
9.29	140	10.35	425	11.41	708
9.31	146	10.37	430	11.43	714
9.33	151	10.39	435	11.45	719
9.35	156	10.41	441	11.47	724
9.37	162	10.43	446	11.49	730
9.39	167	10.45	451	11.51	735
9.41	173	10.47	457	11.53	740
9.43	178	10.49	462	11.55	746
9.45	184	10.51	467	11.57	751
9.47	189	10.53	473	11.59	756

PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 2-year Rainfall=3.10"*

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Stage-Area-Storage for Pond P1: R-TANKS - 2 stack (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
11.61	762	12.67	964
11.63	767	12.69	967
11.65	772	12.71	970
11.67	778	12.73	973
11.69	783	12.75	975
11.71	788	12.77	978
11.73	794	12.79	981
11.75	799	12.81	984
11.77	805	12.83	987
11.79	810	12.85	990
11.81	815	12.87	993
11.83	821	12.89	996
11.85	826	12.91	999
11.87	831	12.93	1,002
11.89	837	12.95	1,005
11.91	842	12.97	1,008
11.93	847	12.99	1,010
11.95	853	13.01	1,012
11.97	858	13.03	1,012
11.99	863	13.05	1,012
12.01	868	13.07	1,012
12.03	871	13.09	1,012
12.05	874	13.11	1,012
12.07	876	13.13	1,012
12.09	879	13.15	1,012
12.11	882	13.17	1,012
12.13	885	13.19	1,012
12.15	888	13.21	1,012
12.17	891	13.23	1,012
12.19	894	13.25	1,012
12.21	897	13.27	1,012
12.23	900	13.29	1,012
12.25	903	13.31	1,012
12.27	906	13.33	1,012
12.29	908	13.35	1,012
12.31	911	13.37	1,012
12.33	914	13.39	1,012
12.35	917	13.41	1,012
12.37	920	13.43	1,012
12.39	923	13.45	1,012
12.41	926	13.47	1,012
12.43	929	13.49	1,012
12.45	932		
12.47	935		
12.49	938		
12.51	941		
12.53	943		
12.55	946		
12.57	949		
12.59	952		
12.61	955		
12.63	958		
12.65	961		

PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 10-year Rainfall=4.60"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: S-1.1: FIELD INLET Runoff Area=403 sf 49.88% Impervious Runoff Depth=1.60"
Tc=6.0 min CN=68 Runoff=0.02 cfs 0.001 af

Subcatchment 1.2S: S 1.2 - CHESTNUT ST Runoff Area=5,383 sf 3.79% Impervious Runoff Depth=0.15"
Tc=6.0 min UI Adjusted CN=40 Runoff=0.00 cfs 0.002 af

Subcatchment 1S: S-1: RTANK SUBCAT Runoff Area=11,771 sf 93.11% Impervious Runoff Depth=3.91"
Tc=6.0 min CN=94 Runoff=1.16 cfs 0.088 af

Subcatchment 2S: S-2: LANCASTER ST Runoff Area=157 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.02 cfs 0.001 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.15 cfs 0.090 af
Outflow=1.15 cfs 0.090 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.16 cfs 0.091 af
Outflow=1.16 cfs 0.091 af

Pond P1: R-TANKS - 2 stack Peak Elev=12.42' Storage=927 cf Inflow=1.16 cfs 0.088 af
Outflow=1.13 cfs 0.087 af

PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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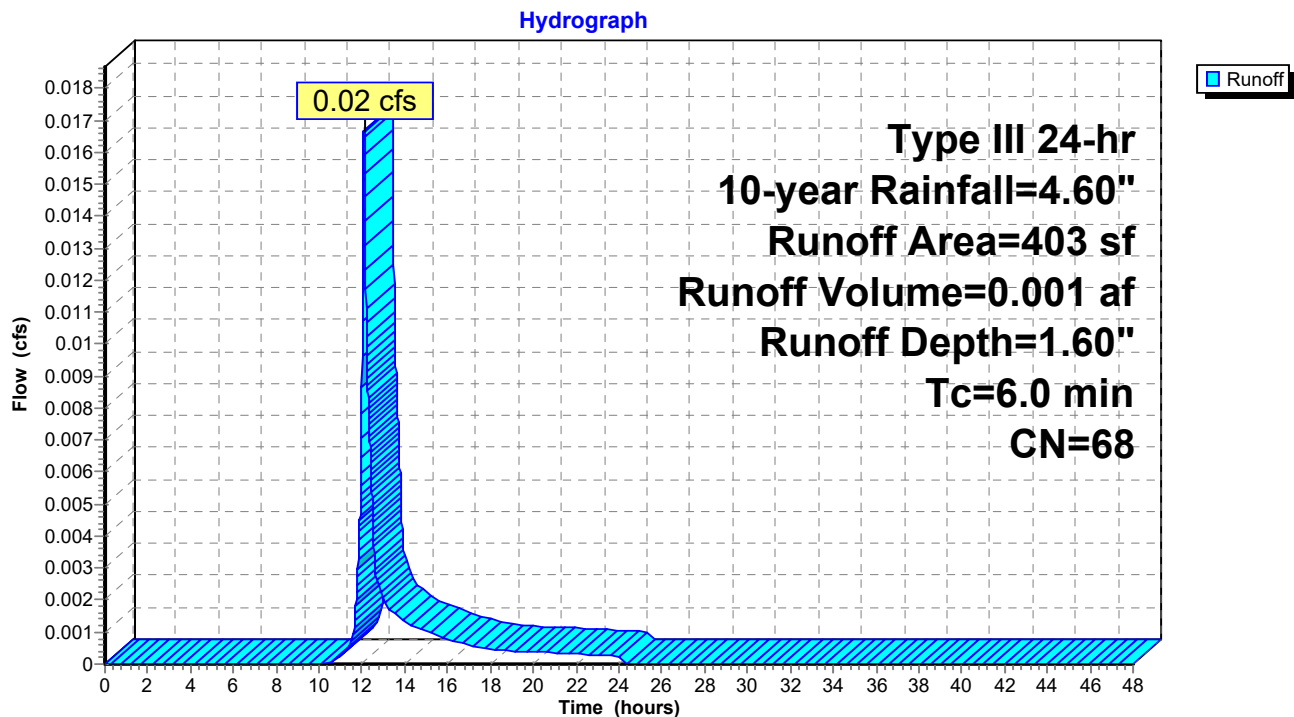
Summary for Subcatchment 1.1S: S-1.1: FIELD INLET

Runoff = 0.02 cfs @ 12.09 hrs, Volume= 0.001 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
201	98	Unconnected pavement, HSG A
202	39	>75% Grass cover, Good, HSG A
403	68	Weighted Average
202	39	50.12% Pervious Area
201	98	49.88% Impervious Area
201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S-1.1: FIELD INLET

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1.2S: S 1.2 - CHESTNUT ST

Runoff = 0.00 cfs @ 13.66 hrs, Volume= 0.002 af, Depth= 0.15"

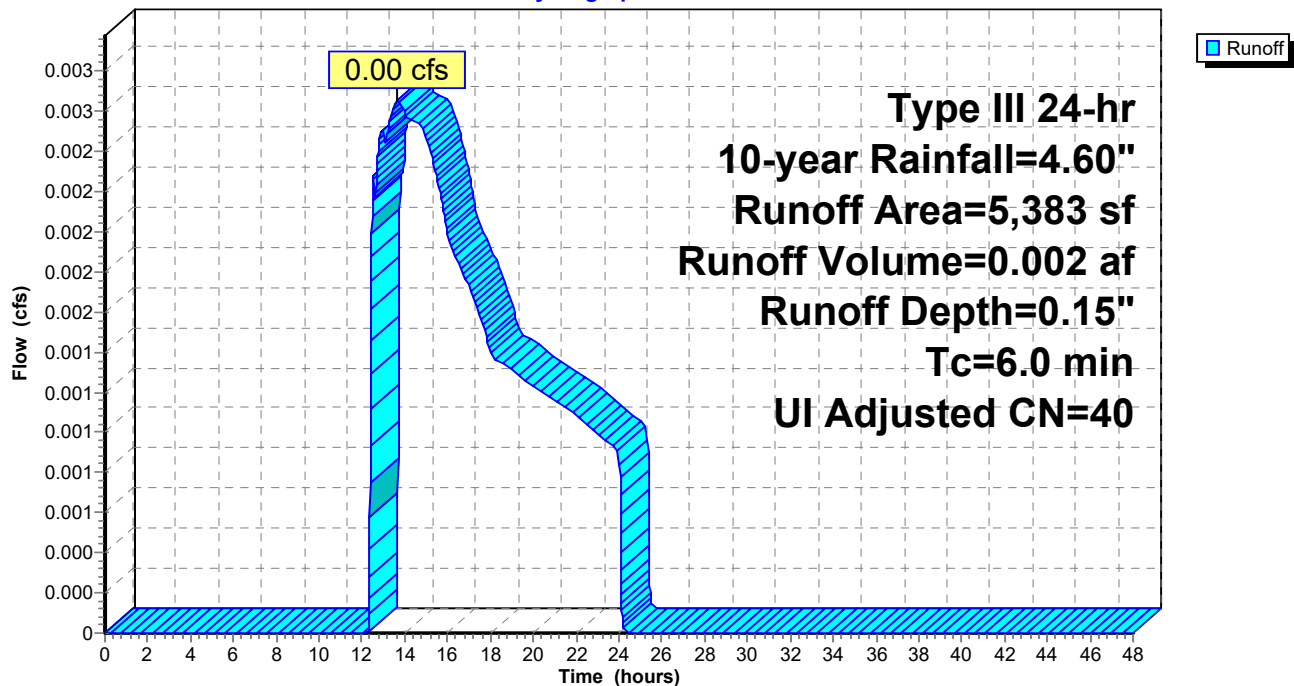
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Adj	Description
204	98		Unconnected pavement, HSG A
5,179	39		>75% Grass cover, Good, HSG A
5,383	41	40	Weighted Average, UI Adjusted
5,179	39	39	96.21% Pervious Area
204	98	98	3.79% Impervious Area
204			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - CHESTNUT ST

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1S: S-1: RTANK SUBCAT

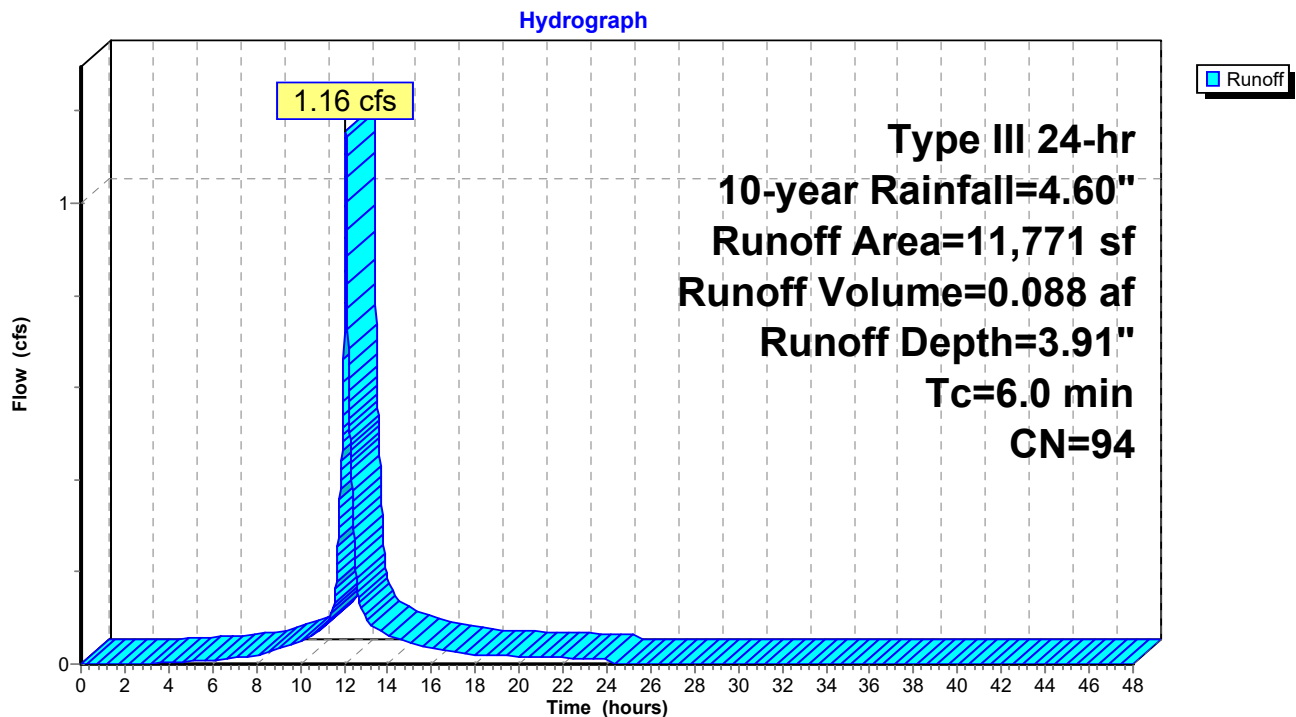
Runoff = 1.16 cfs @ 12.08 hrs, Volume= 0.088 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
4,091	98	Paved parking, HSG A
811	39	>75% Grass cover, Good, HSG A
* 6,869	98	ROOF AREA
11,771	94	Weighted Average
811	39	6.89% Pervious Area
10,960	98	93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S-1: RTANK SUBCAT



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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 2S: S-2: LANCASTER ST

Runoff = 0.02 cfs @ 12.08 hrs, Volume= 0.001 af, Depth= 4.36"

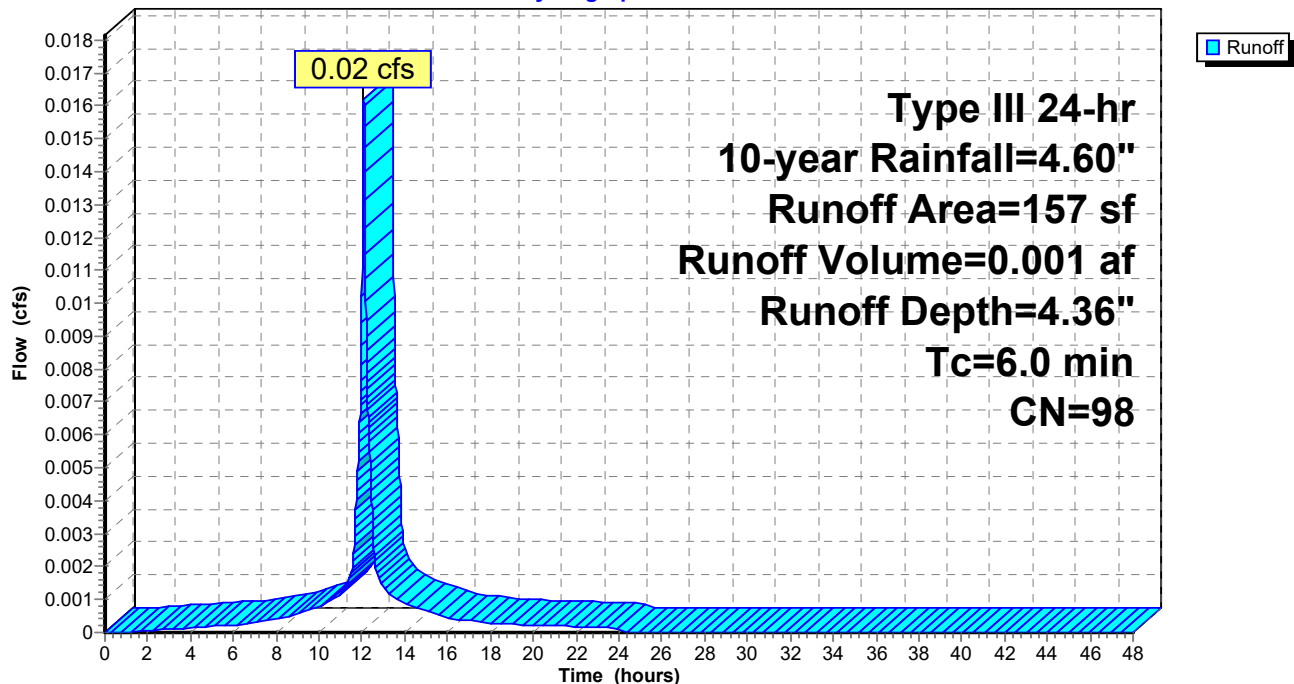
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
157	98	Unconnected pavement, HSG A
157	98	100.00% Impervious Area
157		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S-2: LANCASTER ST

Hydrograph



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Type III 24-hr 10-year Rainfall=4.60"

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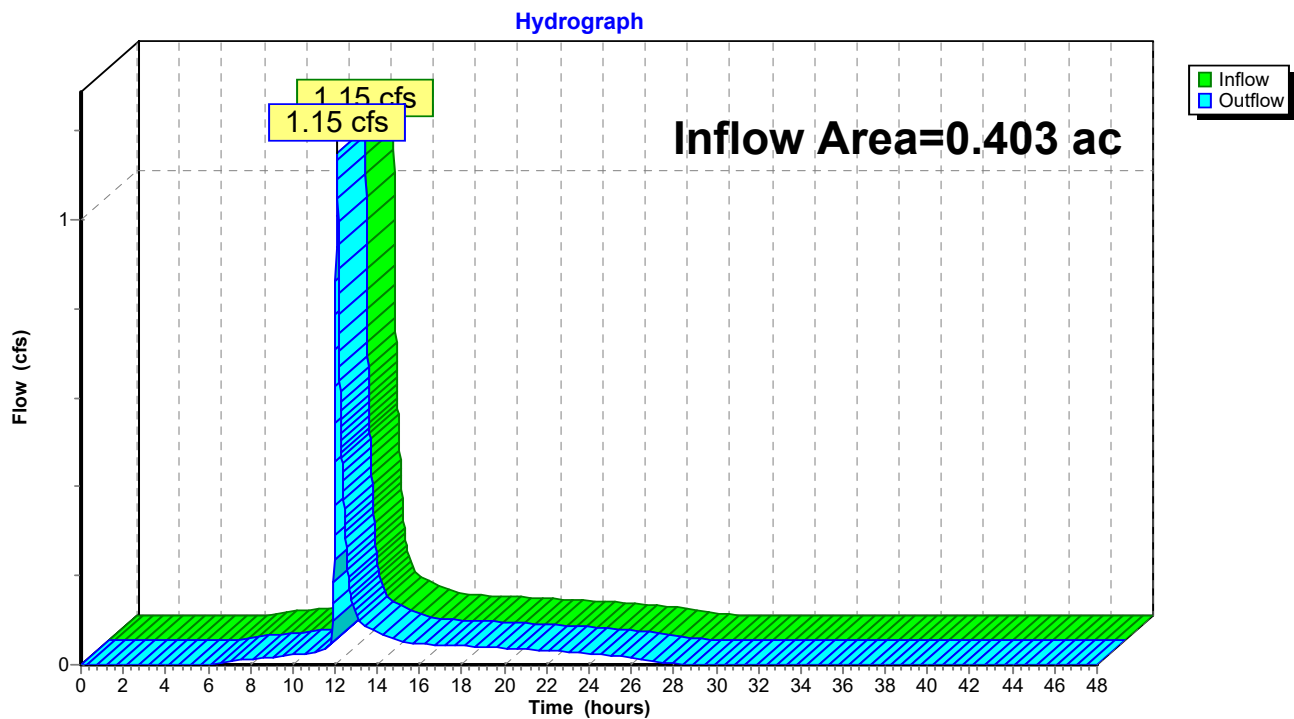
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.403 ac, 64.73% Impervious, Inflow Depth = 2.67" for 10-year event
Inflow = 1.15 cfs @ 12.10 hrs, Volume= 0.090 af
Outflow = 1.15 cfs @ 12.10 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 10-year Rainfall=4.60"

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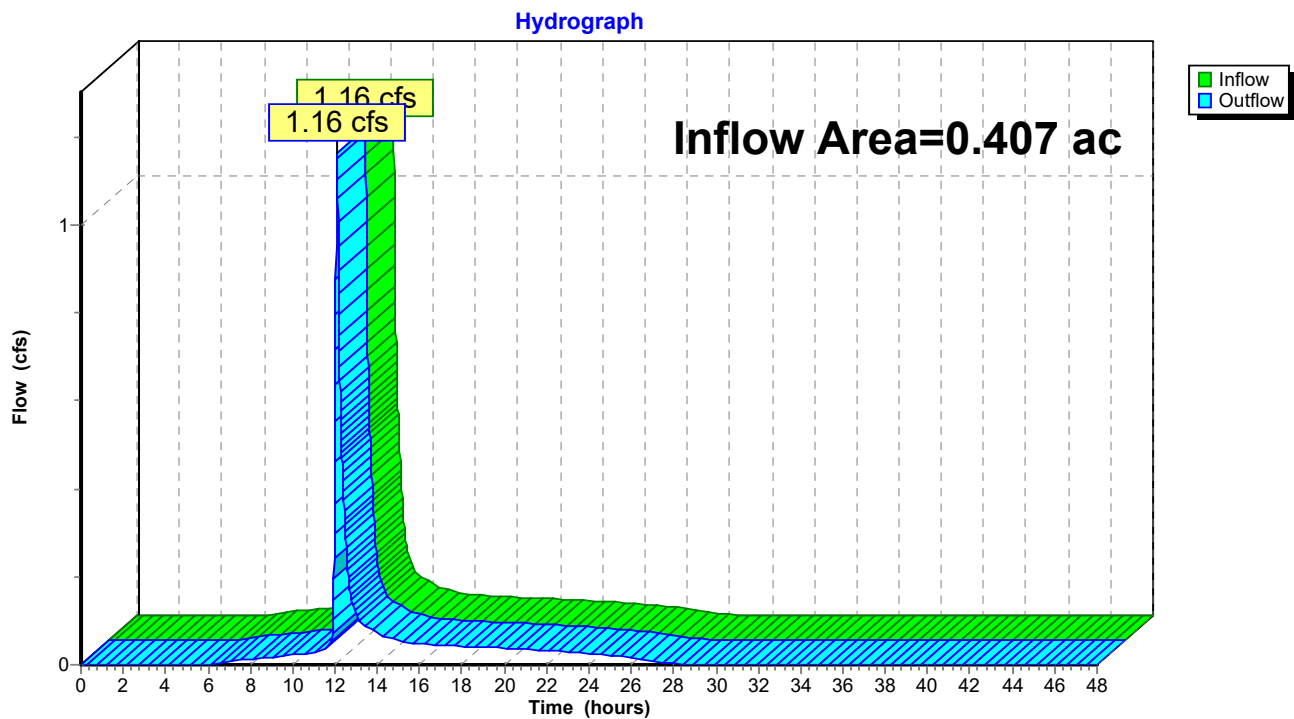
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Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 65.04% Impervious, Inflow Depth = 2.68" for 10-year event
Inflow = 1.16 cfs @ 12.10 hrs, Volume= 0.091 af
Outflow = 1.16 cfs @ 12.10 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 3 - 158 LANCASTER ST - POST

Type III 24-hr 10-year Rainfall=4.60"

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Summary for Pond P1: R-TANKS - 2 stack

Inflow Area = 0.270 ac, 93.11% Impervious, Inflow Depth = 3.91" for 10-year event
 Inflow = 1.16 cfs @ 12.08 hrs, Volume= 0.088 af
 Outflow = 1.13 cfs @ 12.10 hrs, Volume= 0.087 af, Atten= 2%, Lag= 1.1 min
 Primary = 1.13 cfs @ 12.10 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 12.42' @ 12.10 hrs Surf.Area= 364 sf Storage= 927 cf
 Flood Elev= 13.50' Surf.Area= 364 sf Storage= 1,012 cf

Plug-Flow detention time= 142.2 min calculated for 0.087 af (98% of inflow)
 Center-of-Mass det. time= 132.2 min (908.1 - 775.9)

Volume	Invert	Avail.Storage	Storage Description
#1B	8.43'	414 cf	14.50'W x 25.11'L x 4.57'H Field B 1,664 cf Overall - 629 cf Embedded = 1,035 cf x 40.0% Voids
#2B	9.18'	594 cf	ACF R-Tank HD 2 x 72 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 72 Chambers in 8 Rows
#3	8.84'	4 cf	4.0" Round Pipe Storage Inside #1 L= 45.0' S= 0.0100 'f
		1,012 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	8.74'	10.0" Round 10" Main Outlet L= 143.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 8.74' / 8.03' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	8.84'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	11.67'	10.0" Round 10" OVERFLOW HEADER PIPE L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 11.67' / 11.61' S= 0.0067 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	11.67'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=1.13 cfs @ 12.10 hrs HW=12.42' (Free Discharge)

- 1=10" Main Outlet (Passes 1.13 cfs of 3.66 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 9.05 fps)
- 3=10" OVERFLOW HEADER PIPE (Barrel Controls 1.08 cfs @ 2.77 fps)
- 4=4" Overflows (4) (Passes 1.08 cfs of 1.28 cfs potential flow)

Pond P1: R-TANKS - 2 stack - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

9 Chambers/Row x 2.35' Long = 21.11' Row Length +24.0" End Stone x 2 = 25.11' Base Length

8 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 14.50' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

72 Chambers x 8.3 cf = 594.1 cf Chamber Storage

72 Chambers x 8.7 cf = 625.4 cf Displacement

1,664.5 cf Field - 625.4 cf Chambers = 1,039.1 cf Stone x 40.0% Voids = 415.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,009.8 cf = 0.023 af

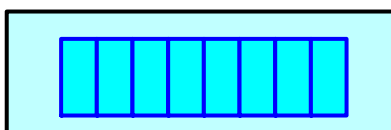
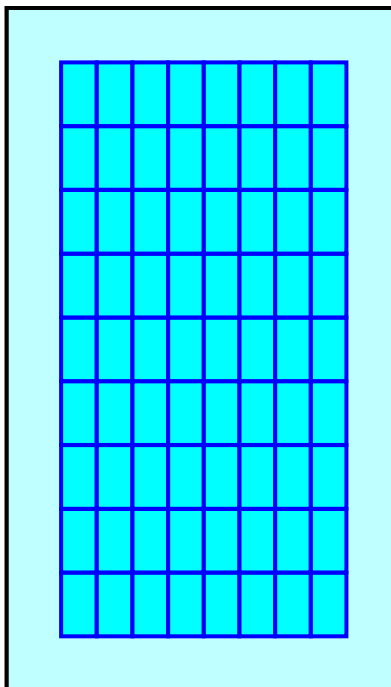
Overall Storage Efficiency = 60.7%

Overall System Size = 25.11' x 14.50' x 4.57'

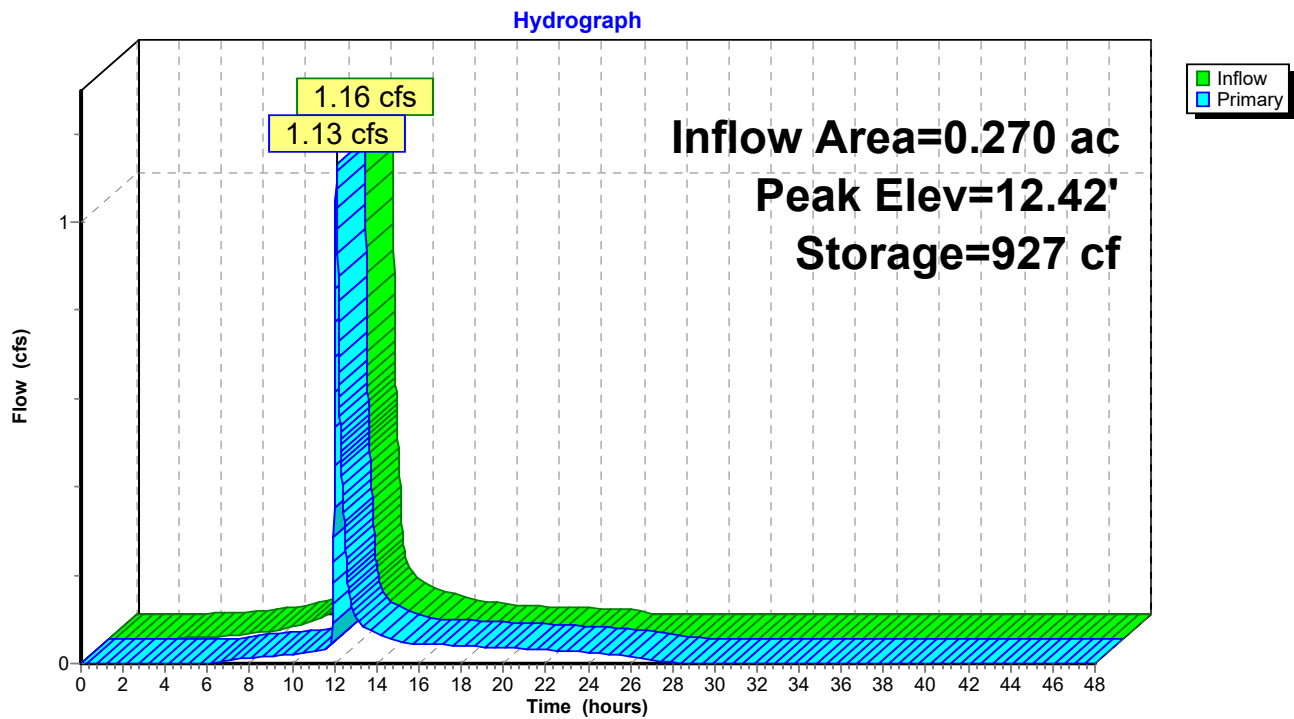
72 Chambers

61.6 cy Field

38.5 cy Stone



Pond P1: R-TANKS - 2 stack



PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 10-year Rainfall=4.60"

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Stage-Area-Storage for Pond P1: R-TANKS - 2 stack

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
8.43	0	9.49	194	10.55	478
8.45	3	9.51	200	10.57	483
8.47	6	9.53	205	10.59	489
8.49	9	9.55	211	10.61	494
8.51	12	9.57	216	10.63	500
8.53	15	9.59	221	10.65	505
8.55	17	9.61	227	10.67	510
8.57	20	9.63	232	10.69	516
8.59	23	9.65	237	10.71	521
8.61	26	9.67	243	10.73	526
8.63	29	9.69	248	10.75	532
8.65	32	9.71	253	10.77	537
8.67	35	9.73	259	10.79	542
8.69	38	9.75	264	10.81	548
8.71	41	9.77	269	10.83	553
8.73	44	9.79	275	10.85	558
8.75	47	9.81	280	10.87	564
8.77	50	9.83	285	10.89	569
8.79	52	9.85	291	10.91	574
8.81	55	9.87	296	10.93	580
8.83	58	9.89	302	10.95	585
8.85	61	9.91	307	10.97	590
8.87	64	9.93	312	10.99	596
8.89	67	9.95	318	11.01	601
8.91	70	9.97	323	11.03	607
8.93	73	9.99	328	11.05	612
8.95	76	10.01	334	11.07	617
8.97	79	10.03	339	11.09	623
8.99	82	10.05	344	11.11	628
9.01	85	10.07	350	11.13	633
9.03	88	10.09	355	11.15	639
9.05	91	10.11	360	11.17	644
9.07	94	10.13	366	11.19	649
9.09	97	10.15	371	11.21	655
9.11	100	10.17	376	11.23	660
9.13	103	10.19	382	11.25	665
9.15	106	10.21	387	11.27	671
9.17	109	10.23	393	11.29	676
9.19	113	10.25	398	11.31	681
9.21	118	10.27	403	11.33	687
9.23	124	10.29	409	11.35	692
9.25	129	10.31	414	11.37	698
9.27	135	10.33	419	11.39	703
9.29	140	10.35	425	11.41	708
9.31	146	10.37	430	11.43	714
9.33	151	10.39	435	11.45	719
9.35	156	10.41	441	11.47	724
9.37	162	10.43	446	11.49	730
9.39	167	10.45	451	11.51	735
9.41	173	10.47	457	11.53	740
9.43	178	10.49	462	11.55	746
9.45	184	10.51	467	11.57	751
9.47	189	10.53	473	11.59	756

PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 10-year Rainfall=4.60"*

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Stage-Area-Storage for Pond P1: R-TANKS - 2 stack (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
11.61	762	12.67	964
11.63	767	12.69	967
11.65	772	12.71	970
11.67	778	12.73	973
11.69	783	12.75	975
11.71	788	12.77	978
11.73	794	12.79	981
11.75	799	12.81	984
11.77	805	12.83	987
11.79	810	12.85	990
11.81	815	12.87	993
11.83	821	12.89	996
11.85	826	12.91	999
11.87	831	12.93	1,002
11.89	837	12.95	1,005
11.91	842	12.97	1,008
11.93	847	12.99	1,010
11.95	853	13.01	1,012
11.97	858	13.03	1,012
11.99	863	13.05	1,012
12.01	868	13.07	1,012
12.03	871	13.09	1,012
12.05	874	13.11	1,012
12.07	876	13.13	1,012
12.09	879	13.15	1,012
12.11	882	13.17	1,012
12.13	885	13.19	1,012
12.15	888	13.21	1,012
12.17	891	13.23	1,012
12.19	894	13.25	1,012
12.21	897	13.27	1,012
12.23	900	13.29	1,012
12.25	903	13.31	1,012
12.27	906	13.33	1,012
12.29	908	13.35	1,012
12.31	911	13.37	1,012
12.33	914	13.39	1,012
12.35	917	13.41	1,012
12.37	920	13.43	1,012
12.39	923	13.45	1,012
12.41	926	13.47	1,012
12.43	929	13.49	1,012
12.45	932		
12.47	935		
12.49	938		
12.51	941		
12.53	943		
12.55	946		
12.57	949		
12.59	952		
12.61	955		
12.63	958		
12.65	961		

PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: S-1.1: FIELD INLET Runoff Area=403 sf 49.88% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=68 Runoff=0.03 cfs 0.002 af

Subcatchment 1.2S: S 1.2 - CHESTNUT ST Runoff Area=5,383 sf 3.79% Impervious Runoff Depth=0.44"
Tc=6.0 min UI Adjusted CN=40 Runoff=0.02 cfs 0.005 af

Subcatchment 1S: S-1: RTANK SUBCAT Runoff Area=11,771 sf 93.11% Impervious Runoff Depth=5.10"
Tc=6.0 min CN=94 Runoff=1.49 cfs 0.115 af

Subcatchment 2S: S-2: LANCASTER ST Runoff Area=157 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.02 cfs 0.002 af

Reach 1R: CHESTNUT ST COMBINED SEWER Inflow=1.48 cfs 0.120 af
Outflow=1.48 cfs 0.120 af

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER Inflow=1.50 cfs 0.122 af
Outflow=1.50 cfs 0.122 af

Pond P1: R-TANKS - 2 stack Peak Elev=12.57' Storage=949 cf Inflow=1.49 cfs 0.115 af
Outflow=1.45 cfs 0.113 af

PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.1S: S-1.1: FIELD INLET

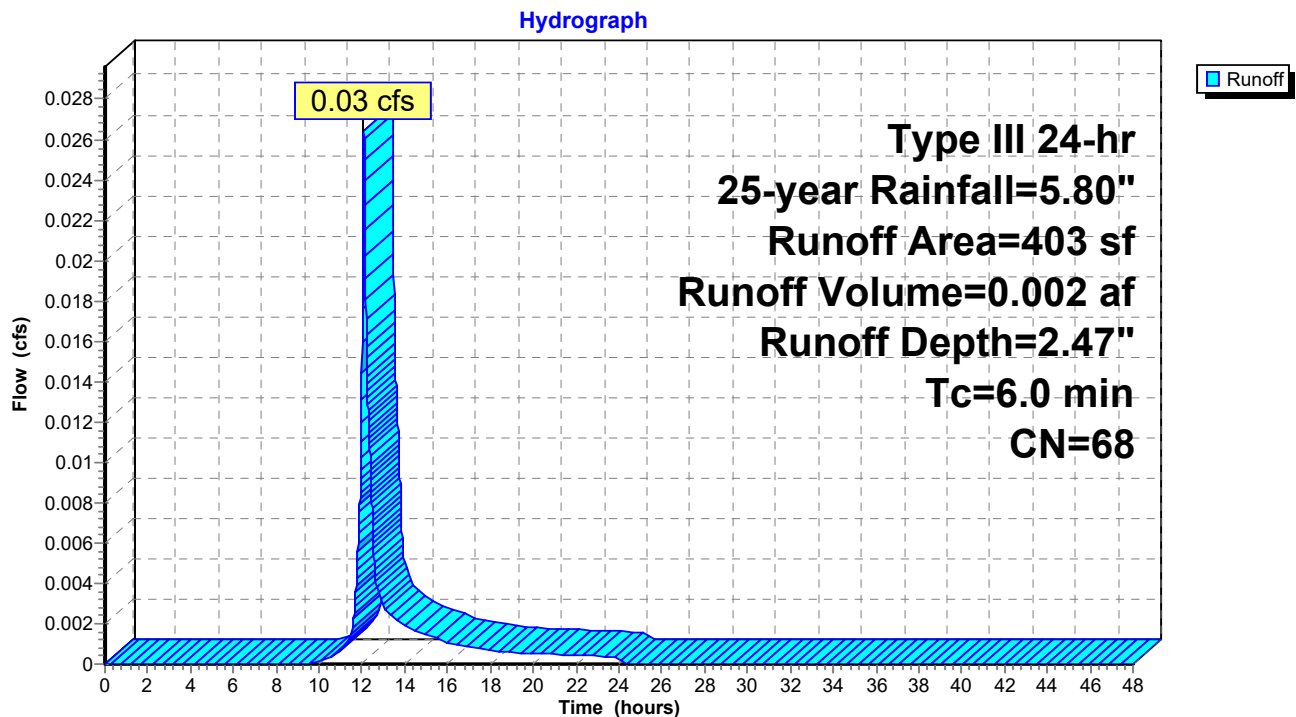
Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
201	98	Unconnected pavement, HSG A
202	39	>75% Grass cover, Good, HSG A
403	68	Weighted Average
202	39	50.12% Pervious Area
201	98	49.88% Impervious Area
201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.1S: S-1.1: FIELD INLET



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 1.2S: S 1.2 - CHESTNUT ST

Runoff = 0.02 cfs @ 12.34 hrs, Volume= 0.005 af, Depth= 0.44"

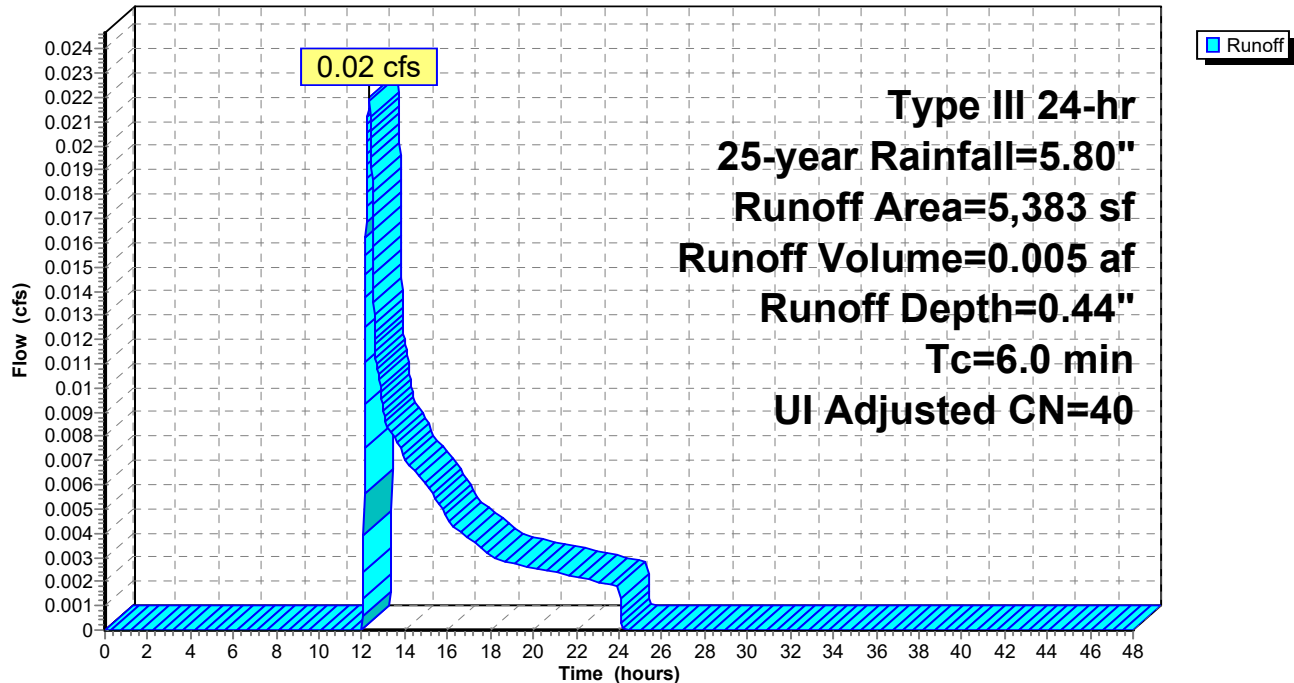
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Adj	Description
204	98		Unconnected pavement, HSG A
5,179	39		>75% Grass cover, Good, HSG A
5,383	41	40	Weighted Average, UI Adjusted
5,179	39	39	96.21% Pervious Area
204	98	98	3.79% Impervious Area
204			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1.2S: S 1.2 - CHESTNUT ST

Hydrograph



PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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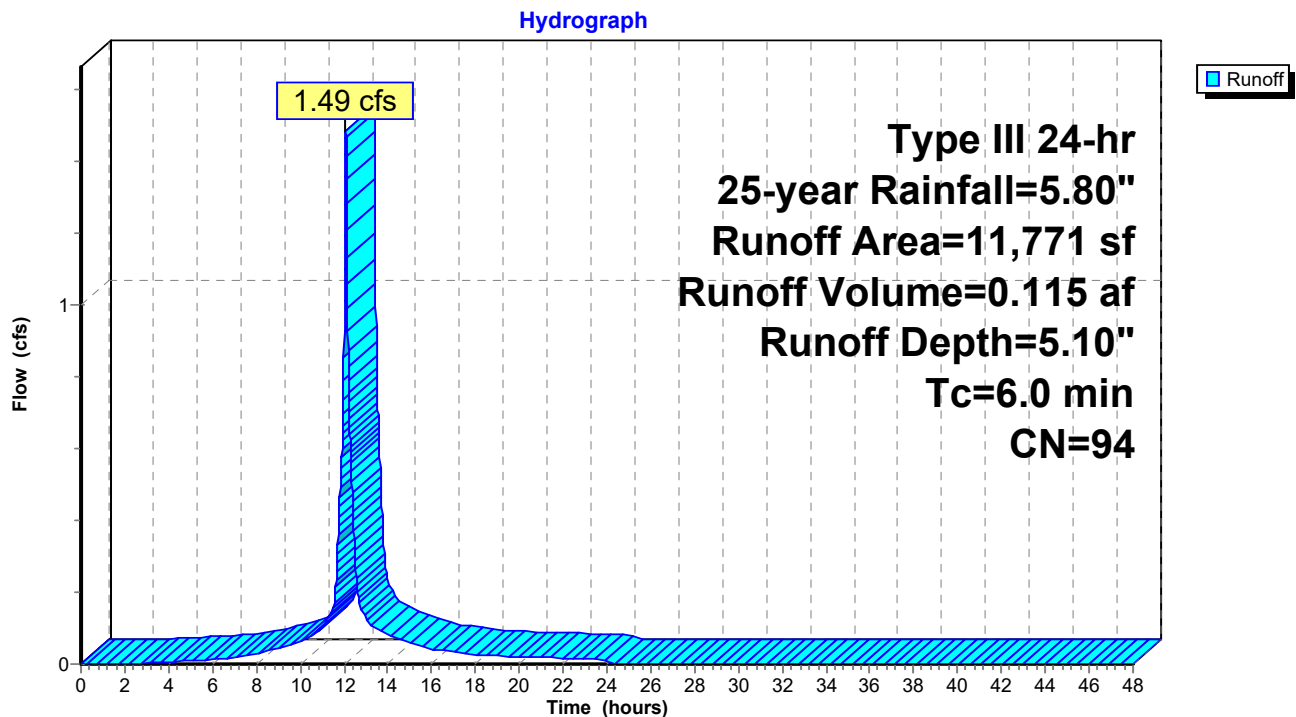
Summary for Subcatchment 1S: S-1: RTANK SUBCAT

Runoff = 1.49 cfs @ 12.08 hrs, Volume= 0.115 af, Depth= 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
4,091	98	Paved parking, HSG A
811	39	>75% Grass cover, Good, HSG A
* 6,869	98	ROOF AREA
11,771	94	Weighted Average
811	39	6.89% Pervious Area
10,960	98	93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: S-1: RTANK SUBCAT

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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2S: S-2: LANCASTER ST

Runoff = 0.02 cfs @ 12.08 hrs, Volume= 0.002 af, Depth= 5.56"

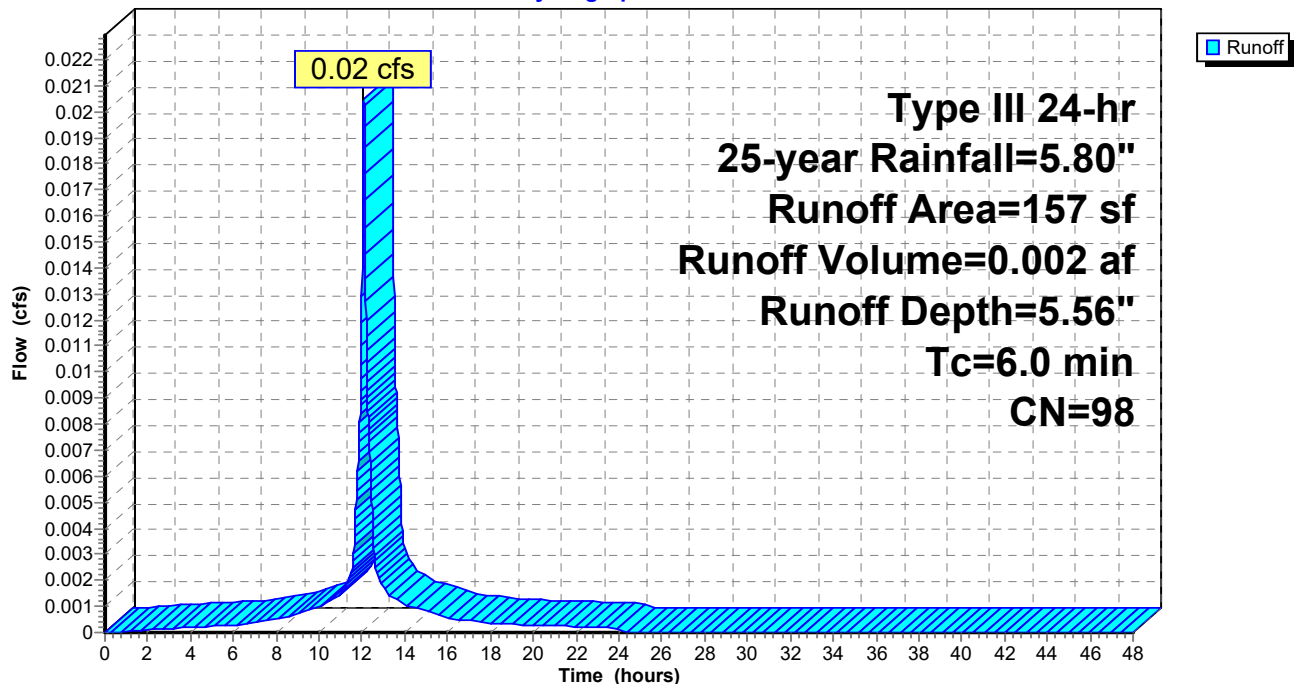
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
157	98	Unconnected pavement, HSG A
157	98	100.00% Impervious Area
157		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: S-2: LANCASTER ST

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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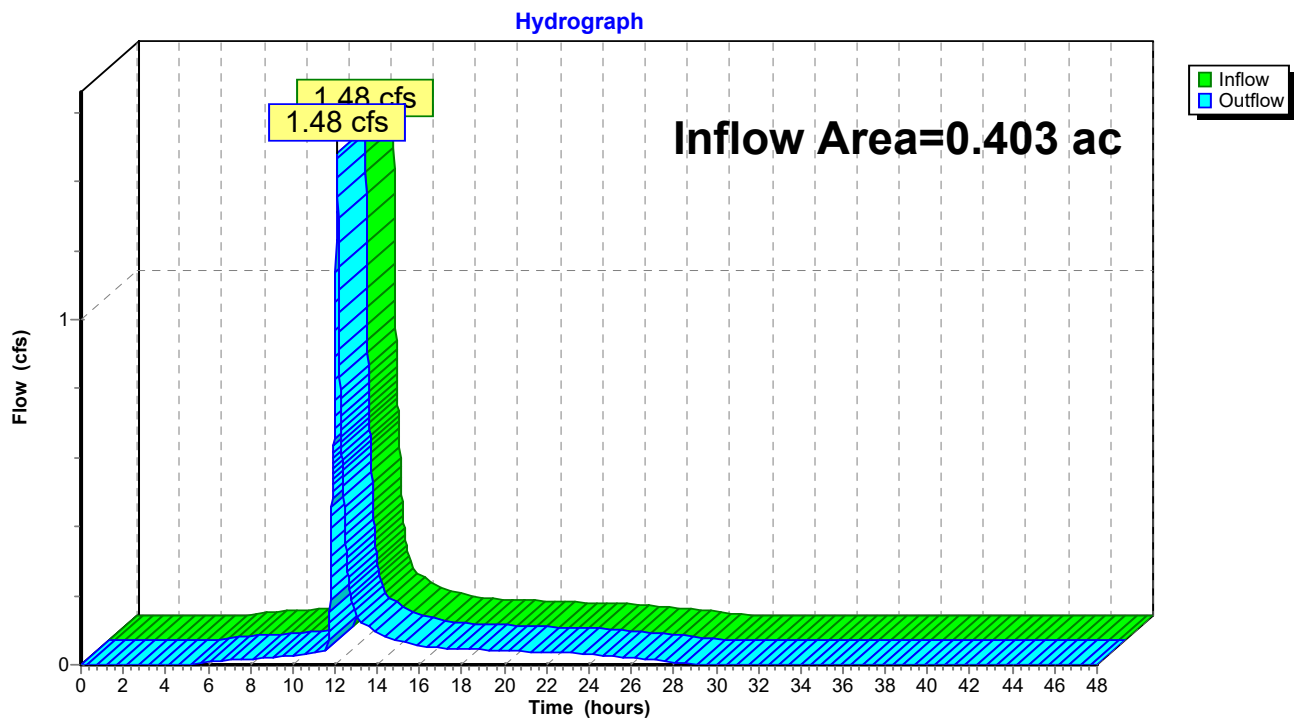
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Summary for Reach 1R: CHESTNUT ST COMBINED SEWER

Inflow Area = 0.403 ac, 64.73% Impervious, Inflow Depth = 3.57" for 25-year event
Inflow = 1.48 cfs @ 12.10 hrs, Volume= 0.120 af
Outflow = 1.48 cfs @ 12.10 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: CHESTNUT ST COMBINED SEWER



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Type III 24-hr 25-year Rainfall=5.80"

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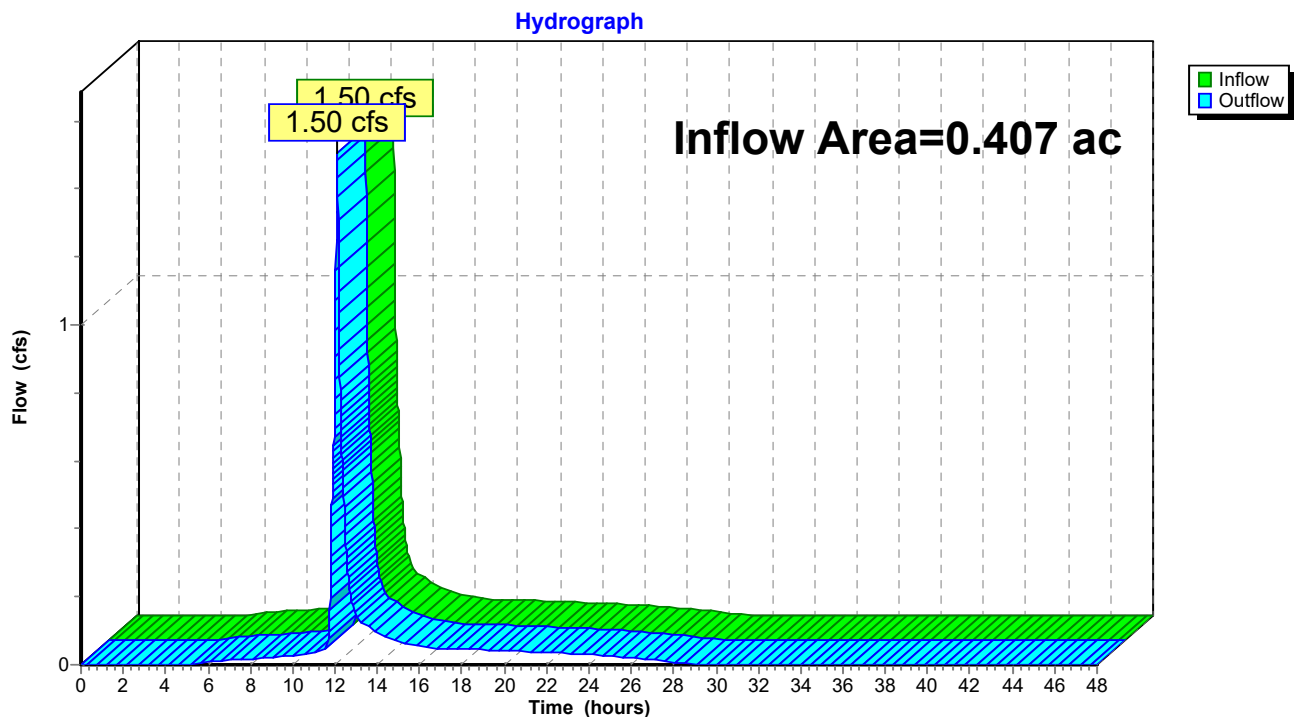
Page 35

Summary for Reach 99R: POI #99: LANCASTER ST COMBINED SEWER

Inflow Area = 0.407 ac, 65.04% Impervious, Inflow Depth = 3.59" for 25-year event
Inflow = 1.50 cfs @ 12.10 hrs, Volume= 0.122 af
Outflow = 1.50 cfs @ 12.10 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 99R: POI #99: LANCASTER ST COMBINED SEWER



PHASE 3 - 158 LANCASTER ST - POST

Type III 24-hr 25-year Rainfall=5.80"

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Summary for Pond P1: R-TANKS - 2 stack

Inflow Area = 0.270 ac, 93.11% Impervious, Inflow Depth = 5.10" for 25-year event
 Inflow = 1.49 cfs @ 12.08 hrs, Volume= 0.115 af
 Outflow = 1.45 cfs @ 12.10 hrs, Volume= 0.113 af, Atten= 2%, Lag= 1.1 min
 Primary = 1.45 cfs @ 12.10 hrs, Volume= 0.113 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 12.57' @ 12.10 hrs Surf.Area= 364 sf Storage= 949 cf
 Flood Elev= 13.50' Surf.Area= 364 sf Storage= 1,012 cf

Plug-Flow detention time= 124.5 min calculated for 0.113 af (99% of inflow)
 Center-of-Mass det. time= 116.9 min (886.3 - 769.4)

Volume	Invert	Avail.Storage	Storage Description
#1B	8.43'	414 cf	14.50'W x 25.11'L x 4.57'H Field B 1,664 cf Overall - 629 cf Embedded = 1,035 cf x 40.0% Voids
#2B	9.18'	594 cf	ACF R-Tank HD 2 x 72 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 72 Chambers in 8 Rows
#3	8.84'	4 cf	4.0" Round Pipe Storage Inside #1 L= 45.0' S= 0.0100 'f
		1,012 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	8.74'	10.0" Round 10" Main Outlet L= 143.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 8.74' / 8.03' S= 0.0050 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#2	Device 1	8.84'	1.0" Vert. 1" UNDERDRAIN ORIFICE C= 0.600
#3	Device 1	11.67'	10.0" Round 10" OVERFLOW HEADER PIPE L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 11.67' / 11.61' S= 0.0067 'f Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf
#4	Device 3	11.67'	4.0" Vert. 4" Overflows (4) X 4.00 C= 0.600

Primary OutFlow Max=1.45 cfs @ 12.10 hrs HW=12.56' (Free Discharge)

- 1=10" Main Outlet (Passes 1.45 cfs of 3.73 cfs potential flow)
- 2=1" UNDERDRAIN ORIFICE (Orifice Controls 0.05 cfs @ 9.24 fps)
- 3=10" OVERFLOW HEADER PIPE (Barrel Controls 1.40 cfs @ 2.97 fps)
- 4=4" Overflows (4) (Passes 1.40 cfs of 1.43 cfs potential flow)

PHASE 3 - 158 LANCASTER ST - POST

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Type III 24-hr 25-year Rainfall=5.80"

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Pond P1: R-TANKS - 2 stack - Chamber Wizard Field B

Chamber Model = ACF R-Tank HD 2 (ACF Environmental R-Tank HD)

Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf

Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf

9 Chambers/Row x 2.35' Long = 21.11' Row Length +24.0" End Stone x 2 = 25.11' Base Length

8 Rows x 15.7" Wide + 24.0" Side Stone x 2 = 14.50' Base Width

9.0" Base + 33.9" Chamber Height + 12.0" Cover = 4.57' Field Height

72 Chambers x 8.3 cf = 594.1 cf Chamber Storage

72 Chambers x 8.7 cf = 625.4 cf Displacement

1,664.5 cf Field - 625.4 cf Chambers = 1,039.1 cf Stone x 40.0% Voids = 415.6 cf Stone Storage

Chamber Storage + Stone Storage = 1,009.8 cf = 0.023 af

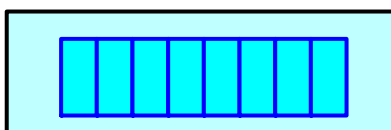
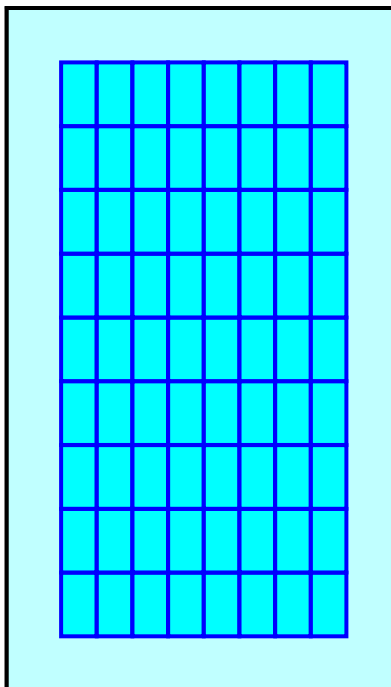
Overall Storage Efficiency = 60.7%

Overall System Size = 25.11' x 14.50' x 4.57'

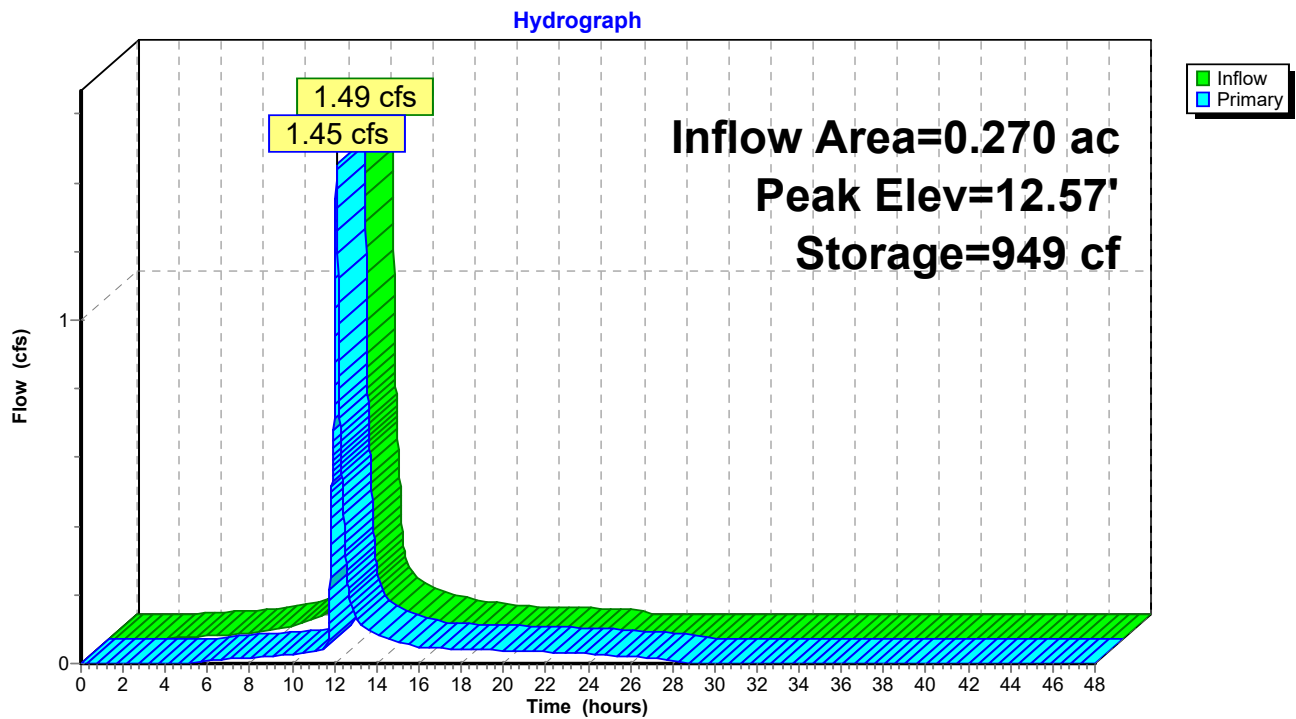
72 Chambers

61.6 cy Field

38.5 cy Stone



Pond P1: R-TANKS - 2 stack



PHASE 3 - 158 LANCASTER ST - POST*Type III 24-hr 25-year Rainfall=5.80"*

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Stage-Area-Storage for Pond P1: R-TANKS - 2 stack

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
8.43	0	9.49	194	10.55	478
8.45	3	9.51	200	10.57	483
8.47	6	9.53	205	10.59	489
8.49	9	9.55	211	10.61	494
8.51	12	9.57	216	10.63	500
8.53	15	9.59	221	10.65	505
8.55	17	9.61	227	10.67	510
8.57	20	9.63	232	10.69	516
8.59	23	9.65	237	10.71	521
8.61	26	9.67	243	10.73	526
8.63	29	9.69	248	10.75	532
8.65	32	9.71	253	10.77	537
8.67	35	9.73	259	10.79	542
8.69	38	9.75	264	10.81	548
8.71	41	9.77	269	10.83	553
8.73	44	9.79	275	10.85	558
8.75	47	9.81	280	10.87	564
8.77	50	9.83	285	10.89	569
8.79	52	9.85	291	10.91	574
8.81	55	9.87	296	10.93	580
8.83	58	9.89	302	10.95	585
8.85	61	9.91	307	10.97	590
8.87	64	9.93	312	10.99	596
8.89	67	9.95	318	11.01	601
8.91	70	9.97	323	11.03	607
8.93	73	9.99	328	11.05	612
8.95	76	10.01	334	11.07	617
8.97	79	10.03	339	11.09	623
8.99	82	10.05	344	11.11	628
9.01	85	10.07	350	11.13	633
9.03	88	10.09	355	11.15	639
9.05	91	10.11	360	11.17	644
9.07	94	10.13	366	11.19	649
9.09	97	10.15	371	11.21	655
9.11	100	10.17	376	11.23	660
9.13	103	10.19	382	11.25	665
9.15	106	10.21	387	11.27	671
9.17	109	10.23	393	11.29	676
9.19	113	10.25	398	11.31	681
9.21	118	10.27	403	11.33	687
9.23	124	10.29	409	11.35	692
9.25	129	10.31	414	11.37	698
9.27	135	10.33	419	11.39	703
9.29	140	10.35	425	11.41	708
9.31	146	10.37	430	11.43	714
9.33	151	10.39	435	11.45	719
9.35	156	10.41	441	11.47	724
9.37	162	10.43	446	11.49	730
9.39	167	10.45	451	11.51	735
9.41	173	10.47	457	11.53	740
9.43	178	10.49	462	11.55	746
9.45	184	10.51	467	11.57	751
9.47	189	10.53	473	11.59	756

PHASE 3 - 158 LANCASTER ST - POST

Type III 24-hr 25-year Rainfall=5.80"

Prepared by HP Inc.

Printed 4/25/2024

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Page 40

Stage-Area-Storage for Pond P1: R-TANKS - 2 stack (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
11.61	762	12.67	964
11.63	767	12.69	967
11.65	772	12.71	970
11.67	778	12.73	973
11.69	783	12.75	975
11.71	788	12.77	978
11.73	794	12.79	981
11.75	799	12.81	984
11.77	805	12.83	987
11.79	810	12.85	990
11.81	815	12.87	993
11.83	821	12.89	996
11.85	826	12.91	999
11.87	831	12.93	1,002
11.89	837	12.95	1,005
11.91	842	12.97	1,008
11.93	847	12.99	1,010
11.95	853	13.01	1,012
11.97	858	13.03	1,012
11.99	863	13.05	1,012
12.01	868	13.07	1,012
12.03	871	13.09	1,012
12.05	874	13.11	1,012
12.07	876	13.13	1,012
12.09	879	13.15	1,012
12.11	882	13.17	1,012
12.13	885	13.19	1,012
12.15	888	13.21	1,012
12.17	891	13.23	1,012
12.19	894	13.25	1,012
12.21	897	13.27	1,012
12.23	900	13.29	1,012
12.25	903	13.31	1,012
12.27	906	13.33	1,012
12.29	908	13.35	1,012
12.31	911	13.37	1,012
12.33	914	13.39	1,012
12.35	917	13.41	1,012
12.37	920	13.43	1,012
12.39	923	13.45	1,012
12.41	926	13.47	1,012
12.43	929	13.49	1,012
12.45	932		
12.47	935		
12.49	938		
12.51	941		
12.53	943		
12.55	946		
12.57	949		
12.59	952		
12.61	955		
12.63	958		
12.65	961		

SECTION J

STORMWATER MANAGMENT REPORT

Attachment D: USDA Soil Survey





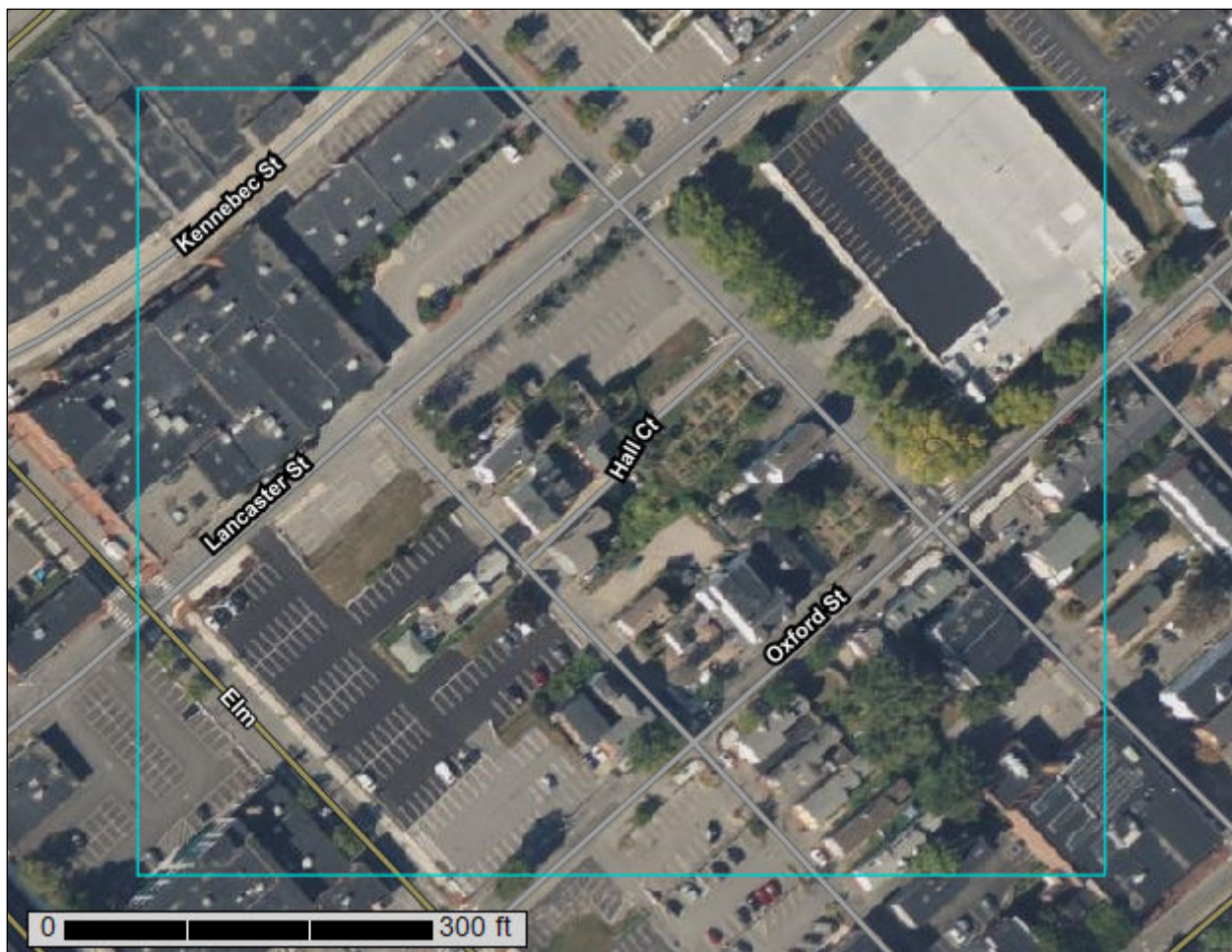
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



February 22, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Au	Au Gres loamy sand	4.6	39.2%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	7.1	60.8%
Totals for Area of Interest		11.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Au—Au Gres loamy sand

Map Unit Setting

National map unit symbol: blgr
Elevation: 200 to 1,800 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Au gres and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Au Gres

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: loamy sand
H2 - 10 to 32 inches: loamy sand
H3 - 32 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8

Elevation: 0 to 1,430 feet

Mean annual precipitation: 36 to 53 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, kames, kame terraces, moraines, eskers, outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope, footslope

Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Custom Soil Resource Report

Hydrologic Soil Group: A

Ecological site: F144AY022MA - Dry Outwash

Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

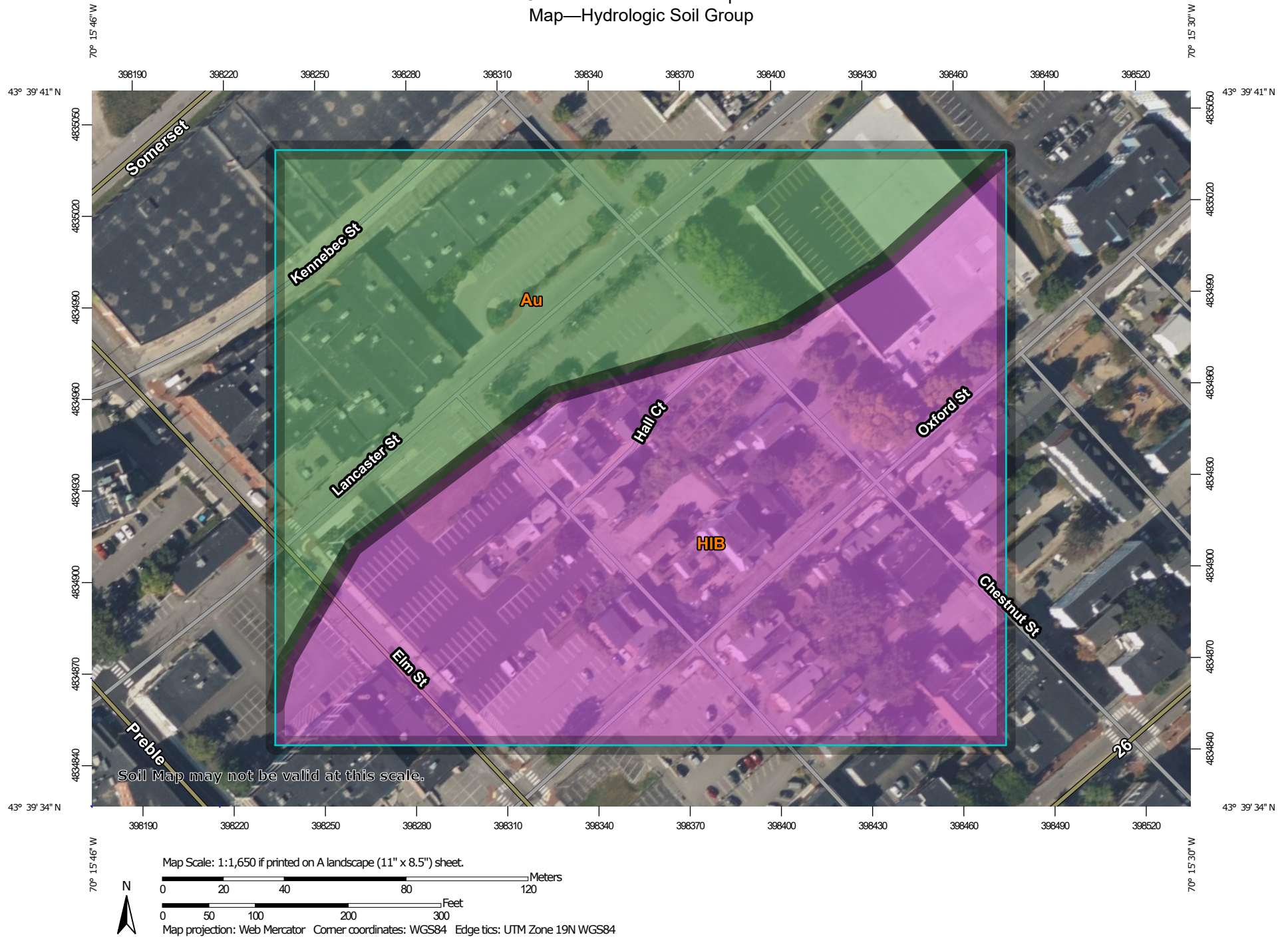
Custom Soil Resource Report

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Cumberland County and Part of Oxford County, Maine
 Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Au	Au Gres loamy sand	A/D	4.6	39.2%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	A	7.1	60.8%
Totals for Area of Interest			11.6	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

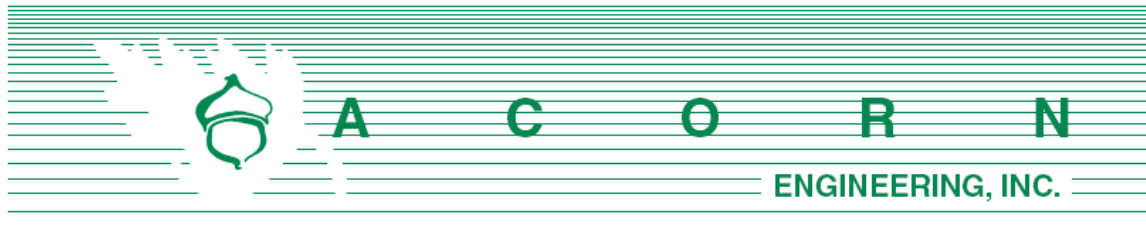
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K. EROSION & SEDIMENTATION **CONTROL REPORT**

Prepared For:

**Avesta Housing & Reveler Development
Joint Site Plan Application**

Prepared By:

**Acorn Engineering, Inc.
500 Washington Ave.
Portland, Maine 04103**



April 2024

INTRODUCTION

Acorn Engineering, Inc. has been retained by Avesta Housing and Reveler Development to provide civil engineering services for the proposed redevelopment of a phased tract of land located within the R-6 Zoning District in Portland, Maine. The existing parking lots and vacant buildings will be redeveloped into 3 multifamily buildings.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The proposed project site is located at 197 Oxford Street, 50 Cedar, and 158 Lancaster Street. A Boundary & Topographic Survey has been prepared by Owen Haskell, Inc.

The property is in the R-6 Residential Zone. Abutting Uses are all residential in nature with some commercial to the west across Lancaster Street.

The sites are currently vacant or used for parking. All sites feature notable slopes with water draining to the west towards Back Cove. The average slope is approximately 6%.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

No onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The soil type is listed as Hinckley loamy sand. Hydraulically, this soil type is excessively drained with negligible surface runoff. The erodibility is considered moderate. The contractor will be expected to install erosion and sedimentation controls as shown on sheet C-03, Construction Management & Erosion Control Plan within the civil set plans.

1.2 Existing Erosion Problems

There are no signs of erosion.



1.3 Critical Areas

There are no critical areas that require special attention during construction.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches, or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.



- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
 - The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public road ways.
- 2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.
- 2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.
- 2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.
- 2.1.5 Adjacent streets shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.
- 2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.
- 2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.
- 2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter,



gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached $\frac{1}{2}$ the design height.

- 2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.
- 2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.
- 2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.
- 2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.
- 2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

- 2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.
- 2.2.2 All stormwater devices shall be installed, and tributary areas stabilized prior receiving stormwater.
- 2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.



3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Construction Management & Erosion Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion & Sedimentation Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.



5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.
- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.
- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch,



anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.
- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.
- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.
- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a “storm event”. A “storm event” shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers



Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:



Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.



7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence installation of drainage infrastructure.
5. Prioritize the downhill side to contain runoff within the site while providing an engineered outlet to the municipal storm drain system within Chestnut or Lancaster Street.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing and brickwork.
12. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized and mulching of landscape areas is complete, remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.



9.0 ATTACHMENTS

- Temporary Seeding Plan



TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P₂O₅-K₂O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

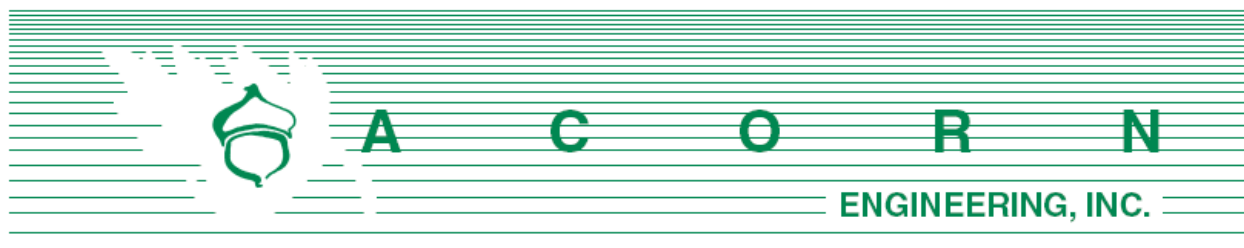
Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.





Chief Keith Gautreau
 City of Portland Fire Department
 380 Congress St.
 Portland, ME 04101

April 11, 2024

Subject: 197 & 207 Oxford Street Redevelopment – Phase I Fire Department Checklist

On behalf of Avesta and Reveler, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

Avesta Housing
 307 Cumberland Avenue
 Portland, Maine 04101
 (207)-553-7777

2. Name, address, telephone number of architect

CWS Architecture + Interior Design
 264 US Route One, Suite 100-2A
 Scarborough, Maine 04074
 (207) 774-4441

3. Proposed uses of any structures:

The first floor of the Housing First side is Mixed Use B Business and A-2 Assembly Occupancy dedicated to professional services needed for the Housing First population. The first floor of the Affordable Housing side is Mixed Use R-2 Residential and B Occupancy services for the Affordable Housing tenants. Floors two thru five are R-2 residential on both sides of the building. Fire separation between floors, dwellings, and occupancy types will be designed per IBC requirements.

4. Square footage of all structures, including decks [total and per story]

Proposed Building		
Basement	1,469	sf
1st Floor	8,991	sf
Floors 2-4	8,623	sf
5 th Floor	7,418	sf
Total	43,748	sf



5. Elevation of all structures

The proposed building height, based upon IBC's average grade plane method, is 54.9' which is consistent with the Bayside Height Overlay allowance.

6. Proposed fire protection of all structures

Sprinkler systems are proposed for each side of the building, each served by a 6" fire service. Each side will have a dedicated sprinkler room. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior to the request for a building permit. FDC's are anticipated to be provided along the Oxford Street frontage.

7. Hydrant locations

Hydrants in the vicinity of Phase 1 includes a hydrant on the corner of Oxford and Cedar, directly in front of the proposed building, and a hydrant on the corner of Oxford and Chestnut Street, opposite of the site area. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

8. Water main size and location

For Phase 1, each portion of the building will have a separate water connection due to the split management of the building and demising wall without internal connection. Each side will have a 6" fire service extended from the 12" Oxford Street water main to serve separate fire sprinkler systems.

9. Access to all structures [min. 2 sides]

Phase 1 will have access on 3 sides: Cedar, Oxford, and Chestnut Streets.

10. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road. This requirement is satisfied.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).



Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: The building is accessible from 3 sides.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: All buildings will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: Not applicable given the ample street frontage and lack of non-building site space.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The proposed elevators will meet this requirement.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant is currently working with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

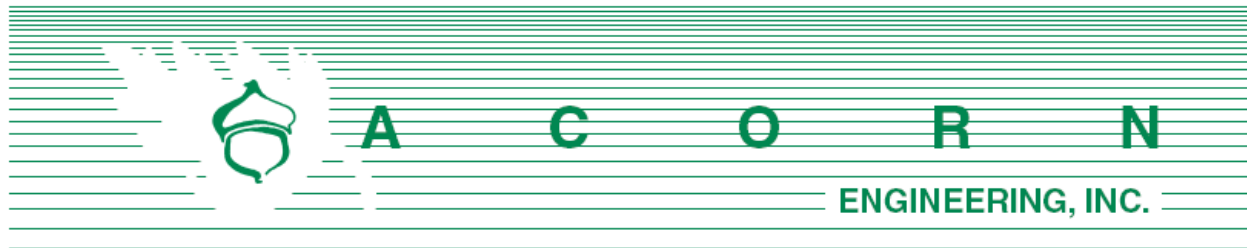


Sincerely,



Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.





Chief Keith Gautreau
 City of Portland Fire Department
 380 Congress St.
 Portland, ME 04101

April 24, 2024

Subject: Phase 2 – 50 Cedar Street Re-Development Fire Department Checklist

On behalf of Avesta and Reveler, the design team is pleased to report the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

Reveler Development
 188 State Street, 3rd Floor
 Portland, Maine 04101
 (207) 939-5432

1. Name, address, telephone number of architect

Ryan Senatore Architecture
 500 Congress Street, Suite 2
 Portland, ME 04101
 (207) 650-6414

2. Proposed uses of any structures [NFPA and IBC classification]

NFPA: Apartments IBC: R2

3. Square footage of all structures, including decks [total and per story]

Proposed Building		
Ground	4,796	sf
2 nd Floor	4,796	sf
3 rd Floor	4,796	sf
Total	14,388	sf



4. Elevation of all structures

The proposed building height, based upon IBC's average grade plane method, is approximately 32'.

5. Proposed fire protection of all structures

A sprinkler system is proposed for the building, served by a 6" fire service. Each building will have a sprinkler room on the ground floor that will be easily accessible by the fire department. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior to the request for a building permit.

6. Hydrant locations

For Phase 2 there is a hydrant on the corner of Lancaster and Chestnut, opposite of the site. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

7. Water main size and location

A new 12" water main will be installed in Lancaster Street as part of this project, directly along its frontage.

8. Access to all structures [min. 2 sides]

Phase 1 will have fire access on two sides, Oxford and Chestnut Street. Phase 2 will have access on three sides, Chestnut Street, Lancaster Street, and the 12.5-foot gravel paved Hall Court. Phase 3 will have access on two sides, Cedar Street and Lancaster Way.

9. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The site locations are in a densely developed area and are surrounded by four public streets. The following pavement street widths are currently available:

- Lancaster Street: 35.93' wide and 19.93' wide between parking stalls and edge of pavement.
- Cedar Street: 20.7 feet wide and 11.7 feet wide between parking stall and edge of pavement.
- Oxford Street: 31.6 feet and 23.6 feet wide between parking stall and edge of pavement.



- Chestnut Street: 34.08 feet and 16.02 feet wide between parking stall and edge of pavement.

Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: All buildings are accessible from at least 2 sides.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: All buildings will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: The proposed site maintains the required clearance height of nine feet in all cases.



3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The proposed elevators will meet this requirement.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant is currently working with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

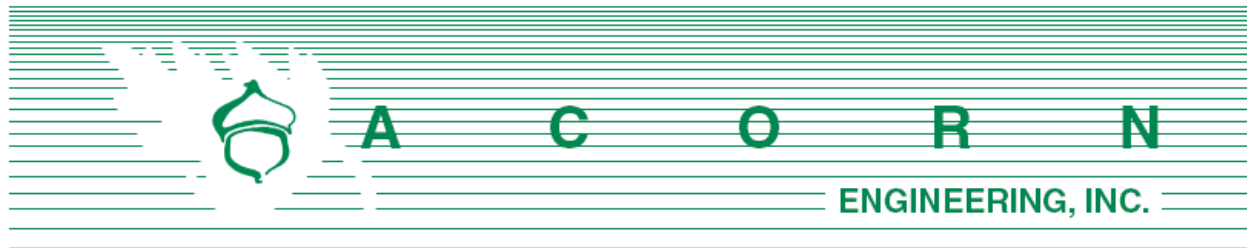
Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,



Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.





Chief Keith Gautreau
 City of Portland Fire Department
 380 Congress St.
 Portland, ME 04101

April 24, 2024

Subject: Phase 2 – 50 Cedar Street Re-Development Fire Department Checklist

On behalf of Avesta and Reveler, the design team is pleased to report the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

Reveler Development
 188 State Street, 3rd Floor
 Portland, Maine 04101
 (207) 939-5432

1. Name, address, telephone number of architect

Ryan Senatore Architecture
 500 Congress Street, Suite 2
 Portland, ME 04101
 (207) 650-6414

2. Proposed uses of any structures [NFPA and IBC classification]

NFPA: Apartments IBC: R2

3. Square footage of all structures, including decks [total and per story]

Proposed Building		
Ground	6,960	sf
2 nd Floor	7,072	sf
3 rd Floor	7,072	sf
4 th & 5 th Floor	6,788	sf
Total	34,680	sf



4. Elevation of all structures

The proposed building height, based upon IBC's average grade plane method, is approximately 54.9'.

5. Proposed fire protection of all structures

A sprinkler system is proposed for the building, served by a 6" fire service. Each building will have a sprinkler room on the ground floor that will be easily accessible by the fire department. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior to the request for a building permit.

6. Hydrant locations

For Phase 3, there is a hydrant on the corner of Lancaster and Chestnut. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

7. Water main size and location

A new 12" water main will be installed in Lancaster Street as part of this project, directly along its frontage.

8. Access to all structures [min. 2 sides]

Access is provided directly from Lancaster and Chestnut Streets.

9. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The site locations are in a densely developed area and are surrounded by four public streets. The following pavement street widths are currently available:

- Lancaster Street: 35.93' wide and 19.93' wide between parking stalls and edge of pavement.
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- Chestnut Street: 34.08 feet and 16.02 feet wide between parking stall and edge of pavement.



Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: All buildings are accessible from at least 2 sides.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: All buildings will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: The proposed site maintains the required clearance height of nine feet in all cases.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The proposed elevators will meet this requirement.



3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant is currently working with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,



Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.



M. Wastewater Capacity

The following tables have been prepared to estimate the existing and proposed flows for each phase.

Table 1: Phase 1 – 207 & 197 Oxford Street - Estimate of Design Flows			
Classification of Water Demand	Uses and Use Count	Gallons per Day per Use	Total Gallons per Day
<i>Existing</i>			
197 Oxford Street & 31 Cedar Street PWD recorded flow data:	-	-	3,215
<i>Proposed</i>			
Studios:	31	120	3,720
One-Bedroom:	17	120	2,040
Total Existing			3,215
Total Proposed			5,760
Net Change			2,545
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition			

Table 2: Phase 2 – 50 Cedar Street - Estimate of Design Flows			
Classification of Water Demand	Uses and Use Count	Gallons per Day per Use	Total Gallons per Day
<i>Existing</i>			
Vacant lot	-	-	0
<i>Proposed</i>			
Studios:	8	120	960
One-Bedroom:	16	120	1,920
Total Existing			0
Total Proposed			2,880
Net Change			2,880
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition			

Table 3: Phase 3 – 158 Lancaster Street - Estimate of Design Flows			
Classification of Water Demand	Uses and Use Count	Gallons per Day per Use	Total Gallons per Day
<i>Existing</i>			
Vacant lot	-	-	0
<i>Proposed</i>			
Studios:	28	120	3,360
One-Bedroom:	23	120	2,760
Total Existing			0
Total Proposed			6,120
Net Change			6,120
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition			

As requested by DPW, it's anticipated that each phase will offset the new sewer flows by providing on-site stormwater detention. Please refer to the Stormwater Management Report for more information.



A C O R N Engineering, Inc. • www.acorn-engineering.com
207-775-2655 • PO Box 3372 • Portland • Maine • 04104

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103



Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date: April, 2024

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 197 Oxford Street Portland, ME 04101

Chart Block Lot Number: 026-B-012 & B-018

Proposed Use: Residential Building
Previous Use: Vacant Office & Apartment Buildings
Existing Sanitary Flows: 3.215 GPD
Existing Process Flows: GPD
Description and location of City sewer that is to
receive the proposed building sewer lateral.
18" Combined Sewer within Chestnut Street

Site Category | Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify)

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Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Matt Grooms Phone:
Owner/Developer Name: Avesta Housing Development
Owner/Developer Address: 307 Cumberland Ave, Portland, ME 04101
Phone: 207-553-7777 Fax: E-mail: cellriott@avestahousing.org
Engineering Consultant Name: Sam Lebel, Acorn Engineering
Engineering Consultant Address: 500 Washington Ave, Suite 202, Portland, ME 04103 (P.O. Box: 3372)
Phone: 207-775-2655 Fax: E-mail: slebel@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 5,760 GPD
Peaking Factor/ Peak Times: Diurnal Residential Flow Pattern
Specify the source of design guidelines: (i.e. "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)
State of Maine, Subsurface Wastewater Disposal Rules

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:	NA
Size of External Grease Interceptor:	NA
Retention Time:	NA
Peaking Factor/ Peak Times:	NA

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:	NA	GPD
Do you currently hold Federal or State discharge permits?	Yes	No
Is the process wastewater termed categorical under CFR 40?	Yes	No
OSHA Standard Industrial Code (SIC):	<i>(http://www.osha.gov/oshstats/sicser.html)</i>	
Peaking Factor/Peak Process Times:		

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103



Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date: April, 2024

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 50 Cedar Street Portland, ME 04101

Chart Block Lot Number: 033 - H009

Proposed Use: Residential Building

Previous Use: Surface Parking Lot

Existing Sanitary Flows: 0 GPD

Existing Process Flows: GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

18" Combined Sewer within Cedar Street

Site Category | Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify)

☐
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☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Matt Grooms Phone:

Owner/Developer Name: Reveler Development

Owner/Developer Address: 188 State Street, 3rd floor, Portland, ME 04101

Phone: 207-939-5432 Fax: E-mail: mbarton@reveler.com

Engineering Consultant Name: Sam Lebel, Acorn Engineering

Engineering Consultant Address: 500 Washington Ave, Suite 202, Portland, ME 04103 (P.O. Box: 3372)

Phone: 207-775-2655 Fax: E-mail: slebel@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 2,880 GPD

Peaking Factor/ Peak Times: Diurnal Residential Flow Pattern

Specify the source of design guidelines: (i.e. "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)
State of Maine, Subsurface Wastewater Disposal Rules

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:	NA
Size of External Grease Interceptor:	NA
Retention Time:	NA
Peaking Factor/ Peak Times:	NA

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:	NA	GPD
Do you currently hold Federal or State discharge permits?	Yes	No
Is the process wastewater termed categorical under CFR 40?	Yes	No
OSHA Standard Industrial Code (SIC):	<i>(http://www.osha.gov/oshstats/sicser.html)</i>	
Peaking Factor/Peak Process Times:		

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103



Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date: April, 2024

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 158 Lancaster Street Portland, ME 04101

Chart Block Lot Number: 026 - A-001

Proposed Use: Residential Building

Previous Use: Surface Parking Lot

Existing Sanitary Flows: 0 GPD

Existing Process Flows: GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

18" Combined Sewer within Chestnut Street

Site Category | Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify)

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Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Matt Grooms Phone:

Owner/Developer Name: Reveler Development

Owner/Developer Address: 188 State Street, 3rd floor, Portland, ME 04101

Phone: 207-939-5432 Fax: E-mail: mbarton@reveler.com

Engineering Consultant Name: Sam Lebel, Acorn Engineering

Engineering Consultant Address: 500 Washington Ave, Suite 202, Portland, ME 04103 (P.O. Box: 3372)

Phone: 207-775-2655 Fax: E-mail: slebel@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 6,120 GPD

Peaking Factor/ Peak Times: Diurnal Residential Flow Pattern

Specify the source of design guidelines: (i.e. "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)
State of Maine, Subsurface Wastewater Disposal Rules

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:	NA
Size of External Grease Interceptor:	NA
Retention Time:	NA
Peaking Factor/ Peak Times:	NA

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:	NA	GPD
Do you currently hold Federal or State discharge permits?	Yes	No
Is the process wastewater termed categorical under CFR 40?	Yes	No
OSHA Standard Industrial Code (SIC):	<i>(http://www.osha.gov/oshstats/sicser.html)</i>	
Peaking Factor/Peak Process Times:		

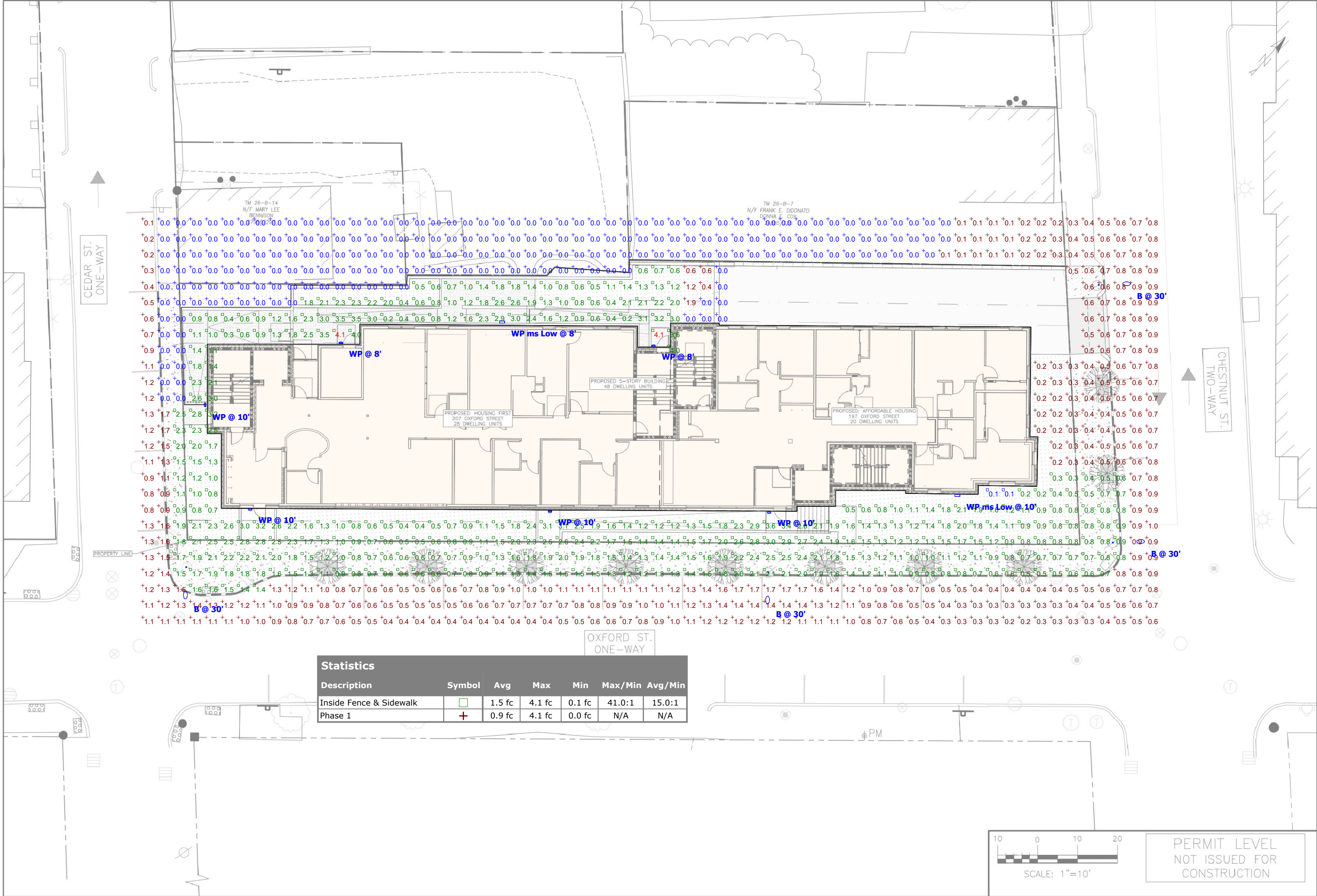
Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

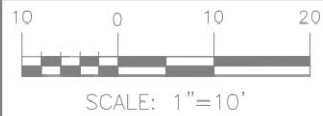
N. Lighting

Please find the attached photometric plan for Phase 1, 197 Oxford Street. The remaining photometric plans and associated cut sheets of the overall projects proposed site lighting will be uploaded to the City's EPlan system when they become available.





Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Inside Fence & Sidewalk	□	1.5 fc	4.1 fc	0.1 fc	41.0:1	15.0:1
Phase 1	+	0.9 fc	4.1 fc	0.0 fc	N/A	N/A



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR
JOINT MAJOR SITE
PLAN APPLICATION

BY
DATE
SJL
6/16/22

PHASE 1 – SITE PLAN

PHASE 1 – PHASED OXFORD STREET REDEVELOPMENT

CLIENT:
AVESTA HOUSING
307 CUMBERLAND AVE., PORTLAND, ME 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MOVED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. OR ITS SUBSIDIARIES. ANY OTHER USES SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3333
PORTLAND, ME 04104
(207) 775-2665

FILE:1212.1_AE_CIVIL-4-4-24

UN: 1212.1

SCALE: AS NOTED

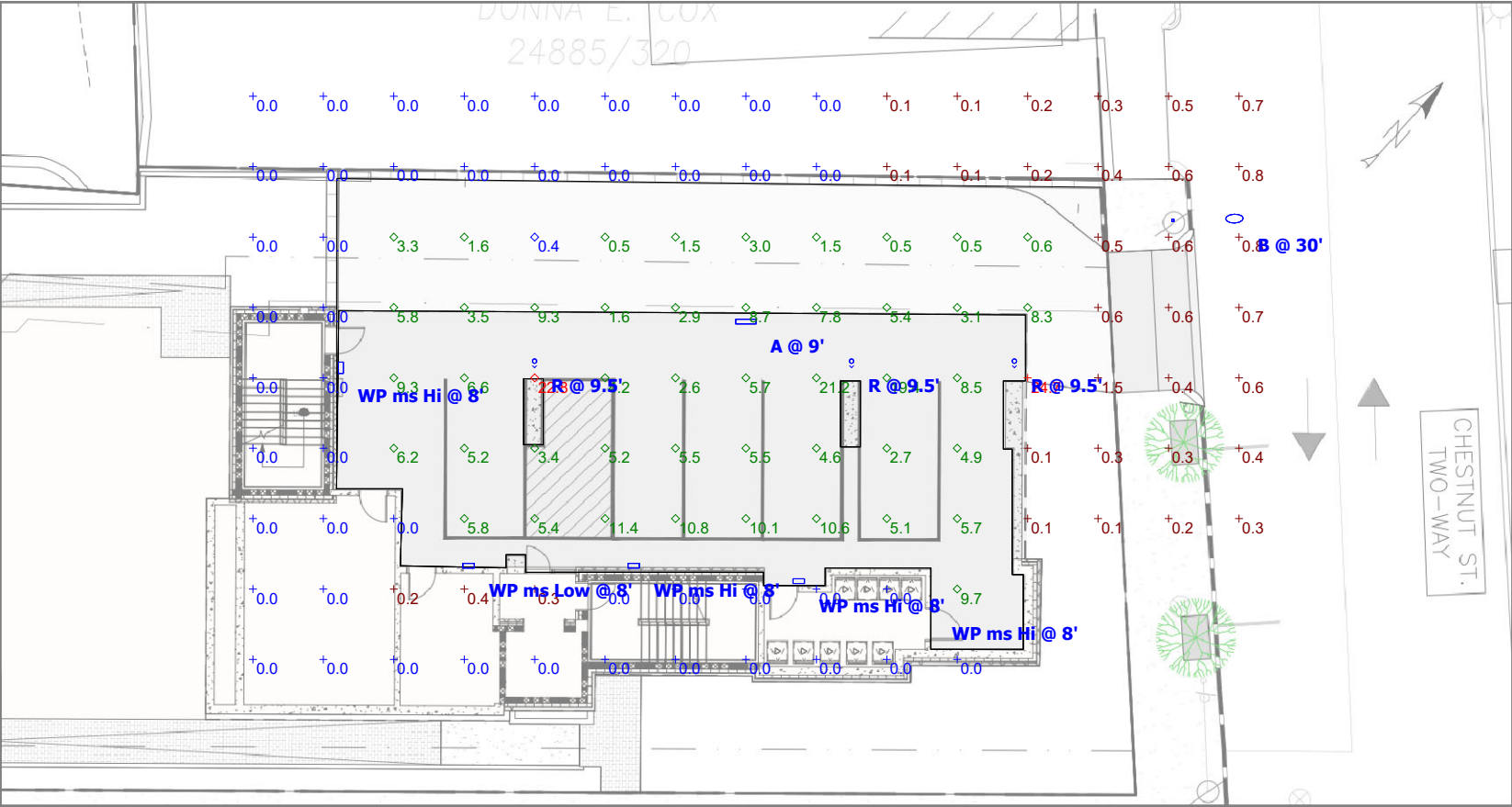
DESIGNED BY: SJL

DRAWN BY: DNM

CHECKED BY: SJL

DRAWING NO.

C-11



Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Covered Parking & Drive Aisle		6.1 fc	22.8 fc	0.4 fc	57.0:1	15.3:1

Schedule											
Symbol	Label	Image	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot	Notes
	B		Cree Lighting	RSWS-B-HT-3ME-5L-30K7-UL-xx-N CONFIGURED FROM RSWS-B-HT-3ME-7L-40K7-UL-GY-N	CONFIGURED FROM RSW Small Luminaire, Type III Medium Distribution, 7L Lumen Package, 4000K, 70CRI	1	5000	0.9	42		
	R		Lithonia Lighting	LDN6 30/40 LW6WR	6IN LDN WALLWASH, 3000K, 4000LM, WHITE, CRI80	1	3461	0.9	1.1542		
	WP		Holophane	HLWPC2 P10 30K XX T3M	Wallpack Full Cutoff LED, LED Performance Package P10, 3000 series CCT, Voltage, Type III Medium	1	2800	0.9	28		
	WP ms Hi		Holophane	HLWPC2 P20 30K XX T2M	Wallpack Full Cutoff LED, LED Performance Package P10, 3000 series CCT, Voltage, Type II Medium	1	5272	0.9	47		1 MASL and MASH sensors are not allowed with P10 lumen package option selected.
	WP ms Low		Holophane	HLWPC2 P20 30K XX T2M	Wallpack Full Cutoff LED, LED Performance Package P10, 3000 series CCT, Voltage, Type II Medium	1	5272	0.27	14		2 MASL and MASH options reduce luminaire light output to roughly 30% (not full OFF) when no motion is detected. When motion is detected, light output temporarily increases to 100%.
	X-7D		Holophane	ESL3 P20S 30K XXXXX TG2	Esplanade style housings Standard housing, 3000 series CCT Auto-sensing voltage, Type IV, Medium, (Standard) or Type III, Short, (Uplight)	1	11106	0.9	72.77		
	A		Holophane	EMS L24 4000LM LPAFL PGD 80CRI 30K	EMS LED 24", 4,000 lumens, acrylic, low profile frosted lens, parking garage distribuion, 80 CRI, 3000 K	¹	3679	0.9	25.95		

Catalog Number	HLWPC2 P10 30K T3M MVOLT BZSDP AO	
Notes		Type WP

HLWPC2

Wallpack® Full Cutoff LED



Mechanical

- Heavy grade A360 cast aluminum (aluminum with <1% copper)
- Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering
- Mounts to a standard junction box
- Wet location listed
- IP65 rated housing, down light only
- 3/4" painted threaded entry (3/4" - 14 NPT) on each side and on top, accepts 3/4" and 1/2" conduit
- 3/4" threaded plugs are painted on each side
- Vibration tested to 1.5G per ANSI C136.31.

Electrical

- Certified by UL or CSA
- Rated for -40°C (-40°F) minimum ambient
- A programmable electronic driver with 0-10V control leads
- Available in: 120-277V 50/60 Hz and 347-480V 50/60 Hz,
- Standard: 3000K, 4000K and 5000K CCT (>70 CRI)
- Optional >80 CRI (3000K, 4000K and 5000K CCT)
- Internally mounted emergency battery backup for operation in an ambient temperature ranging from -20°C (-4°F) to 30°C (86°F), available with P10 thru P40 performance packages, non CEC compliant
- All surge protection meets ANSI/IEEE C62.41.2 10kV/10kA
- Standard surge protection is 20kV/10kA per ANSI C136.2
- Optional surge protection is 10kV/5kA per ANSI C136.2

Optical

- Light engine housing is IP66 rated
- Acrylic optical system
- Type V: E (entry), M (medium), R (rectangle) & W (wide)
- Asymmetric

Controls

- Field adjustable output (AO)
- Button style photocontrol (PE)
- Motion sensor & ambient photocontrol combination for mounting low (8-15') (MASL) and high (15-30') (MASH) mounting heights

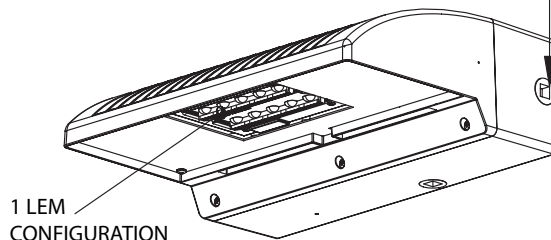
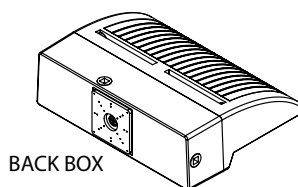
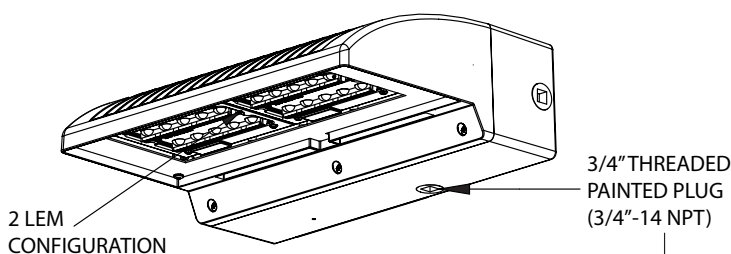
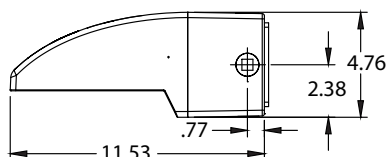
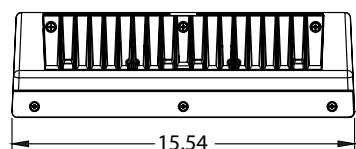
Certification and Standards

- Luminaire is CSA listed, US and Canada
- Suitable for operation in an ambient temperature up to 40°C/104°F per UL or CSA certification
- Design Lights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- LM-79 compliant
- The projected LED Lumen Maintenance shall be based only on IES LM-80-08 and TM-21

Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



Note: Maximum weight 22 lbs.

ORDERING INFORMATION

Example: HLWPC2 P20 40K AS T3M BZSDP

Series	Lumen Package	Color Temperature	Voltage	Optics	Color	CRI
HLWPC2 Wallpack Full Cutoff LED	1 LEM Package	AMB True Amber	120 120 volts	T2S Type 2 Short	BKSDP Black	Blank 70 CRI (STD)
	P10 3,100 lm	30K 3,000 K CCT	208 208 volts	T2M Type 2 Medium	BZSDP Bronze	80CRI 80 CRI
	P20 5,600 lm	40K 4,000 K CCT	240 240 volts	T3S Type 3 Short	GYSDP Grey	
		50K 5,000 K CCT	277 277 volts	T3M Type 3 Medium	WHSDP White	
	2 LEM Package		347 347 volts	T4M Type 4 Medium		
	P30 7,800 lm		480 480 volts	TFTM Forward Throw Medium		
	P40 9,900 lm		HVOLT 347/480 volts	ASYDF Asymmetric Diffuse		
	P50 11,700 lm		MVOLT 120-277 volts	SYMDF Symmetric Diffuse		
	(Nominal Lumens, 4000K)					

Options:

Adjustable/Programmable Options

A0 Field Adjustable Output

Circuit Options

2CI 2 Independent Circuits

Control - Motion Sensor Options

MASL^{1,2} Motion / Ambient Sensor, 8-15' Mounting Height Ambient Sensor Enabled at 5 FC

MASH^{1,2} Motion / Ambient Sensor, 15-30' Mounting Height Ambient Sensor Enabled at 5 FC

Control - Photocontrol Options

PE Button Style Photocontrol

P3 N.E.M.A. Twistlock Receptacle Mount -3 PIN

P7 N.E.M.A. Twistlock Receptacle Mount -7 PIN

PCLL DTL Long Life Twistlock Photocontrol for Solid State

PSC Shorting Cap

Fuse Option

SF Single Fuse

DF Double Fuse

Safety Option

EM Integral Emergency Battery

TP Tamper Resistant Hardware

Surge Protection Option - 20kV/10kA is Standard

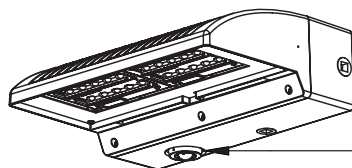
10KV 10kV/5kA Surge Protection, in place of 20kV/10kA

Notes

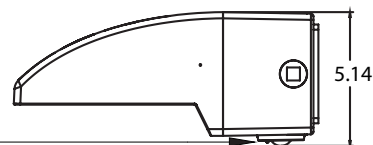
- MASL and MASH sensors are not allowed with P10 lumen package option selected.
- MASL and MASH options reduce luminaire light output to roughly 30% (not full OFF) when no motion is detected. When motion is detected, light output temporarily increases to 100%.

Options Location

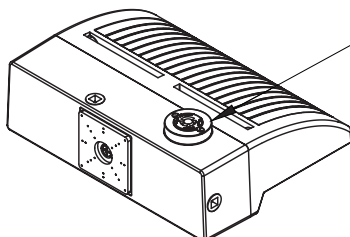
Motion/Ambient Sensor mount options for Low (8-15') (MASL) and Height (15-30') (MASH) applications



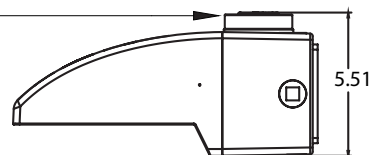
MASL or MASH



N.E.M.A. Twistlock Receptacle P3 and P7 Options, P7 Shown

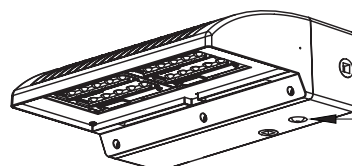


PR3 or PR7



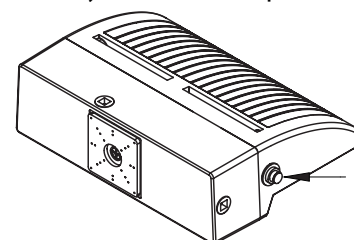
Internal Emergency Battery Test Button - EM Option

Test Button - EM Option



Emergency Test Button

Button Style Photocontrol - PE Option

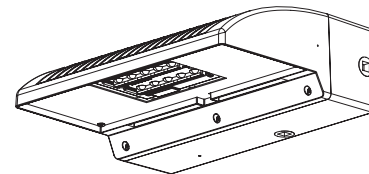


Button Style Photocontrol

Driver & LEM Configuration Based on Circuit Options

Number of LEMs & Drivers / Circuit		Single Circuit (std.)		Two Circuit (2CI option)	
		LEMs	Drivers	LEMs	Drivers
Lumen Maintenance Factor	P10	1	1	-	-
	P20	1	1	2	2
	P30	2	1	2	2
	P40	2	1	2	2
	P50	2	1	-	-

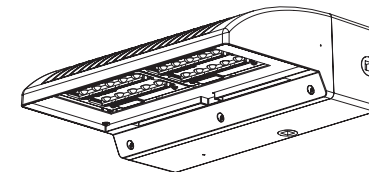
1 LEM Luminaire



SPD Based on Circuit Options

Number of LEMs & Drivers / Circuit		Single Circuit (std.)				Two Circuit (2CI option)			
		LEMs	Drivers	No. of SPDs	SPD	LEMs	Drivers	No. of SPDs	SPD
Lumen Maintenance Factor	P10	1	1	1	20kV/10kA	-	-	-	-
	P20	1	1	1	20kV/10kA	2	2	2	10kV/5kA
	P30	2	1	1	20kV/10kA	2	2	2	10kV/5kA
	P40	2	1	1	20kV/10kA	2	2	2	10kV/5kA
	P50	2	1	1	20kV/10kA	-	-	-	-

2 LEM Luminaire



Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platform noted in a 25°C ambient, based on 6,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

The italicized data is extrapolated beyond the TM-21 standard.

$$E = (LM) \times (CU) \times (LAT) \times (LLD)$$

LM and CU are obtained from published photometry.

Operating Hours (Standard)		0	25,000	30,000	36,000	45,000	50,000	60,000	75,000	100,000
Lumen Maintenance Factor	P10	1	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.92
	P20	1	0.97	0.95	0.94	0.93	0.92	0.90	0.88	0.85
	P30	1	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.92
	P40	1	0.97	0.95	0.94	0.93	0.92	0.90	0.88	0.85

Operating Hours (2CI Option)		0	25,000	30,000	36,000	45,000	50,000	60,000	75,000	100,000
Lumen Maintenance Factor	P10	1	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	P20	1	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	P30	1	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
	P40	1	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Single Circuit Application

Ambient	P10	P20	P30	P40	P50
0°C 32°F	1.02	1.03	1.03	1.04	1.05
10°C 50°F	1.01	1.02	1.02	1.03	1.03
20°C 68°F	1.01	1.01	1.01	1.01	1.01
25°C 77°F	1.00	1.00	1.00	1.00	1.00
30°C 86°F	0.99	0.99	0.99	0.99	0.99
40°C 104°F	0.98	0.97	0.98	0.97	0.97

Optional Two Independent Circuit (2CI) Application

Ambient	P20	P30	P40
0°C 32°F	1.02	1.02	1.02
10°C 50°F	1.01	1.01	1.02
20°C 68°F	1.00	1.01	1.01
25°C 77°F	1.00	1.00	1.00
30°C 86°F	0.99	0.99	0.99
40°C 104°F	0.98	0.98	0.98

Electrical Load

Single Circuit Application

LEDs	Drive Current (mA)	System Watts/Circuit	Current (A)					
			120	208	240	277	247	480
P10	700	28	0.23	0.13	0.12	0.10	0.08	0.06
P20	1400	47	0.41	0.24	0.20	0.18	0.14	0.10
P30	1050	71	0.63	0.37	0.32	0.29	0.22	0.18
P40	1420	95	0.78	0.45	0.40	0.35	0.27	0.20
P50	1720	115	0.95	0.55	0.48	0.42	0.33	0.24

Optional Two Independent Circuit (2CI) Application

LEDs	Drive Current (mA)	System Watts/Circuit	Current (A)					
			120	208	240	277	247	480
P10	-	-	-	-	-	-	-	-
P20	700	22	0.10	0.06	0.05	0.04	-	-
P30	1000	32	0.14	0.08	0.07	0.06	-	-
P40	1250	47	0.18	0.10	0.09	0.08	-	-
P50	-	-	-	-	-	-	-	-

Operating Characteristics

LED Package	Distribution	System Watts	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P10	T2S	28	2,904	104	1	0	1	3,128	112	1	0	1	3,168	113	1	0	1
	T2M	28	2,887	103	1	0	1	3,110	111	1	0	1	3,149	112	1	0	1
	T3S	28	2,964	106	1	0	1	3,194	114	1	0	1	3,234	116	1	0	1
	T3M	28	2,801	100	1	0	1	3,017	108	1	0	1	3,055	109	1	0	1
	T4M	28	2,858	102	1	0	1	3,079	110	1	0	1	3,118	111	1	0	1
	TFTM	28	2,979	106	1	0	1	3,209	115	1	0	1	3,250	116	1	0	1
	SYMDF	28	2,771	99	1	0	1	2,986	107	1	0	1	3,023	108	1	0	1
P20	ASYDF	28	2,756	98	1	0	1	2,969	106	1	0	1	3,007	107	1	0	1
	T2S	47	5,303	113	1	0	1	5,713	122	1	0	1	5,785	123	1	0	1
	T2M	47	5,272	112	1	0	2	5,680	121	1	0	2	5,751	122	1	0	2
	T3S	47	5,414	115	1	0	2	5,832	124	1	0	2	5,906	126	1	0	2
	T3M	47	5,115	109	1	0	2	5,510	117	1	0	2	5,580	119	1	0	2
	T4M	47	5,220	111	1	0	2	5,623	120	1	0	2	5,694	121	1	0	2
	TFTM	47	5,440	116	1	0	2	5,861	125	1	0	2	5,935	126	1	0	2
P30	SYMDF	47	5,062	108	2	0	2	5,453	116	2	0	2	5,522	117	2	0	2
	ASYDF	47	5,033	107	1	0	1	5,422	115	2	0	1	5,491	117	2	0	1
	T2S	71	7,319	103	2	0	2	7,884	111	2	0	2	7,984	112	2	0	2
	T2M	71	7,276	102	2	0	2	7,838	110	2	0	2	7,937	112	2	0	2
	T3S	71	7,472	105	1	0	2	8,049	113	2	0	2	8,151	115	2	0	2
	T3M	71	7,059	99	2	0	2	7,604	107	2	0	2	7,700	108	2	0	2
	T4M	71	7,203	101	2	0	2	7,760	109	2	0	2	7,858	111	2	0	2
P40	TFTM	71	7,508	106	1	0	2	8,088	114	2	0	2	8,190	115	2	0	2
	SYMDF	71	6,985	98	2	0	2	7,525	106	3	0	3	7,620	107	3	0	3
	ASYDF	71	6,946	98	2	0	2	7,483	105	2	0	2	7,578	107	2	0	2
	T2S	95	9,320	98	2	0	2	10,041	106	2	0	2	10,168	107	2	0	2
	T2M	95	9,266	98	2	0	2	9,982	105	2	0	3	10,108	106	2	0	3
	T3S	95	9,515	100	2	0	2	10,251	108	2	0	2	10,381	109	2	0	2
	T3M	95	8,989	95	2	0	2	9,684	102	2	0	2	9,807	103	2	0	2
P50	T4M	95	9,174	97	2	0	2	9,883	104	2	0	3	10,008	105	2	0	3
	TFTM	95	9,561	101	2	0	2	10,300	108	2	0	2	10,431	110	2	0	2
	SYMDF	95	8,896	94	3	0	3	9,583	101	3	0	3	9,705	102	3	0	3
	ASYDF	95	8,846	93	2	0	2	9,530	100	2	0	2	9,650	102	2	0	2
	T2S	115	10,972	95	2	0	2	11,820	103	2	0	2	11,969	104	2	0	2
	T2M	115	10,908	95	2	0	3	11,751	102	2	0	3	11,900	103	2	0	3
	T3S	115	11,202	97	2	0	2	12,067	105	2	0	2	12,220	106	2	0	2
	T3M	115	10,582	92	2	0	2	11,400	99	2	0	3	11,544	100	2	0	3
	T4M	115	10,799	94	2	0	3	11,634	101	2	0	3	11,781	102	2	0	3
	TFTM	115	11,256	98	2	0	2	12,126	105	2	0	2	12,279	107	2	0	2
	SYMDF	115	10,472	91	3	0	3	11,282	98	3	0	3	11,424	99	3	0	3
	ASYDF	115	10,414	91	2	0	2	11,219	98	3	0	2	11,361	99	3	0	2

Use the following to scale 70CRI to 80CRI.

CCT	Multiplier
3000K	0.909
4000K	0.886
5000K	0.865

All IES files available on product web page

Operating Characteristics (continued)

LED Package	Distribution	System Watts	30K + 2CI Option (3000K, 70 CRI)					40K + 2CI Option (4000K, 70 CRI)					50K + 2CI Option (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P20	T2S	49	5,015	102	1	0	1	5,402	110	1	0	1	5,471	112	1	0	1
	T2M	49	4,985	102	1	0	2	5,371	110	1	0	2	5,439	111	1	0	2
	T3S	49	5,120	104	1	0	1	5,515	113	1	0	2	5,585	114	1	0	2
	T3M	49	4,837	99	1	0	2	5,210	106	1	0	2	5,276	108	1	0	2
	T4M	49	4,936	101	1	0	2	5,317	109	1	0	2	5,385	110	1	0	2
	TFTM	49	5,144	105	1	0	2	5,542	113	1	0	2	5,612	115	1	0	2
	SYMDF	49	4,786	98	2	0	2	5,156	105	2	0	2	5,222	107	2	0	2
	ASYDF	49	4,760	97	1	0	1	5,127	105	1	0	1	5,192	106	1	0	1
P30	T2S	70	6,769	97	1	0	1	7,293	104	2	0	2	7,385	106	2	0	2
	T2M	70	6,730	96	2	0	2	7,250	104	2	0	2	7,342	105	2	0	2
	T3S	70	6,911	99	1	0	2	7,445	106	1	0	2	7,539	108	1	0	2
	T3M	70	6,529	93	2	0	2	7,033	100	2	0	2	7,123	102	2	0	2
	T4M	70	6,663	95	2	0	2	7,178	103	2	0	2	7,269	104	2	0	2
	TFTM	70	6,945	99	1	0	2	7,481	107	1	0	2	7,576	108	2	0	2
	SYMDF	70	6,461	92	2	0	2	6,960	99	2	0	2	7,049	101	2	0	2
	ASYDF	70	6,425	92	2	0	2	6,922	99	2	0	2	7,009	100	2	0	2
P40	T2S	89	8,370	94	2	0	2	9,017	101	2	0	2	9,131	103	2	0	2
	T2M	89	8,321	93	2	0	2	8,964	101	2	0	2	9,078	102	2	0	2
	T3S	89	8,545	96	2	0	2	9,205	103	2	0	2	9,322	105	2	0	2
	T3M	89	8,073	91	2	0	2	8,696	98	2	0	2	8,807	99	2	0	2
	T4M	89	8,238	93	2	0	2	8,875	100	2	0	2	8,987	101	2	0	2
	TFTM	89	8,586	96	2	0	2	9,250	104	2	0	2	9,367	105	2	0	2
	SYMDF	89	7,989	90	3	0	3	8,606	97	3	0	3	8,715	98	3	0	3
	ASYDF	89	7,944	89	2	0	2	8,558	96	2	0	2	8,666	97	2	0	2

Use the following to scale 70CRI to 80CRI.

CCT	Multiplier
3000K	0.909
4000K	0.886
5000K	0.865

All IES files available on product web page

LED Package	Distribution	System Watts	AMB (Wavelength)					LED Package	Distribution	System Watts	AMB (Wavelength)				
			Lumens	LPW	B	U	G				Lumens	LPW	B	U	G
P10	T2S	28	1,061	38	0	0	1	P30	T2S	28	1,975	71	0	0	1
	T2M	28	1,054	38	0	0	1		T2M	28	1,964	70	0	0	1
	T3S	28	1,083	39	0	0	1		T3S	28	2,016	72	0	0	1
	T3M	28	1,023	37	0	0	1		T3M	28	1,905	68	0	0	1
	T4M	28	1,044	37	0	0	1		T4M	28	1,944	69	0	0	1
	TFTM	28	1,088	39	0	0	1		TFTM	28	2,026	72	0	0	1
	SYMDF	28	1,012	36	1	0	1		SYMDF	28	1,885	67	1	0	1
	ASYDF	28	1,007	36	0	0	1		ASYDF	28	1,875	67	0	0	1

Options Matrix

Parameters		LED AMB	Options (Start with SF, DF, 2CI or EM if being used)													
			PE	P3	P7	PSC	PCLL	MASH	MASL	SF	DF	TP	10kV	AO	2CI	EM
LED Performance Package	P10	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	Y
	P20	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P30	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P40	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P50	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
Voltage	A5	Y	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y
	AH	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	N
	12	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
	20	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
	24	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
	27	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
	34	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	N	N
	48	Y	N	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	N
Options	PE	Y		N	N	N	N	N	N	Y	Y	Y	Y	Y	N	Y
	P3	Y	N		N	M	Y	N	N	Y	Y	Y	Y	N	N	N
	P7	Y	N	N		M	Y	N	N	Y	Y	Y	Y	N	N	N
	PSC	Y	N	M	M		N	N	N	Y	Y	Y	Y	N	N	N
	PCLL	Y	N	Y	Y	N		N	N	Y	Y	Y	Y	N	N	N
	MASH	Y	N	N	N	N	N		N	Y	Y	Y	Y	N	N	N
	MASL	Y	N	N	N	N	N	N		Y	Y	Y	Y	N	N	N
	SF	Y	Y	Y	Y	Y	Y	Y	Y		N	Y	Y	Y	Y	Y
	DF	Y	Y	Y	Y	Y	Y	Y	Y	N		Y	Y	Y	Y	Y
	TP	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y
	10kV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	M	M
	AO	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y		N	N
	2CI	Y	N	N	N	N	N	N	N	Y	Y	Y	M	N		N
	EM	Y	Y	N	N	N	N	N	N	Y	Y	Y	M	N	N	

Notes

I = Included with option

M = Must have: one of these must be installed for the luminaire to operate

N = Combination Not available

P30 = Valid Option Combination, not available with P10 Performance Packabe

Y = Valid Option Combination

HLWPC2

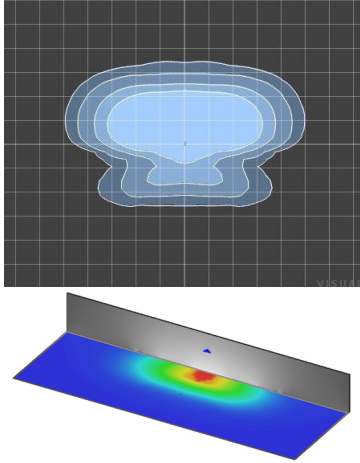
Wallpack® Full Cutoff LED

Photometric Diagrams

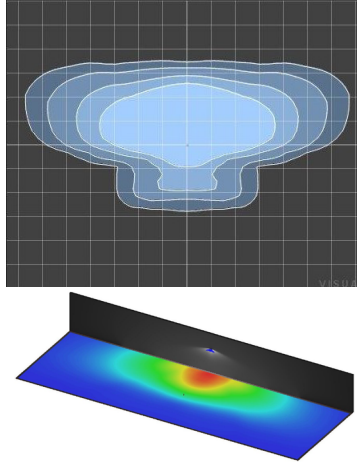
To see complete photometric reports or download .ies files for this product, visit the [Holophane's Wallpack FCO LED homepage](#). Isofootcandle plots for the HLWPC2 P30 40K. Distance are in units of mounting height (12"). Grid is 10'x10'.

0.1 fc 1 fc 0.2 fc 0.5 fc

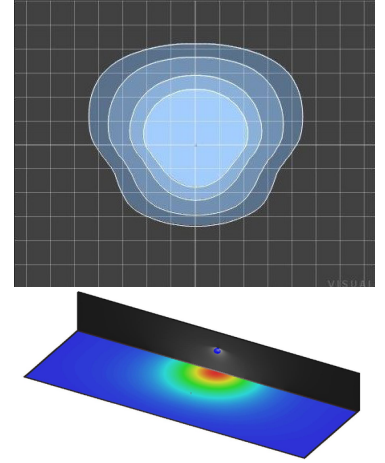
HLWPC2 P30 40K XX T2S



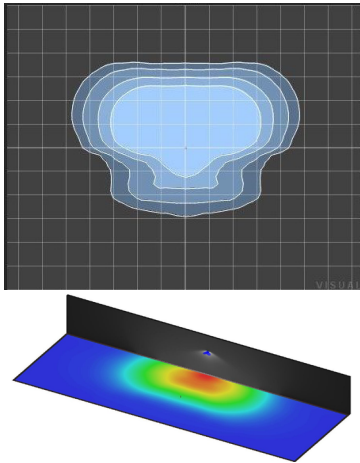
HLWPC2 P30 40K XX T2M



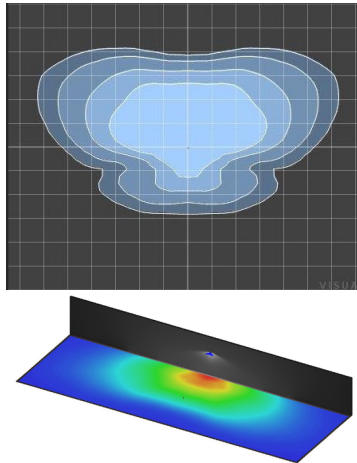
HLWPC2 P30 40K XX ASYDF



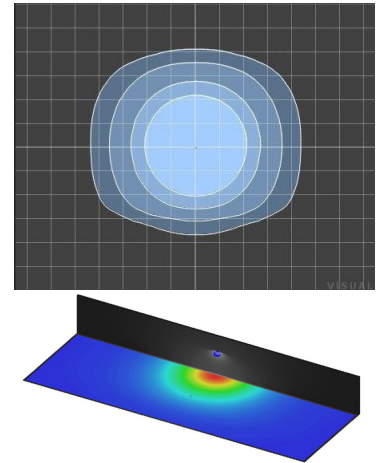
HLWPC2 P30 40K XX T3S



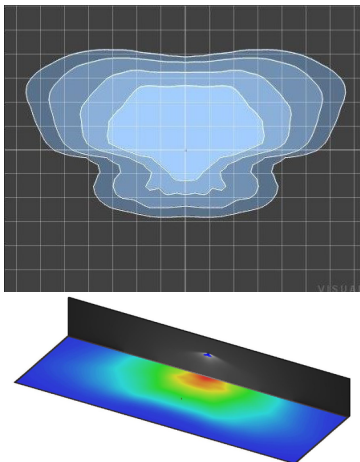
HLWPC2 P30 40K XX T3M



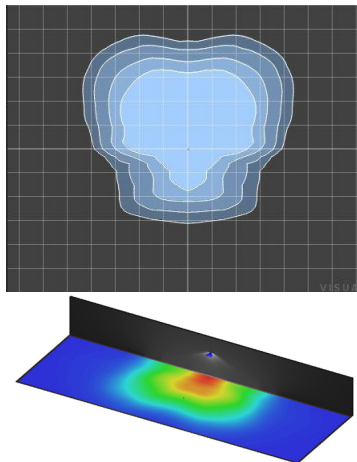
HLWPC2 P30 40K XX SYMDF



HLWPC2 P30 40K XX T4M

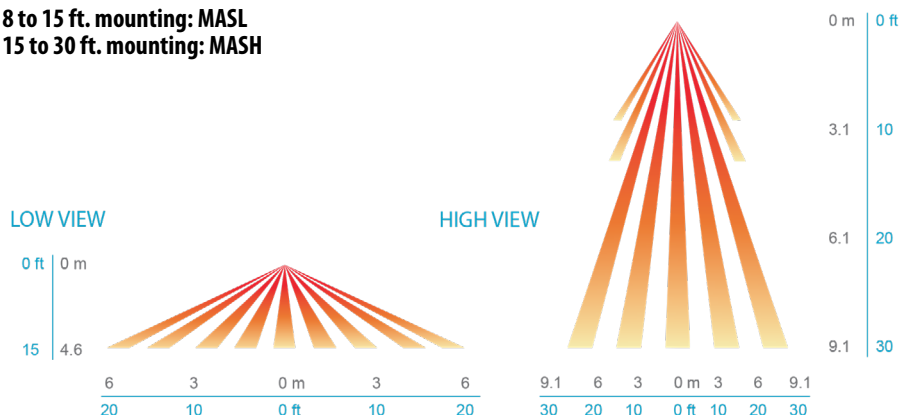


HLWPC2 P30 40K XX TFTM



Coverage Pattern

8 to 15 ft. mounting: MASL
15 to 30 ft. mounting: MASH



Control Options

Button Style Photocontrol

PE



N.E.M.A. Receptacle

P3

P7



Motion & Ambient Combined Sensor

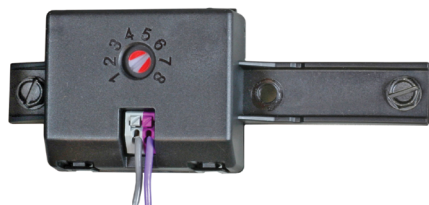
MASL/MASH



MASL and MASH options reduce luminaire light output to roughly 30% (not full OFF) when no motion is detected. When motion is detected, light output increases to 100%.

Field Adjustable Output Module

The Field Adjustable Output (AO) module is an onboard device that adjusts the light output and input voltage to meet specific requirements, allowing a single fixture configuration to be flexibly applied in many different applications. The AO option is available on the HLWPC2 series.



P10 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	94%	95%
6	83%	82%
5	71%	69%
4	59%	57%
3	46%	45%
2	34%	33%
1	21%	21%

P20 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	94%
6	84%	80%
5	73%	67%
4	61%	54%
3	48%	42%
2	35%	30%
1	21%	18%

P30 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	94%
6	84%	80%
5	73%	67%
4	61%	54%
3	48%	42%
2	35%	30%
1	21%	18%

P40 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	95%
6	85%	82%
5	74%	68%
4	62%	55%
3	49%	43%
2	36%	30%
1	21%	17%

P50 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	96%	95%
6	86%	81%
5	75%	68%
4	64%	55%
3	51%	42%
2	37%	29%
1	22%	17%

Catalog Number	HLWPC2 P10 30K T3M MVOLT BZSDP AO	
Notes		Type WP

HLWPC2

Wallpack® Full Cutoff LED



Mechanical

- Heavy grade A360 cast aluminum (aluminum with <1% copper)
- Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering
- Mounts to a standard junction box
- Wet location listed
- IP65 rated housing, down light only
- 3/4" painted threaded entry (3/4" - 14 NPT) on each side and on top, accepts 3/4" and 1/2" conduit
- 3/4" threaded plugs are painted on each side
- Vibration tested to 1.5G per ANSI C136.31.

Electrical

- Certified by UL or CSA
- Rated for -40°C (-40°F) minimum ambient
- A programmable electronic driver with 0-10V control leads
- Available in: 120-277V 50/60 Hz and 347-480V 50/60 Hz,
- Standard: 3000K, 4000K and 5000K CCT (>70 CRI)
- Optional >80 CRI (3000K, 4000K and 5000K CCT)
- Internally mounted emergency battery backup for operation in an ambient temperature ranging from -20°C (-4°F) to 30°C (86°F), available with P10 thru P40 performance packages, non CEC compliant
- All surge protection meets ANSI/IEEE C62.41.2 10kV/10kA
- Standard surge protection is 20kV/10kA per ANSI C136.2
- Optional surge protection is 10kV/5kA per ANSI C136.2

Optical

- Light engine housing is IP66 rated
- Acrylic optical system
- Type V: E (entry), M (medium), R (rectangle) & W (wide)
- Asymmetric

Controls

- Field adjustable output (AO)
- Button style photocontrol (PE)
- Motion sensor & ambient photocontrol combination for mounting low (8-15') (MASL) and high (15-30') (MASH) mounting heights

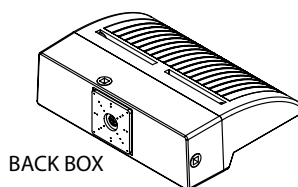
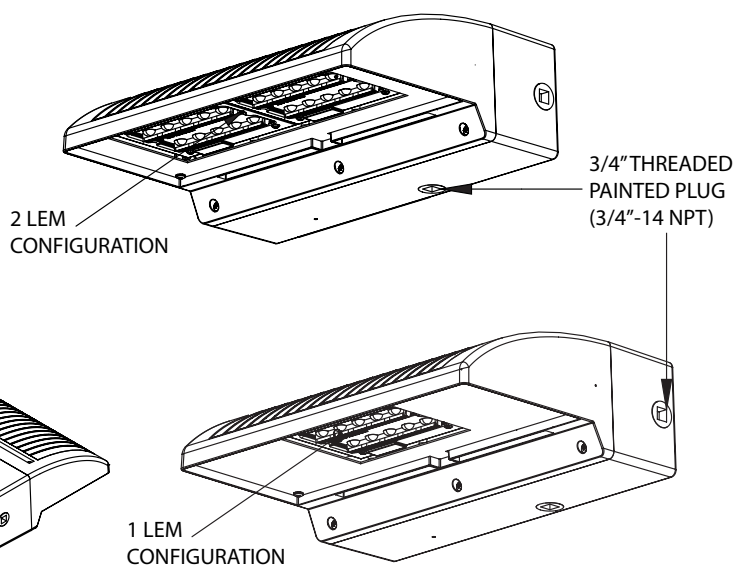
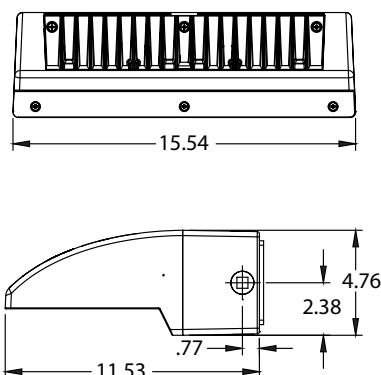
Certification and Standards

- Luminaire is CSA listed, US and Canada
- Suitable for operation in an ambient temperature up to 40°C/104°F per UL or CSA certification
- Design Lights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- LM-79 compliant
- The projected LED Lumen Maintenance shall be based only on IES LM-80-08 and TM-21

Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



Note: Maximum weight 22 lbs.

ORDERING INFORMATION

Example: HLWPC2 P20 40K AS T3M BZSDP

Series	Lumen Package	Color Temperature	Voltage	Optics	Color	CRI
HLWPC2 Wallpack Full Cutoff LED	1 LEM Package	AMB True Amber	120 120 volts	T2S Type 2 Short	BKSDP Black	Blank 70 CRI (STD)
	P10 3,100 lm	30K 3,000 K CCT	208 208 volts	T2M Type 2 Medium	BZSDP Bronze	80CRI 80 CRI
	P20 5,600 lm	40K 4,000 K CCT	240 240 volts	T3S Type 3 Short	GYSDP Grey	
		50K 5,000 K CCT	277 277 volts	T3M Type 3 Medium	WHSDP White	
	2 LEM Package		347 347 volts	T4M Type 4 Medium		
	P30 7,800 lm		480 480 volts	TFTM Forward Throw Medium		
	P40 9,900 lm		HVOLT 347/480 volts	ASYDF Asymmetric Diffuse		
	P50 11,700 lm		MVOLT 120-277 volts	SYMDF Symmetric Diffuse		
	(Nominal Lumens, 4000K)					

Options:

Adjustable/Programmable Options

A0 Field Adjustable Output

Circuit Options

2CI 2 Independent Circuits

Control - Motion Sensor Options

MASL^{1,2} Motion / Ambient Sensor, 8-15' Mounting Height Ambient Sensor Enabled at 5 FC

MASH^{1,2} Motion / Ambient Sensor, 15-30' Mounting Height Ambient Sensor Enabled at 5 FC

Control - Photocontrol Options

PE Button Style Photocontrol

P3 N.E.M.A. Twistlock Receptacle Mount -3 PIN

P7 N.E.M.A. Twistlock Receptacle Mount -7 PIN

PCLL DTL Long Life Twistlock Photocontrol for Solid State

PSC Shorting Cap

Fuse Option

SF Single Fuse

DF Double Fuse

Safety Option

EM Integral Emergency Battery

TP Tamper Resistant Hardware

Surge Protection Option - 20kV/10kA is Standard

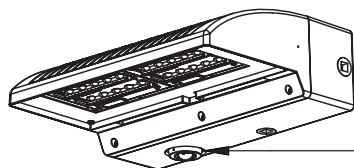
10KV 10kV/5kA Surge Protection, in place of 20kV/10kA

Notes

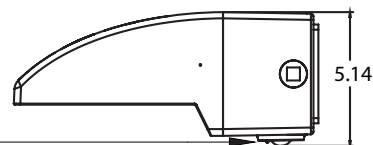
- MASL and MASH sensors are not allowed with P10 lumen package option selected.
- MASL and MASH options reduce luminaire light output to roughly 30% (not full OFF) when no motion is detected. When motion is detected, light output temporarily increases to 100%.

Options Location

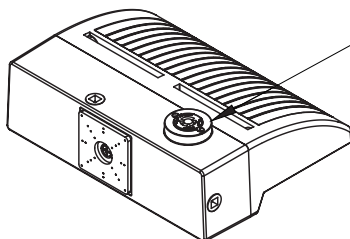
Motion/Ambient Sensor mount options for Low (8-15') (MASL) and Height (15-30') (MASH) applications



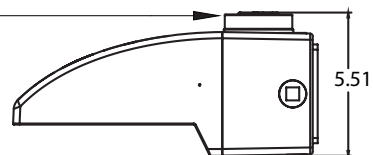
MASL or MASH



N.E.M.A. Twistlock Receptacle P3 and P7 Options, P7 Shown

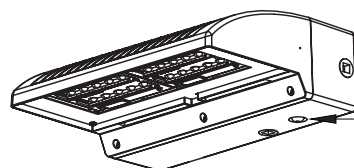


PR3 or PR7



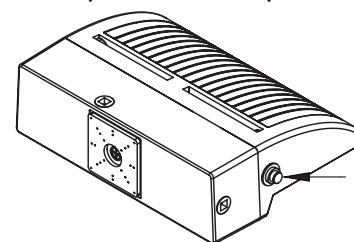
Internal Emergency Battery Test Button - EM Option

Test Button - EM Option



Emergency Test Button

Button Style Photocontrol - PE Option

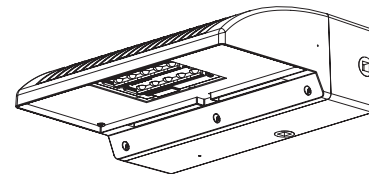


Button Style Photocontrol

Driver & LEM Configuration Based on Circuit Options

Number of LEMs & Drivers / Circuit		Single Circuit (std.)		Two Circuit (2CI option)	
		LEMs	Drivers	LEMs	Drivers
Lumen Maintenance Factor	P10	1	1	-	-
	P20	1	1	2	2
	P30	2	1	2	2
	P40	2	1	2	2
	P50	2	1	-	-

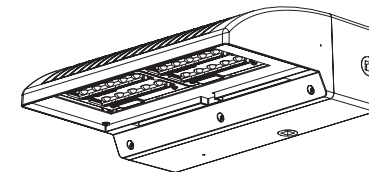
1 LEM Luminaire



SPD Based on Circuit Options

Number of LEMs & Drivers / Circuit		Single Circuit (std.)				Two Circuit (2CI option)			
		LEMs	Drivers	No. of SPDs	SPD	LEMs	Drivers	No. of SPDs	SPD
Lumen Maintenance Factor	P10	1	1	1	20kV/10kA	-	-	-	-
	P20	1	1	1	20kV/10kA	2	2	2	10kV/5kA
	P30	2	1	1	20kV/10kA	2	2	2	10kV/5kA
	P40	2	1	1	20kV/10kA	2	2	2	10kV/5kA
	P50	2	1	1	20kV/10kA	-	-	-	-

2 LEM Luminaire



Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platform noted in a 25°C ambient, based on 6,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

The italicized data is extrapolated beyond the TM-21 standard.

$$E = (LM) \times (CU) \times (LAT) \times (LLD)$$

LM and CU are obtained from published photometry.

Operating Hours (Standard)		0	25,000	30,000	36,000	45,000	50,000	60,000	75,000	100,000
Lumen Maintenance Factor	P10	1	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.92
	P20	1	0.97	0.95	0.94	0.93	0.92	0.90	0.88	0.85
	P30	1	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.92
	P40	1	0.97	0.95	0.94	0.93	0.92	0.90	0.88	0.85

Operating Hours (2CI Option)		0	25,000	30,000	36,000	45,000	50,000	60,000	75,000	100,000
Lumen Maintenance Factor	P10	1	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	P20	1	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	P30	1	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
	P40	1	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Single Circuit Application

Ambient	P10	P20	P30	P40	P50
0°C 32°F	1.02	1.03	1.03	1.04	1.05
10°C 50°F	1.01	1.02	1.02	1.03	1.03
20°C 68°F	1.01	1.01	1.01	1.01	1.01
25°C 77°F	1.00	1.00	1.00	1.00	1.00
30°C 86°F	0.99	0.99	0.99	0.99	0.99
40°C 104°F	0.98	0.97	0.98	0.97	0.97

Optional Two Independent Circuit (2CI) Application

Ambient	P20	P30	P40
0°C 32°F	1.02	1.02	1.02
10°C 50°F	1.01	1.01	1.02
20°C 68°F	1.00	1.01	1.01
25°C 77°F	1.00	1.00	1.00
30°C 86°F	0.99	0.99	0.99
40°C 104°F	0.98	0.98	0.98

Electrical Load

Single Circuit Application

LEDs	Drive Current (mA)	System Watts/Circuit	Current (A)					
			120	208	240	277	247	480
P10	700	28	0.23	0.13	0.12	0.10	0.08	0.06
P20	1400	47	0.41	0.24	0.20	0.18	0.14	0.10
P30	1050	71	0.63	0.37	0.32	0.29	0.22	0.18
P40	1420	95	0.78	0.45	0.40	0.35	0.27	0.20
P50	1720	115	0.95	0.55	0.48	0.42	0.33	0.24

Optional Two Independent Circuit (2CI) Application

LEDs	Drive Current (mA)	System Watts/Circuit	Current (A)					
			120	208	240	277	247	480
P10	-	-	-	-	-	-	-	-
P20	700	22	0.10	0.06	0.05	0.04	-	-
P30	1000	32	0.14	0.08	0.07	0.06	-	-
P40	1250	47	0.18	0.10	0.09	0.08	-	-
P50	-	-	-	-	-	-	-	-

Operating Characteristics

LED Package	Distribution	System Watts	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P10	T2S	28	2,904	104	1	0	1	3,128	112	1	0	1	3,168	113	1	0	1
	T2M	28	2,887	103	1	0	1	3,110	111	1	0	1	3,149	112	1	0	1
	T3S	28	2,964	106	1	0	1	3,194	114	1	0	1	3,234	116	1	0	1
	T3M	28	2,801	100	1	0	1	3,017	108	1	0	1	3,055	109	1	0	1
	T4M	28	2,858	102	1	0	1	3,079	110	1	0	1	3,118	111	1	0	1
	TFTM	28	2,979	106	1	0	1	3,209	115	1	0	1	3,250	116	1	0	1
	SYMDF	28	2,771	99	1	0	1	2,986	107	1	0	1	3,023	108	1	0	1
	ASYDF	28	2,756	98	1	0	1	2,969	106	1	0	1	3,007	107	1	0	1
P20	T2S	47	5,303	113	1	0	1	5,713	122	1	0	1	5,785	123	1	0	1
	T2M	47	5,272	112	1	0	2	5,680	121	1	0	2	5,751	122	1	0	2
	T3S	47	5,414	115	1	0	2	5,832	124	1	0	2	5,906	126	1	0	2
	T3M	47	5,115	109	1	0	2	5,510	117	1	0	2	5,580	119	1	0	2
	T4M	47	5,220	111	1	0	2	5,623	120	1	0	2	5,694	121	1	0	2
	TFTM	47	5,440	116	1	0	2	5,861	125	1	0	2	5,935	126	1	0	2
	SYMDF	47	5,062	108	2	0	2	5,453	116	2	0	2	5,522	117	2	0	2
	ASYDF	47	5,033	107	1	0	1	5,422	115	2	0	1	5,491	117	2	0	1
P30	T2S	71	7,319	103	2	0	2	7,884	111	2	0	2	7,984	112	2	0	2
	T2M	71	7,276	102	2	0	2	7,838	110	2	0	2	7,937	112	2	0	2
	T3S	71	7,472	105	1	0	2	8,049	113	2	0	2	8,151	115	2	0	2
	T3M	71	7,059	99	2	0	2	7,604	107	2	0	2	7,700	108	2	0	2
	T4M	71	7,203	101	2	0	2	7,760	109	2	0	2	7,858	111	2	0	2
	TFTM	71	7,508	106	1	0	2	8,088	114	2	0	2	8,190	115	2	0	2
	SYMDF	71	6,985	98	2	0	2	7,525	106	3	0	3	7,620	107	3	0	3
	ASYDF	71	6,946	98	2	0	2	7,483	105	2	0	2	7,578	107	2	0	2
P40	T2S	95	9,320	98	2	0	2	10,041	106	2	0	2	10,168	107	2	0	2
	T2M	95	9,266	98	2	0	2	9,982	105	2	0	3	10,108	106	2	0	3
	T3S	95	9,515	100	2	0	2	10,251	108	2	0	2	10,381	109	2	0	2
	T3M	95	8,989	95	2	0	2	9,684	102	2	0	2	9,807	103	2	0	2
	T4M	95	9,174	97	2	0	2	9,883	104	2	0	3	10,008	105	2	0	3
	TFTM	95	9,561	101	2	0	2	10,300	108	2	0	2	10,431	110	2	0	2
	SYMDF	95	8,896	94	3	0	3	9,583	101	3	0	3	9,705	102	3	0	3
	ASYDF	95	8,846	93	2	0	2	9,530	100	2	0	2	9,650	102	2	0	2
P50	T2S	115	10,972	95	2	0	2	11,820	103	2	0	2	11,969	104	2	0	2
	T2M	115	10,908	95	2	0	3	11,751	102	2	0	3	11,900	103	2	0	3
	T3S	115	11,202	97	2	0	2	12,067	105	2	0	2	12,220	106	2	0	2
	T3M	115	10,582	92	2	0	2	11,400	99	2	0	3	11,544	100	2	0	3
	T4M	115	10,799	94	2	0	3	11,634	101	2	0	3	11,781	102	2	0	3
	TFTM	115	11,256	98	2	0	2	12,126	105	2	0	2	12,279	107	2	0	2
	SYMDF	115	10,472	91	3	0	3	11,282	98	3	0	3	11,424	99	3	0	3
	ASYDF	115	10,414	91	2	0	2	11,219	98	3	0	2	11,361	99	3	0	2

Use the following to scale 70CRI to 80CRI.

CCT	Multiplier
3000K	0.909
4000K	0.886
5000K	0.865

All IES files available on product web page

Operating Characteristics (continued)

LED Package	Distribution	System Watts	30K + 2CI Option (3000K, 70 CRI)					40K + 2CI Option (4000K, 70 CRI)					50K + 2CI Option (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P20	T2S	49	5,015	102	1	0	1	5,402	110	1	0	1	5,471	112	1	0	1
	T2M	49	4,985	102	1	0	2	5,371	110	1	0	2	5,439	111	1	0	2
	T3S	49	5,120	104	1	0	1	5,515	113	1	0	2	5,585	114	1	0	2
	T3M	49	4,837	99	1	0	2	5,210	106	1	0	2	5,276	108	1	0	2
	T4M	49	4,936	101	1	0	2	5,317	109	1	0	2	5,385	110	1	0	2
	TFTM	49	5,144	105	1	0	2	5,542	113	1	0	2	5,612	115	1	0	2
	SYMDF	49	4,786	98	2	0	2	5,156	105	2	0	2	5,222	107	2	0	2
	ASYDF	49	4,760	97	1	0	1	5,127	105	1	0	1	5,192	106	1	0	1
P30	T2S	70	6,769	97	1	0	1	7,293	104	2	0	2	7,385	106	2	0	2
	T2M	70	6,730	96	2	0	2	7,250	104	2	0	2	7,342	105	2	0	2
	T3S	70	6,911	99	1	0	2	7,445	106	1	0	2	7,539	108	1	0	2
	T3M	70	6,529	93	2	0	2	7,033	100	2	0	2	7,123	102	2	0	2
	T4M	70	6,663	95	2	0	2	7,178	103	2	0	2	7,269	104	2	0	2
	TFTM	70	6,945	99	1	0	2	7,481	107	1	0	2	7,576	108	2	0	2
	SYMDF	70	6,461	92	2	0	2	6,960	99	2	0	2	7,049	101	2	0	2
	ASYDF	70	6,425	92	2	0	2	6,922	99	2	0	2	7,009	100	2	0	2
P40	T2S	89	8,370	94	2	0	2	9,017	101	2	0	2	9,131	103	2	0	2
	T2M	89	8,321	93	2	0	2	8,964	101	2	0	2	9,078	102	2	0	2
	T3S	89	8,545	96	2	0	2	9,205	103	2	0	2	9,322	105	2	0	2
	T3M	89	8,073	91	2	0	2	8,696	98	2	0	2	8,807	99	2	0	2
	T4M	89	8,238	93	2	0	2	8,875	100	2	0	2	8,987	101	2	0	2
	TFTM	89	8,586	96	2	0	2	9,250	104	2	0	2	9,367	105	2	0	2
	SYMDF	89	7,989	90	3	0	3	8,606	97	3	0	3	8,715	98	3	0	3
	ASYDF	89	7,944	89	2	0	2	8,558	96	2	0	2	8,666	97	2	0	2

Use the following to scale 70CRI to 80CRI.

CCT	Multiplier
3000K	0.909
4000K	0.886
5000K	0.865

All IES files available on product web page

LED Package	Distribution	System Watts	AMB (Wavelength)					LED Package	Distribution	System Watts	AMB (Wavelength)				
			Lumens	LPW	B	U	G				Lumens	LPW	B	U	G
P10	T2S	28	1,061	38	0	0	1	P30	T2S	28	1,975	71	0	0	1
	T2M	28	1,054	38	0	0	1		T2M	28	1,964	70	0	0	1
	T3S	28	1,083	39	0	0	1		T3S	28	2,016	72	0	0	1
	T3M	28	1,023	37	0	0	1		T3M	28	1,905	68	0	0	1
	T4M	28	1,044	37	0	0	1		T4M	28	1,944	69	0	0	1
	TFTM	28	1,088	39	0	0	1		TFTM	28	2,026	72	0	0	1
	SYMDF	28	1,012	36	1	0	1		SYMDF	28	1,885	67	1	0	1
	ASYDF	28	1,007	36	0	0	1		ASYDF	28	1,875	67	0	0	1

Options Matrix

Parameters		LED AMB	Options (Start with SF, DF, 2CI or EM if being used)													
			PE	P3	P7	PSC	PCLL	MASH	MASL	SF	DF	TP	10kV	AO	2CI	EM
LED Performance Package	P10	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	Y
	P20	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P30	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P40	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P50	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
Voltage	A5	Y	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y
	AH	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	N
	12	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
	20	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
	24	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
	27	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
	34	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	N	N
	48	Y	N	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	N
Options	PE	Y		N	N	N	N	N	N	Y	Y	Y	Y	Y	N	Y
	P3	Y	N		N	M	Y	N	N	Y	Y	Y	Y	N	N	N
	P7	Y	N	N		M	Y	N	N	Y	Y	Y	Y	N	N	N
	PSC	Y	N	M	M		N	N	N	Y	Y	Y	Y	N	N	N
	PCLL	Y	N	Y	Y	N		N	N	Y	Y	Y	Y	N	N	N
	MASH	Y	N	N	N	N	N		N	Y	Y	Y	Y	N	N	N
	MASL	Y	N	N	N	N	N	N		Y	Y	Y	Y	N	N	N
	SF	Y	Y	Y	Y	Y	Y	Y	Y		N	Y	Y	Y	Y	Y
	DF	Y	Y	Y	Y	Y	Y	Y	Y	N		Y	Y	Y	Y	Y
	TP	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y
	10kV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	M	M
	AO	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y		N	N
	2CI	Y	N	N	N	N	N	N	N	Y	Y	Y	M	N		N
	EM	Y	Y	N	N	N	N	N	N	Y	Y	Y	M	N	N	

Notes

I = Included with option

M = Must have: one of these must be installed for the luminaire to operate

N = Combination Not available

P30 = Valid Option Combination, not available with P10 Performance Packabe

Y = Valid Option Combination

HLWPC2

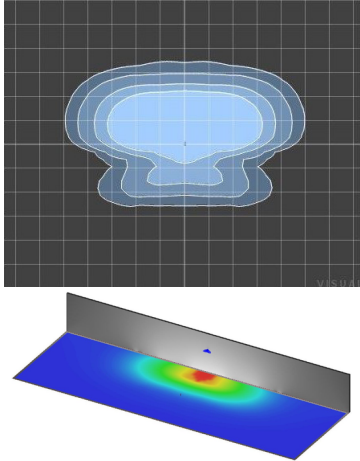
Wallpack® Full Cutoff LED

Photometric Diagrams

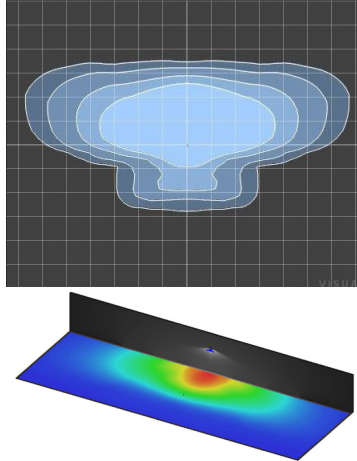
To see complete photometric reports or download .ies files for this product, visit the [Holophane's Wallpack FCO LED homepage](#). Isofootcandle plots for the HLWPC2 P30 40K. Distance are in units of mounting height (12"). Grid is 10'x10'.

0.1 fc 1 fc 0.2 fc 0.5 fc

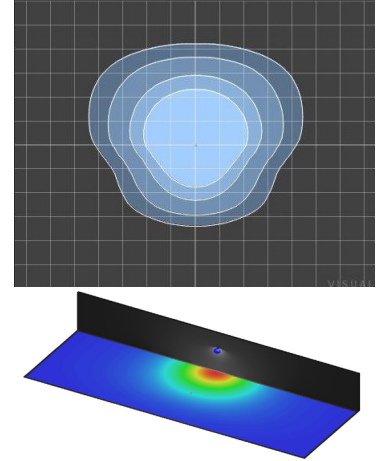
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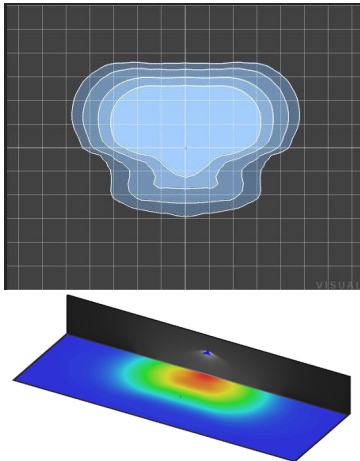
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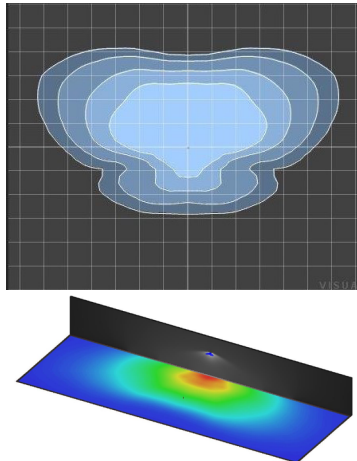
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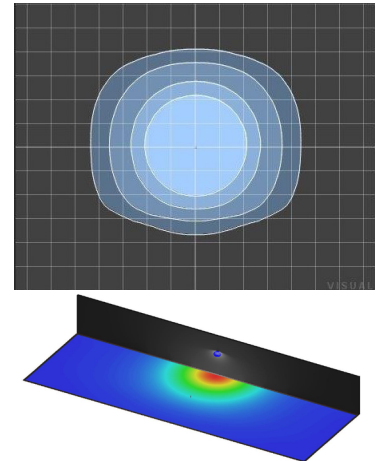
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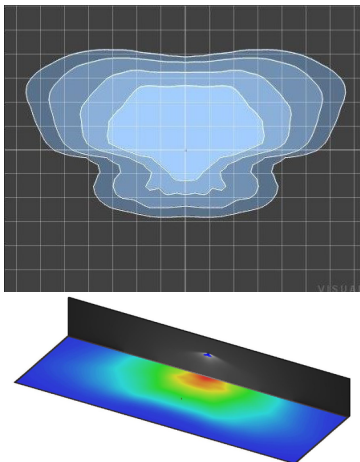
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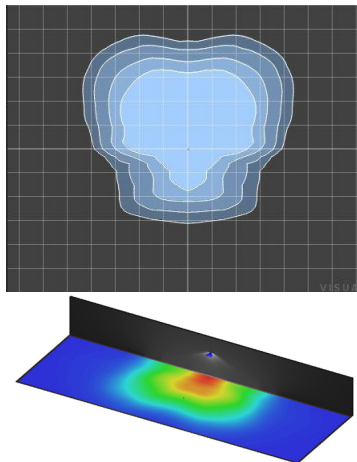
HLWPC2 P30 40K XX SYMDF



HLWPC2 P30 40K XX T4M

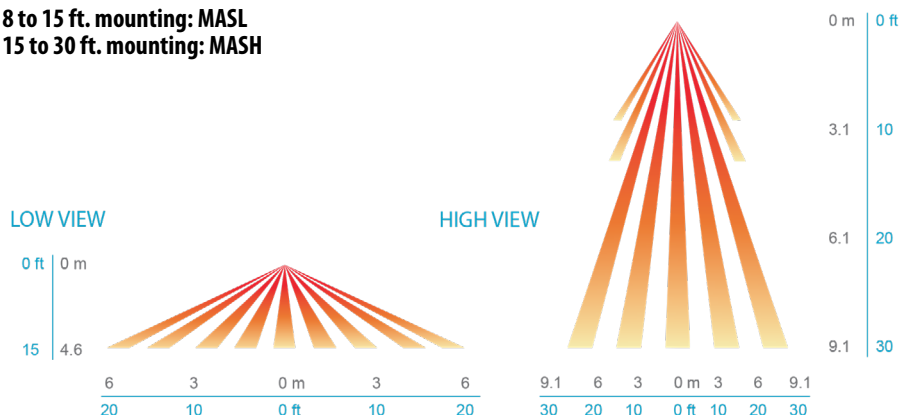


HLWPC2 P30 40K XX TFTM



Coverage Pattern

8 to 15 ft. mounting: MASL
15 to 30 ft. mounting: MASH



Control Options

Button Style Photocontrol

PE



N.E.M.A. Receptacle

P3

P7



Motion & Ambient Combined Sensor

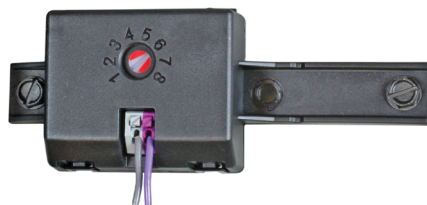
MASL/MASH



MASL and MASH options reduce luminaire light output to roughly 30% (not full OFF) when no motion is detected. When motion is detected, light output increases to 100%.

Field Adjustable Output Module

The Field Adjustable Output (AO) module is an onboard device that adjusts the light output and input voltage to meet specific requirements, allowing a single fixture configuration to be flexibly applied in many different applications. The AO option is available on the HLWPC2 series.



P10 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	94%	95%
6	83%	82%
5	71%	69%
4	59%	57%
3	46%	45%
2	34%	33%
1	21%	21%

P20 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	94%
6	84%	80%
5	73%	67%
4	61%	54%
3	48%	42%
2	35%	30%
1	21%	18%

P30 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	94%
6	84%	80%
5	73%	67%
4	61%	54%
3	48%	42%
2	35%	30%
1	21%	18%

P40 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	95%	95%
6	85%	82%
5	74%	68%
4	62%	55%
3	49%	43%
2	36%	30%
1	21%	17%

P50 - AS and AH		
AO Position	% Lumens	% Wattage
8	100%	100%
7	96%	95%
6	86%	81%
5	75%	68%
4	64%	55%
3	51%	42%
2	37%	29%
1	22%	17%

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.

Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.

Two combination 1/2"-3/4" and four 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.

Accommodates 12"-24" joist spacing.

Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.

Max ceiling thickness 1-1/2".

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse; 80 CRI minimum. 90 CRI optional.

LED light source concealed with diffusing optical lens.

General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.

Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.

A+ CAPABLE LUMINAIRE — This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates. To learn more about A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting.

ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.

0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.

LUMEN MAINTENANCE — 70% lumen maintenance at 60,000 hours. L70/60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product. Drivers are RoHS compliant

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

PERFORMANCE DATA

LDN6 3500K AR LSS 80CRI			
Nominal Lumens	Lumens	Wattage	Lm/W
500	527.9	5.8	90.5
750	758.1	8.9	85.1
1000	950.1	10.4	91.0
1500	1514	17.5	86.4
2000	2006	22.5	89.1
2500	2504	28.3	88.6
3000	3021	34.8	86.9
4000	4008	44.3	90.6
5000	4975	57.7	86.3

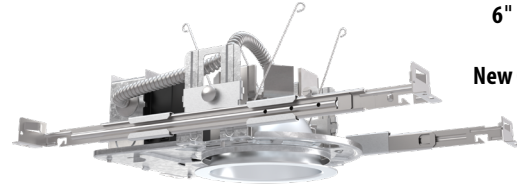
Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.



Catalog Number	LDN6 30/20 LW6BR
Notes	
Type	R

LDN6 STATIC WHITE



**6" Open and Wallwash LED
Non-IC
New Construction Downlight**

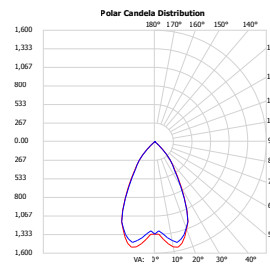


Open Trim

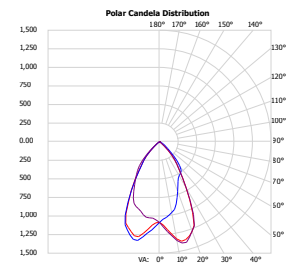


Wallwash Trim

DISTRIBUTIONS



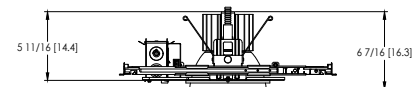
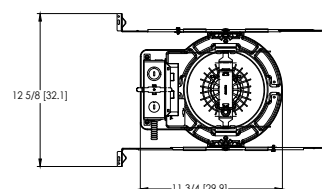
Open



Wallwash

DIMENSIONS

LDN6 500-3000 Lumens



Aperture: Ø 6-1/4" [15.9]
Ceiling Cutout: Ø 7-1/8" [18.1] Self-flanged
Overlap Trim: Ø 7-1/2" [19.1]

See page 4 for other fixture dimensions

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN6 35/15 L06 AR LSS MVOLT EZ10

LDN6							
Series	Color temperature	Lumens ‡	Trim Style	Trim Color	Trim Finish	Flange Color ‡	Voltage
LDN6 6" round	27/ 2700K 30/ 3000K 35/ 3500K 40/ 4000K 50/ 5000K	05 500 lumens 07 750 lumens 10 1000 lumens 15 1500 lumens 20 2000 lumens 25 2500 lumens 30 3000 lumens 40 4000 lumens 50 5000 lumens	L06 Downlight LW6 Wallwash	AR Clear WR ‡ White BR ‡ Black TCPC ‡ Custom painted trim TRALTBD ‡ RAL painted trim	LSS Semi-specular LD Matte diffuse LS Specular	TRW White painted flange TRBL Black painted flange FCPC Custom painted flange only FRALTBD RAL painted flange only	MVOLT Multi-volt 120 120V 277 277V 347 ‡ 347V

Driver	Emergency ‡	Control Input ‡	Options
GZ10 0-10V driver dims to 10%	(blank) No Emergency Needed	(blank) No Control Input Needed	HAO ‡ High ambient option (40°C)
GZ1 0-10V driver dims to 1%	EL Battery pack (10W constant power), non-T20 compliant, integral test switch	JOT Wireless room control with "Just One Touch" pairing	CP ‡ Chicago Plenum
D10 Minimum dimming 10% driver for use with JOT	ELR Battery pack (10W constant power), non-T20 compliant, remote test switch	NPP16D nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1).	RRL___ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Refer to RRL for complete nomenclature. Available only in RRLA, RRLB, RRLAE, and RRLC12S.
D1 Minimum dimming 1% driver for use with JOT	ELSD Self-diagnostic battery pack (10W constant power), non-T20 compliant, integral test switch	NPP16DER nLight® network power/relay pack with 0-10V dimming for non-eldoLED drivers (GZ10, GZ1). ER controls fixtures on emergency circuit.	BAA Buy America(n) Act Compliant
EZ1 0-10V eldoLED driver with smooth and flicker-free deep dimming performance down to 1%	ELRSD Self-diagnostic battery pack (10W constant power), non-T20 compliant, remote test switch	NPS80EZ nLight® dimming pack controls 0-10V eldoLED drivers (EZ1).	90CRI High CRI (90+)
EDAB eldoLED DALI SOLDRIIVE dim to dark	E10WCP Battery pack (10W constant power), T20 compliant, integral test switch	NPS80EZER nLight® dimming pack controls 0-10V eldoLED drivers (EZ1). ER controls fixtures on emergency circuit.	SF ‡ Single fuse
	E10WCPR Battery pack (10W constant power), T20 compliant, remote test switch	N80 nLight™ Lumen Compensation	
	E10WRSTAR Emergency battery pack, 10W with remote test switch and Iota STAR technology	NLTAIR2 nLight® Air enabled	
		NLTAIRER2 nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit, not available with battery pack options	
		NLTAIREM2 nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection. Available with battery pack options.	

‡ Option Value Ordering Restrictions

Option value	Restriction
Lumens	Overall height varies based on lumen package; refer to dimensional chart.
WR, BR	Not available with finishes.
347	Not available with emergency options.
SF	Must specify voltage 120V or 277V.
TRW, TRBL	Available with clear (AR) reflector only.
EL, ELR, ELSD, ELRSD, E10WCP, E10WCPR	12.5" of plenum depth or top access required for battery pack maintenance.
NPP16D, NPP16DER, NPS80EZ, NPS80EZER	Specify voltage. ER for use with generator supply EM power. Will require an emergency hot feed and normal hot feed. See UL 924 Sequence of Operation table.
N80	Fixture begins at 80% light level. Must be specified with NPS80EZ or NPS80EZ ER. Only available with EZ1 drivers.
NLTAIR, NLTAIR2, NLTAIRER2, NLTAIREM2	Not available with CP, NPS80EZ, NPS80EZER, NPP16D, NPP16DER or N80 options. not recommended for metal ceiling installations.
HAO	Fixture height is 6.5" for all lumen packages with HAO.
CP	Must specify voltage for 3000lm and above. 5000lm with marked spacing 24 L x 24 W x 14 H. Not available with emergency battery pack option.
JOT	Must specify D10 or D1 driver. Not available with nLight options. Not available with CP. Not recommended for metal ceiling installation. Not for use with emergency backup power systems other than battery packs.
Reloc® Options	Refer to RRL specification sheet on acuitybrands.com for further details.
RRLAE	Commercial fixtures should disconnect the TSPL before unplugging the RRL so it does not go into discharge mode.
RRLC12S	RRLC12S option is to be used with the OnePass OCU, OCS, OD, OFC and OD for 0-24V integrated single-circuit or 0-10V low voltage controls applications. Not available with integral dimming sensors.
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details
E10WRSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, AL03 & AL04 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch

Accessories: Order as separate catalog number.

EAC ISSM 375	Compact interruptible emergency AC power system	SCA6 Sloped Ceiling Adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D
EAC ISSM 125	Compact interruptible emergency AC power system	
GRA68 JZ	Oversized trim ring with 8" outside diameter	



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

(Maximum order quantity for design select lead times is 112.)

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter / 2 Hour Runtime
ILB CP10 A	10W	90	1200	
ILBLP CP10 HE SD A+	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A+	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic
ILBHI CP10 HE SD A+	10W	90	1200	347-480V AC Input, Title 20, Self Diagnostic
ILBHI CP15 HE SD A+	15W	90	1800	347-480V AC Input, Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

PHOTOMETRY

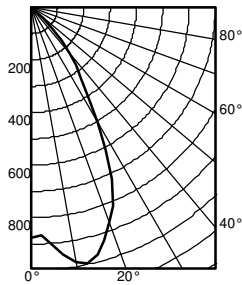
Distribution Curve

Distribution Data

Output Data

Illuminance Data at 30" Above Floor for
a Single Luminaire

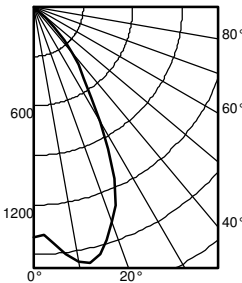
LDN6 35/10 L06AR, input watts: 10.44, delivered lumens: 987.10, LM/W = 94.54, spacing criterion at 0= 1.02, test no. ISF 30716P262.



Ave	Lumens	Zone	Lumens	% Lamp
0	876	0° - 30°	680.7	69.0
5	905	0° - 40°	895.0	90.7
15	971	0° - 60°	986.0	99.9
25	720	0° - 90°	987.0	100.0
35	330	90° - 120°	0.0	0.0
45	110	90° - 130°	0.0	0.0
55	1	90° - 150°	0.0	0.0
65	1	90° - 180°	0.0	0.0
75	0	0° - 180°	987.0	*100.0
85	0			
90	0			

		50% beam - 54.5°		10% beam - 82.2°	
Initial FC					
Mounting	Center				
Height	Beam	Diameter	FC	Diameter	FC
8.0	29.0	5.7	14.5	9.6	2.9
10.0	15.6	7.7	7.8	13.1	1.6
12.0	9.7	9.8	4.9	16.6	1.0
14.0	6.6	11.8	3.3	20.1	0.7
16.0	4.8	13.9	2.4	23.6	0.5

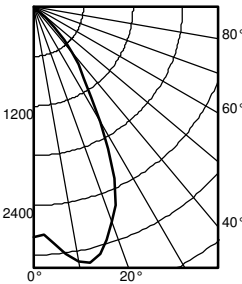
LDN6 35/15 L06AR, input watts: 17.52, delivered lumens: 1572.9, LM/W = 89.77, spacing criterion at 0= 1.02, test no. ISF 30716P265.



Ave	Lumens	Zone	Lumens	% Lamp
0	1396	0° - 30°	1084.6	69.0
5	1442	0° - 40°	1426.2	90.7
15	1547	0° - 60°	1571.3	99.9
25	1147	0° - 90°	1572.9	100.0
35	526	90° - 120°	0.0	0.0
45	176	90° - 130°	0.0	0.0
55	2	90° - 150°	0.0	0.0
65	1	90° - 180°	0.0	0.0
75	1	0° - 180°	1572.9	*100.0
85	0			
90	0			

		50% beam - 54.5°		10% beam - 82.2°	
Initial FC					
Mounting	Center				
Height	Beam	Diameter	FC	Diameter	FC
8.0	46.2	5.7	23.1	9.6	4.6
10.0	24.8	7.7	12.4	13.1	2.5
12.0	15.5	9.8	7.7	16.6	1.5
14.0	10.6	11.8	5.3	20.1	1.1
16.0	7.7	13.9	3.8	23.6	0.8

LDN6 35/30 L06AR, input watts: 34.75, delivered lumens: 3138.5, LM/W = 90.31, spacing criterion at 0= 1.02, test no. ISF 30716P274.



Ave	Lumens	Zone	Lumens	% Lamp
0	2786	0° - 30°	2164.3	69.0
5	2877	0° - 40°	2845.9	90.7
15	3087	0° - 60°	3135.3	99.9
25	2289	0° - 90°	3138.5	100.0
35	1049	90° - 120°	0.0	0.0
45	350	90° - 130°	0.0	0.0
55	5	90° - 150°	0.0	0.0
65	2	90° - 180°	0.0	0.0
75	1	0° - 180°	3138.5	*100.0
85	0			
90	0			

		50% beam - 54.5°		10% beam - 82.2°	
Initial FC					
Mounting	Center				
Height	Beam	Diameter	FC	Diameter	FC
8.0	92.1	5.7	46.1	9.6	9.2
10.0	49.5	7.7	24.8	13.1	5.0
12.0	30.9	9.8	15.4	16.6	3.1
14.0	21.1	11.8	10.5	20.1	2.1
16.0	15.3	13.9	7.6	23.6	1.5

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

$$\text{Delivered Lumens} = 1.25 \times P \times \text{LPW}$$

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

The LPW rating is also available at Designlight Consortium.

Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

LUMEN OUTPUT MULTIPLIERS - FINISH

	Clear (AR)	White (WR)	Black (BR)
Specular (LS)	1.0	N/A	N/A
Semi-specular (LSS)	0.950	N/A	N/A
Matte diffuse (LD)	0.85	N/A	N/A
Painted	N/A	0.87	0.73

LUMEN OUTPUT MULTIPLIERS - CRI

80	1.0
90	0.874

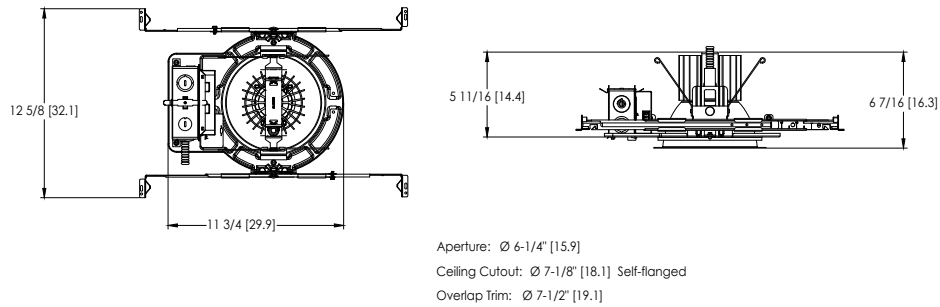
LUMEN OUTPUT MULTIPLIERS - CCT

	2700K	3000K	3500K	4000K	5000K
80CRI	0.950	0.966	1.000	1.025	1.101

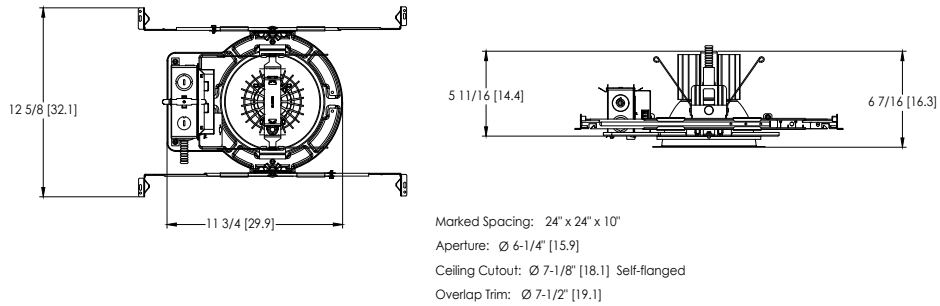
LDN6

* All dimensions are inches (centimeters) unless otherwise noted.

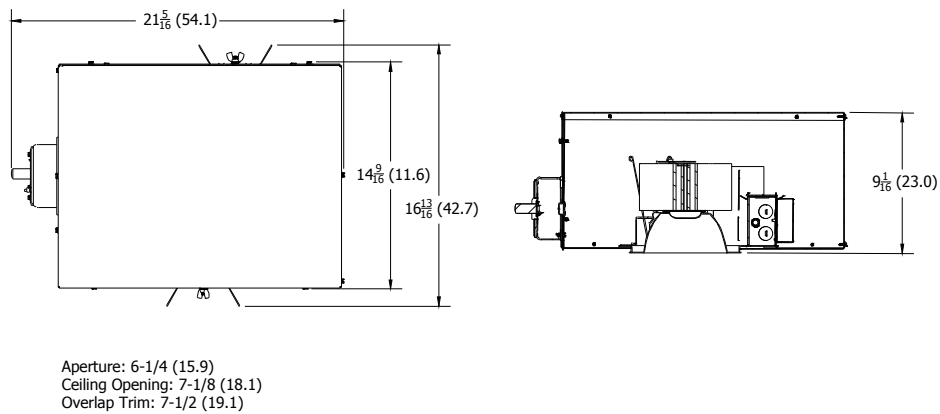
LDN6 500-3000 Lumens



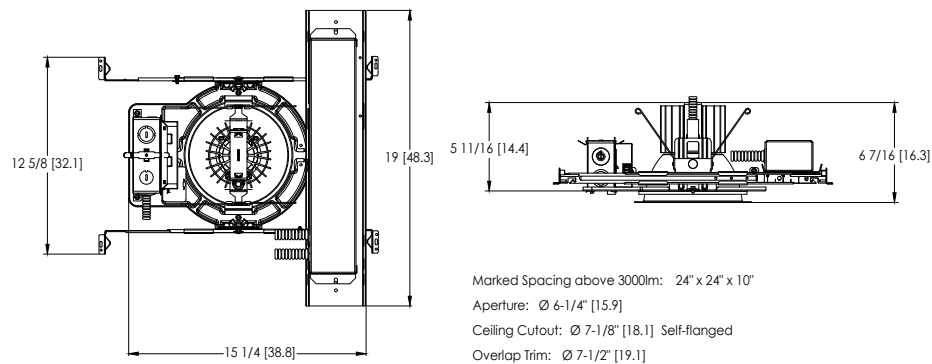
LDN6 4000-5000 Lumens



LDN6 CP



LDN6 EL



ADDITIONAL DATA



The Sensor Switch JOT enabled solution offers a wireless, app-free approach to single room lighting control. JOT enabled products use Bluetooth® Low Energy (BLE) technology to enable wireless dimming and switching.

Diagram



LDN6 Series

Sensor Switch
WSXA JOT

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

COMPATIBLE 0-10V WALL-MOUNT DIMMERS

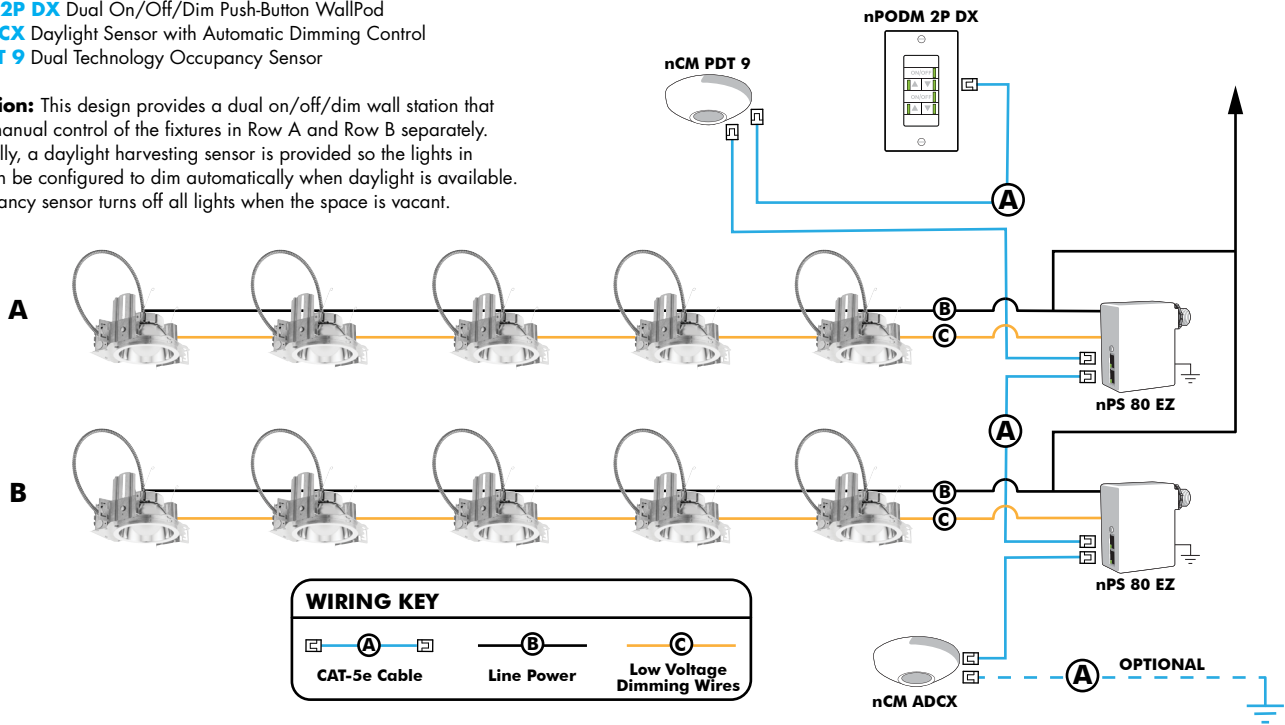
MANUFACTURER	PART NO.	POWER BOOSTER AVAILABLE
Lutron®	Diva® DVTV	
	Diva® DVSCVT	
	Nova T® NTFTV	
	Nova® NFTV	
Leviton®	AWSMT-7DW	CN100
	AWSMG-7DW	PE300
	AMRMG-7DW	
	Leviton Centura Fluorescent Control System	
	IllumaTech® IP7 Series	
Synergy®	ISD BC	RDMFC
	SLD LPCS	
	Digital Equinox (DEQ BC)	
Douglas Lighting Controls	WPC-5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V)	
	Tap Glide Heatsink TGH1500FAM120 (120V)	
	Oasis OA2000FAMU	
Honeywell	EL7315A1019	EL7305A1010 (optional)
	EL7315A1009	
HUNT Dimming	Preset slide: PS-010-IV and PS-010-WH	
	Preset slide: PS-010-3W-IV and PS-010-3W-WH	
	Preset slide, controls FD-010: PS-IFC-010-IV and PS-IFC-010-WH-120/277V	
	Preset slide, controls FD-010: PS-IFC-010-3W-IV and PS-IFC-010-3W-WH-120/277V	
	Remote mounted unit: FD-010	
Lehigh Electronic Products	Solitaire	PBX
PDM Electrical Products	WPC-5721	
Starfield Controls	TR61 with DALI interface port	RT03 DALI.net Router
WattStopper®	LS-4 used with LCD-101 and LCD-103	

EXAMPLE

Group Fixture Control*
*Appiication diagram applies for fixtures with eldoLED drivers only.

- nPS 80 EZ Dimming/Control Pack (qty: 2 required)
- nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
- nCM ADCX Daylight Sensor with Automatic Dimming Control
- nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in Row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.



Choose Wall Controls

nLight offers multiple styles of wall controls - each with varying features and user experience.



Push-Button Wallpod
Traditional tactile buttons and LED user feedback



Graphic Wallpod
Full color touch screen provides a sophisticated look and feel

nLight® Wired Controls Accessories:			
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight for complete listing of nLight controls.			
WallPod Stations	Model number	Occupancy sensors	Model Number
On/Off	nPODM (Color)	Small motion 360°, ceiling (PIR/dual Tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPOD DX (Color)	Large motion 360°, ceiling (PIR/dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX (Color)	Wide View (PIR/dual tech)	nWV 16 / nWV PDT 16
Photocell controls	Model Number	Wall Switch w/ Raise/Lower (PIR/dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	Cat-5 cables (plenum rated)	Model Number
		10', CAT5 10FT	CAT5 10FT J1
		15, CAT5 15FT	CAT5 15FT J1

nLight® AIR Control Accessories:	
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair .	
Wall switches	Model number
On/Off single pole	rPODB [color]
On/Off two pole	rPODB 2P [color]
On/Off & raise/lower single pole	rPODB DX [color]
On/Off & raise/lower two pole	rPODB 2P DX [color]
On/Off & raise/lower single pole	rPODBZ DX WH ¹

Notes

- 1 Can only be ordered with the RES7Z zone control sensor version.

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

nLight AIR

nLight AIR is the ideal solution for retrofit or new construction spaces where adding communication is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each Lithonia LDN Luminaire. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome



O. Architectural Design Narrative

Please see the attached design narratives for each Phase of the project, completed by CWS and RSA architecture firms.



April 8, 2024

City of Portland
Planning & Urban Development Department

Design Narrative for Avesta Oxford

The proposed design is for new construction of a 43,748 sq ft, 48-unit apartment building on Oxford Street between Cedar and Chestnut. There is an existing 2 ½ story building and a 1 story building currently located on the site that are to be demolished. The new building is five story, podium construction with basement level parking. The building will have two distinct wings that are designed to meet the needs of two different residential populations: a 23,826 sq ft, 28-unit Housing First side and a 19,922 sq ft, 20-unit Affordable Housing side. All Housing First Units are 0-bedroom and the Affordable Housing side has a mix of 0-bedroom units and 1-bedroom units. The two wings of the building are designed to function independently of each other, including building entrance and egress and HVAC/mechanical/electrical systems.

The basement level and first floor are Type IB Construction, fully sprinklered. Floors two, three, four and five are Type VB Construction, fully sprinklered. The first floor of the Housing First side is dedicated to professional services needed for the Housing First population. The first floor of the Affordable Housing side is a combination of apartments and services for the Affordable Housing tenants. Floors two through five are R-2 residential on both sides of the building. Fire separation between floors, dwellings, and occupancy types are designed per IBC requirements.

CWS is taking a very intentional approach to design of this building, intending to be responsive to the existing neighborhood fabric while designing something that will be appropriate for this high density, downtown neighborhood. The proposed building will span the entire length of Oxford Street between Chestnut and Cedar, which has been historically underutilized in this growing neighborhood. We began the design process by walking the site and the surrounding neighborhood to reflect upon the character of the neighboring architecture, both new and old, and to understand how the neighborhood is evolving.

The neighborhood is comprised of diverse architecture with varying materials and scales that range include 6-story multifamily housing, several story mixed use buildings, and single-family homes. The site is also in close proximity to the downtown core as well as City Hall. The proposed design is a reflection of this evolving place. The rectangular form of the building reflects the urban density of a neighborhood of this type, and the Oxford Street façade as well as the design around Cedar and Chestnut respond to practical challenges of the site, such as the grade change. The architectural expression emphasizes sustainability and will leverage passive heating and cooling for reduced environmental impact and improved resident comfort.

We have selected a preliminary palette of self-finishing materials that will maintain their beauty and timeless appearance for the life of the building while also providing an opportunity to delineate between the building's two parts. A mix of corrugated metal panels and ground-face CMU veneer are used to achieve this. The Housing First portion of the building on the Cedar Street end of the site has horizontal emphasis which utilizes a predominate cladding of metal panels. The building changes its emphasis to the vertical on the Affordable Housing portion near Chestnut Street, where a predominate use of ground-face CMU and push/pull maneuvers, as well as varying heights are implemented to provide a unique visual experience.

The building's dimensions are in compliance with the guidelines for both R-6 zoning and the Bayside Height Overlay Map. The roof deck is 55'-0" above the average grade of the site. Floor to floor height is 10'-0" with the exception of the basement parking level at 12'-0". Extra design consideration has been implemented regarding security, noise and pollutant suppression of the Housing First outdoor space, passive solar heat gain/reduction strategies at the Southeast facing Oxford Street elevation, and shadow studies have been generated that represent the new building's impact on its neighbors and their gardens. This building will be designed to PHIUS standards.

Please see the attached schematic Architectural drawings and let me know if you have any questions, comments or concerns. We look forward to discussing the project further with you.

Sincerely yours,



Bhen Reed, AIA, NCARB
Architect, CWS Architecture + Interior Design
breed@cwsarch.com

April 11, 2024

Kevin Kraft
Planning and Urban Development Department Director
City of Portland Maine
389 Congress Street
Portland, Maine 04101

Re: 50 Cedar and 158 Lancaster Street Apartments - Design Narrative

Dear Kevin,

The proposed building to be located at 50 Cedar Street in Portland's Bayside Neighborhood consists of 24 Market Rate residential apartment units. The proposed building to be located at 158 Lancaster Street consists of 51 Market Rate residential apartment units.

The neighborhood is comprised of a diverse palate of Architectural forms, and time periods of design and construction. The surrounding streets contain residential structures with sloped roofs, large commercial buildings with flat roofs, brick exterior walls, lap siding, concrete exterior walls, and metal panel siding.

We designed the buildings using color, massing and texture to scale the building as reflected on the attached elevations. The facades utilize punched openings in pairs and singles with horizontal lap and shiplap siding that references the local residential vernacular Architecture. The facades are broken by projecting bays that work their way along the streets.

The siding materials proposed are factory finished fibercement corrugated siding, in various formats, lap siding, shiplap siding and panel siding. These products were chosen for their crisp appearance and long term durability. The windows proposed are dark in color to compliment the siding colors and also further reinforce the crisp simplicity of the design. The roofing proposed is an EPDM roof membrane.

207-747-5159

senatorearchitecture.com

ryan@senatorearchitecture.com

500 Congress Street, Suite 2
Portland, Maine 04101

We look forward to discussing the projects at the upcoming
Planning Board workshop.

Sincerely,



Ryan Senatore, AIA LEED AP

Principal

207-747-5159

senatorearchitecture.com

ryan@senatorearchitecture.com

500 Congress Street, Suite 2
Portland, Maine 04101

P. Utilities:

Coordination with respective utility companies is ongoing and Ability to serve requests have been sent. Formal response letters are forthcoming and will be uploaded upon receipt. The proposed re-development project proposes the following utility service to support each phase:

Water:

Phase 1: 197 Oxford Street: Based on the City archive plans, there is an existing 12" water main within Oxford Street, 6" water main within Chestnut Street, and a 4" within Cedar Street. Given the demising wall within the building, we anticipate having a separate domestic and fire service for each side of the building.

It is proposed to connect into the existing 12" water main within Oxford Street with four services to feed the proposed building. The connections include two separate 2" domestic services and 6" fire service lines, which will run to the proposed mechanical/sprinkler rooms on each side of the building (i.e. for both the Housing first and the Affordable Housing portion.)

- Phase 2 and 3: Consistent with the adjacent MDP project, the water main in Lancaster Street will be upgraded to a 12" ductile iron main. Both phases will tap 2" and 6" domestic and sprinkler lines off this main, respectively.

Sewer:

Phase 1: 197 Oxford Street: An existing 18" combined sewer exists in Chestnut Street. It is proposed to connect a new 6" PVC lateral into the Chestnut Street main discharging the domestic sewer, the covered parking oil water separator, and the elevator sumps. A backflow preventer is proposed at the property line.

- Phase 2: 50 Cedar Street: It is proposed to tap the sewer lateral into the existing 18" sewer main in Cedar Street.

Phase 3: 158 Lancaster Street: It is proposed to tap the sewer lateral into the 18" sewer main in Chestnut Street.

Stormwater:

Phase 1: 197 Oxford Street: The project proposes over 1,000 SF of new impervious. Treatment will be accomplished using Storm-filter cartridges which will discharge into a proposed R-Tank subsurface detention system. The detention system is sized to store an inch across the entire roof area as well as some ancillary impervious ground surfaces, which is a larger volume than the new sewer flows created by the project.

The stormwater will outlet into the combined 18" sewer within Chestnut.



- Phase 2: 50 Cedar Street: The project proposes over 1,000 SF of new impervious. Treatment will be accomplished using Storm-filter cartridges which will discharge into a proposed R-Tank subsurface detention system. The detention system is sized to store an inch of rainfall across the site's impervious area, which exceeds the new sewer flows. The outfall will tie into the previously engineered and approved 89 Elm drainage system which ultimately drains to the upstream end of the MS4 extension that's been designed as part of the MDP (89 Elm being Phase I).

Phase 3: 158 Lancaster Street: The project will not create more than 1,000 SF of new impervious area and therefore no treatment is proposed. The site will detain the new sewer flows because its volume exceeds an inch across the site's impervious area. The outlet is not high enough to outlet to the MS4 extension in Lancaster Street and therefore will outlet into the 18" combined sewer in Chestnut Street.

Electric/Communications:

- Phase 1: 197 Oxford Street: proposes a new riser pole along Chestnut Street to facilitate routing underground secondary and communications lines to the proposed building. Secondaries are proposed to be routed to a 7'x7' pad mount transformer within the property, to be located along Chestnut Street.
- Phase 2: 50 Cedar Street: proposes a pole mounted transformer along Lancaster Street to facilitate power to the building. Depending on the final service loads, CMP may require an alternative proposal, which will be addressed at that time.

Phase 3: 158 Lancaster Street: proposes new riser pole along Chestnut Street to facilitate routing underground secondary and communications lines to the proposed building. Secondaries are proposed to be routed to a 9'x9' pad mount transformer within the property, to be located along Chestnut Street.

Gas:

Phase 1: 197 Oxford Street: It is our understanding that a 2" gas main exists within Cedar and Chestnut. It is proposed to connect a new gas line to the 2" gas main from each street, which will service each portion of the co-managed building.

- Phase 2: 50 Cedar Street: proposed to tap a gas service off the Cedar Street gas main due to lack of gas main in Lancaster Street.

Phase 3: 158 Lancaster Street: proposed to tap a gas service off the Chestnut Street gas main.



Q. Construction Management Plan

Project Address:

Phase I – 197 Oxford Street, Portland Maine, 04101
 Phase 2 – 50 Cedar Street, Portland Maine, 04101
 Phase 3 – 158 Lancaster Street, Portland Maine, 04101

Project Description:

The project proposes to redevelop the current parcels into multifamily residential buildings.

Project Team Summary:

Owner:	Avesta Housing and Reveler Development
General Contractor:	TBD
Civil & Environmental Engineer:	Acorn Engineering, Inc.
Architect:	CWS Architecture + Interior Design (Phase 1) Ryan Senatore Architecture (Phase 2 and 3)

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize any project impacts.

The GC will remain responsible for enforcement of all compliance with 1) all contract plans and specifications in their scope of work and 2) all site working conditions and safety requirements, day and night, for both persons and property, in each case for the duration of their work. These include OSHA, NIOSH, U.S. EPA, local ordinance and any other applicable governmental regulations. Both the Owner/GC and any subcontractors will remain responsible for safeguarding the general public.

The GC shall review all permits and conditions associated with the project. Refer to the Civil/Site Plan Set, Sheet C-03 Construction Management Plan for visual representation of the general, high-level measures to be taken during the phased construction. The specific construction managers, in coordination with their subcontractors, who are hired later in the process will develop more detailed details and commitments to construction management including traffic control, site logistics, laydown areas, etc.

The following outline has been developed in accordance with the City of Portland Construction Management Plan General Template and shall be referenced by the GC during construction.

A. Construction Management Principles

The control of noise, vibrations, ground movement, truck traffic, and other construction related factors will be of utmost importance. Care shall be taken to minimize these effects in the best interest of neighbors and the general public. GC to ensure that work hours conform to the City of Portland's Ordinance.



B. Development Review of Construction Management Plan

Logistics and safety program shall be submitted at or prior to the preconstruction meeting by the GC with all pertinent information required by the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Guarantees and fees will be paid at the time of the respective application. Sections 14-11 will be complied with all necessary permits will be obtained prior to work.

1. Street Opening and Street Occupancy Permits:

Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code. In addition to the best practices set forth in the Inclusionary Zoning Guidelines for Developers of rental housing.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor and Subcontractor contact information shall be posted somewhere along the project's street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the preconstruction meeting. Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit and City Code Section 25-129, Noise, dust and debris. Between September 1 and May 31, the following year, no person shall engage in construction activities generating noise exceeding 50 decibels, between



the hours of 7 pm and 7 am of the following day within 500 feet of any buildings. From June 1 to August 31, construction activity may continue until 8 pm. No construction activity shall begin before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be requested for special circumstances and street utility work if needed. These requests will be subject to approval by the Public Works Authority. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

<u>Project Start Date:</u>	Spring 2026 (Phase 1)
<u>Project End Date:</u>	Fall 2029 (Phase 3)

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security

1. The Construction Management Plan, Sheet C-03, depicts all proposed fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.
2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations.*
3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
 - o Good Housekeeping
 - o On-site security
 - o Installation of new fire protection systems as construction progresses
 - o Preservation of existing systems during demolition
 - o Organization and training of an on-site fire brigade
 - o Development of a pre-fire plan with the local fire department
 - o Rapid communication
 - o Consideration of special hazards resulting from previous occupancies
 - o Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.
4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.
5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.



G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity including delivery vehicle to close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

2. Sewer and Stormwater

Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual.

3. Traffic Control Plans

Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. The contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

The MOT will address the work required for utility connections in Lancaster, Chestnut, Cedar, and Oxford Street. Traffic will be channelized utilizing drums and cones. Proper signage will be installed prior to the through work zone. Alternating traffic will be controlled with flaggers. Trenches will be patched with pavement daily.

The MOT plan shall provide for the safe passage of the public through or along the construction work zone. It may be permissible to close a portion of the street during utility connections and/or detour a mode of traffic when absolutely necessary for safety. All requests shall be subject to City approval. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

- Construction speed signing may be used as needed to slow traffic.
- Traffic Control signs shall not be placed where they would create any obstructions to bicycles or pedestrians.
- Flaggers will be utilized when necessary.

All existing modes of travel in the work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning and laying out



the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

- Traffic control bicycle and pedestrian facilities or routes through work zones shall be maintained until the bicycle and pedestrian facilities or routes are ready for safe operation. Traffic control will not be removed to allow auto travel at the expense of bicycle and pedestrians.
- Barrier systems utilized to separate the construction activity from the public street and /or sidewalk shall not inhibit sight distances, particularly for visibility of pedestrians and bicyclists.
- ADA compliance in all capacities shall be maintained.

Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately, and its removal shall comply with all local, state, and federal regulations.
2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the contractor.
3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.
4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.
5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.
6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:
 - a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
 - b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
 - c. Clear all walks and ramps within the work zone
 - d. Sand or salt as needed
 - e. Clear all basin or drainage to help snow melt
 - f. The above steps shall be carried out Sunday-Saturday including holidays.



I. Erosion & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, and the approved erosion and sedimentation control report, prior to the pre-construction meeting for inspection by the City. The Contractor shall regularly inspect the control measures, no less than weekly and after storm events (0.5" or more in 24 hours). Additionally, temporary or permanent stormwater management systems shall be inspected and maintained to ensure working order. The Contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.
2. Due to the existing, sparse landscaping on site, no protection during construction will be necessary.
3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.
2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.
3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided on site or arrangements for off-street parking at an off-site location shall be provided.
2. Truck Routes and Volumes: The following quantities are estimated as part of the redevelopment:



- Gravel & Stone – 2,500 CY. Earthwork subcontractor(s) pit to project site.
- Hot Mix Asphalt – 300 Tons. Paving subcontractor pit to project site.

L. Dewatering Plans

1. A basic dewatering plan for any construction work is required and shall be submitted by the Contractor. The plan must cover construction sites where groundwater is not expected but the impact of rainwater may require dewatering. The plan must include operating procedures, equipment to be used, including filters, erosion and sediment control measures, or other methods of removing sediment from approved discharges.
2. For construction work that will require frequent dewatering of groundwater from site, a dewatering plan must be prepared by the Contractor and approved by the Department of Public Works. Groundwater and/or soil testing may be required to determine course of action if treatment is necessary. Approval for all discharges to City infrastructure is required. The proposed plan must address the following:
 - Project duration, discharge location, storage equipment on-site, dewatering schematic, and emergency contact.
 - General requirements include trained staff on-site for all approved discharges and required site log for documentation of all discharges.
 - Storage and/or treatment process should include proper settling time and maintain proper use of filtering medium as required.
 - Contingency/maintenance plan for all dewatering equipment devices and filtration mediums.

Any water that is removed from an excavation must be pumped from a perforated device buried in crush stone prior discharge and/or prior to storage and treatment. There will be no discharge allowed during precipitation events.

M. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.



R. Solid Waste Disposal

The property management company and Owner will be responsible for locating the solid waste and recyclable material to the spaces allocated for solid waste storage. Ultimately, a private hauler will be contracted for removal of each phase. The solid waste containers will be fully enclosed and screened from the public view as shown in each Phase's site plan and/or ground floor plan.

Phase I:

Each portion of the building will have a dedicated trash room adjacent to the street to provide easy access to the waste hauler. The Housing First room will be accessed off Cedar Street through a sidewalk. The Affordable Housing room will be accessed off Chestnut Street through a paved access aisle in the basement. Mobile (rolling) totes will be utilized for all solid waste.

Phase 2:

The project will share the solid waste enclosure with the adjacent 89 Elm development. Access to the dumpsters is provided directly off Lancaster Street, or through the sidewalk at the back of the site that leads to an elevated trash chute.

Phase 3:

The project features an enclosed trash room adjacent to the Chestnut Street entrance/egress and sidewalk connection. Mobile (rolling) totes will be utilized for all solid waste to be transferred from the internal storage room to the private hauler truck.

Please refer to the project plans for more information.



S. Parking Analysis

Because the project is providing 48 affordable units, the parking requirements for the affordable portion of the project (Phase I) are to be determined by the Planning Board. Per Table 19-B in the Land Use Code, the Board “may establish a parking requirement within that is less than 1 space per workforce or low-income housing unit, regardless of the size of the structure”. We are requesting the Board use this exception to grant a ratio of 0.1 for the Phase I project.

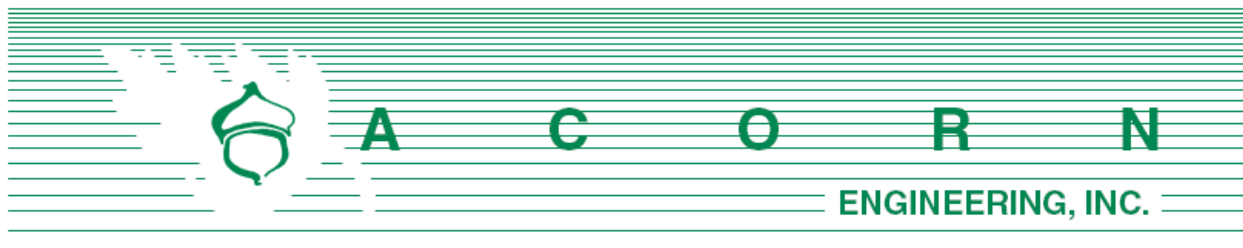
Given the development’s location in downtown Portland and its proximity to existing transit routes, particularly the METRO Pulse Station on Elm Street (4 minute walk), on-site parking for the proposed affordable housing is not included on this site. The five proposed parking stalls are intended for use by Housing First and building management staff. Providing more on-site parking for tenants would sacrifice residential unit count and amenity space, neither of which is desired by the Applicant or what the City has generally set forth as guiding principles and policy. We believe the proposal before the Board to be an appropriate use of the categorical exception for affordable housing given the prime location, the small size and income restrictions of the units, and the overall best practices in unbundling rent from parking. If tenants wish to pursue dedicated off-site parking, there is ample capacity within the Cumberland Avenue parking garage (3 minute walk) owned by Co-Applicant, Reveler Development.

Phase 2 & 3: 50 Cedar Street & 158 Lancaster Street:

Per the City of Portland Land Use Code, one parking space is required for every unit minus the first four units. These spaces are not intended to be provided on site as the Applicant does not intend to bundle parking with the rental units given the prime downtown location and opportunities to reduce reliance on automobiles. Instead, ample capacity exists at the Cumberland Avenue parking garage (5 minute walk) should tenants wish to secure off-site parking within 1,500 feet as allowed in the ordinance for off-site, off-street parking. Reveler Development owns this garage and included supply calculations as part of the previously approved Master Development Plan in 2023.

Currently, approximately 43 leased parking spaces on the 50 Cedar and 158 Lancaster Street lot. The proposed development intends to maintain as much of the existing parking area as possible to accommodate tenants with existing leases. As part of the proposed phased development, 21 of the existing parking spaces will be removed, leaving three spaces on 50 Cedar and nine spaces on 158 Lancaster. The termination of these leases/agreements will be coordinated by the managing entity, Reveler, and if necessary, relocated elsewhere under one of the many parcels under their site control in the immediate vicinity, including the Cumberland Avenue parking garage.





T. Traffic Analysis

The redevelopment project is proposed to be phased. Phase 1 is located along Oxford Street and between Cedar and Chestnut Street. The phase intends to redevelop the existing property located at 197 Oxford Street into 48 Affordable and “Housing First” Residential Units. Phase 2 is located at 50 Cedar Street to provide a total of 24 market rate residential units (24 bedrooms). Phase 3 intends to redevelop the existing property located at 158 Lancaster Street to provide a total of 51 market rate units. The streets encompassing the phases consist of all local streets being Lancaster, Cedar, Chestnut, and Oxford Streets. Cedar Street and Oxford Street feature one-way traffic patterns, while the remaining streets are two-way traffic. The existing curb cut along Oxford Street is proposed to be closed and replaced with a rebuilt sidewalk in Phase 1. Two of the three existing curb cuts under Phase 2 will be closed (one on Cedar Street and one on Lancaster Street). One curb cut that exists under Phase 3 will remain and be rebuilt to facilitate existing surface parking, a portion of which will remain. The other curb cut along the Phase 3 frontage (on Chestnut Street) will be closed.

Land Use Codes

Given the existing and proposed developments encompass different land uses, the traffic generated from the development has been broken up into various categories. To determine the increase in traffic resulting from the project, the Institute of Transportation Engineers Trip Generation Manual, 11th Edition was utilized.

The Trip Generation Manual does not contain a specific LUC for the Shelter use at 197 Oxford Street and therefore, the office LUC was used in its place for existing trips, based on the square footage recorded in the Portland Assessor Database. The existing structures located within the proposed project area were modeled using the General Office Building (LUC 710) and the Single-Family Detached use at 50 Cedar (previously existing within 10 years).

- LUC 710 - A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers, and tenant services, such as a bank or savings and loan institution, a restaurant, or cafeteria and service retail facilities. A general office building with a gross floor area of 5,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.
- LUC 223 – All multi-family housing that is rented at below market rate.

The land uses utilized in the calculation of the proposed phases consist of Affordable Housing (Income Limits LUC 223) and Mid-rise Multifamily Housing LUC 223. LUC 223 is a new land use that was introduced in ITE 11.

- LUC 221 - Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.
- LUC 223 – All multi-family housing that is rented at below market rate.

Trip Generation

The trip generation for the proposed project has been estimated using the Institute of Transportation Engineers (ITE) “Trip Generation” 11th Edition publication. Consistent with Maine DOT standards, the existing trip generation for the project was estimated by applying a trip credit accounting for the site conditions in a 10-year window (2014-2024). Utilizing the City’s tax maps, google earth history, and information from the owner, it was assumed for Phase 1 that the former sites consists of two buildings with 201 Oxford Street building consisting of a shelter for around 7,000 SF of floor area. 197 Oxford Street also consisted of a shelter with 2,000 SF of floor area. For phase 2, it is assumed that the former site consists of one single family house with approximately 4,500 sf. Lastly, phase 3, it is assumed that the former site consists of an existing parking lot with no buildings. See the Appendix further in this report for visual representation of the existing buildings. The number of trips were estimated based on the floor areas and residential units provided above.

Proposed development:

- Phase 1: 197 Oxford Street: 48 Affordable and “Housing First” Residential Units
- Phase 2: 50 Cedar Street: 24 Market Rate Residential Units
- Phase 3: 158 Lancaster Street: 51 Market Rate Residential Units

The proposed development use is in tandem with the trip generation rate to project based on the peak hour passenger car equivalent. LUC 223 does not include weekend trip generation data, thus the peak hour PM rate was assumed here. This approach is consistent with previous affordable housing projects.

Rates for the office weekend were estimated due to the 11th edition manual not containing Saturday or Sunday Peak Hour rates for all LUCs. This was modeled based on the existing buildings being utilized shelters that are used 7 days a week.



Land-Use #210: Single Family Detached Housing –

[Setting/Location: General Urban/Suburban]

Weekday AM Peak Hour (Street)	= 0.70 trips/unit
Weekday PM Peak Hour (Street)	= 0.94 trips/unit
Weekday AM Peak Hour (Generator)	= 0.75 trips/unit
Weekday PM Peak Hour (Generator)	= 0.99 trips/unit
Saturday Peak Hour (Generator)	= 0.92 trips/unit
Sunday Peak Hour (Generator)	= 0.83 trips/unit

Land-Use #221: Multifamily Housing – Midrise (Dwelling unit)

[Setting/Location: Dense Multi Use Urban]

Weekday AM Peak Hour (Street)	= 0.28 trips/unit
Weekday PM Peak Hour (Street)	= 0.26 trips/unit
Weekday AM Peak Hour (Generator)	= 0.23 trips/unit
Weekday PM Peak Hour (Generator)	= 0.24 trips/unit
Saturday Peak Hour (Generator)	= 0.25 trips/unit
Sunday Peak Hour (Generator)	= 0.25 trips/unit

Land-Use #223: Affordable Housing – Income Limits (per Bedroom)

[Setting/Location: Dense Multi Use Urban]

Weekday AM Peak Hour (Street)	= 0.25 trips/BR
Weekday PM Peak Hour (Street)	= 0.18 trips/BR
Weekday AM Peak Hour (Generator)	= 0.25 trips/BR
Weekday PM Peak Hour (Generator)	= 0.19 trips/BR
Saturday Peak Hour (Generator)*	= 0.25 trips/BR
Sunday Peak Hour (Generator)*	= 0.25 trips/BR

*Weekend rates not provided in manual thus are estimated

Land-Use #710: General Office Building (per 1000 Sq. Ft.)

[Setting/Location: Dense Multi Use Urban]

Weekday AM Peak Hour (Street)	= 0.84 trips/1000 SQ. FT.
Weekday PM Peak Hour (Street)	= 0.87 trips/1000 SQ. FT.
Weekday AM Peak Hour (Generator)	= 0.84 trips/1000 SQ. FT.



Weekday PM Peak Hour (Generator) = 0.87 trips/1000 SQ. FT.
 Saturday Peak Hour (Generator) = 0.50 trips/1000 SQ. FT.
 Sunday Peak Hour (Generator)* = 0.50 trips/1000 SQ. FT.

*Sunday rate not provided in manual thus is estimated

Table 1, below, provides a summary of the trip generation for the existing development of two office buildings.

Table 1 – Peak Hour Trip Generation - Existing				
LUC: #710 General Office Building/ LUC #221 Multi-family Housing Mid-Rise (per 1000 SF/Unit/Bedroom)	Phase 1 197 Oxford Street	Phase 2 50 Cedar Street (single family)	Phase 3 158 Lancaster Street	Peak Hour Trip Generation
AM Peak Hour (Street)	8 trips	1 trip	0 trips	9 trips
PM Peak Hour (Street)	8 trips	1 trip	0 trips	9 trips
AM Peak Hour (Generator)	8 trips	1 trip	0 trips	9 trips
PM Peak Hour (Generator)	8 trips	1 trip	0 trips	9 trips
Saturday Peak Hour (Generator)*	4 trips	1 trip	0 trips	5 trips
Sunday Peak Hour (Generator)*	4 trips	1 trip	0 trips	5 trips

*Weekend rates were not provided in manual thus are estimated for Phase I, given the facility is not a typical M-F office use.

Table 2, below, provides a summary of the trip generation for the proposed development in phases with a total of 75 market rate units and 48 affordable 1-BR units (48 Bedrooms).

Table 2 – Peak Hour Trip Generation – Proposed				
	Phase 1 Affordable Housing Units (48 Bedrooms) LUC 223	Phase 2 Market Rate Units (24 Bedrooms) LUC 221	Phase 3 Market Rate Units (51 Bedrooms) LUC 221	Total Peak Hour Trip Generation
AM Peak Hour (Street)	12 trips	7 trips	14 trips	33 trips
PM Peak Hour (Street)	9 trips	7 trips	13 trips	29 trips
AM Peak Hour (Generator)	12 trips	6 trips	12 trips	30 trips
PM Peak Hour (Generator)	10 trips	6 trips	12 trips	28 trips
Saturday Peak Hour (Generator)*	12 trips	6 trips	13 trips	31 trips
Sunday Peak Hour (Generator)*	12 trips	6 trips	13 trips	31 trips

*Weekend rates were not provided in manual thus are estimated

Table 3, below, provides a summary of the previous and new trip generation for the proposed development.



Table 3 – Peak Hour Trip Generation – Proposed			
	Existing Peak Hour Trip Generation	Proposed Peak Hour Trip Generation	Net Increase Peak Hour Trip Generation
AM Peak Hour (Street)	9 trips	33 trips	24 trips
PM Peak Hour (Street)	9 trips	29 trips	20 trips
AM Peak Hour (Generator)	9 trips	30 trips	21 trips
PM Peak Hour (Generator)	9 trips	28 trips	19 trips
Saturday Peak Hour (Generator)*	5 trips	31 trips	26 trips
Sunday Peak Hour (Generator)*	5 trips	31 trips	26 trips

*Weekend rates were not provided in manual, thus are estimated for office use and multifamily affordable.

Analysis

From this analysis, the total trips generated by the project when accounting for the former site credit is 26 trips in the peak hour. It should also be noted that this analysis does not factor in the reduced parking supply on site which will encourage residents to use multi-modal transportation and therefore likely reduce the vehicle trip generation to and from the site. Multimodal options include the various public bus options, bicycling, car-sharing/pooling, or utilizing the newly constructed sidewalks as a pedestrian to access goods and services that are in the vicinity of the site.

Crash Data

The street network in the project vicinity was analyzed for crashes. Lancaster, Cedar, Oxford, and Chestnut Streets have all been classified as local streets by Maine DOT. The following tables represent the crash data on these roads over the past three years.

Along Cedar Street	
Crash Date	Type of Crash
1/3/2021	Property Damage
1/6/2022	Pedestrians (Injury)
1/15/2022	Property Damage
4/3/2022	Property Damage
8/17/2022	Property Damage
9/25/2022	Property Damage
2/7/2023	Property Damage
11/28/2023	Property Damage
1/9/2024	Property Damage
1/19/2024	Property Damage

Crash data was obtained from MaineDOT for the most recent available three-year period (2021-2023). There have been 10 crashes near the three project phases. Only one crash along Oxford Street did result in injuries.

Based on the relative minor nature of reported crashes and existing intersection conditions, the net trip generation provided, and proposed traffic calming improvements, it is not anticipated for this project to have a negative impact on the surrounding street network.

Conclusion

Overall, the project does not anticipate negatively influencing the surrounding street system. Given the site's ideal location with direct access to goods and services, the encouragement of multimodal transportation such as bicycles and buses, and the overall existing context of Portland's downtown street grid, this infill project is expected to be seamlessly incorporated into the neighborhood.

Existing Building Overview Appendix:

Existing Buildings			
Building Number	Number of Stories	Type of Building	Size of Building (SF)
201 Oxford Street	3 rd Floor, 2 nd Floor, 1 st Floor, Basement	Office Building – Low Rise Residential – Mid Rise	7,000 SF
197 Oxford Street	1 st Floor	Office Building – Low Rise	2,000 SF
50 Cedar Street	3 rd Floor, 2 nd Floor, 1 st Floor, Basement	Residential – Mid Rise	4,500 SF





201 Oxford Street

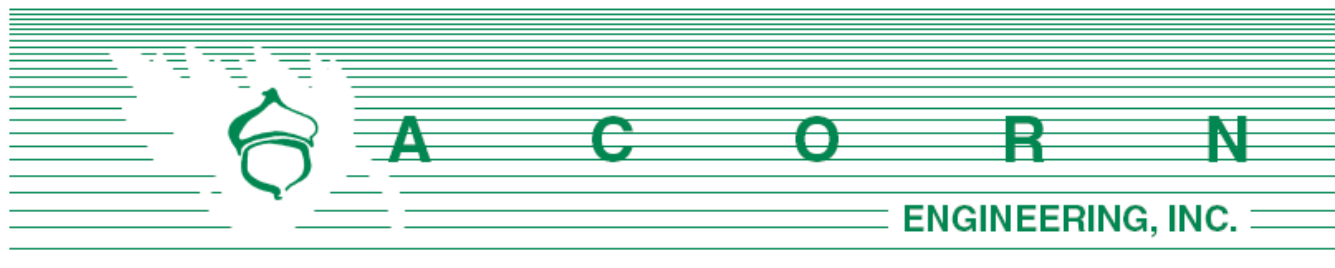


197 Oxford Street



50 Cedar Street





Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

April 11th, 2024

Subject: Phased Oxford Street Redevelopment Neighborhood Meeting

I, Sam Lebel, hereby certify that a neighborhood meeting was held on March 6th, 2024, at 409 Cumberland Ave, Portland, ME 04101, at 5:30 pm.

I also certify that on February 23rd, 2024, invitations were mailed to the following:

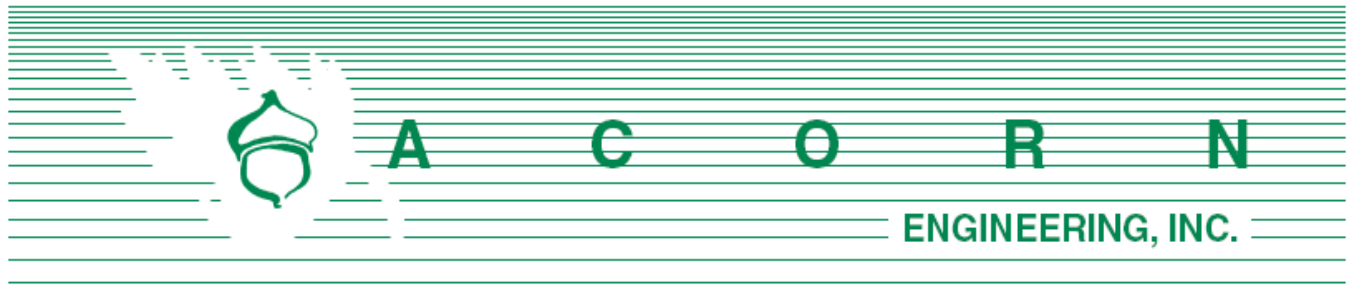
1. All addresses on the mailing list provided by the Planning Division, which includes property owners within 500 feet of the proposed development.
2. Residents on the “interested parties” list.

Sincerely,

Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents are included with this certification letter:

1. Copy of the invitation letter sent out prior to the neighborhood meeting.
2. Documentation of Public Notice signage posted for the neighborhood meeting and Intent to file Site Plan Review.
3. Meeting sign-in sheet.
4. Copy of the mailing list.



Dear Neighbor:

February 23, 2024

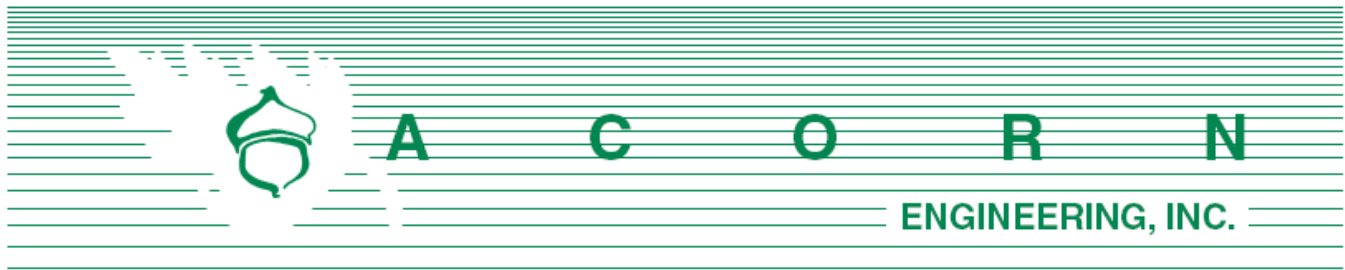
On behalf of Avesta Housing and Reveler, we are pleased to invite you to a neighborhood meeting to discuss the proposed Major Site Plan Application anticipated to be submitted on April 8th, 2024. The proposal features a joint application between Avesta and Reveler and will seek to redevelop several parcels at 197 Oxford, 50 Cedar, and 158 Lancaster Streets into residential buildings. This meeting will be focused on the plans for 197 Oxford Street which proposes a 5-story building with 52 affordable units co-managed by Avesta and Preble Street.

This meeting is required because the project intends to utilize the affordable housing density bonus in Section 18.2.4 of the City Code. At a minimum, a second neighborhood meeting will be held later this year prior to any Planning Board meetings, which you will also receive an invitation to. Please refer to the meeting information below:

Meeting Location: 1st Floor Community Room, 409 Cumberland Ave, Portland, ME 04101
Meeting Date/Time: Wednesday, March 6, 2024, at 5:30pm

Sincerely,

Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.



Planning Division
City of Portland, Maine
Attn: Zach Powell
315 Cumberland Avenue
Portland, ME 04101

April 11th, 2024

Subject: Phased Oxford Street Redevelopment – Notice of Public Meeting & Intent to File Site Plan Application Certification

I, Danielle McGowan, hereby certify that signage was posted for the notice of neighborhood meeting and the intent to file for the Joint Major Site Plan Application. Signs were posted on February 23rd, 2024, prior to filing for the Major Site Plan Application for the proposed project. Photo documentation of sign in-situ:



Public Notice signage posted for Intent to file Site Plan Review

Please note, it is the applicant's responsibility and intention to remove the notice of public meeting sign within three days following the date of the meeting.

Sincerely,

Danielle McGowan, E.I.
Project Engineer
Acorn Engineering, Inc.

Sign-in Sheet

Participants:

Name	Email
Brittney Dunham	bdunham@preblestreet.org
Andrew Bove	above@preblestreet.org
Sarah Michniewicz	SarahMichniewicz@mac.com
John Dolewa	John.Dolewa@gmail.com
Lenora Dolewa	j.dolewa@maine.rr.com
Jed Nitzky	jednitzky@gmail.com
George Rhenault	on file
Christine Arsenault	carsenault3@gmail.com
Heather Latham	
Ryan Fecteau	rfecteau@avestahousing.org
Deborah Fell	dfell@yahoo.com
Andrew Rosenstein	Andrew718@mac.com
C.neal.milneil@gmail.com	Christian Milneil

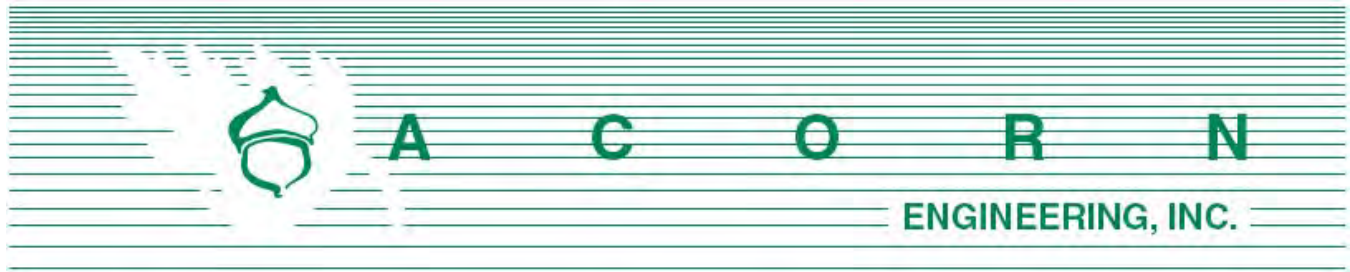
Sign-in Sheet

Participants:

Name	Email
Susan McCloskey	smccloskey@maine-n.com
Jim Hall	Jim@Modern01.com
John Laliberte	jlaliberte@reveler.com

COMPANY	FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP
114 PREBLE BLOCK LLC			26 SHAW AVE	ROCKLAND	ME	04841
125 KENNEBEC STREET CONDO			125 KENNEBEC ST	PORTLAND	ME	04101
141 PLEASANT STREET LLC			307 MAIN ST	HANOVER	MA	02339
149 LANCASTER STREET LLC			82 HANOVER ST	PORTLAND	ME	04101
150 PEARL STREET LLC			225 CUMBERLAND AVE	PORTLAND	ME	04101
197 OXFORD STREET LLC			82 HANOVER ST	PORTLAND	ME	04101
198 OXFORD STREET PORTLAND LLC			62 PORTLAND RD STE 25A	KENNEBUNK	ME	04043
200 OXFORD STREET PORTLAND LLC			62 PORTLAND RD STE 25A	KENNEBUNK	ME	04043
21 CEDAR STREET PORTLAND LLC			62 PORTLAND RD STE 25A	KENNEBUNK	ME	04043
25 CEDAR STREET PORTLAND LLC			62 PORTLAND RD STE 25A	KENNEBUNK	ME	04043
38-40 ALDER LLC			2120 COLORADO AVE STE 160	SANTA MONICA	CA	90404
41 CHESTNUT LLC			PO BOX 805	BRUNSWICK	ME	04011
54 CHESTNUT STREET LLC			450 BAXTER BLVD	PORTLAND	ME	04103
55 CHESTNUT STREET LLC			450 BAXTER BLVD	PORTLAND	ME	04103
56-58 CHESTNUT STREET LLC			450 BAXTER BLVD	PORTLAND	ME	04103
57 CHESTNUT STREET LLC			450 BAXTER BLVD	PORTLAND	ME	04103
60 ELM STREET LLC			82 HANOVER ST	PORTLAND	ME	04101
73 ELM STREET LLC			82 HANOVER ST	PORTLAND	ME	04101
75 CHESTNUT STREET OWNER LLC			35 VILLAGE RD STE 702	MIDDLETON	MA	01949
89 ELM STREET LLC			82 HANOVER ST	PORTLAND	ME	04101
AMWELL GROUP LLC	PETER	AMES	69 ROCK RIDGE RUN	CUMBERLAND	ME	04021
			5 ROLLINS FARM RD	STRATHAM	NH	03885
	EVAN	ANDERSON	21 CHESTNUT ST # 2W	PORTLAND	ME	04101
ASHBY TEAM LLC	DAVID	ANGEL	85 GOUNOD RD	WESTERLY	RI	02891
			415 CONGRESS ST STE 204	PORTLAND	ME	04101
			307 CUMBERLAND AVE	PORTLAND	ME	04101
AVESTA HOUSING DEVELOPMENT CORPORATION			307 CUMBERLAND AVE	PORTLAND	ME	04101
AVESTA PEARL STREET ONE LP			307 CUMBERLAND AVE	PORTLAND	ME	04101
AVESTA UNITY VILLAGE LP			307 CUMBERLAND AVE	PORTLAND	ME	04101
BAYSIDE CONDO	PIERRE	AVIGNON	723 ISLAND AVE	LONG ISLAND	ME	04050
	ABDUL	AZIMI	98 SAWYER ST	SOUTH PORTLAND	ME	04106
	JANET	BAER	411 WALNUT ST # 15658	GREEN COVE SPRINGS	FL	32043
	DONALD	BAILEY	21 CHESTNUT ST # 406	PORTLAND	ME	04101
	NICHOLAS	BARNES	31 BOGASTOW BROOK RD	SHERBORN	MA	01770
	PRUDENCE	BARRY	21 CHESTNUT ST # 6W	PORTLAND	ME	04101
			164 PEARL ST	PORTLAND	ME	04101
	MARY	BENNISON	33 CEDAR ST	PORTLAND	ME	04101
	THOMAS	BLACK	8910 HIGHWAY 17 SOUTH	LOUISVILLE	GA	30434
	THOMAS	BLACK	973 FOREST AVE # 2	PORTLAND	ME	04103
BOYS & GIRLS CLUBS OF SOUTHERN MAINE	TANIA	BOWEN	164 PEARL ST # B	PORTLAND	ME	04101
			PO BOX 7830	PORTLAND	ME	04112
	ALBERT	BRESETTE	3 MECHANIC ST	WINDHAM	ME	04062
	REBECCA	BROOKS	80 ACADEMY DR	WOLFEBORO	NH	03894
	PETER	BUSQUE	21 CHESTNUT ST # 08W	PORTLAND	ME	04101
C58ALDER LLC			3375 EAST MAULE AVE	LAS VEGAS	NV	89120
	CLAUDIA	CASAVECCHIA	1011 CLINTON ST # 4	PHILADELPHIA	PA	19107
			PO BOX 24	FRIENDSHIP	ME	04547
CASTANEA PRIME LLC			120 EXCHANGE ST	PORTLAND	ME	04101
CHESTNUT STREET GARAGE LLC			21 CHESTNUT ST	PORTLAND	ME	04101
CHESTNUT STREET LOFTS			58 HANNAFORD COVE RD	CAPE ELIZABETH	ME	04107
CHESTNUT STREET LOFTS LLC			134 LANCASTER ST	PORTLAND	ME	04101
CHESTNUT STREET PARKING CONDO			239 CUMBERLAND AVE	PORTLAND	ME	04101
DAYMARK CONDO	LOUIS	CHRISTEN	75 CHESTNUT ST # 701	PORTLAND	ME	04101
	JENEPHER	CLIFFE	125 MORNING ST E 2	PORTLAND	ME	04101
	KELLEY	COLLACCHI	21 CHESTNUT ST # 8N	PORTLAND	ME	04101
	STEPHANIE	COTSIRILOS	21 CHESTNUT ST # 5W	PORTLAND	ME	04101
	TERESA	CURTIN	75 CHESTNUT ST	PORTLAND	ME	04101
			172 BOYCE ST	AUBURN	MA	01501
	EMILY	DEGRAY	4 CEDARWOOD DR	FALMOUTH	ME	04105
	KATHLEEN	DENOIA	72 CHESTNUT ST	PORTLAND	ME	04101
	FRANK	DIDONATO	75 CHESTNUT ST # 402	PORTLAND	ME	04101
	CRAIG	DIGIOVANNI	295 SUMMER ST	MANCHESTER	MA	01944
DOWTOWN LODGING LLC	DENNIS	DIXON	740 ORANGE BELT LOOP	WINTER GARDEN	FL	34787
	MARK	DOLAN	75 CHESTNUT ST # 410	PORTLAND	ME	04101
	JOHN	DOLEWA	PO BOX 10250	PORTLAND	ME	04104
			PO BOX 10291	PORTLAND	ME	04101
	AVNER	EISENBERG	29 CITY POINT RD	PEAKS ISLAND	ME	04108
FEDEQ DV005 LLC			PO BOX 191887	MIAMI	FL	33119
FEDERAL STREET PHOENIX LLC			PO BOX 15372	PORTLAND	ME	04112
HAIR ETC LLC	DANIEL	FITZPATRICK	PO BOX 143	WESTBROOK	ME	04098
	ROSEMARY	FLACH	21 CHESTNUT ST # 503	PORTLAND	ME	04101
	LORINDA	FRAZER	123 HOPE RD	LINCOLNVILLE	ME	04849
	GIOVANNI	FRISONE	22 LANCESTER RD	CROMWELL	CT	06416
	JULIA	GAULKE	60 BOLTON ST	PORTLAND	ME	04102
	MICHAEL	GUIGLI	21 CHESTNUT ST # 701	PORTLAND	ME	04101
			705 WEBBS MILLS RD	RAYMOND	ME	04071
HAL LLC			65 HANOVER ST	PORTLAND	ME	04101
HELM PROPERTY GROUP LLC	JAMES	HALL	47 CEDAR ST	PORTLAND	ME	04101
	LARRY	HAMM	1800 JONATHAN WAY # 115	RESTON	VA	20190
	ALICIA	HARDING	21 CHESTNUT ST	PORTLAND	ME	04101
			4420 GIBBONS ST # D	VANCOUVER	WA	98661
	MARCO	HERNANDEZ	43 ALDER ST	PORTLAND	ME	04101
HOLLYDAY MULTI LLC ETAL JTS	MARY	HERSTAM	75 CHESTNUT ST # 201	PORTLAND	ME	04101
	ADAM	HILL	PO BOX 4242	PORTLAND	ME	04101
	JANNA	HOBBS	33 BACK SHORE RD	CHEBEAGUE ISLAND	ME	04017
			PO BOX 1610	COCKEYSVILLE	MD	21030
			PO BOX 938	PORTLAND	ME	04104
J2 MAINE LLC	CURTIS	HUSSEY	156 OXFORD ST	PORTLAND	ME	04101
	ROBERT	HYDE	39 CEDAR ST	PORTLAND	ME	04101
			55 CARROLL AVE	NEWPORT	RI	02840
KINGSLEY ENTERPRISES	CARA	JORDAN	9 MITCHELLWOOD DR	FALMOUTH	ME	04105
	LAUREN	JOY	250 BEACON ST # 12	BOSTON	MA	02116
	CHARLES	KAUFMANN	21 CHESTNUT ST # 45	PORTLAND	ME	04101
	MARILYN	KELLY	21 CHESTNUT ST # 702	PORTLAND	ME	04101
	JOAN	KHEDER	75 CHESTNUT ST # 403	PORTLAND	ME	04101
			225 CUMBERLAND AVE	PORTLAND	ME	04101
	AMELIA	LABRECK	87 MUNJOY ST	PORTLAND	ME	04101
	ANN	LEES	31 WHITE RD	GEORGETOWN	ME	04548
	ALAN	LERMAN	3 VAN CARLL CIR	SCARBOROUGH	ME	04074
	CONOR	MAHON	21 CHESTNUT ST # 55E	PORTLAND	ME	04101
MOJO PROPERTIES LLC	NATHANIEL	MALONE	75 CHESTNUT ST # 202	PORTLAND	ME	04101
	SCOTT	MCMULLIN	75 CHESTNUT ST # 206	PORTLAND	ME	04101
	THOMAS	MICHAUD	50 MYRTLE ST	PORTLAND	ME	04101
	MARGARET	MINISTER	75 CHESTNUT ST # 708	PORTLAND	ME	04101
			536 WASHINGTON AVE	PORTLAND	ME	04103
	VICTOR	MORREL	21 CHESTNUT ST # 202	PORTLAND	ME	04101
	JEAN	MURPHY	PO BOX 10045	PORTLAND	ME	04104
	CHRISTINE	NICKERSON	60 HARVARD AVE # 2	BROOKLINE	MA	02446
	DAVID	NOWLIN	360 PLEASANT HILL RD	SCARBOROUGH	ME	04074

OUELLETTE INVESTMENTS LLC PD2 LLC PEARL MANOR LLC	DANTON	NYGAARD	21 CHESTNUT ST # 401 195 LANE AVE	PORTLAND	ME	04101
			6 PHANTOM FARM RD	PORTLAND	ME	04103
			225 CUMBERLAND AVE	CAPE ELIZABETH	ME	04107
PERRY E IRON & METAL CO	MEREDITH	PERKINS	213 SILVER MOSS DR	PORTLAND	ME	04101
			115 LANCASTER ST	VERO BEACH	FL	32963
			75 CHESTNUT ST # 204	PORTLAND	ME	04101
PORTLAND ARCITECTURAL SALVAGE INC PORTLAND BOYS CLUB ASSOC PREBLE STREET RESOURCE CENTER INC PYC LLC	HIKA	PETROVIC	75 CHESTNUT ST # 310	PORTLAND	ME	04101
	HOLLY	PICOTTE	53 OLD NECK RD	PORTLAND	ME	04101
	SARAH	PLUCK	125 KENNEBEC ST	SCARBOROUGH	ME	04074
SALVATION ARMY THE SALVATION ARMY THE			277 CUMBERLAND AVE	PORTLAND	ME	04101
			331 CUMBERLAND AVE	PORTLAND	ME	04101
			PO BOX 17916	PORTLAND	ME	04112
SCHLOTTERBECK BLOCK LLC	JORDAN	RICHARDSON	19 PORT VIEW LN	KENNEBUNK	ME	04043
	SETH	ROBERTSON	75 CHESTNUT ST # 505	PORTLAND	ME	04101
	LAURA	ROWLEY	20 WINN WAY	SCARBOROUGH	ME	04074
STATE OF MAINE			88 PREBLE ST	PORTLAND	ME	04101
			440 WEST NYACK RD	NYACK	NY	10960
	WILLIAM	SAVAGE	18 THOMPSON INN RD	SOUTH BRISTOL	ME	04568
WARDS CAPITAL LLC WBP COMMERCIAL LLC WBP COMMERCIAL LLC WBP GARAGE LLC	JESSE	SAWYER	21 CHESTNUT ST # 302	PORTLAND	ME	04101
			82 HANOVER ST STE 5	PORTLAND	ME	04101
	JAMES	SCHWELLENBACH	21 CHESTNUT ST # 602	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH	AURELIA	SCOTT	21 CHESTNUT ST # 6N	PORTLAND	ME	04101
	STEPHEN	SEARS	95 AMBROSE COVE	BELGRADE	ME	04917
	THOMAS	SEPULVERES	43 MYRTLE ST	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH	THOMAS	SEPULVERES	51 MYRTLE ST	PORTLAND	ME	04101
	DOUGLAS	SMITH	21 CHESTNUT ST # 2N	PORTLAND	ME	04101
	JAMES	SMITH	75 CHESTNUT ST # 507	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH			16 STATE HOUSE STATION	AUGUSTA	ME	04330
	PAUL	SUITTER	75 CHESTNUT ST # 306	PORTLAND	ME	04101
	PATRICIA	TAYLOR	6 E GLENDALE AVE	ALEXANDRIA	VA	22301
YOUTH AND FAMILY OUTREACH	PATRICK	THERRIAULT	75 CHESTNUT ST # 303	PORTLAND	ME	04101
	GARRETT	TILTON	21 CHESTNUT ST # 3N	PORTLAND	ME	04101
	JEFFREY	TITCOMB	PO BOX 835	FRYEBURG	ME	04037
YOUTH AND FAMILY OUTREACH	TAMSEN	TOWLE	75 CHESTNUT ST # 305	PORTLAND	ME	04101
	ANNIES	TRASK	50 ALDER ST	PORTLAND	ME	04101
	JOHN	VANHOEWYK	21 CHESTNUT ST # 301	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH	JULIA	WAECHTER	75 CHESTNUT ST # 301	PORTLAND	ME	04101
			973 FOREST AVE STE 2	PORTLAND	ME	04103
			100 MIDDLE ST	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH			82 HANOVER ST	PORTLAND	ME	04101
	THOMAS	WELSH	82 HANOVER ST STE 5	PORTLAND	ME	04101
	JAN	WILLIAMS	75 CHESTNUT ST # 502	PORTLAND	ME	04101
YOUTH AND FAMILY OUTREACH	SARA	YINDRA	21 CHESTNUT ST # 8S	PORTLAND	ME	04101
			21 CHESTNUT ST # 5N	PORTLAND	ME	04101
			331 CUMBERLAND AVE	PORTLAND	ME	04101



Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

May 17th, 2024

Subject: 197 Oxford Street Neighborhood Meeting

I, Sam Lebel, hereby certify that a neighborhood meeting was held on May 16th, 2024, at 409 Cumberland Avenue, Portland, ME 04101, at 5:30 pm.

I also certify that on May 3rd, 2024, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division, which includes property owners within 500 feet of the proposed development.
2. Residents on the “interested parties” list.

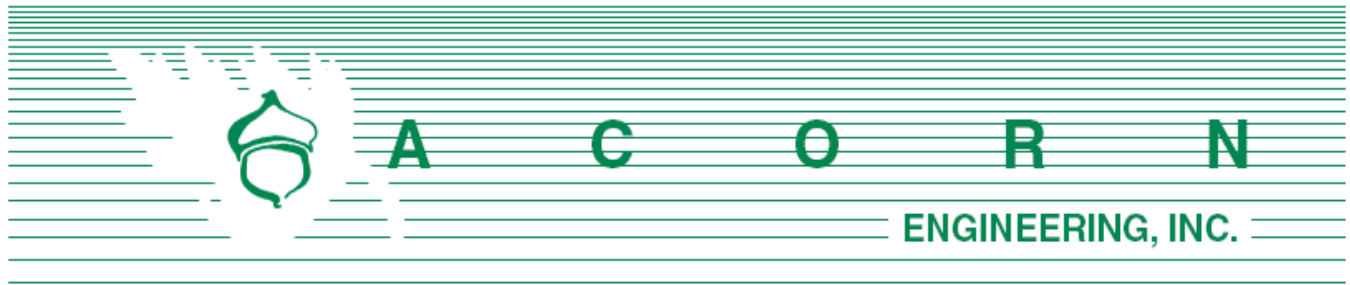
Sincerely,

A handwritten signature in black ink that reads 'Sam Lebel'.

Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

Included with this certification are:

1. Copy of the invitation letter sent prior to the neighborhood meeting
2. Meeting Sign-in sheet
3. Meeting minutes
4. Neighborhood Meeting #2 Presentation



Dear Neighbor:

May 6, 2024

On behalf of Avesta Housing and Reveler Development, we are pleased to invite you to a neighborhood meeting to discuss the proposed Major Site Plan Application that was recently submitted to the Planning Board. The project is split into three phases with a total of 123 new apartments. The first phase proposes 28 Housing First and 20 affordable units at 197 Oxford Street, managed by Avesta and Preble Street. The second and third phases propose 24 and 51 market rate units at 50 Cedar and 158 Lancaster Street, respectively, both managed by Reveler.

Meeting Location: 1st Floor Community Room, 409 Cumberland Ave, Portland, ME 04101
Meeting Date/Time: Thursday, May 16, 2024, at 5:30pm

A sign-in sheet will be circulated, and a record of the meeting will be taken. Both the sign-in sheet and record will be submitted to the Planning Board. If you have any questions, please call (207) 775-2655.

Sincerely,

Sam Lebel, P.E.
Acorn Engineering, Inc.

Note: Under the City of Portland land use code, an applicant for a major site plan, master development plan, subdivision of over five lots, or zoning map amendment is required to hold a neighborhood meeting within 30 days of an application being deemed complete and no less than seven calendar days before a public hearing. Should you wish to offer additional comments on this proposed development, you may forward them by e-mail to planning@portlandmaine.gov or by mail to the Planning and Urban Development Department, Planning Division, 4th Floor, 389 Congress Street Portland, ME 04101.

Sign-in Sheet

Presenters:

Name	Email
Applicant Team	
Michael Barton	mbarton@reveler.com
Ryan Fecteau	RFecteau@avestahousing.org
Sam Lebel	slebel@acorn-engineering.com
Brad Kaden	bkaden@acorn-engineering.com
George Lavigne	glavigne@cwsarch.com
Bhen Reed	Breed@cwsarch.com
Jessica James	Jessica@longfellocomms.com
Reid Tozier	reid@senatorearchitecture.com
Andrew Bove	above@preblestreet.org

Sign-in Sheet

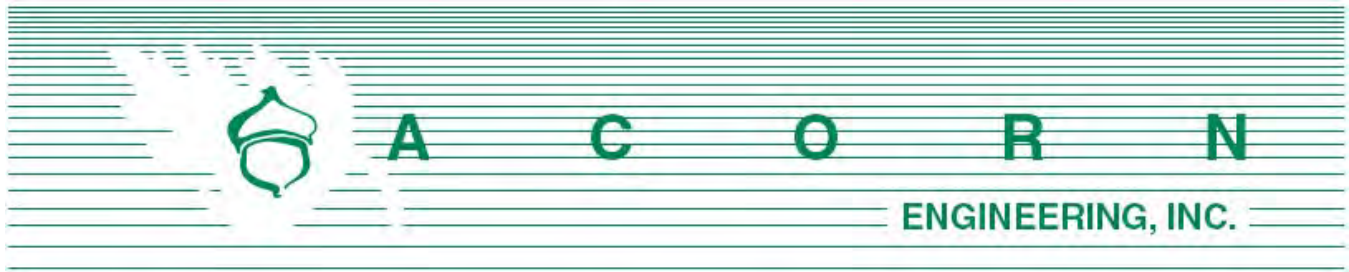
Presenters:

Name	Email
Deborah Van Hoewyk	dvhoewyk@umich.edu
WELSH	tbwels@ige.org
ANNE PRINGLE	ANNE.PRINGLE.ME@GMAIL.COM
George Rheault	george.rheault@gmail.com
THOMAS BLACKBURN	Tblackburn1948@GMAIL.COM
Joan McCloskey	smccloskey@maine.m.com
Christine Arsenault	carsenault3@gmail.com
Alicia Harding	aliciadharding@gmail.com please note the "d"
Avery Yale Kamila	avery.kamila@gmail.com
John Dolewa	John.Dolewa@gmail.com
Lenora Dolewa	JDolewa@maine.rr.com
Andrew Bove (Pebble Street)	above@pebblestreet.org
Jim Hall	MTJIMHALL@GMAIL.COM
Sarah Michniewicz	SARAHMICHNIEWICZ@MAC.COM
Ned Payne	NedPayne@gmail.com

Sign-in Sheet

Participants:

Name	Email
Laura Underkuffler	lu27@cornell.edu
Deborah Full	dell@yaho.com



197 Oxford Street Neighborhood Meeting

Neighborhood Meeting Minutes

May 16, 2024 / 5:30 pm
409 Cumberland Avenue, Portland Maine

Project Team Attendees:

Michael Barton (MB): Applicant/Presenter (Reveler)

Ryan Fecteau (RF): Applicant/Presenter (Avesta)

Andrew Bove (AB): Vice President of Social Work (Preble Street)

George Lavigne (GL): Architect (CWS)

Bhen Reed (BR): Architect/Presenter (CWS)

Jessica James (JJ): Client Team (Longfellow Communications)

Reid Tozier (RT): Architect/Presenter (Ryan Senatore Architecture)

Sam Lebel (SL): Civil Engineer /Presenter (Acorn Engineering)

Brad Kaden (BK): Civil Engineer/Note Taker (Acorn Engineering)

The meeting started at approximately 5:35 pm.

Presentation:

MB & RF:

- Team Introduction
- Overview of Meeting
- Project Introduction

SL:

- Project Timeline
- Existing and Proposed Conditions – Overall
- Proposed Site Plan Overview – Phase I

BR:

- Reviewed the floor layouts and renderings of the building
- Provided voluntary shadow analysis per request at 1st neighborhood meeting

SL:

- Proposed Site Plan Overview – Phase 2

RT:

- Reviewed the floor layouts and renderings of the Phase 2 Building

SL:

- Proposed Site Plan Overview – Phase 3

RT:

- Reviewed the floor layouts and renderings of the Phase 3 Building

Comments, Questions & Answers:

Please note that the following questions and answers were not recorded verbatim and aim to represent and summarize the actual questions, answers, and discussion that took place at the meeting that were pertinent to the project application.

Neighbor: What is the city involvement with this project regarding funding? Are there limitations on the amount of low income units?

RF: We will likely seek additional funding support from the City in order to cover gaps in our financing.

MB: Phase 2 and 3 will be privately funded.

Question (Q): What is the timing of this project and the timing of the MDP?

RF: Avesta will submit an application to Maine housing in September. If we receive funding through Maine Housing then Phase 1 can begin construction mid 2025. If we don't receive funding this year, then everything would push a year.

MB: Phase 2 and 3 will be trailing phase 1 and would most likely commence in the spring of 2026. The 89 Elm project (MDP Phase 1.A) is to begin construction in early 2025.

Q: Where will people park?

MB: There is the Public Market parking garage located nearby which we own. Tenants can utilize this if they wish, along with on street parking around the sites.

RF: Vehicle usage among Housing First units is about 1%. Roughly 14% of people own vehicles in the studios and 1 bedroom apartments for Avesta's conventional affordable housing units on the peninsula.

Q: Does the presented timeline reflect the requested expedited approval mentioned in the application?

SL: Yes, our timeline presented earlier is consistent with the request for an expedited review for affordable housing projects as allowed in the Ordinance. The



review is not meant to be sacrificed in quality, but to prioritize affordable projects.

Q: How are the unit numbers calculated for market rate and affordable?

SL: The LD 2003 amendment allows up to a density bonus of 2.5 if over 50% of the units are affordable. Phase 1 as a standalone project meets that criteria. Then in the aggregate, the affordability is over 30% for the entire project which equates to a 1.3X density bonus for the project as a whole.

Q: Bedrooms are only 1 bedroom or studios. Is there a possibility to do 2 or 3 bedrooms for families?

RF: Avesta has done projects that have 2 and 3-bedrooms, but with this site we have too many constraints regarding the size of the building. We tried to maximize the number of units based on our bonuses.

MB: Market rate units need to be aligned with the affordable units in order to comply with the IZ regulations.

Q: How will this affect the children that are going to the elementary school near by? How does children come into the planning process when discussing these projects?

RF: Tenants will have a lease agreement. Avesta has 3 Housing First sites that have proven to be successful.

Q: How are the services for housing first different than Preble Street's emergency shelters?

AB: There is a good staff to client ratio so staff is able to support the people in an individual experience more often. It is a relatively slow pace environment in Preble Street's existing housing-first programs. Many of the challenges that exist in a congregate setting like an emergency shelter are not present in housing-first given that individuals have their own apartments.

Comment (C): There are hundreds of emergency calls a year into similar housing types such as the Florence House. There should be a balance for the need for housing first and what the neighborhood needs. Not all the calls are for the same exact type of housing as Housing First, but it shows the high level of need.

Q: Are there structured social services for housing first facilities?

AB: This facility will have full time social work staff 24/7. Mental health clinicians and medical providers are not located onsite or employed by Preble Street but are regularly connecting with clients in other housing-first programs and will be an important part of this project.

C: It's going to be challenging for Housing First to deal with the outside forces in the public areas.

C: Homelessness is at an all time high. Many are located along Preble street. It needs to be your job to manage what happens outside the building.



Q: Several retaining walls exist along the property line in phase 3. How will they be incorporated into the site?

MB/SL: We are proposing a few different approaches depending on the wall/property line in question including reconstruction and grading/landscaping. Some of the conclusions are still in early stages depending on a geotechnical evaluation.

C: We recommend that the choke cherry tree behind the retaining wall remain.

SL: That tree will be close to retaining wall reconstruction so may be difficult to preserve, but would be happy to walk the property edge to discuss the various edge conditions.

Q: What are your thoughts on the small 4'x4' "gore" portion of the lot that no owner has title over? We would prefer to not have that space left impervious.

- **SL:** We can look into that condition more closely for permission to integrate it into the landscaping.

Q: Congresswoman Pingree was presented the Housing First concept in March 2023. Does she know the project is at this site? Doesn't she have an obligation to weigh in to putting this new building at the former shelter site?

RF: The project meets the goals of the Housing First funding initiative. The project is not a done deal and has to go through the planning board process.

Q: For a tenant, what are the screen processes for the housing first people? What would not be allowed for housing first?

RF: We have previously shared the draft lease agreement and can provide more details about the process to you after tonight. Overall, we do perform a background check for each person.

AB: Being on the sex offender registry would disqualify someone from renting a unit.

Q: What is the status of the existing bathrooms? Will be they be relocated or replaced?

MB: We can get back in touch with you regarding their relocation.

Q: Will our comments make any difference in the project?

RF/MB: We do take the feedback seriously and consider your comments. We also look to balance these comments with feedback from Staff and the Planning Board.

Q: Has there been consideration for water flooding around the site for phase 3 where the site is low-lying?

SL: We are planning to elevate the building on site over a foot from the sidewalk elevation to provide resiliency against flooding, in alignment with the ReCode language.

Q: Can you provide more renderings for phase 3 as it progresses?

MB: We are still in the early stages, but can create updated renderings for the site and share them as they become available.

Q: Are the proposed green spaces going to actually be grass and tree areas?

MB: We do have a high ratio of impervious to landscape area in Phase 2, but overall are considering as much green space area as we can especially in Phase 3.

Q: Are you open to changing the colors of the building?

MB: Yes, we would be willing to explore options with you and find a happy medium.

Q: Is there a reason you are not connecting into the sewer along Lancaster instead of Cedar Street?

SL: We initially intended to discharge the sewer lateral into the Lancaster sewer main, but in reviewing DPW's comments from the MDP process, we were reminded that they prefer to limit the amount of taps into the Lancaster main due to its age, material, and condition.

Q: Can we revisit the sidewalk and street trees along Cedar?

MB/SL: Overview of 3 street trees on private property along the Phase 2 Cedar frontage to provide adequate sidewalk width and shade tree canopy. On the Phase 3 side, minimal street frontage, but proposing to maintain the two existing street trees and replace some of the sloped pavement that exists today with more green space.

Q: What is the plan for the retaining wall behind the Phase 1 site?

BR: The intention is to layer a freestanding block wall along the property line with vegetative screening to provide buffering and noise reduction from the patio space behind the building.

Q: What is the timeline of the woonerf plans in the MDP?

MB: This would occur under Phase 1.B. of the MDP. Once Phase 1.A moves forward, we would advance Phase 1.B and the woonerf design.

Q: Will the transportation aspect of the MDP be included with this project? We don't agree with the statement that the project will have a minimal effect on the neighborhood and street network.



MB: We plan to discuss the transportation aspect of this project and its relation to the MDP further with the City in the coming weeks.

The meeting concluded at approximately 7:30 pm.

The abovementioned material was as interpreted and recorded from handwritten notes. Please note and relay any discrepancies or disputed information in the recorded minutes to the below address so that they can be reviewed, revised, and resubmitted, as necessary.

Recorded by,



Brad Kaden, EI
Design Engineer, Acorn Engineering, Inc.
bkaden@acorn-engineering.com



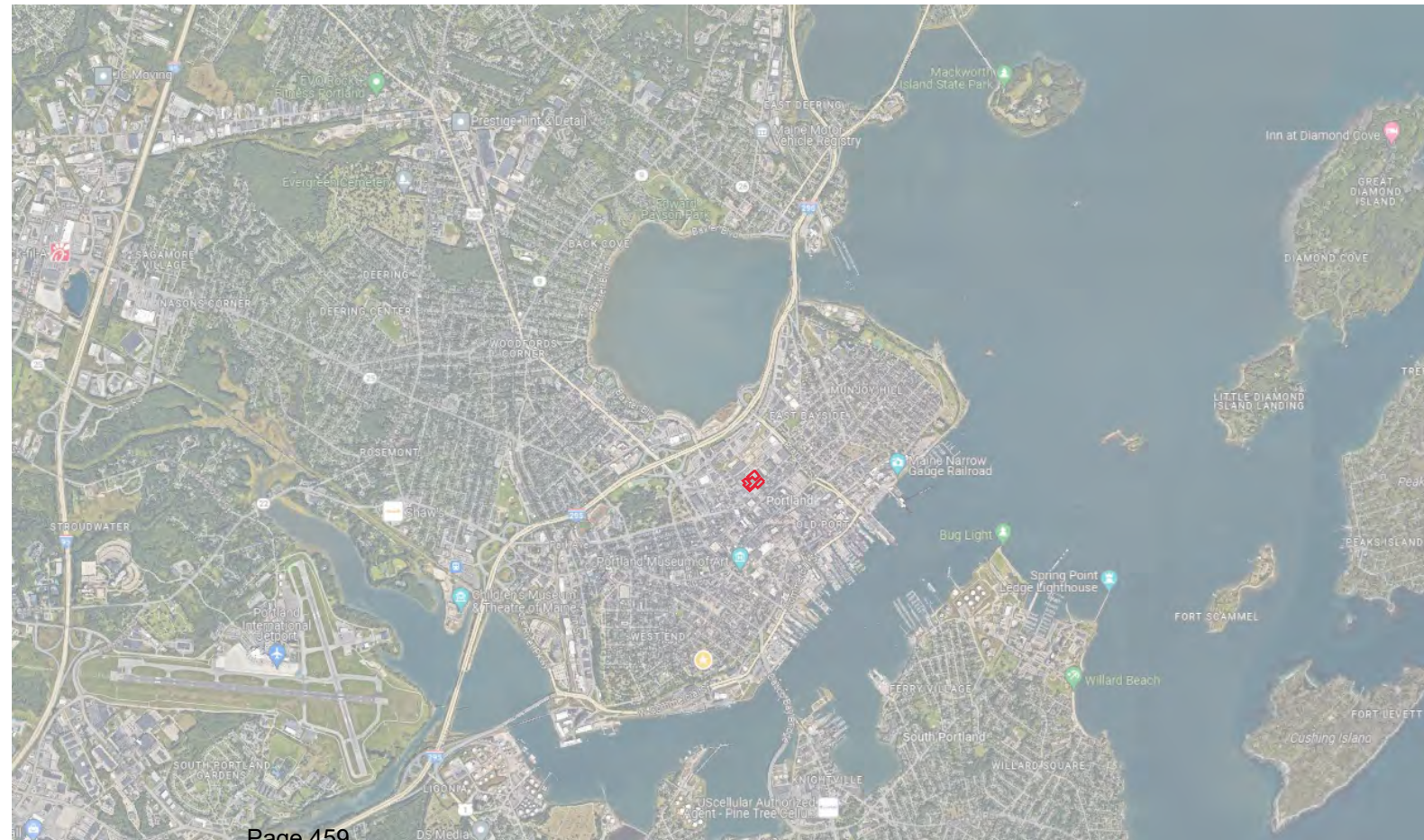
NEIGHBORHOOD MEETING #2:

May 16th 2024

PHASED OXFORD STREET REDEVELOPMENT; JOINT MAJOR SITE PLAN APPLICATION

Area of Interest:

- Phase 1: 197 Oxford Street
- Phase 2: 50 Cedar Street
- Phase 3: 158 Lancaster Street

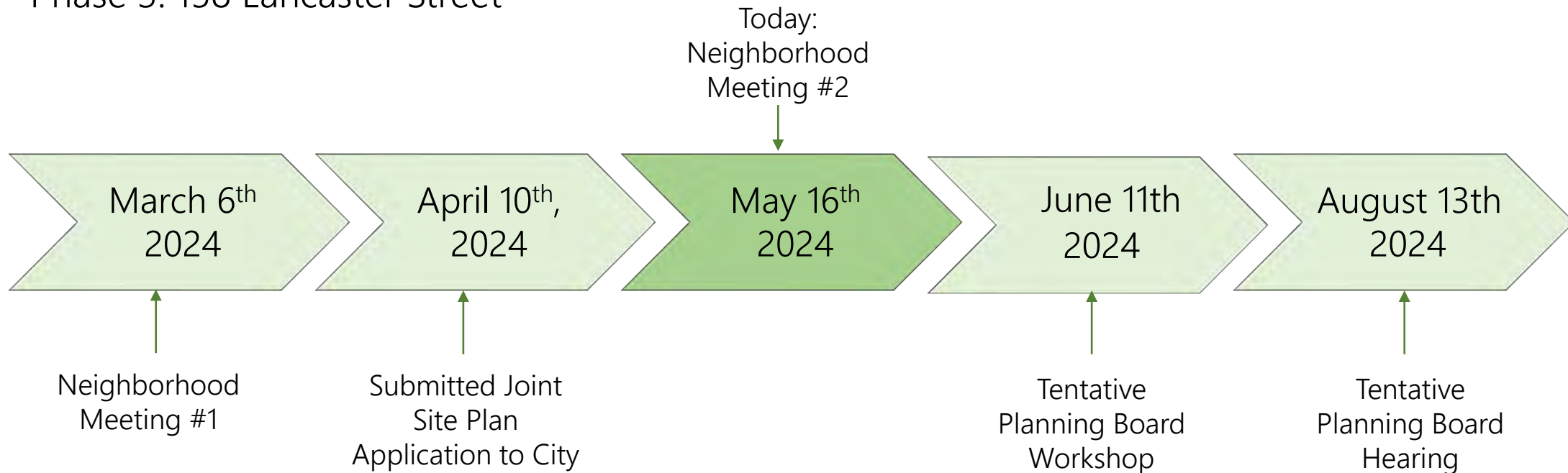


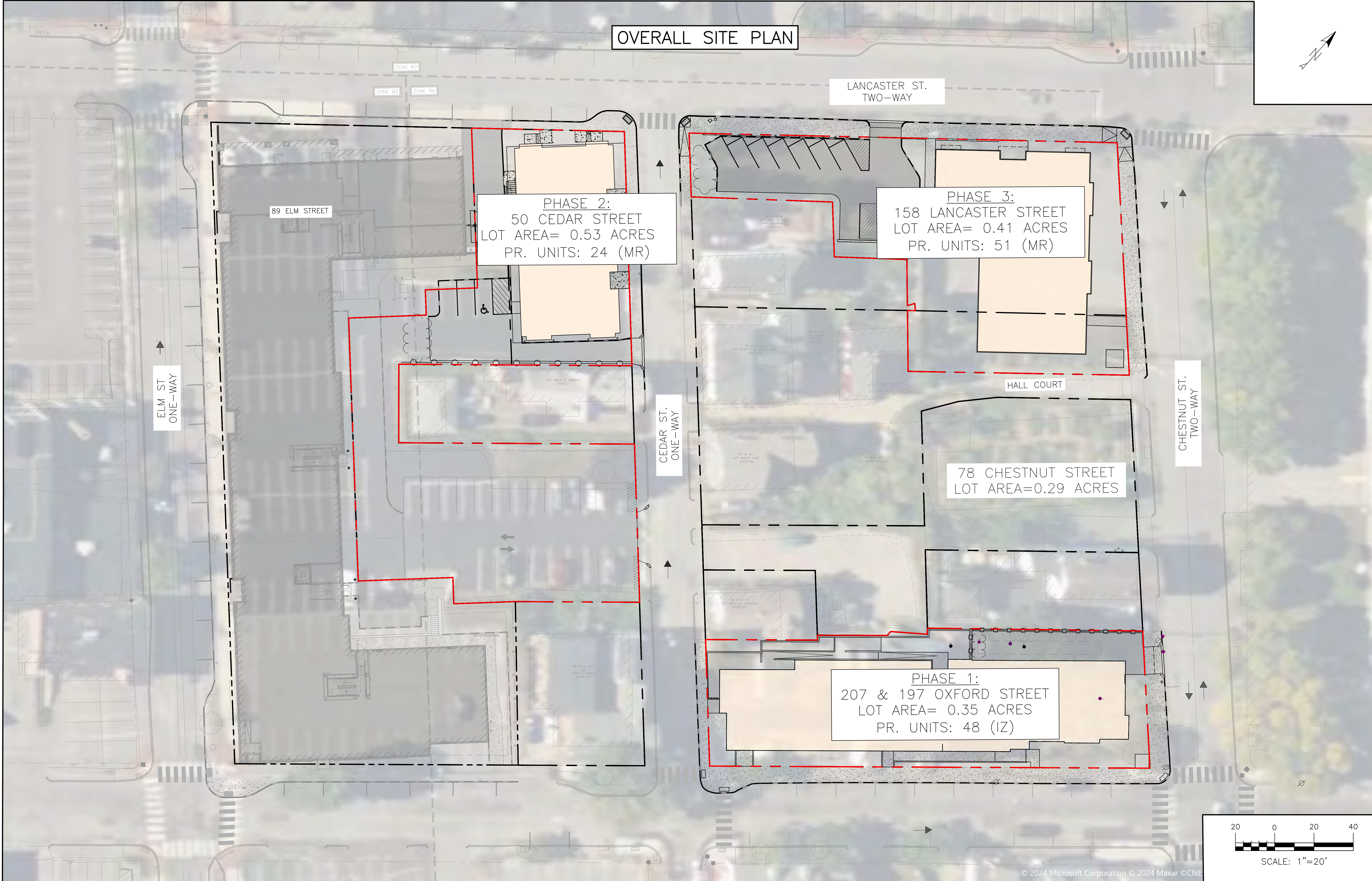
NEIGHBORHOOD MEETING #2:

May 16th 2024

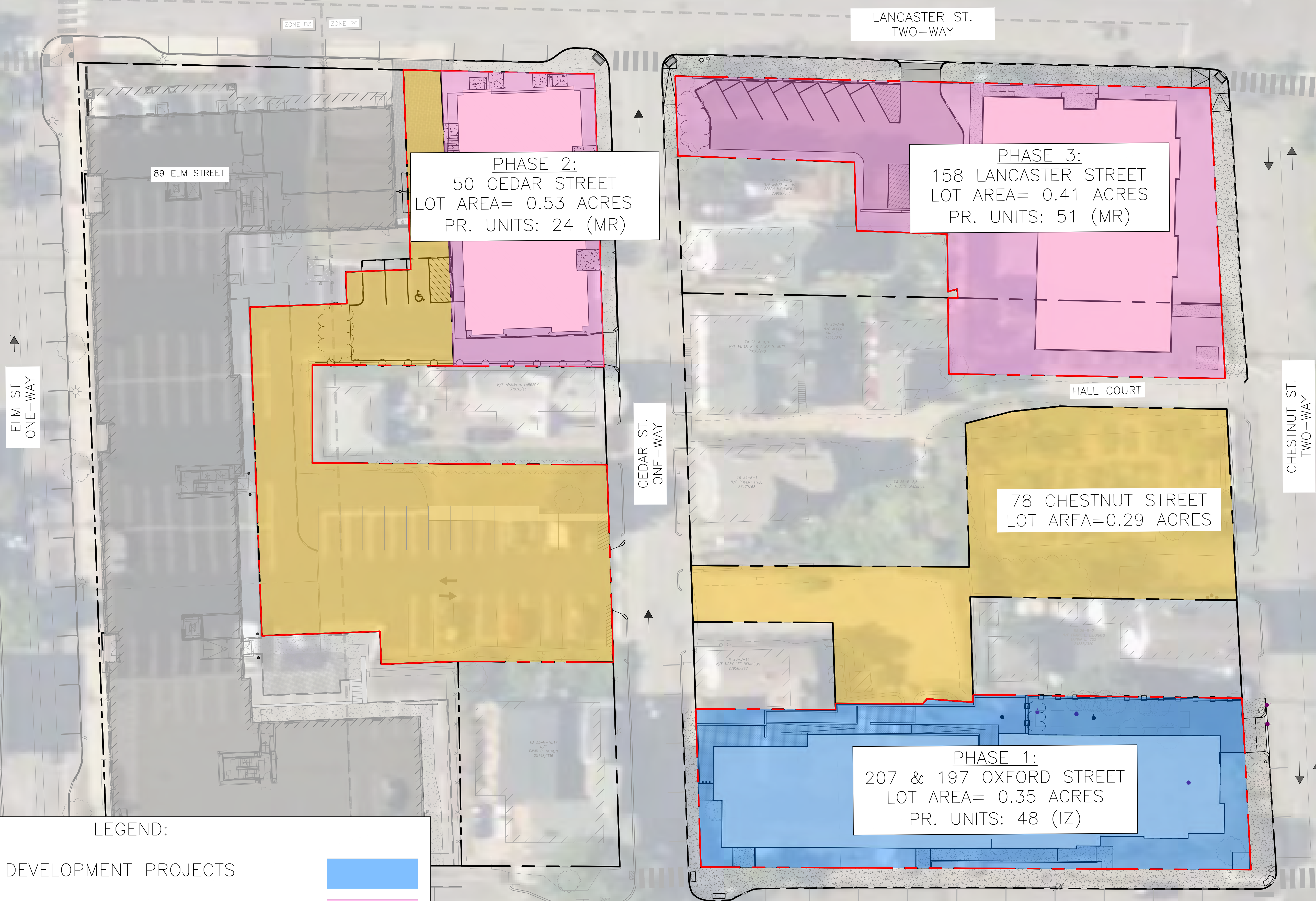
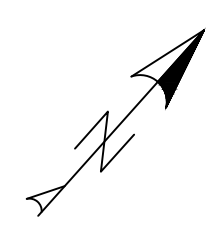
PHASED OXFORD STREET REDEVELOPMENT; JOINT MAJOR SITE PLAN APPLICATION

- Phase 1: 197 Oxford Street
- Phase 2: 50 Cedar Street
- Phase 3: 158 Lancaster Street





OVERALL SITE PLAN



89 ELM STREET

PHASE 2:
50 CEDAR STREET
LOT AREA= 0.53 ACRES
PR. UNITS: 24 (MR)

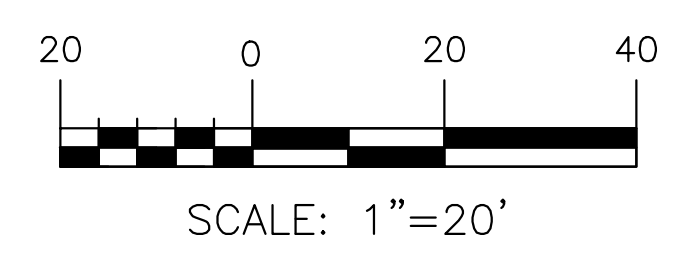
PHASE 3:
158 LANCASTER STREET
LOT AREA= 0.41 ACRES
PR. UNITS: 51 (MR)

78 CHESTNUT STREET
LOT AREA=0.29 ACRES

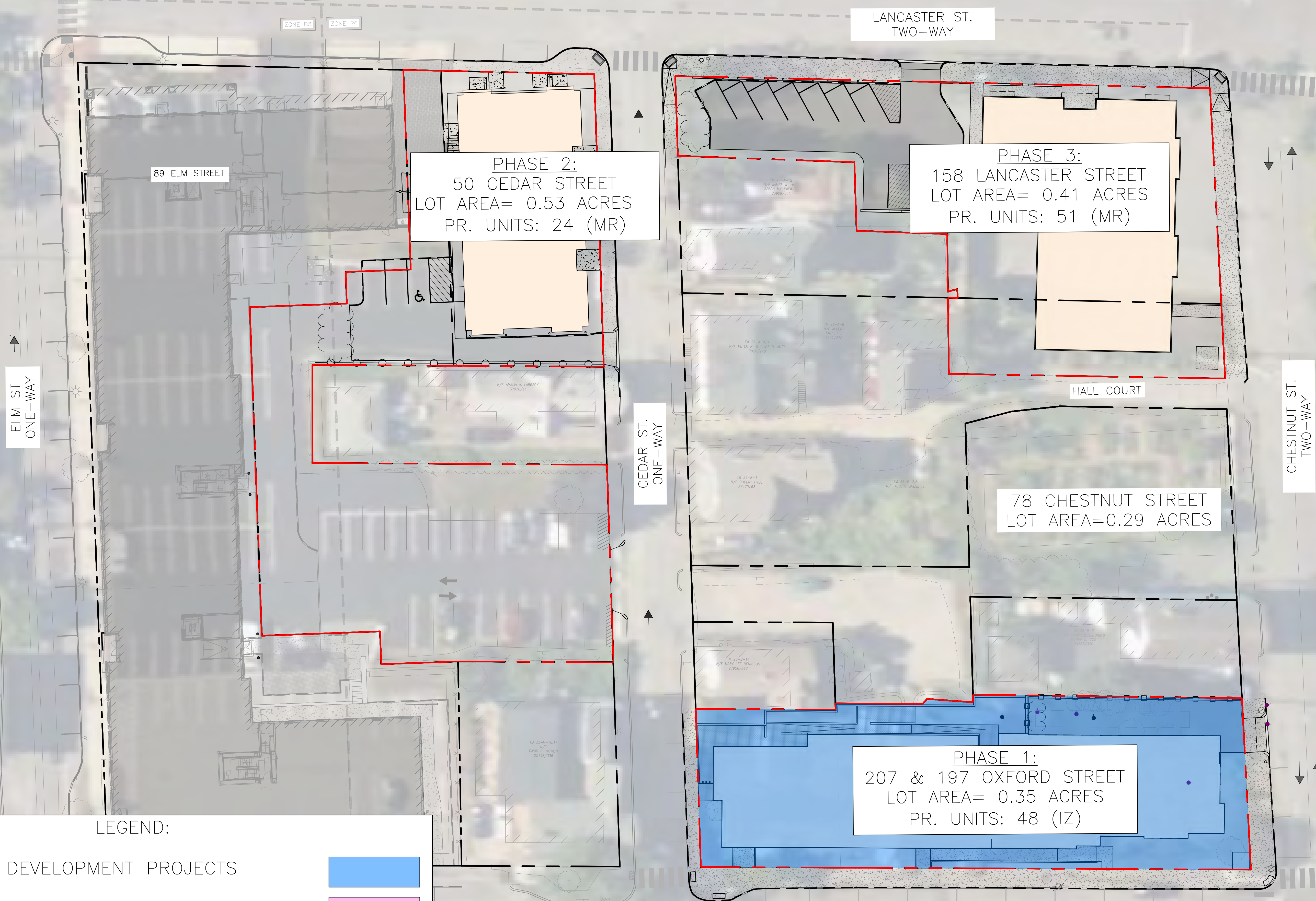
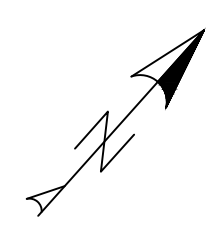
PHASE 1:
207 & 197 OXFORD STREET
LOT AREA= 0.35 ACRES
PR. UNITS: 48 (IZ)

LEGEND:

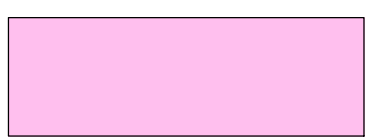
AVESTA HOUSING DEVELOPMENT PROJECTS	
REVELER DEVELOPMENT PROJECTS	
CONTRIBUTING LAND (NOT TO BE REDEVELOPED UNDER THIS APPLICATION)	



OVERALL SITE PLAN



LEGEND:

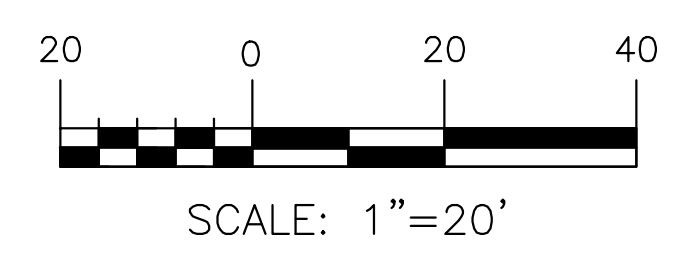
AVESTA HOUSING DEVELOPMENT PROJECTS	
REVELER DEVELOPMENT PROJECTS	
CONTRIBUTING LAND (NOT TO BE REDEVELOPED UNDER THIS APPLICATION)	

PHASE 1:
207 & 197 OXFORD STREET
LOT AREA= 0.35 ACRES
PR. UNITS: 48 (IZ)

PHASE 2:
50 CEDAR STREET
LOT AREA= 0.53 ACRES
PR. UNITS: 24 (MR)

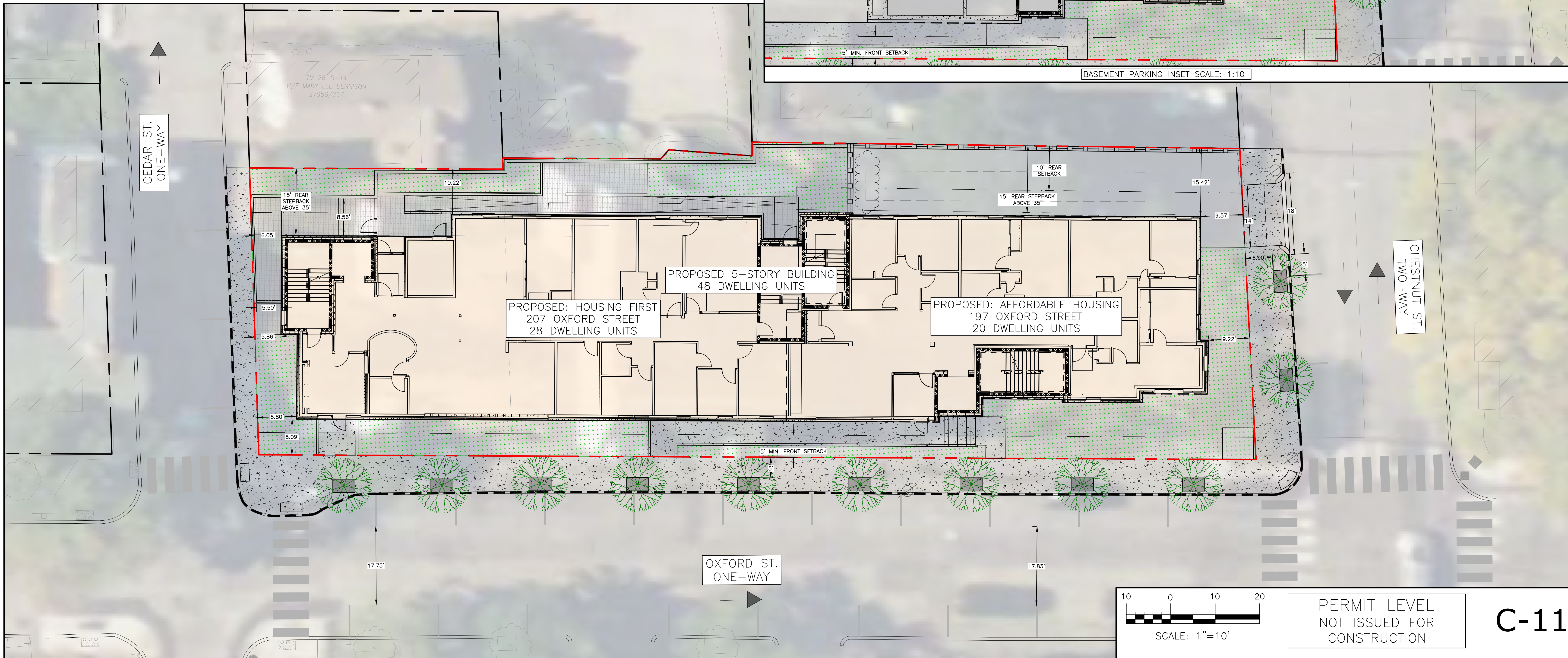
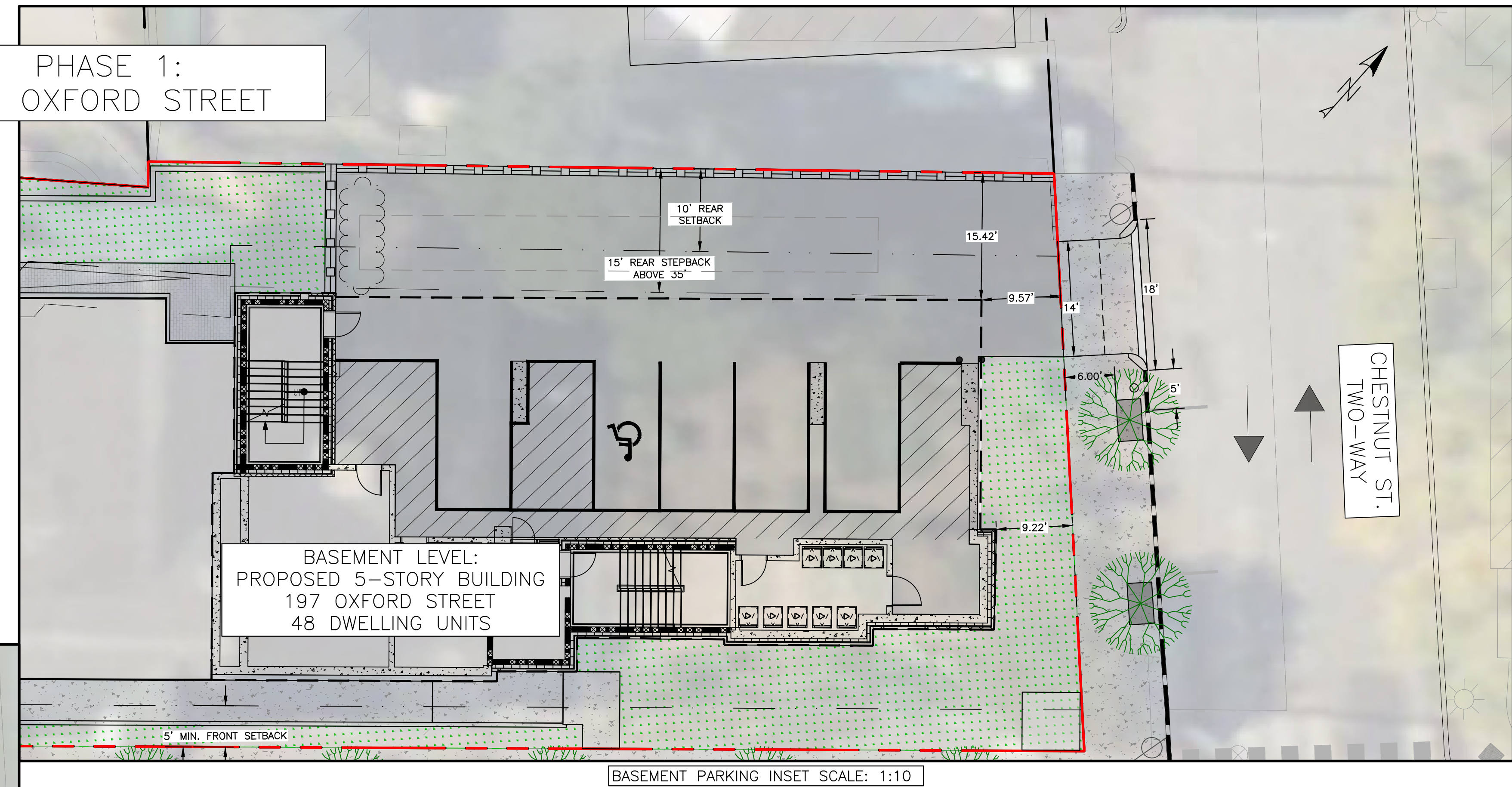
PHASE 3:
158 LANCASTER STREET
LOT AREA= 0.41 ACRES
PR. UNITS: 51 (MR)

78 CHESTNUT STREET
LOT AREA=0.29 ACRES





PHASE 1:
197 OXFORD STREET



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

C-11



197 OXFORD STREET LANDSCAPE PLAN

5.16.2024 Neighborhood Meeting

DESIGNER

CWS ARCHITECTURE +
INTERIOR DESIGN

264 US ROUTE ONE, SUITE 100-2A
SCARBOROUGH, ME 04074
207 774 4441

CWSARCH.COM

OWNER

AVESTA

OWNER ADDRESS

PROJECT

AVESTA OXFORD

PROJECT ADDRESS

DRAWING

COVER PAGE

CWS PROJECT NUMBER: 23039

REVISIONS

DRAWING NUMBER

CP

SCALE:

ISSUE DATE:

PROJECT STATUS



BUILDING GROSS TOTAL	43,748.18 SQ FT
HOUSING FIRST GROSS TOTAL	23,825.78 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	19,922.40 SQ FT

TOTAL UNIT COUNTS FOR BUILDING

TOTAL BUILDING UNIT COUNT	48 UNITS
HOUSING FIRST	TWENTY-EIGHT (28) UNITS [(28) 0-BDRM]
AFFORDABLE HOUSING	TWENTY (20) UNITS [(3) 0-BDRM + (17) 1-BDRM]

BUILDING OWNER:

ARCHITECT:

**CONSTRUCTION
MANAGER:**

STRUCTURAL ENGINEER:

**CIVIL ENGINEER /
LANDSCAPE ARCHITECT:**

MECHANICAL / PLUMBING ENGINEER:

ELECTRICAL ENGINEER:

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

AVESTA

CWS ARCHITECTURE + INTERIOR DESIGN
264 US ROUTE 1, BOX 6, SUITE 100-2A
SCARBOROUGH, MAINE 04074

TBD

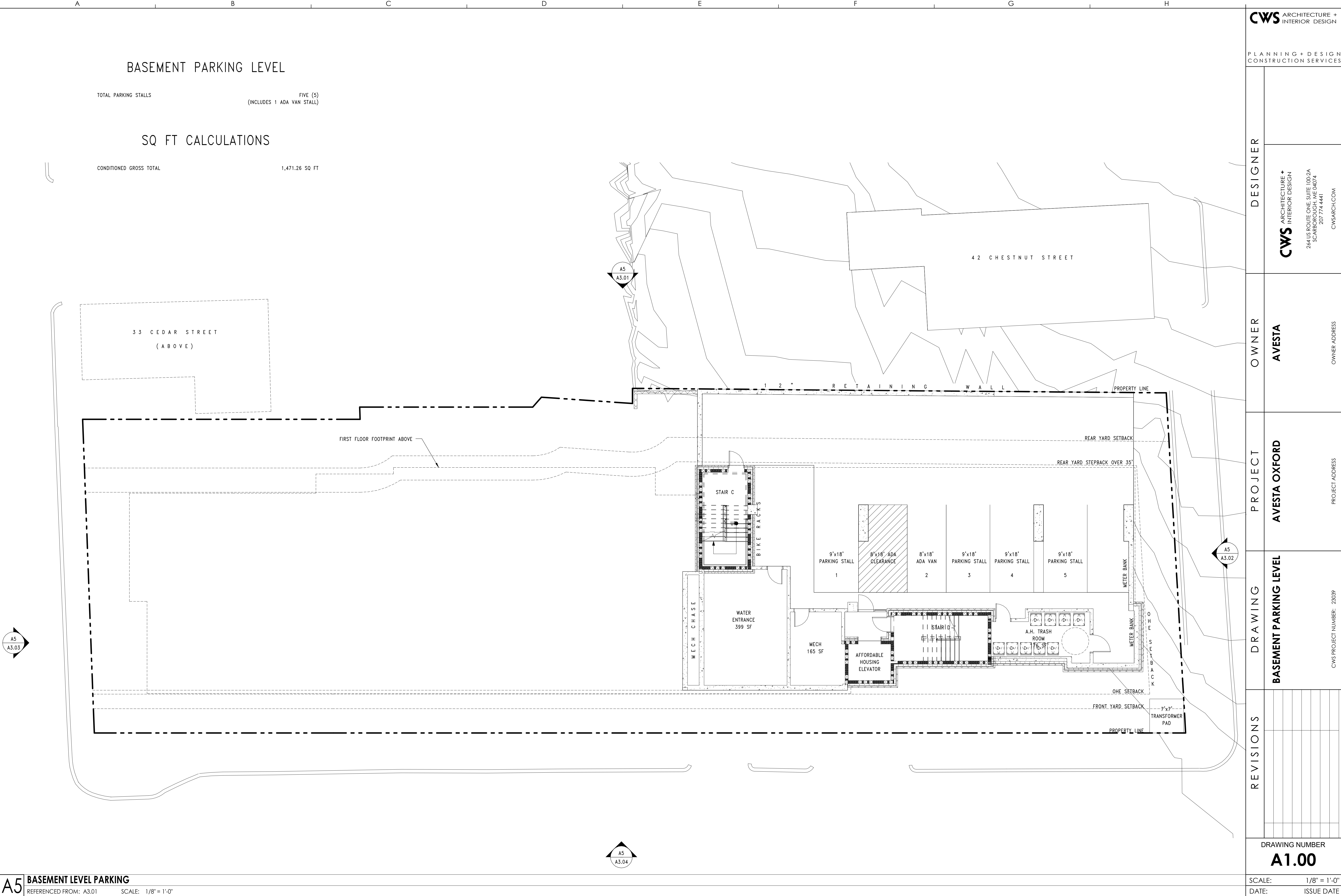
TBD



ACORN ENGINEERING
500 WASHINGTON AVE SUITE 202
PORTLAND, ME 04103
TEL: (207) 775-2655

BENNETT
(PRELIMINARY DESIGN)

BENNETT
(PRELIMINARY DESIGN)



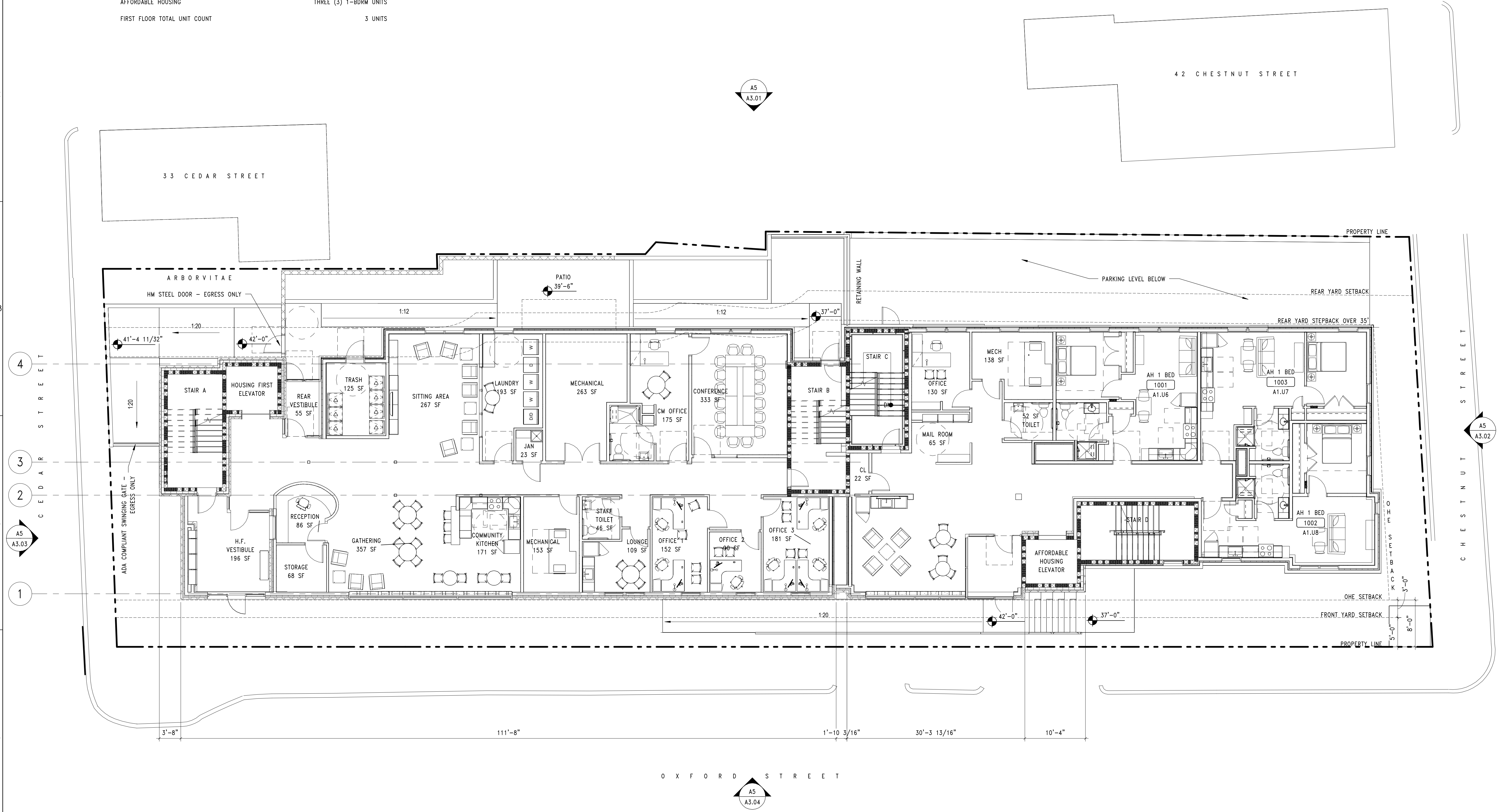
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DESIGNER	CWS ARCHITECTURE + INTERIOR DESIGN 264 US ROUTE ONE, SUITE 100-2A SCARBOROUGH, ME 04074 207.774.4441 CWSARCH.COM		
	OWNER	AVESTA	OWNER ADDRESS
PROJECT	AVESTA OXFORD		
DRAWING	BASEMENT PARKING LEVEL		
REVISIONS	CWS PROJECT NUMBER: 23039		
DRAWING NUMBER		A1.00	
SCALE:		1/8" = 1'-0"	
DATE:		ISSUE DATE	

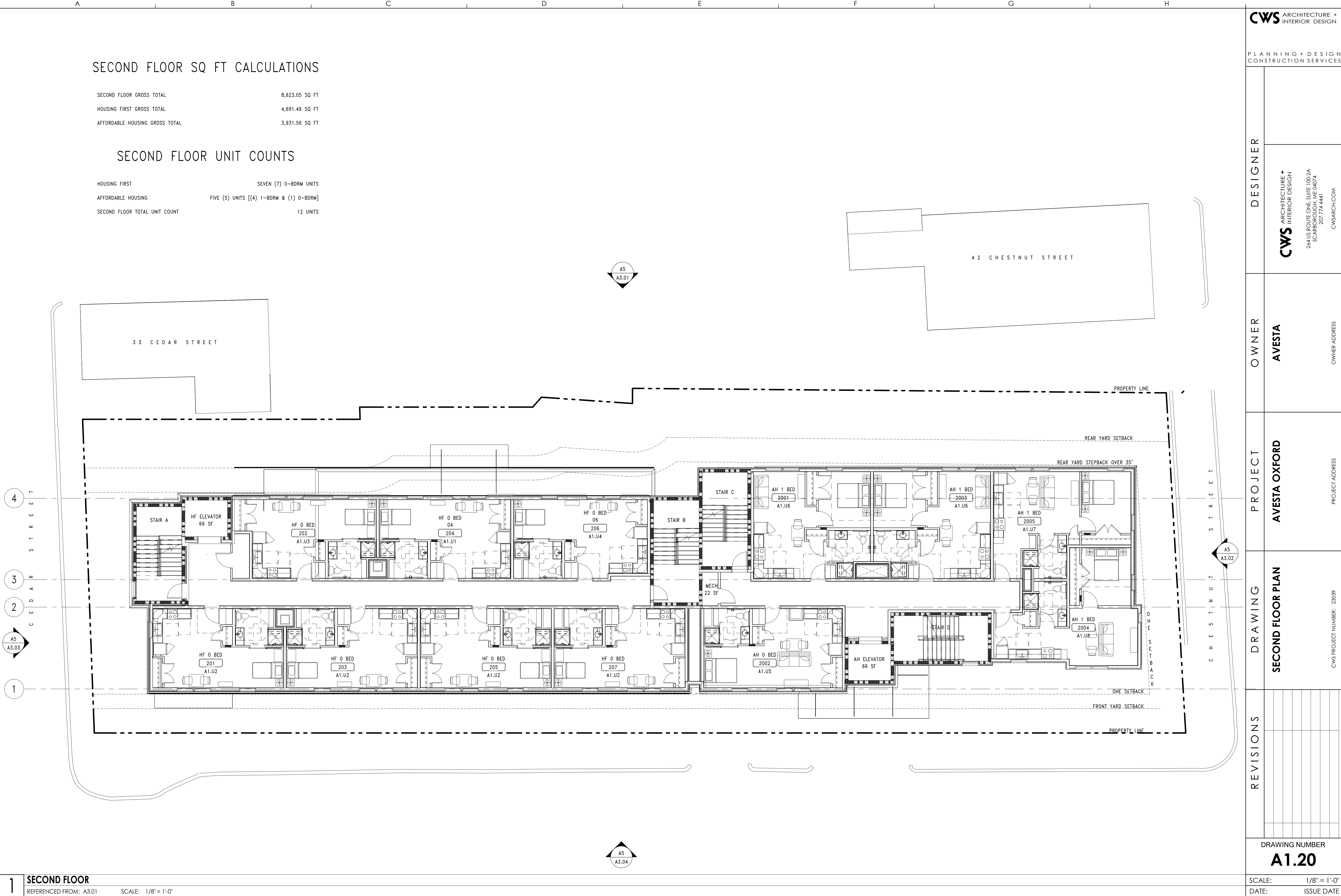
FIRST FLOOR SQ FT CALCULATIONS

FIRST FLOOR GROSS TOTAL	8,991.25 SQ FT
HOUSING FIRST GROSS TOTAL	5,059.82 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	3,931.43 SQ FT

FIRST FLOOR UNIT COUNTS

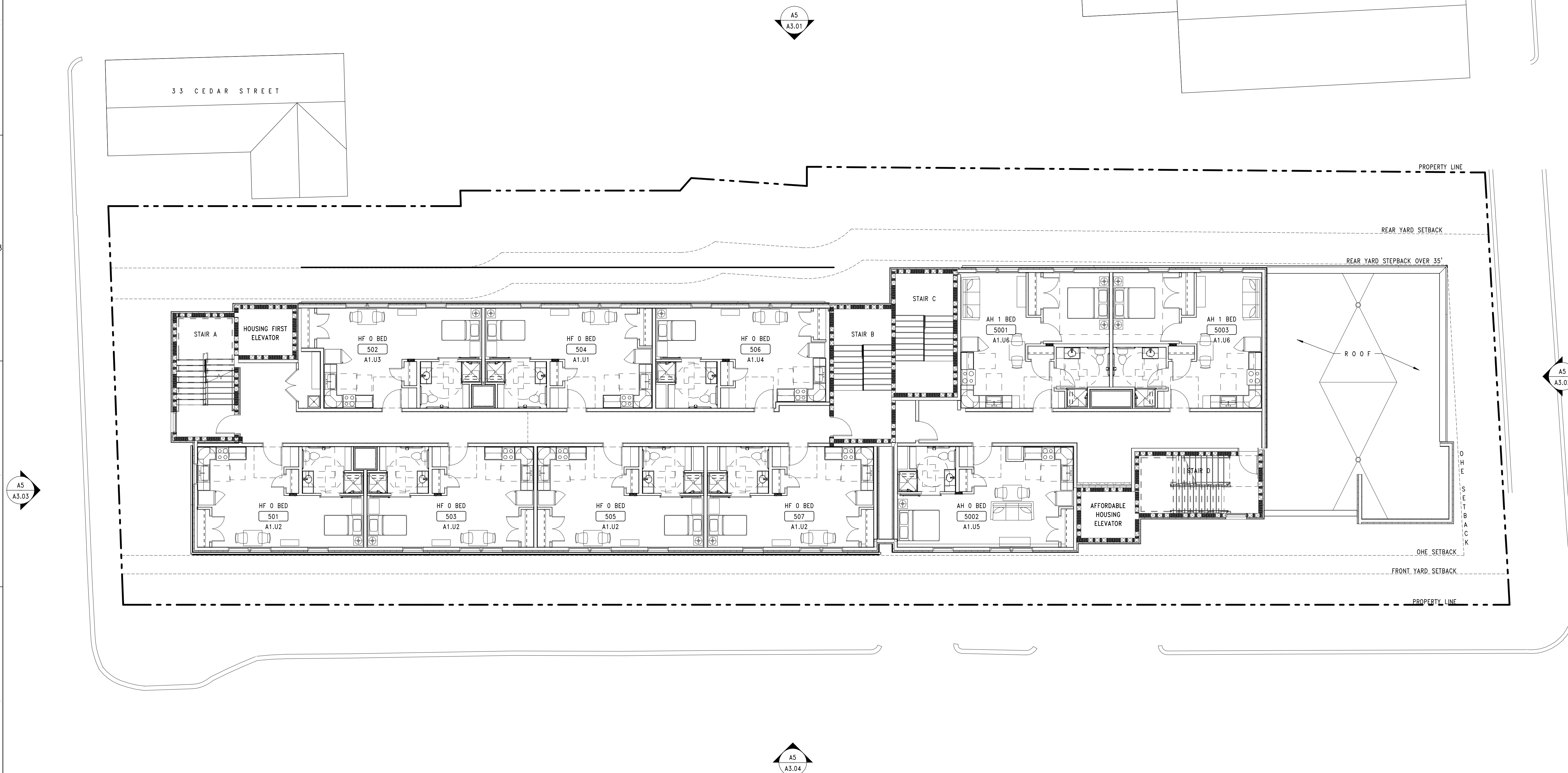
HOUSING FIRST	0 UNITS
AFFORDABLE HOUSING	THREE (3) 1-BDRM UNITS
FIRST FLOOR TOTAL UNIT COUNT	3 UNITS

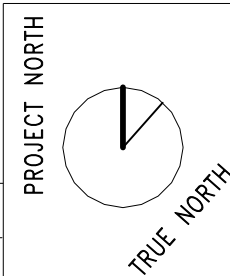
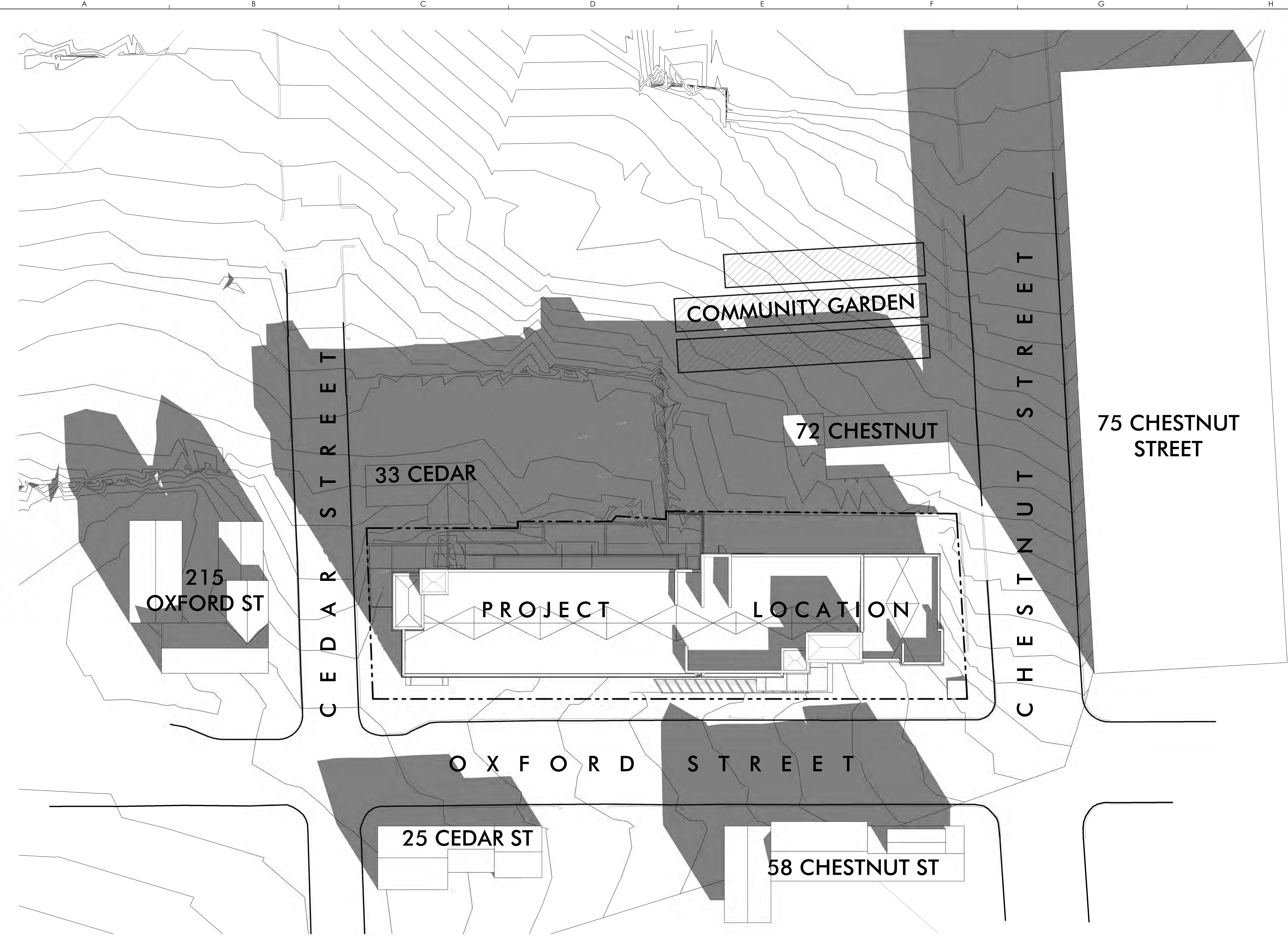




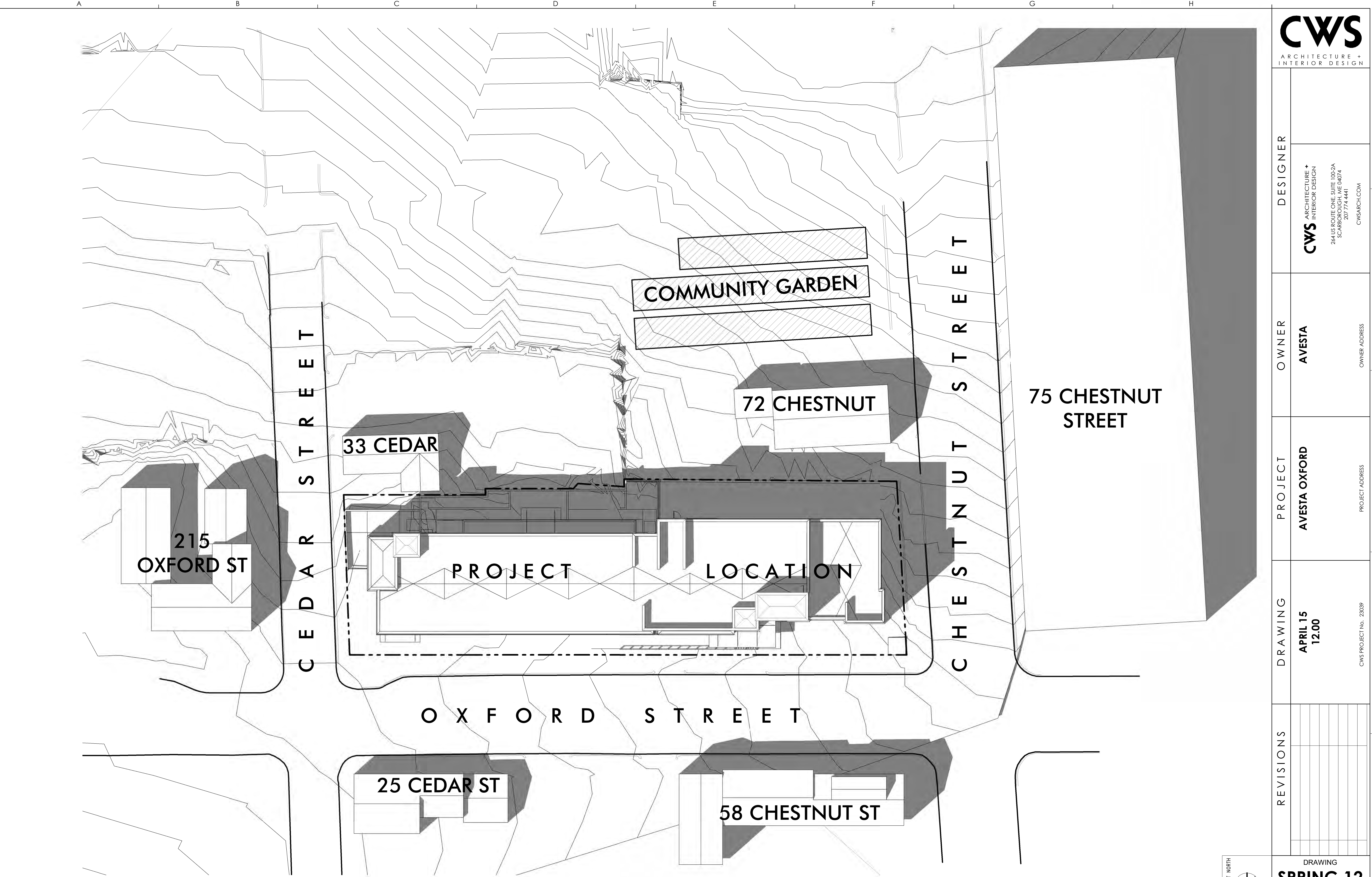
FIFTH FLOOR GROSS TOTAL	7,418.29 SQ FT
HOUSING FIRST GROSS TOTAL	4,691.49 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	2,726.80 SQ FT

HOUSING FIRST	SEVEN (7) 0-BDRM UNITS
AFFORDABLE HOUSING	THREE (3) UNITS [(2) 1-BDRM & (1) 0-BDRM]
FIFTH FLOOR TOTAL UNIT COUNT	10 UNITS





REVISIONS	DRAWING	PROJECT	OWNER	DESIGNER	1
					2
	APRIL 15 8.00	AVESTA OXFORD	AVESTA	CWS ARCHITECTURE + INTERIOR DESIGN 264 LIS ROUTE ONE SUITE 100-2A SCARBOROUGH, ME 04074 207.774.4441 CWSARCH.COM	3
	CWS PROJECT No. 23039	PROJECT ADDRESS	OWNER ADDRESS		4
					5

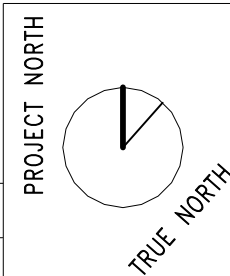
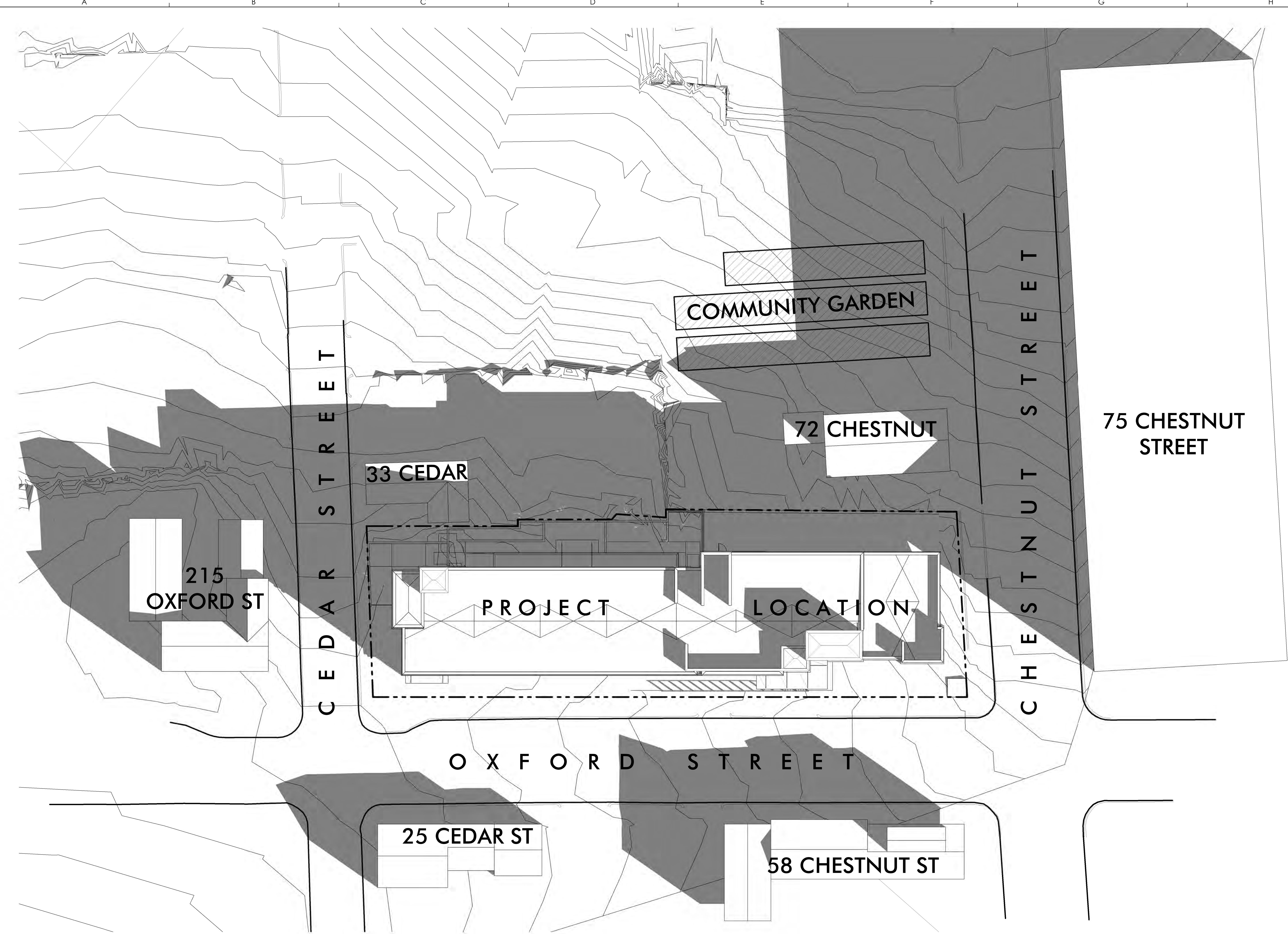


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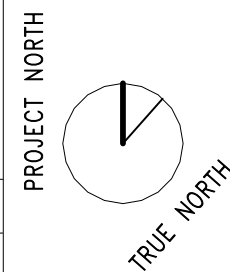
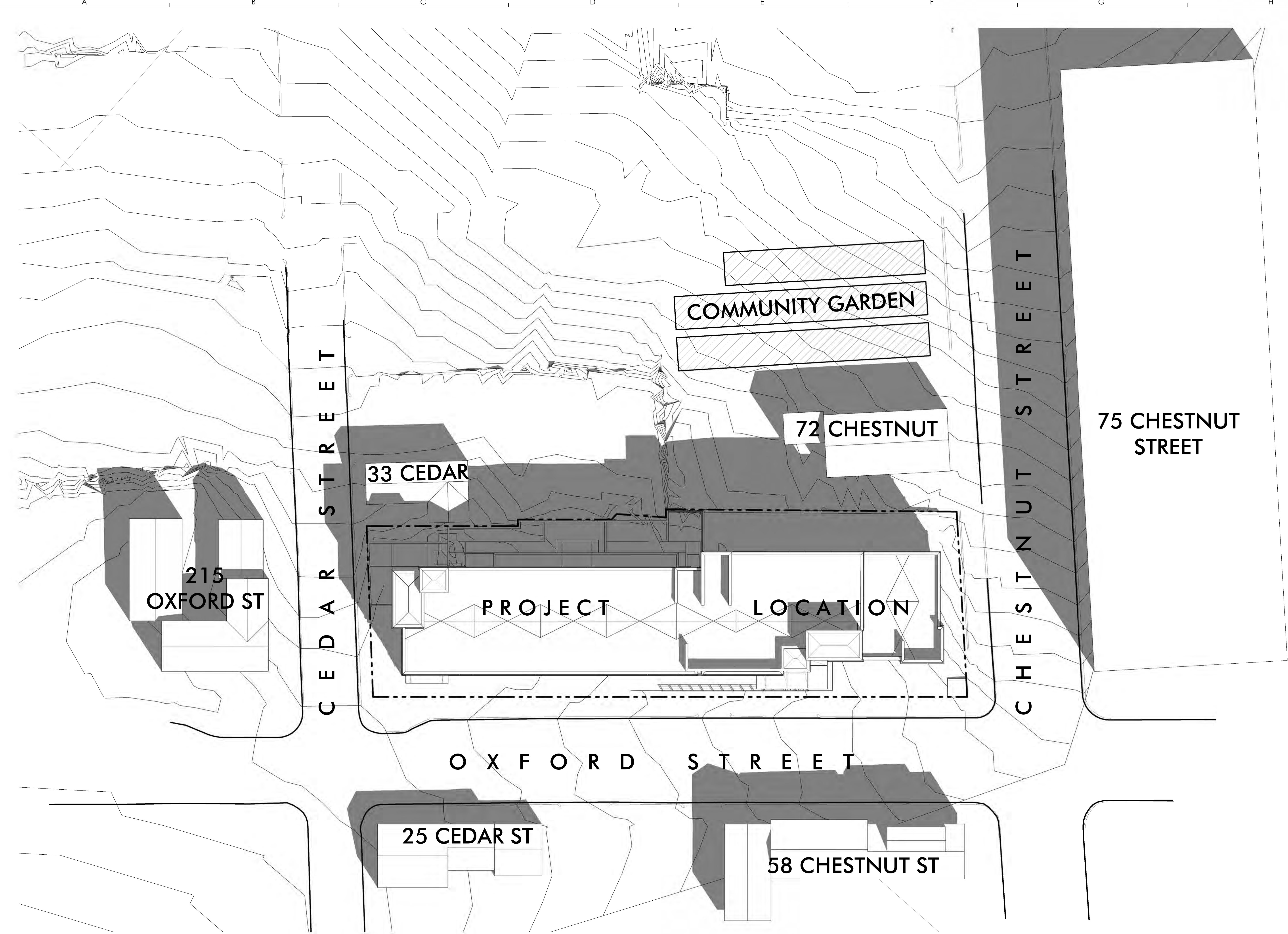
DRAWING
SPRING 12

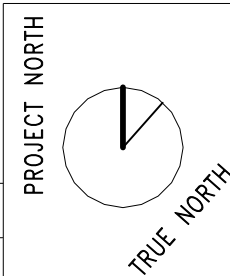
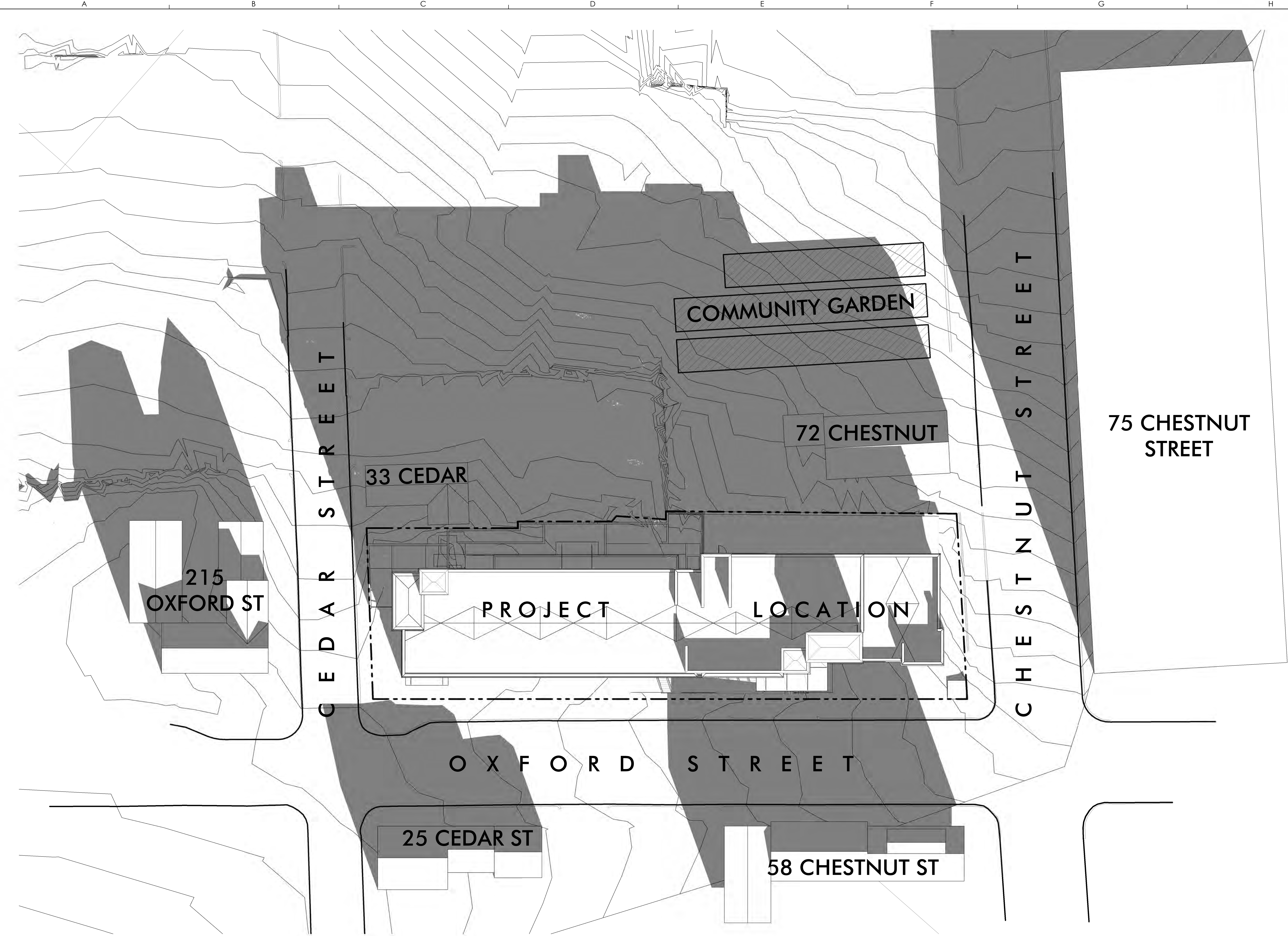
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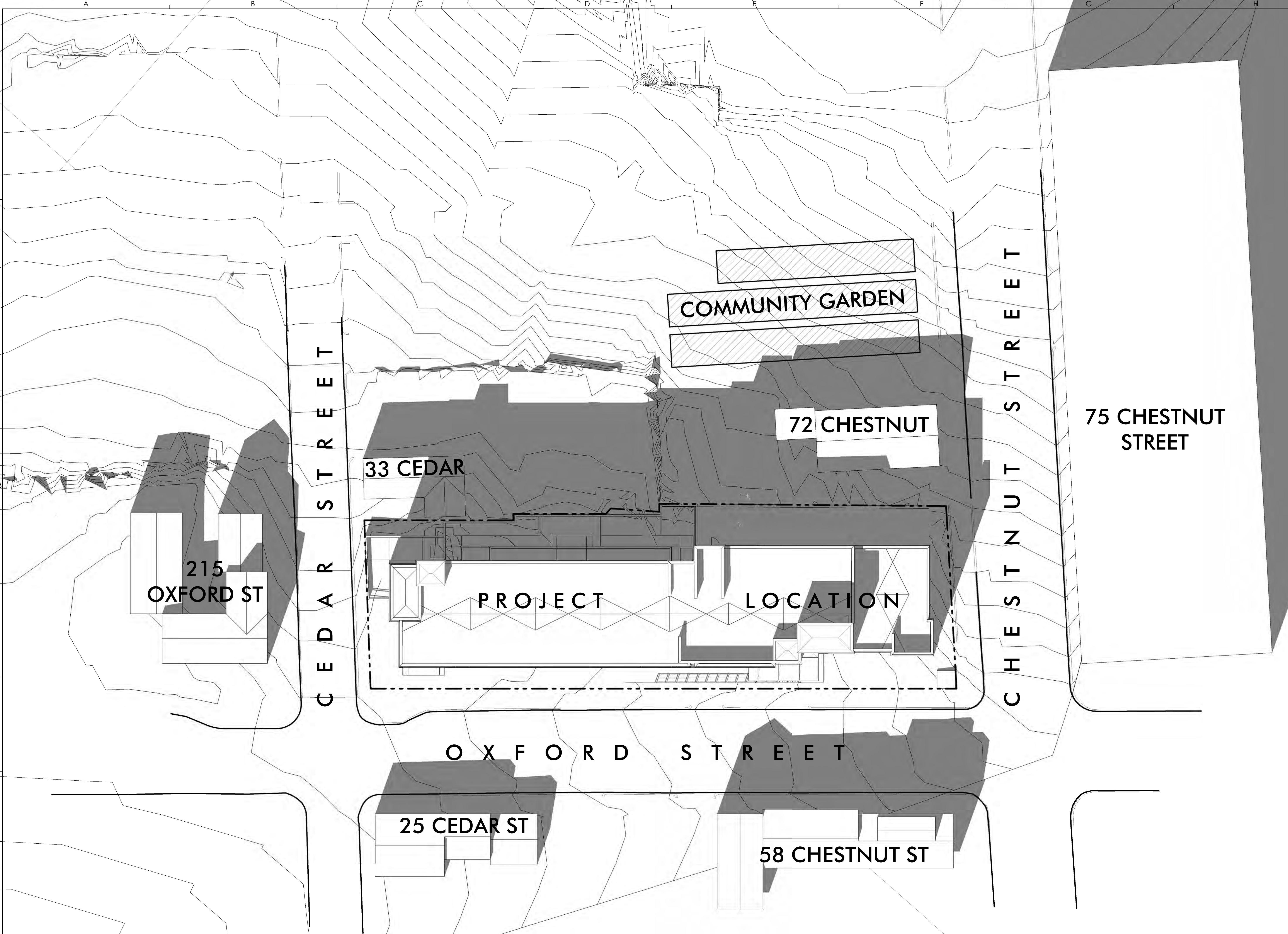
DATE: ISSUE DATE



REVISIONS	DRAWING		PROJECT		OWNER		DESIGNER	
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							264 US ROUTE ONE SUITE 100-2A SCARBOROUGH, ME 04074 207.774.4441	
							CWSARCH.COM	







A5 SOLAR STUDY - OCTOBER 1 10.30 AM
REFERENCED FROM: SCALE: 1/16" = 1'-0"

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PROJECT NORTH

TRUE NORTH

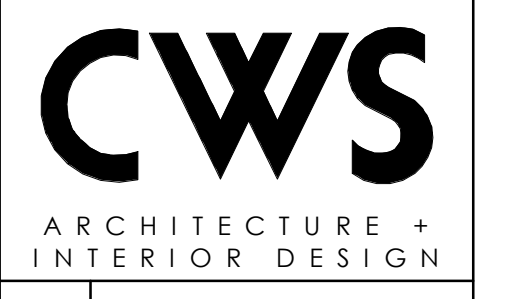
DRAWING

AUTUMN10.5

SCALE: 1/16" = 1'-0"

DATE: ISSUE DATE

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DESIGNER
CWS ARCHITECTURE + INTERIOR DESIGN
264 LIS ROUTE ONE SUITE 100-2A
SCARBOROUGH, ME 04074
207.774.4441
CWSARCH.COM

OWNER
AVESTA
OWNER ADDRESS

PROJECT
AVESTA OXFORD
PROJECT ADDRESS

DRAWING
OCTOBER 1 10.30
CWS PROJECT No. 23039

REVISIONS

PROJECT STATUS

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CWS ARCHITECTURE + INTERIOR DESIGN

PLANNING + DESIGN
CONSTRUCTION SERVICES

DESIGNER

CWS ARCHITECTURE + INTERIOR DESIGN
264 US ROUTE ONE, SUITE 100-2A
SCARBOROUGH, ME 04074
207.774.4441
CWSARCH.COM

OWNER

AVESTA
OWNER ADDRESS

PROJECT

AVESTA OXFORD
PROJECT ADDRESS

DRAWING

PERSPECTIVE VIEW
OXFORD & CEDAR
CWS PROJECT NUMBER: 23039

REVISIONS

DRAWING NUMBER

3D.1

SCALE:

DATE:

ISSUE DATE

PROJECT STATUS

A5 OXFORD & CEDAR

REFERENCED FROM:

SCALE:

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Page 478

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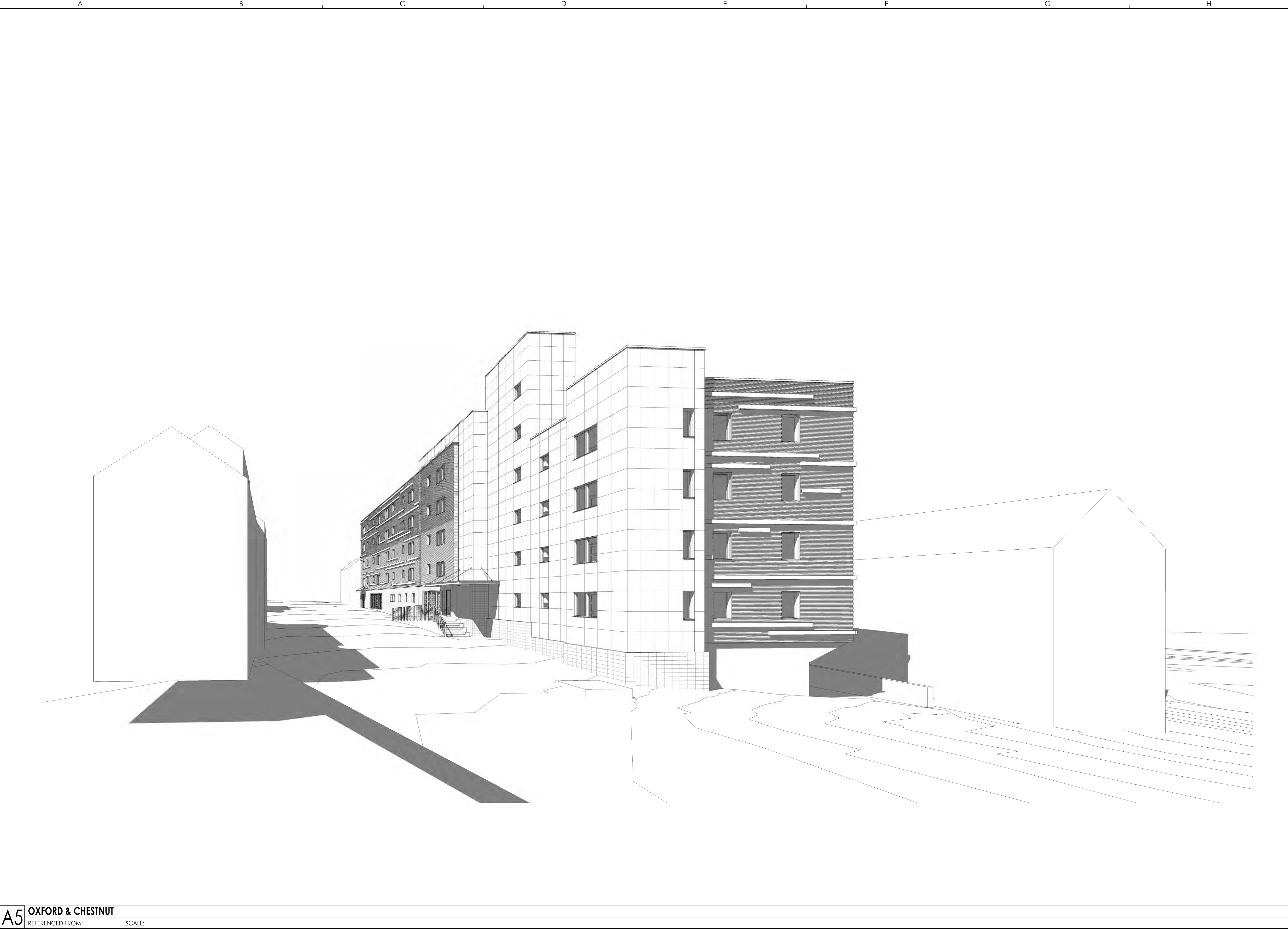
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CWS

ARCHITECTURE +
INTERIOR DESIGN

PLANNING + DESIGN
CONSTRUCTION SERVICES

DESIGNER

OWNER

PROJECT

DRAWING

REVISIONS

DRAWING NUMBER

3D.2

SCALE:

DATE:

ISSUE DATE

PROJECT STATUS

CWS

ARCHITECTURE +
INTERIOR DESIGN

264 US ROUTE ONE, SUITE 100-2A
SCARBOROUGH, ME 04074
207.774.4441
CWSARCH.COM

AVESTA

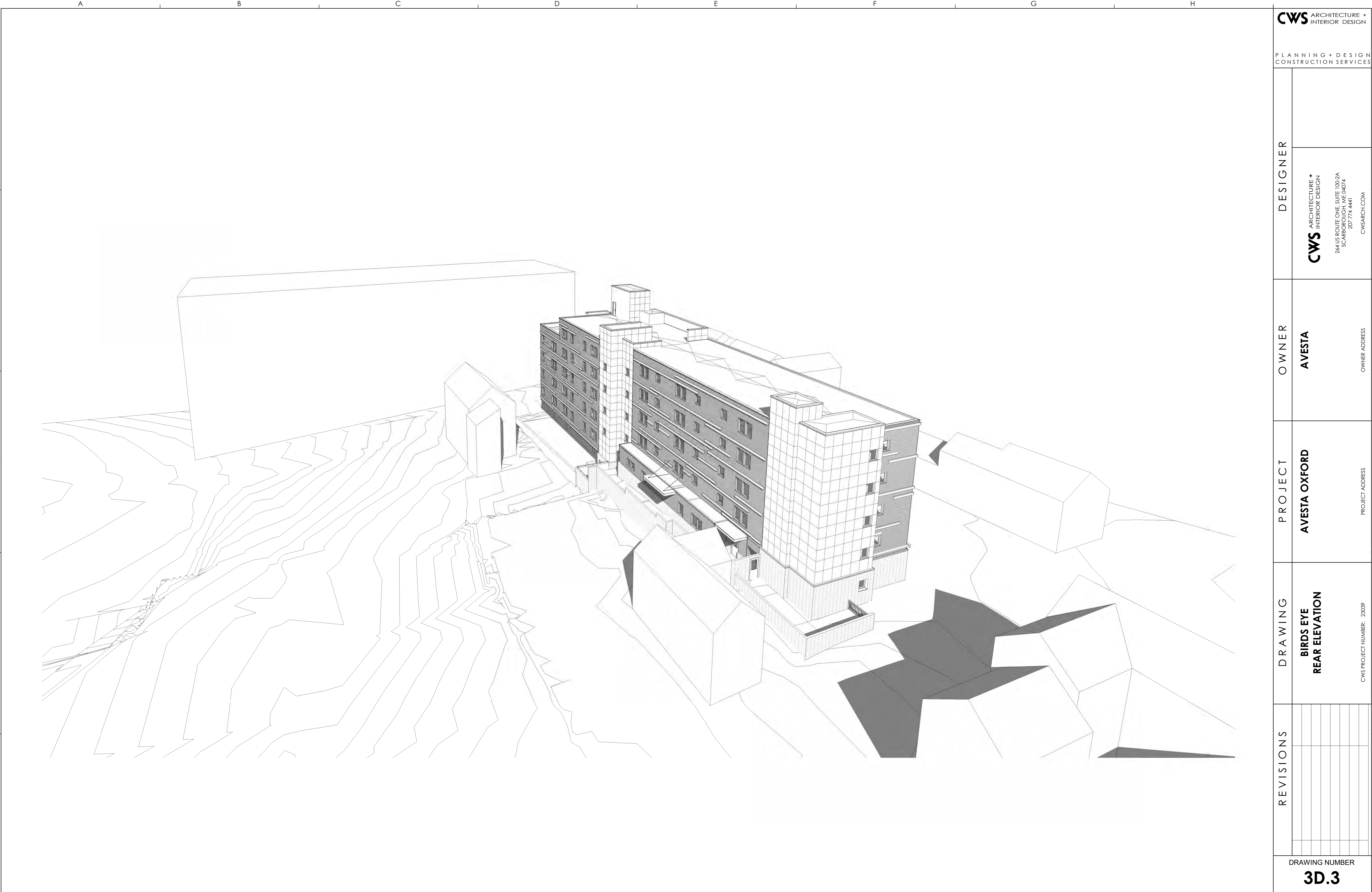
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AVESTA OXFORD

PROJECT ADDRESS

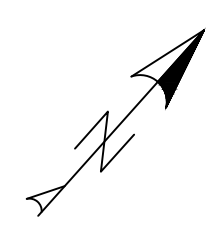
PERSPECTIVE VIEW
OXFORD & CHESTNUT

CWS PROJECT NUMBER: 23039



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OVERALL SITE PLAN



ELM ST.
ONE-WAY

89 ELM STREET

ZONE B7
ZONE B3
ZONE R6

PHASE 2:
50 CEDAR STREET
LOT AREA= 0.53 ACRES
PR. UNITS: 24 (MR)

CEDAR ST.
ONE-WAY

LANCASTER ST.
TWO-WAY

PHASE 3:
158 LANCASTER STREET
LOT AREA= 0.41 ACRES
PR. UNITS: 51 (MR)

HALL COURT

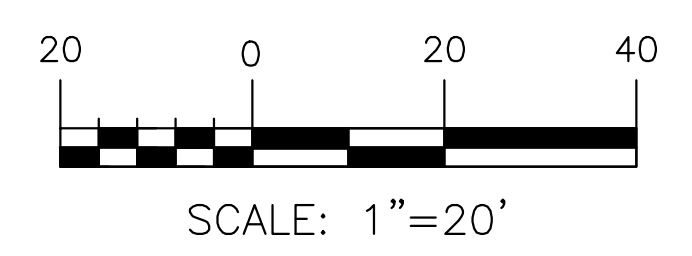
CHESTNUT ST.
TWO-WAY

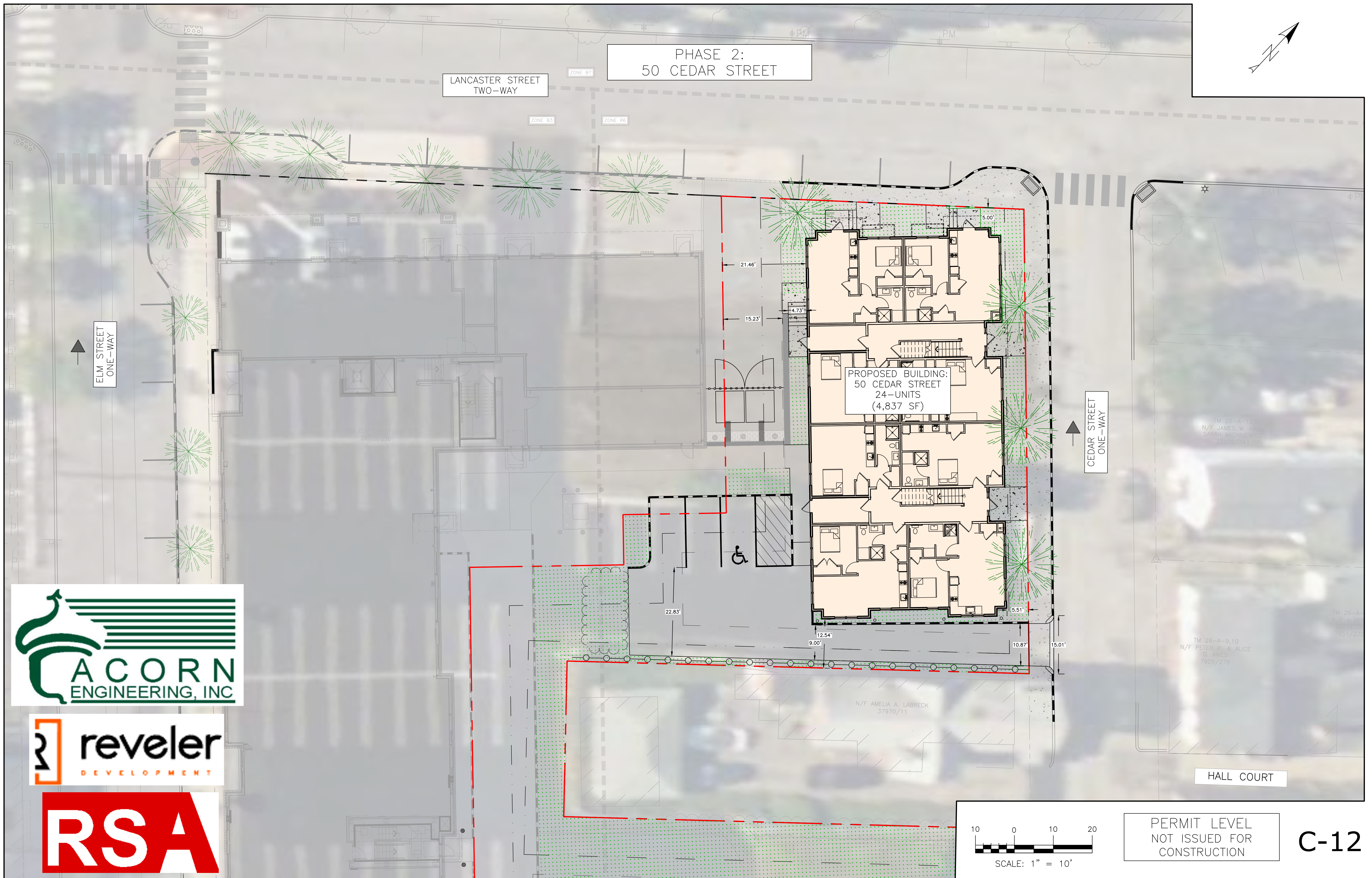
78 CHESTNUT STREET
LOT AREA=0.29 ACRES

PHASE 1:
207 & 197 OXFORD STREET
LOT AREA= 0.35 ACRES
PR. UNITS: 48 (IZ)

LEGEND:

- AVESTA HOUSING DEVELOPMENT PROJECTS
- REVELER DEVELOPMENT PROJECTS
- CONTRIBUTING LAND (NOT TO BE REDEVELOPED UNDER THIS APPLICATION)





PLANTING NOTES

- LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE.
- PLANT MATERIAL PROVIDED BY THE CONTRACTOR IS TO CONFORM TO THE HIGHEST STANDARD AS ADOPTED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. (ANSI). PLANT MATERIAL IS TO BE HEALTHY SPECIMENS, FREE FROM DISEASE OR DAMAGE.
- THE CONTRACTOR IS TO FURNISH PLANTS AND SOD SHOWN ON THE DRAWINGS. PLANTS ARE TO CONFORM WITH THE BOTANICAL IDENTIFICATIONS. PLANTS ARE TO BE SOURCED FROM A NURSERY WITHIN THE SAME CLIMATIC ZONE AS THE SITE LOCATION. NO SUBSTITUTIONS OF PLANT SPECIES ARE PERMITTED WITHOUT PRIOR APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE & THE LANDSCAPE ARCHITECT.
- SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF, FRUIT, COLOR, TIME OF BLOOM & CLIMATIC LOCATION AS APPROVED BY LANDSCAPE ARCHITECT.
- LOCATE AND VERIFY EXISTING & PROPOSED UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.
- PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM PLANTING AREAS.
- THE CONTRACTOR IS TO VERIFY SITE LAYOUT & GRADES & INFORM THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR CHANGES IN LAYOUT AND/OR GRADING PRIOR TO CONSTRUCTION. NO PLANTING IS TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
- ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. FINAL LOCATIONS OF PLANTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE. PLANT AND STAKES ARE TO BE SET PLUMB UNLESS OTHERWISE NOTED. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.
- WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.
- CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN PLANT MATERIALS INCLUDING SOD/SEED AREAS IN A HEALTHY STATE DURING CONSTRUCTION AND DURING REQUIRED WARRANTY PERIODS. ANY DAMAGE TO PLANT MATERIAL DUE TO NEGLECT BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- REPAIR DAMAGE DUE TO LANDSCAPE INSTALLATION OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK.
- SOAK ALL PERENNIALS FOR 24 HOURS PRIOR TO INSTALLATION.
- A LIST OF PLANTS INCLUDING BOTANICAL NAMES, SIZES, AND SPACING ARE SHOWN ON THE DRAWINGS. QUANTITIES ARE PROVIDED FOR CONTRACTOR'S CONVENIENCE AND ARE TO BE VERIFIED. IN THE EVENT THAT QUANTITIES OR OMISSIONS OCCUR THE PLAN DRAWINGS ARE TO BE FOLLOWED.
- IRRIGATION: A TEMPORARY UNDERGROUND DRIP AND SPRINKLER IRRIGATION SYSTEM IS TO BE PROVIDED FOR ALL PLANT MATERIAL AND SOD OR SEEDED AREAS.
- DISTURBED SITE AREAS ARE TO BE DRESSED WITH 6" MIN. OF AMENDED TOPSOIL FOR LAWNS AND 12" MIN. FOR PLANT BEDS. TOPSOIL FOR SEEDED AND/OR SEEDED AREAS IS TO BE TWO PARTS SHARP SAND, ONE PART LOAM AND ONE PART ORGANIC COMPOST.
- PLANT BEDS ARE TO BE MULCHED TO A DEPTH OF 2" MIN. WITH NATURAL BARK MULCH WITH BARK SIZES NO LARGER THAN 3". PERENNIAL PLANT BEDS ARE TO BE MULCHED WITH BARK SIZES NO MORE THAN 1". TREES IN LAWN AREAS ARE TO HAVE MULCH RINGS OF 5' DIA.
- TREES ADJACENT TO PEDESTRIAN ROUTES AND WITHIN PARKING ISLANDS ARE TO BE LIMBED TO 6' ABOVE GRADE.
- ALL TREE SPECIES SHALL BE WATERED AT LEAST 2-4 TIMES EACH WEEK WITH 10-15 GALLONS ADMINISTERED TO EACH TREE DEPENDING ON THE WEATHER AND CURRENT MOISTURE LEVEL. WATERING WILL CONSIST OF 10-15 GALLONS ADMINISTERED TO EACH TREE EVERY TIME THEY ARE WATERED.

PLANTING SCHEDULE

DECIDUOUS TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
MI	<i>Makus "Ivory Spear"</i>	Ivory Spear Crabapple	1	1.75-2" cal	as shown	
LS	<i>Liquidambar styraciflua "Slender Silhouette"</i>	Slender Silk Sweet Gum	4	2.75-3" cal	as shown	
QP	<i>Quercus pauustris</i>	Pin Oak	2	2.5-3" cal	as shown	
ZS	<i>Zelkova Serrata</i>	City Sprite Zelkova	1	2.75-3" cal	as shown	
DECIDUOUS SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
HH	<i>Hypericum 'Hidcote'</i>	St. John's Wort	5	24"-36" ht.	36" O.C.	
EVERGREEN SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
IXSH	<i>Ilex glabra 'Shamrock'</i>	Shamrock Inkberry	7	30"-36" ht.	60" O.C.	

SITE LANDSCAPING & BUFFERS

PARKING & SCREENING:
THE SITE HAS 3 PROPOSED PARKING SPACES WHICH REQUIRE THE PLANTING OF TWO TREES (OR ONE TREE AND THREE SHRUBS) PER FIVE PARKING SPACES.

PROPOSED TREES & SHRUBS = 1 TREES, 6 SHRUBS.

PLANTING REQUIREMENTS PER FRONTAGE:
THE SITE HAS 190 FEET OF FRONTAGE IN THE R-8 DISTRICT, WHICH REQUIRES THE 6 SHADE TREES OR THE EQUIVALENT OF A SHADE TREE VIA 6 PLANTINGS (1 PER 30 FEET)

PROPOSED STREET TREES = 8
TOTAL STREET TREES = 8

TREE PLANTING REQUIREMENTS:
REQUIREMENT - ONE STREET TREE IS REQUIRED PER DWELLING UNIT (24).

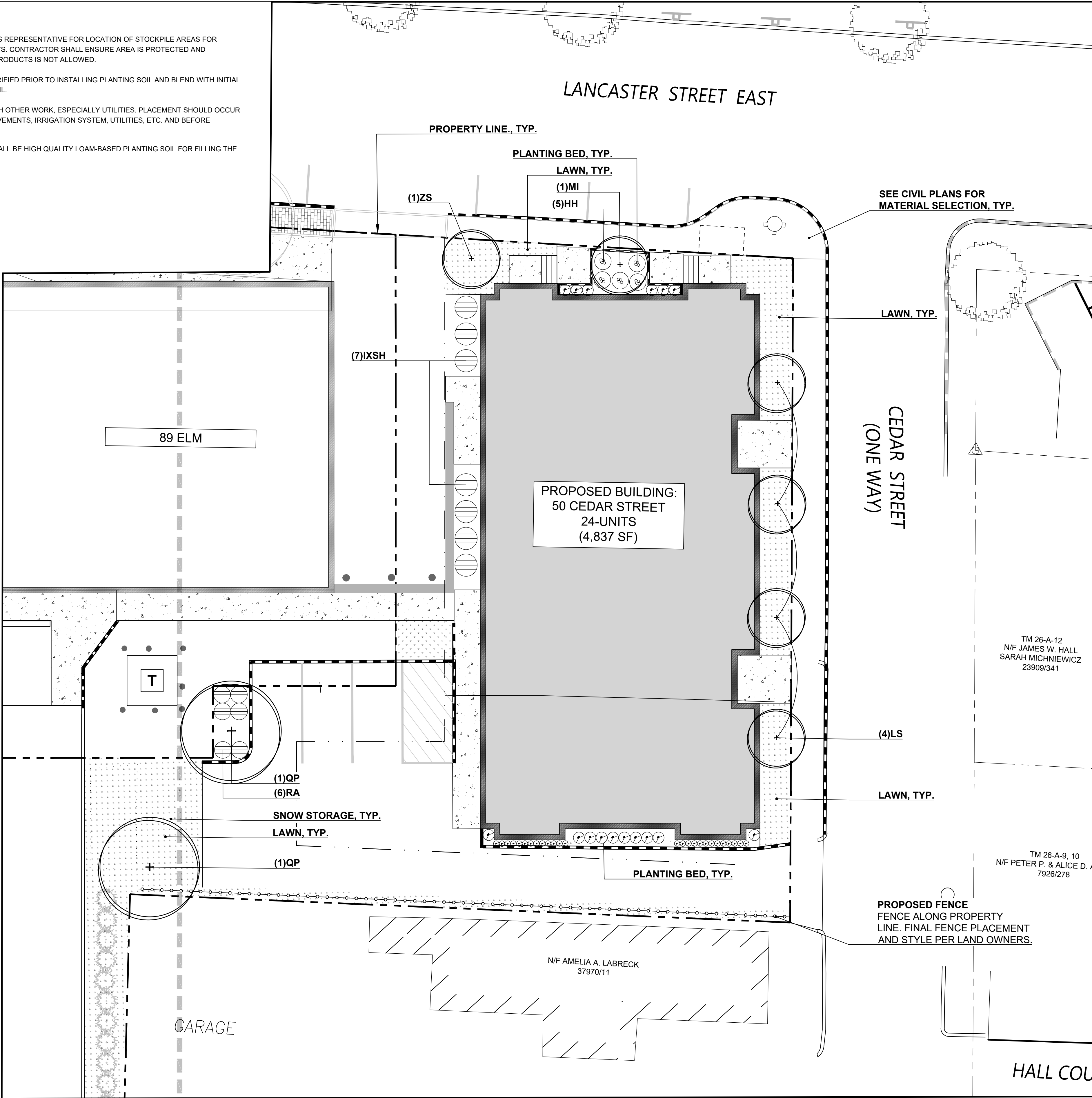
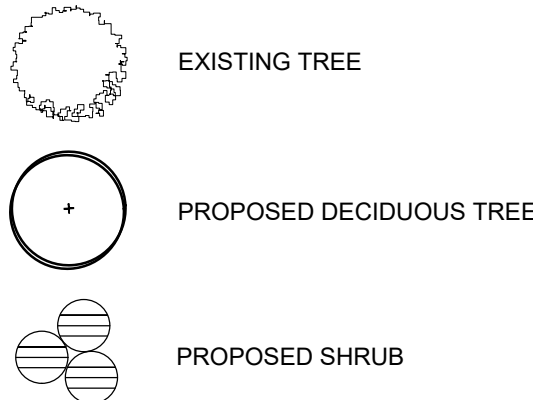
PROPOSED TREES = 8
TOTAL TREES = 8

THE REMAINING STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

SITE SOIL NOTES

- CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR LOCATION OF STOCKPILE AREAS FOR STRIPPED TOPSOIL AND PLANTING SOIL PRODUCTS. CONTRACTOR SHALL ENSURE AREA IS PROTECTED AND CONTAMINATION OR DISTURBANCE OF STORED PRODUCTS IS NOT ALLOWED.
- CONTRACTOR SHALL ENSURE SUBGRADE IS SCARIFIED PRIOR TO INSTALLING PLANTING SOIL AND BLEND WITH INITIAL LIFT OR PLACEMENT OF PROPOSED PLANTING SOIL.
- COORDINATE PLACEMENT OF PLANTING SOIL WITH OTHER WORK, ESPECIALLY UTILITIES. PLACEMENT SHOULD OCCUR AFTER INSTALLATION OF ALL HARDSCAPE IMPROVEMENTS, IRRIGATION SYSTEM, UTILITIES, ETC. AND BEFORE INSTALLATION OF PLANTS.
- SILVA CELL SOIL FOR STREET TREE PLANTING SHALL BE HIGH QUALITY LOAM-BASED PLANTING SOIL FOR FILLING THE SILVA CELLS.

PLANTING LEGEND



Prepared For:
REVELER, LLC
188 STATE STREET, 3RD FLOOR
PORTLAND, ME 04101

Prepared By:
Dry landscape architecture, LLC
31 miller ave.
biddeford, me 04005

Date:
APRIL 17, 2023

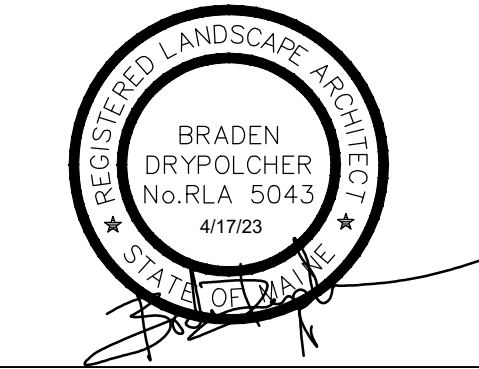
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PERMITTING DOCUMENTS

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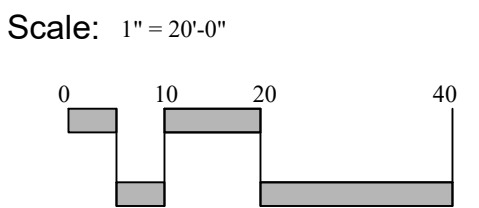
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50 Cedar Street
PHASE 2
Portland ME 04103

Revisions:



North:
Sheet No.:
L2

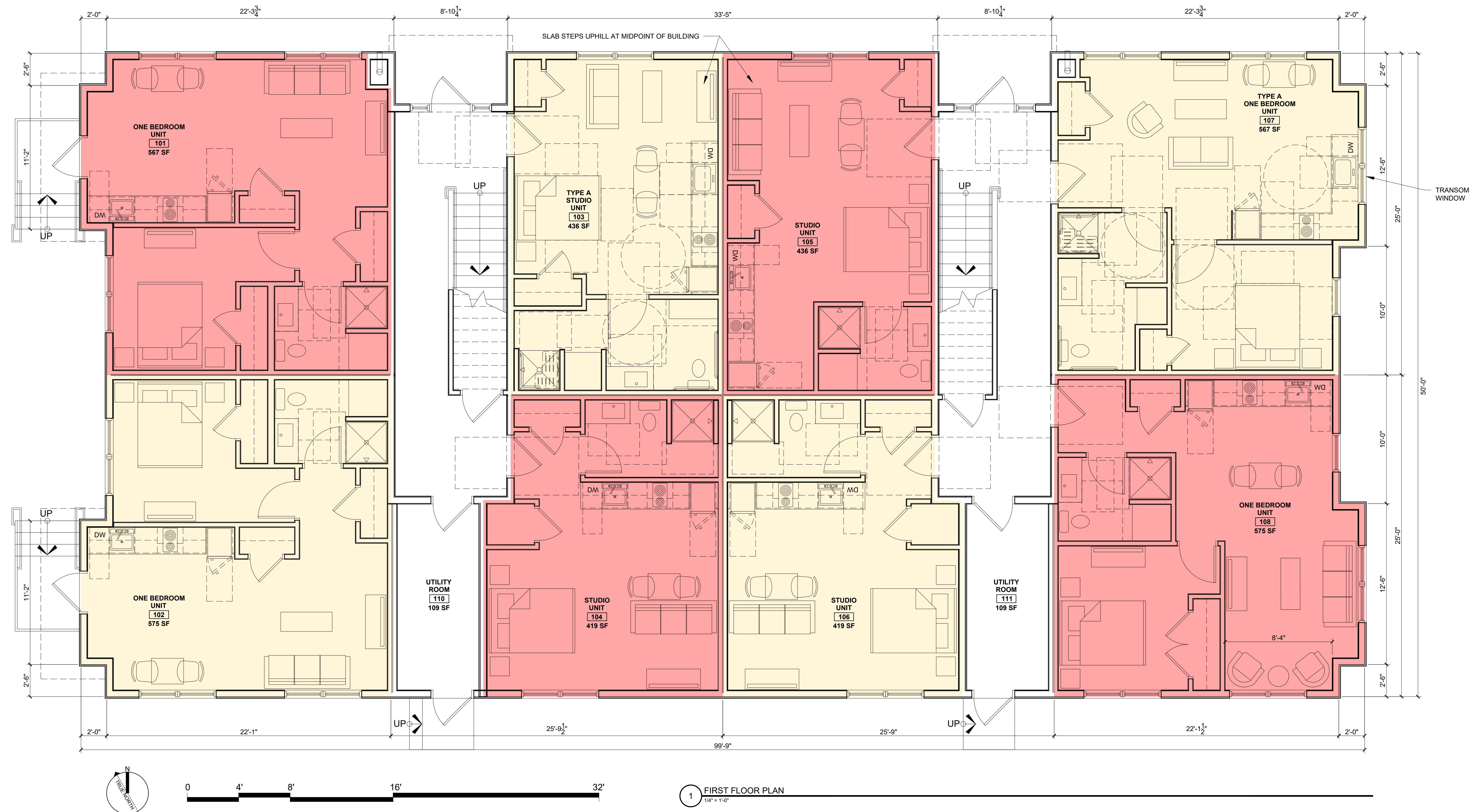


NOTE: This drawing is PRELIMINARY REVIEW ONLY. It is NOT intended for use as a construction document.

LANCASTER STREET

CEDAR STREET

4,796 SF FLOOR PLATE



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MULTI-FAMILY BUILDING
50 CEDAR STREET
PORTLAND, MAINE

RSA
RYAN SENATORE
ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
P: 207-747-5159
C: 207-650-6414
senatorearchitecture.com

CONSULTANTS:

PROGRESS PRINT ONLY
Not for Construction
APRIL 09, 2024

DATE:

PROJECT No. 2312

DRAWN BY: RRT

CHECKED BY: RJS

SCALE: AS NOTED

SHEET TITLE:

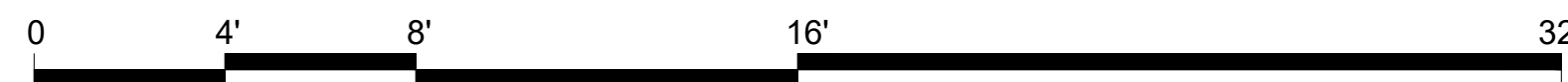
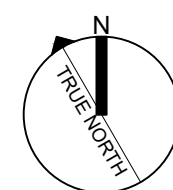
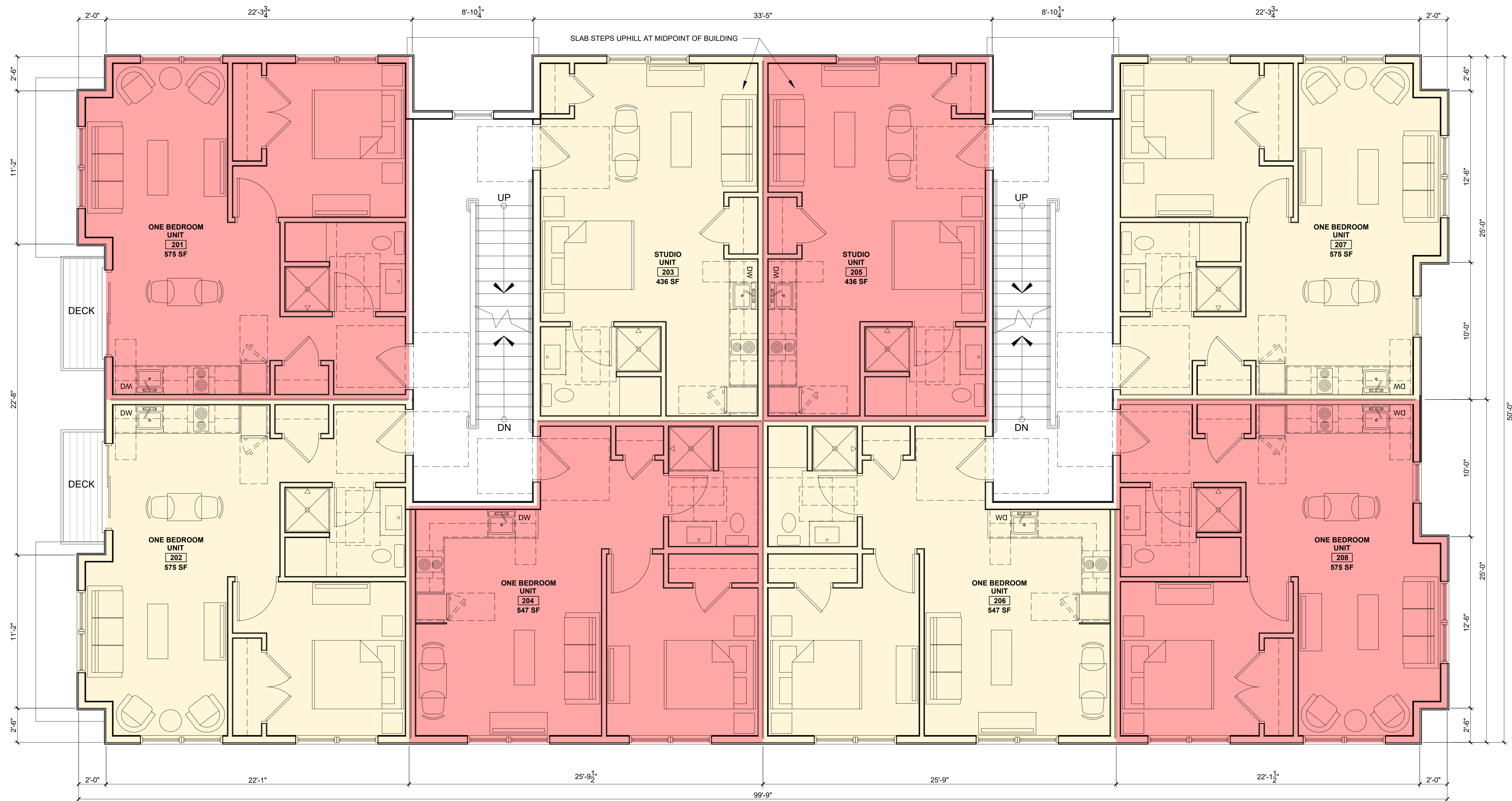
FIRST FLOOR
PLAN

A1-1

LANCASTER STREET

CEDAR STREET

4,796 SF FLOOR PLATE



1 SECOND FLOOR PLAN
1/4" = 1'-0"

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ARCHITECTURE

MULTI-FAMILY BUILDING
50 CEDAR STREET
PORTLAND, MAINE

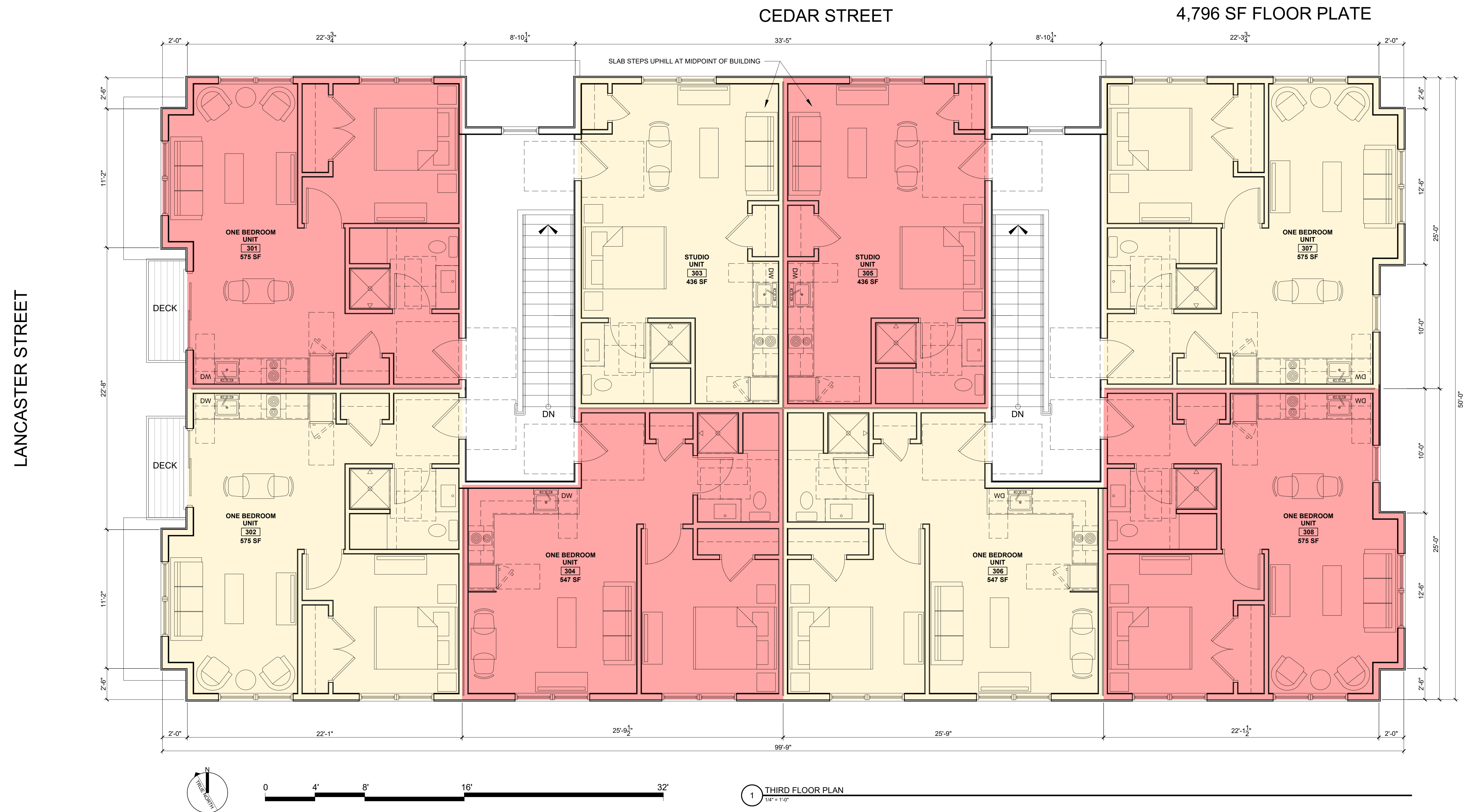
RSA
RYAN SENATORE
ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
P: 207-747-5159
C: 207-650-6414
senatorearchitecture.com

CONSULTANTS:

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APRIL 09, 2024

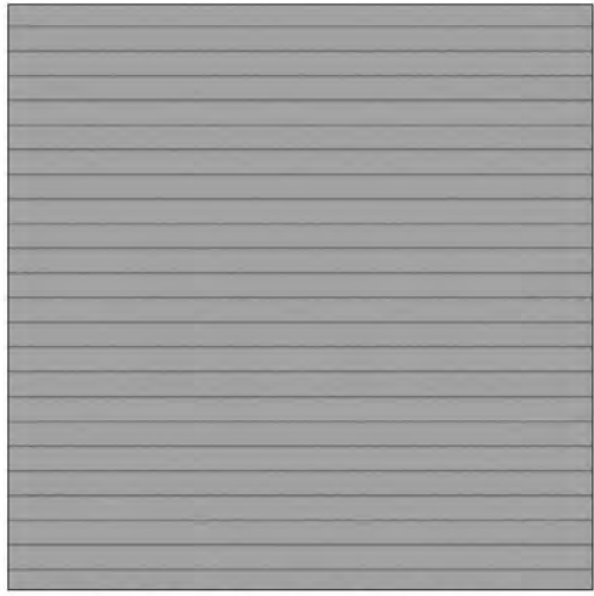
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CHECKED BY: RJS
SCALE: AS NOTED
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SECOND FLOOR PLAN

A1-2

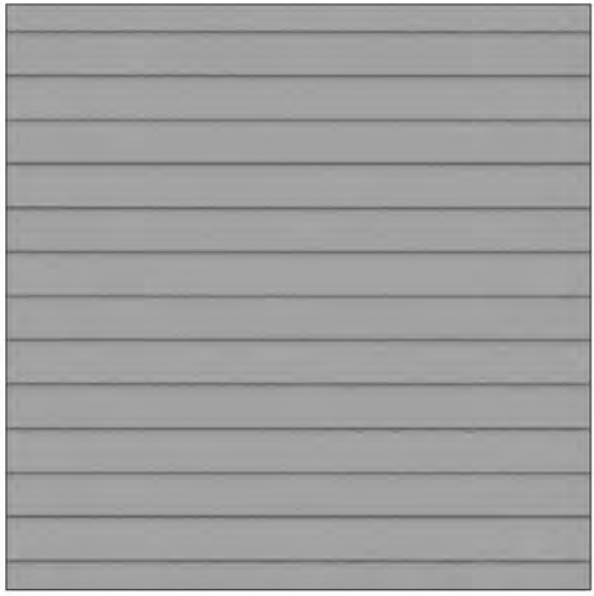




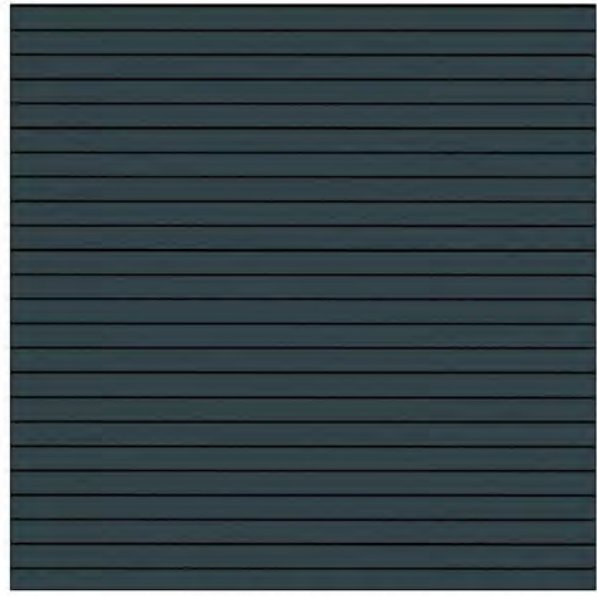
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5" LAP SIDING



COLOR #2 (GRAY)
5" LAP SIDING



COLOR #2 (GRAY)
9" ARTISAN SQUARE



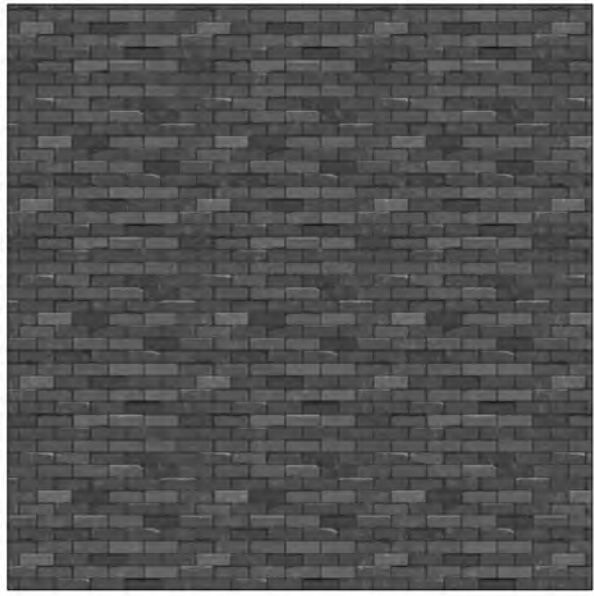
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5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
BRICK



1 WEST ELEVATION
1/4" = 1'-0"

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MULTI-FAMILY BUILDING
50 CEDAR STREET
PORTLAND, MAINE

RSA
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ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
O: 207-747-5159
C: 207-650-6414
senatorearchitecture.com

CONSULTANTS:

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PROJECT No. 2312

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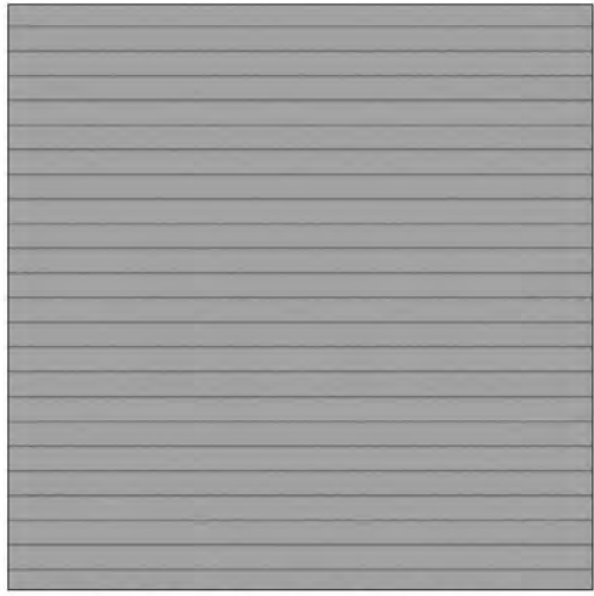
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WEST
ELEVATION

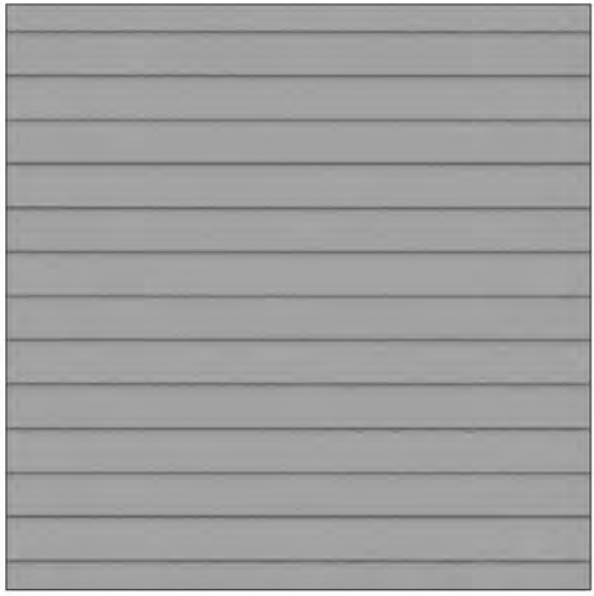
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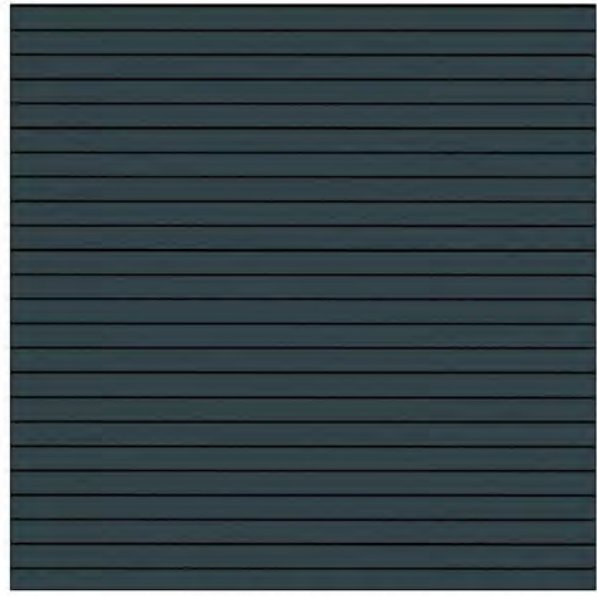
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COLOR #2 (GRAY)
9" ARTISAN SQUARE



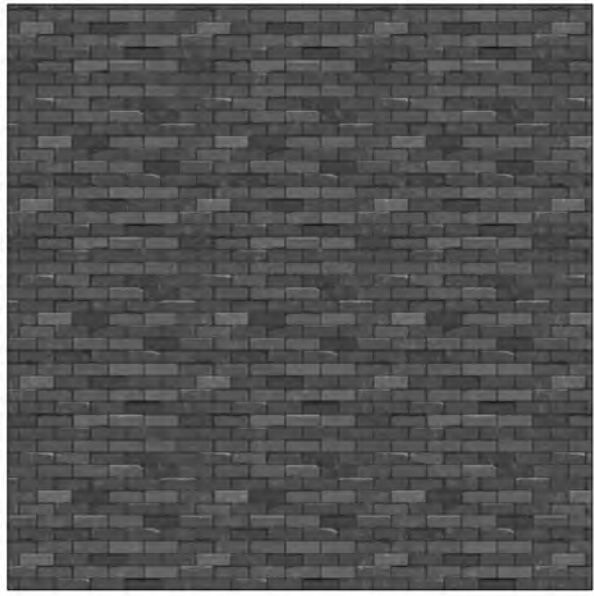
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5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
BRICK



1 NORTH ELEVATION
1/4" = 1'-0"

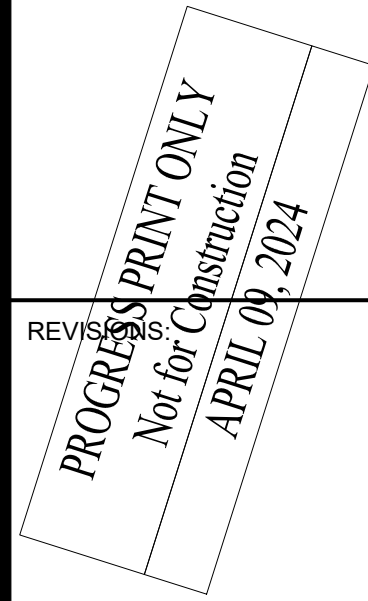
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SCALE: AS NOTED

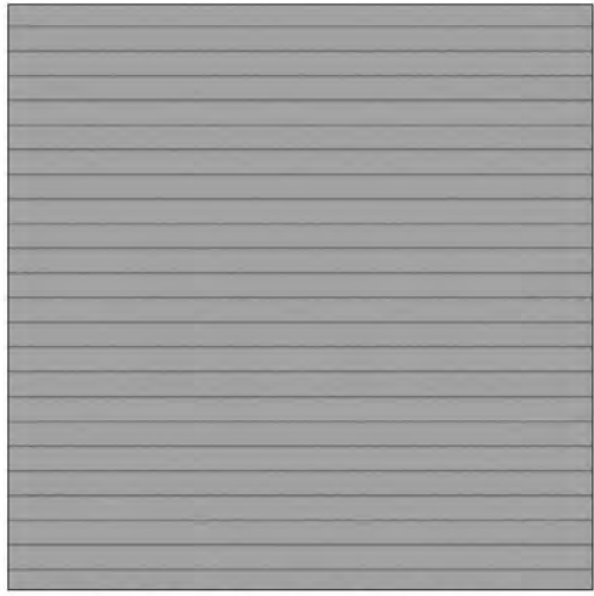
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NORTH
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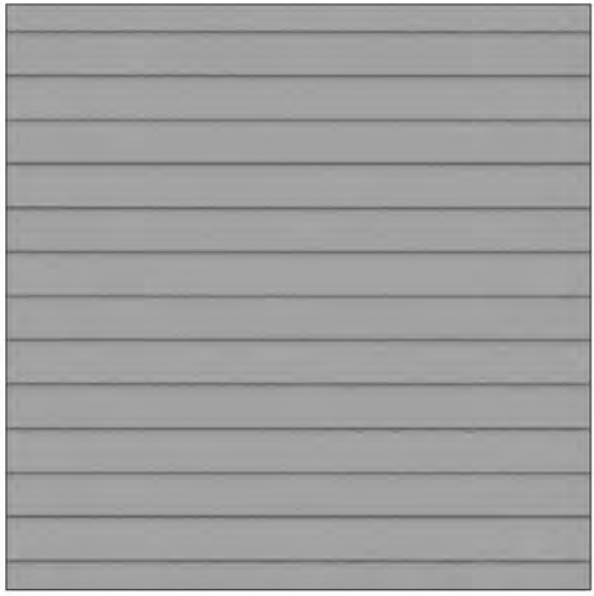
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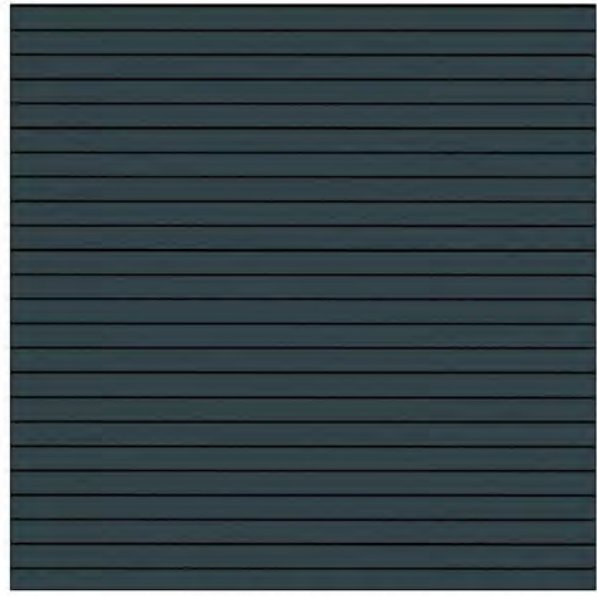
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COLOR #2 (GRAY)
5" LAP SIDING



COLOR #2 (GRAY)
9" ARTISAN SQUARE



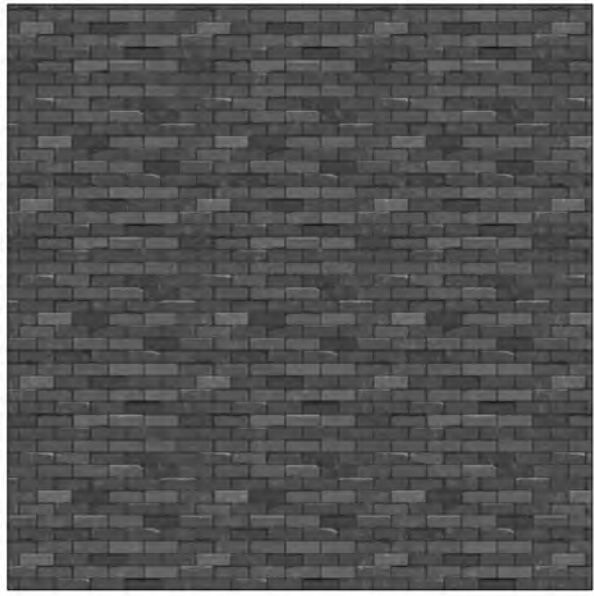
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5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
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COLOR #5 (DARK GRAY)
BRICK



1 EAST ELEVATION
1/4" = 1'-0"

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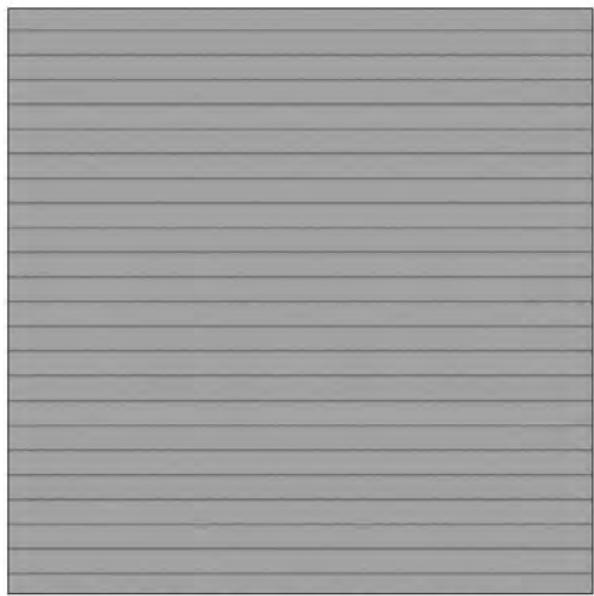
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DRAWN BY: RRT
CHECKED BY: RJS
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ELEVATION

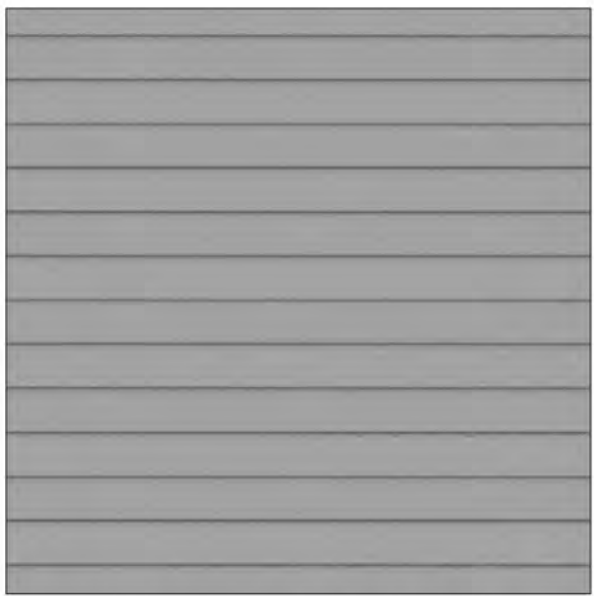
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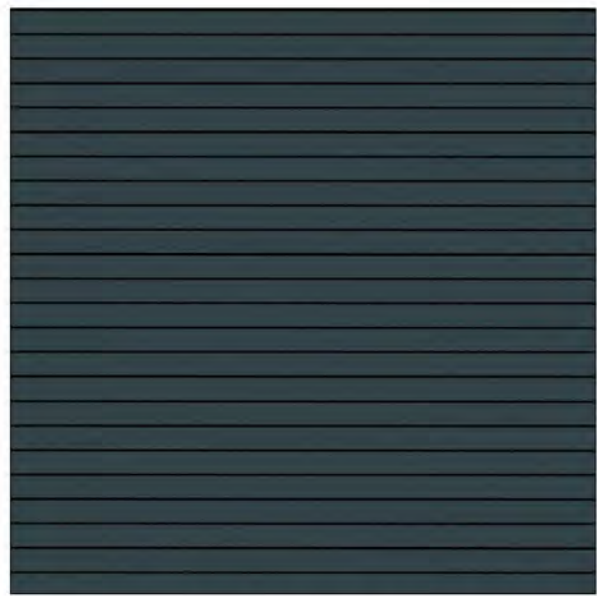
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COLOR #2 (GRAY)
5" LAP SIDING



COLOR #2 (GRAY)
9" ARTISAN SQUARE



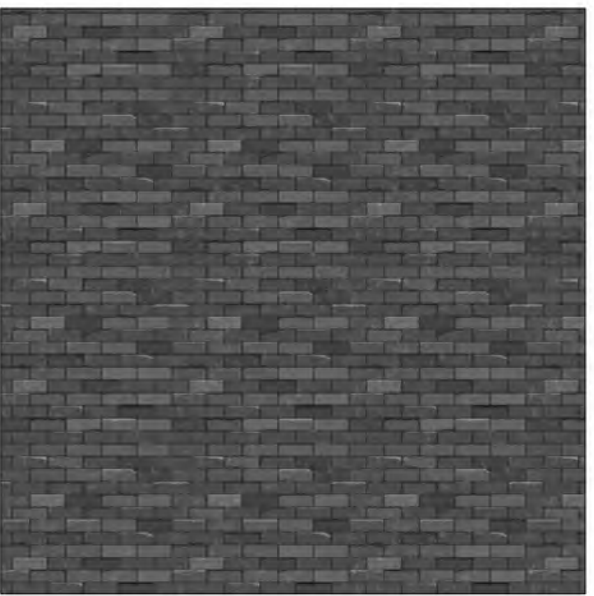
COLOR #3 (EVENING BLUE)
5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
BRICK



1 SOUTH ELEVATION
1/4" = 1'-0"

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SHEET TITLE:
SOUTH
ELEVATION

A2-3



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SHEET TITLE:
PERSPECTIVE 1

P1



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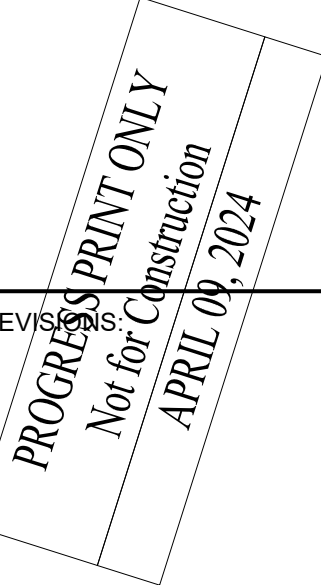
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PERSPECTIVE 2

P2



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SHEET TITLE:
PERSPECTIVE 3

P3



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SHEET TITLE:
PERSPECTIVE 4

P4



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SHEET TITLE:
PERSPECTIVE 5

P5



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PERSPECTIVE 6

P6



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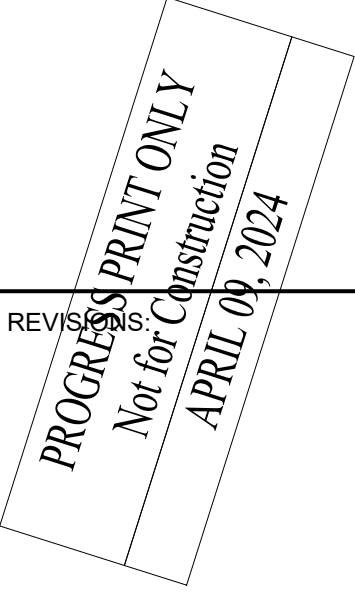
MULTI-FAMILY BUILDING

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SHEET TITLE:	PERSPECTIVE 7

P7



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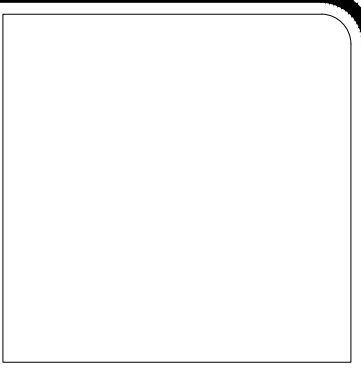
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SCALE:	AS NOTED
SHEET TITLE:	PERSPECTIVE 8

P8



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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 9

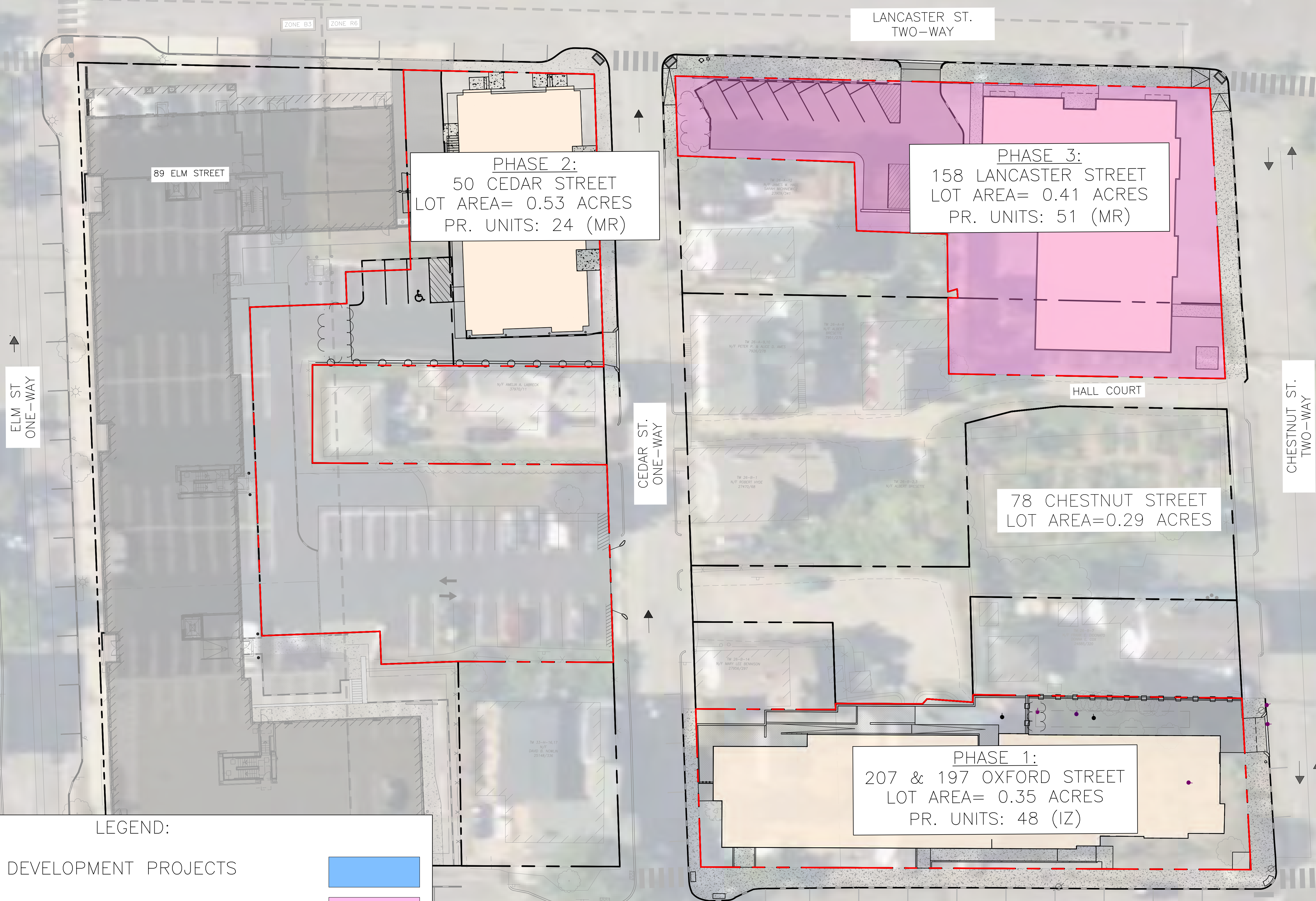
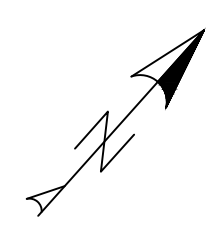
P9

Lancaster Street - Looking towards 50 Cedar Street & 89 Elm

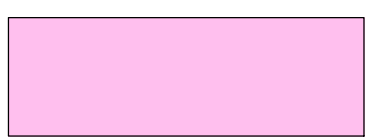


158 Lancaster Street + 50 Cedar Street
Portland, ME

OVERALL SITE PLAN



LEGEND:

AVESTA HOUSING DEVELOPMENT PROJECTS	
REVELER DEVELOPMENT PROJECTS	
CONTRIBUTING LAND (NOT TO BE REDEVELOPED UNDER THIS APPLICATION)	



PHASE 3:
158 LANCASTER STREET

LANCASTER ST.
TWO-WAY

CEDAR ST.
ONE-WAY

CHESTNUT ST.
TWO-WAY

PROPOSED BUILDING
158 LANCASTER STREET
BUILDING FOOTPRINT:
7,002 SF

10.00' SIDE YARD STEPBACK
5.00' SIDE YARD SETBACK

10.00' REAR YARD SETBACK
15.00' REAR YARD
STEPBACK OVER 35'



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

C-13

C:\Users\DRY_L\OneDrive\Documents\Onedrive\DRY_L\Projects\50 Cedar-158 Lancaster\CAD\158 Lancaster\17.24.dwg dwt 4/17/2024

PLANTING NOTES

- LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE.
- PLANT MATERIAL PROVIDED BY THE CONTRACTOR IS TO CONFORM TO THE HIGHEST STANDARD AS ADOPTED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. (ANSI). PLANT MATERIAL IS TO BE HEALTHY SPECIMENS, FREE FROM DISEASE OR DAMAGE.
- THE CONTRACTOR IS TO FURNISH PLANTS AND SOD SHOWN ON THE DRAWINGS. PLANTS ARE TO CONFORM WITH THE BOTANICAL IDENTIFICATIONS. PLANTS ARE TO BE SOURCED FROM A NURSERY WITHIN THE SAME CLIMATIC ZONE AS THE SITE LOCATION. NO SUBSTITUTIONS OF PLANT SPECIES ARE PERMITTED WITHOUT PRIOR APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE & THE LANDSCAPE ARCHITECT.
- SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF, FRUIT, COLOR, TIME OF BLOOM & CLIMATIC LOCATION AS APPROVED BY LANDSCAPE ARCHITECT.
- LOCATE AND VERIFY EXISTING & PROPOSED UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.
- PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM PLANTING AREAS.
- THE CONTRACTOR IS TO VERIFY SITE LAYOUT & GRADES & INFORM THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR CHANGES IN LAYOUT AND/OR GRADING PRIOR TO CONSTRUCTION. NO PLANTING IS TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
- ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. FINAL LOCATIONS OF PLANTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE. PLANT AND STAKES ARE TO BE SET PLUMB UNLESS OTHERWISE NOTED. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.
- WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.
- CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN PLANT MATERIALS INCLUDING SOD/SEED AREAS IN A HEALTHY STATE DURING CONSTRUCTION AND DURING REQUIRED WARRANTY PERIODS. ANY DAMAGE TO PLANT MATERIAL DUE TO NEGLECT BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- REPAIR DAMAGE DUE TO LANDSCAPE INSTALLATION OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK.
- SOAK ALL PERENNIALS FOR 24 HOURS PRIOR TO INSTALLATION.
- A LIST OF PLANTS INCLUDING BOTANICAL NAMES, SIZES, AND SPACING ARE SHOWN ON THE DRAWINGS. QUANTITIES ARE PROVIDED FOR CONTRACTOR'S CONVENIENCE AND ARE TO BE VERIFIED. IN THE EVENT THAT QUANTITIES OR OMISSIONS OCCUR THE PLAN DRAWINGS ARE TO BE FOLLOWED.
- IRRIGATION: A TEMPORARY UNDERGROUND DRIP AND SPRINKLER IRRIGATION SYSTEM IS TO BE PROVIDED FOR ALL PLANT MATERIAL AND SOD OR SEEDED AREAS.
- DISTURBED SITE AREAS ARE TO BE DRESSED WITH 6" MIN. OF AMENDED TOPSOIL FOR LAWNS AND 12" MIN. FOR PLANT BEDS. TOPSOIL FOR SEEDED AND/OR SEEDED AREAS IS TO BE TWO PARTS SHARP SAND, ONE PART LOAM AND ONE PART ORGANIC COMPOST.
- PLANT BEDS ARE TO BE MULCHED TO A DEPTH OF 2" MIN. WITH NATURAL BARK MULCH WITH BARK SIZES NO LARGER THAN 3". PERENNIAL PLANT BEDS ARE TO BE MULCHED WITH BARK SIZES NO MORE THAN 1". TREES IN LAWN AREAS ARE TO HAVE MULCH RINGS OF 5' DIA.
- TREES ADJACENT TO PEDESTRIAN ROUTES AND WITHIN PARKING ISLANDS ARE TO BE LIMBED TO 6' ABOVE GRADE.
- ALL TREE SPECIES SHALL BE WATERED AT LEAST 2-4 TIMES EACH WEEK WITH 10-15 GALLONS ADMINISTERED TO EACH TREE DEPENDING ON THE WEATHER AND CURRENT MOISTURE LEVEL. WATERING WILL CONSIST OF 10-15 GALLONS ADMINISTERED TO EACH TREE EVERY TIME THEY ARE WATERED.

SITE SOIL NOTES

- CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR LOCATION OF STOCKPILE AREAS FOR STRIPPED TOPSOIL AND PLANTING SOIL PRODUCTS. CONTRACTOR SHALL ENSURE AREA IS PROTECTED AND CONTAMINATION OR DISTURBANCE OF STORED PRODUCTS IS NOT ALLOWED.
- CONTRACTOR SHALL ENSURE SUBGRADE IS SCARIFIED PRIOR TO INSTALLING PLANTING SOIL AND BLEND WITH INITIAL LIFT OR PLACEMENT OF PROPOSED PLANTING SOIL.
- COORDINATE PLACEMENT OF PLANTING SOIL WITH OTHER WORK, ESPECIALLY UTILITIES. PLACEMENT SHOULD OCCUR AFTER INSTALLATION OF ALL LANDSCAPE IMPROVEMENTS, IRRIGATION SYSTEM, UTILITIES, ETC. AND BEFORE INSTALLATION OF PLANTS.
- SILVA CELL SOIL FOR STREET TREE PLANTING SHALL BE HIGH QUALITY LOAM-BASED PLANTING SOIL FOR FILLING THE SILVA CELLS.

SITE LANDSCAPING & BUFFERS

PARKING & SCREENING:

THE SITE HAS 3 PROPOSED PARKING SPACES WHICH REQUIRE THE PLANTING OF TWO TREES (OR ONE TREE AND THREE SHRUBS) PER FIVE PARKING SPACES.

PROPOSED TREES & SHRUBS = 1 TREES, 7 SHRUBS.

PLANTING REQUIREMENTS PER FRONTAGE:

THE SITE HAS 369 FEET OF FRONTAGE IN THE R-6 DISTRICT, WHICH REQUIRES THE 12 SHADE TREES OR THE EQUIVALENT OF A SHADE TREE VIA 6 PLANTINGS (1 PER 30 FEET)

PROPOSED STREET TREES = 8

EXISTING STREET TREES = 2

TOTAL STREET TREES = 10

THE REMAINING TWO STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

TREE PLANTING REQUIREMENTS:

REQUIREMENT - ONE STREET TREE IS REQUIRED PER DWELLING UNIT (40).

PROPOSED TREES = 16

EXISTING TREES = 6

TOTAL TREES = 22

THE REMAINING 29 STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

PLANTING SCHEDULE

DECIDUOUS TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
PA	<i>Prunus 'accolade'</i>	Accolade Cherry	4	2.5-3" cal	as shown	
OV	<i>Ostrya virginiana</i>	American Hophorn	3	2.5-3" cal	as shown	
QP	<i>Quercus paustris</i>	Pin Oak	2	2.5-3" cal	as shown	
ZS	<i>Zelkova Serrata</i>	City Sprite Zelkova	3	2.5-3" cal	as shown	
EVERGREEN TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
PG	<i>Picea glauca</i>	White Spruce	1	8-10'	as shown	
TD	<i>Thuja occidentalis "Degroots Spire"</i>	Degroot's Spire Arborvitae	3	8-10'	as shown	
DECIDUOUS SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
HH	<i>Hypericum 'Hidcote'</i>	St. John's Wort	7	24"-36" ht.	48" O.C.	
MPN	<i>Myrica pensylvanica</i>	Northern Bayberry	5	24"-30" ht.	60" O.C.	
RA	<i>Rhus aromatica</i>	Lo-gro Sumac	11	24"-30" ht.	48" O.C.	
EVERGREEN SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
IXSH	<i>Ilex glabra 'Shamrock'</i>	Shamrock Inkberry	10	30"-36" ht.	48" O.C.	
JUC	<i>Juniperus conferta 'Emerald Sea'</i>	Emerald Sea Shore Juniper	6	18"-24" ht.	48" O.C.	

CRUSHED STONE & WOODEN GUARDRAIL
SEE CIVIL PLANS, TYP.

SEE CIVIL PLANS FOR SIDEWALK
MATERIAL SELECTION, TYP.

LANCASTER STREET EAST

SEE CIVIL PLANS FOR
MATERIAL SELECTION, TYP.

SEE CIVIL PLANS FOR
MATERIAL SELECTION, TYP.

PROPOSED BUILDING
158 LANCASTER STREET
BUILDING FOOTPRINT: 7,002 SF

EX. SMH RM: 11.20'
INV. IN: 5.02' (18")
QP. IN: 5.52' (8")
INV. IN: 5.62' (6")
INV. OUT: 4.92' (18")

TOP OF TRANSFORMER
PAD SHALL BE 6" ABOVE
FINAL GRADE AT MINIMUM

PLANTING LEGEND

- EXISTING TREE
- EXISTING EVERGREEN TREE
- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUB

Prepared For:

REVELER, LLC
188 STATE STREET, 3RD FLOOR
PORTLAND, ME 04101

Prepared By:

Dry landscape architecture, l.l.c
31 miller ave.
biddeford, me 04005

Date:

APRIL 16, 2024

Issued For:

PERMITTING DOCUMENTS

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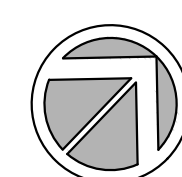
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158 Lancaster
Street
PHASE 3
Portland ME 04103

Revisions:



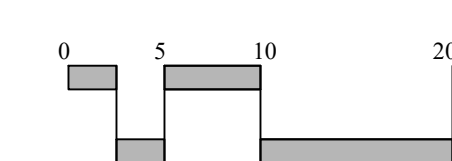
North:



Sheet No.:

L3

Scale: 1" = 10'-0"



NOTE: This drawing is PRELIMINARY REVIEW
ONLY. It is NOT intended for use as a
construction document.

6,960 SF FLOOR PLATE
4 STUDIO APARTMENTS
3 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FIRST FLOOR PLAN
1/8" = 1'-0"

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APARTMENTS
158 LANCASTER STREET
PORTLAND, MAINE

RSA
RYAN SENATORE
ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
O: 207-747-5159
C: 207-650-6414
senatorearchitecture.com

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APRIL 09, 2024

DATE:
PROJECT No. 2418
DRAWN BY: RRT
CHECKED BY: RJS
SCALE: AS NOTED

SHEET TITLE:
FIRST FLOOR
PLAN

A1-1

7,072 SF FLOOR PLATE
5 STUDIO APARTMENTS
6 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 SECOND FLOOR PLAN
1/8" = 1'-0"

7,072 SF FLOOR PLATE
5 STUDIO APARTMENTS
6 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 THIRD FLOOR PLAN
1/8" = 1'-0"

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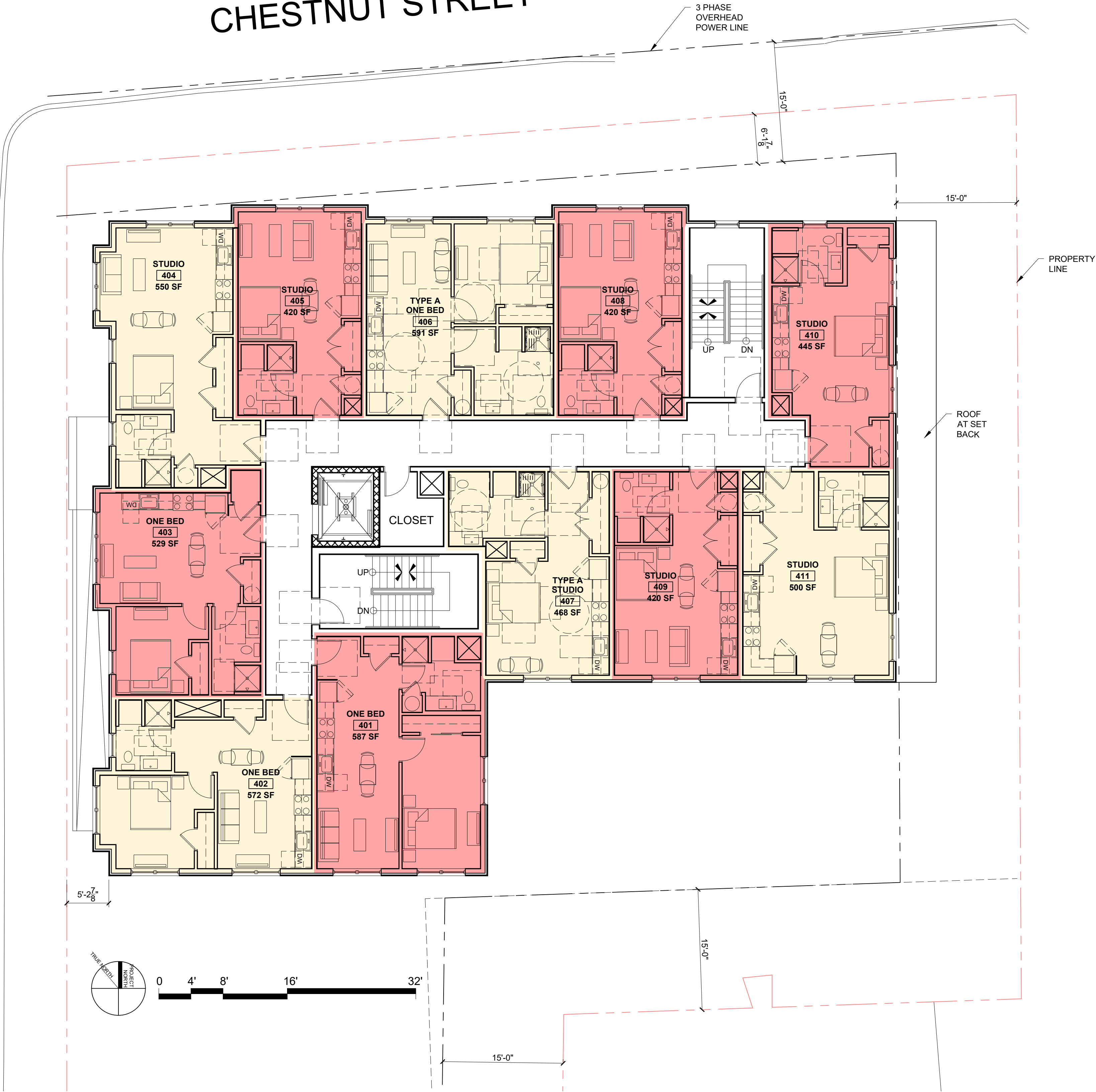
SHEET TITLE:
THIRD FLOOR
PLAN

A1-3

6,788 SF FLOOR PLATE
7 STUDIO APARTMENTS
4 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FOURTH FLOOR PLAN
1/8" = 1'-0"

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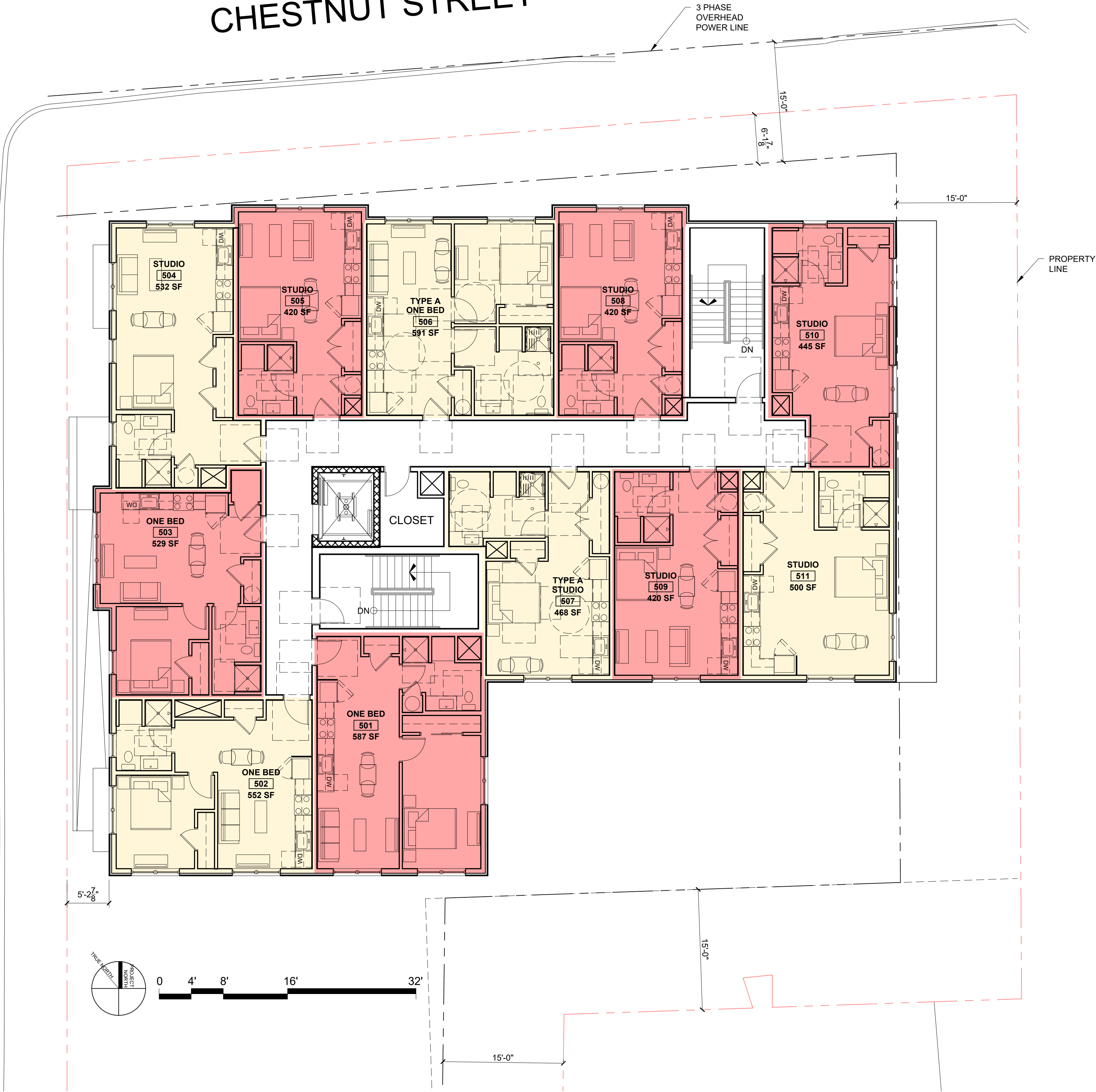
SHEET TITLE:
FOURTH FLOOR PLAN

A1-4

6,788 SF FLOOR PLATE
7 STUDIO APARTMENTS
4 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FIFTH FLOOR PLAN
1/8" = 1'-0"



1 WEST ELEVATION
1/4" = 1'-0"

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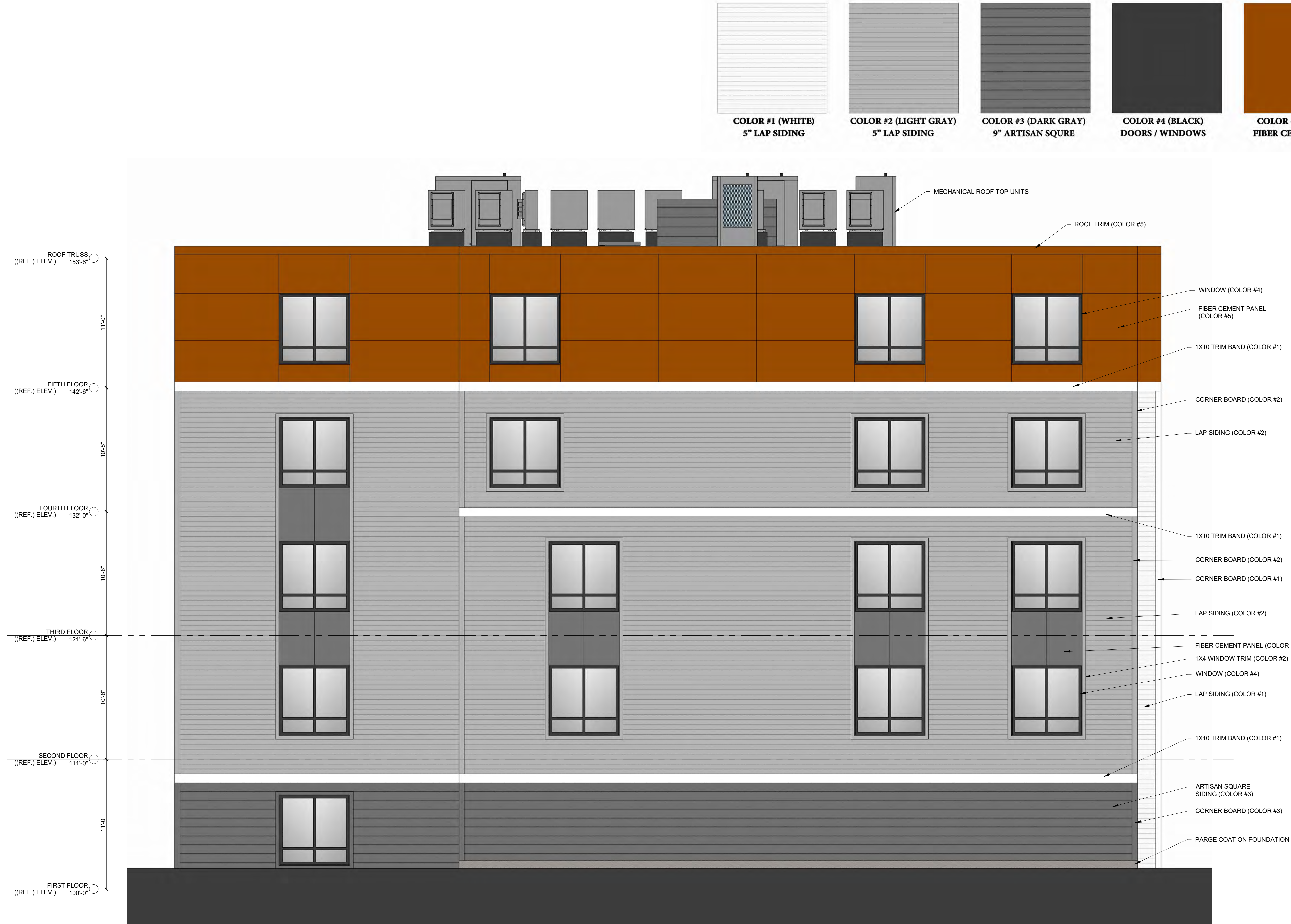
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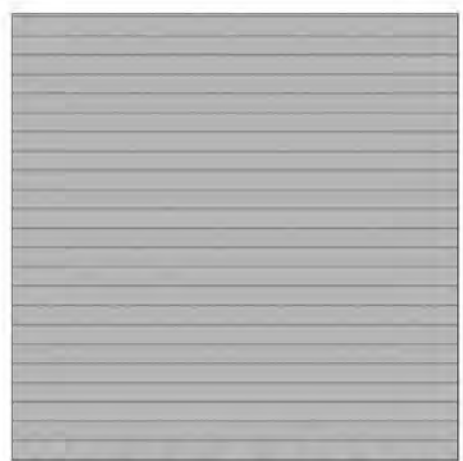
WEST
ELEVATION

A2-0





COLOR #1 (WHITE)
5" LAP SIDING



COLOR #2 (LIGHT GRAY)
5" LAP SIDING



COLOR #3 (DARK GRAY)
9" ARTISAN SQUIRE



COLOR #4 (BLACK)
DOORS / WINDOWS



COLOR #5 (ACCENT)
FIBER CEMENT PANEL

MECHANICAL ROOF TOP UNITS

ROOF TRIM (COLOR #5)

WINDOW (COLOR #4)

FIBER CEMENT PANEL
(COLOR #5)

1X10 TRIM BAND (COLOR #1)

CORNER BOARD (COLOR #2)

LAP SIDING (COLOR #2)

1X10 TRIM BAND (COLOR #1)

CORNER BOARD (COLOR #2)

CORNER BOARD (COLOR #1)

LAP SIDING (COLOR #2)

FIBER CEMENT PANEL (COLOR #2)

1X4 WINDOW TRIM (COLOR #2)

WINDOW (COLOR #4)

LAP SIDING (COLOR #1)

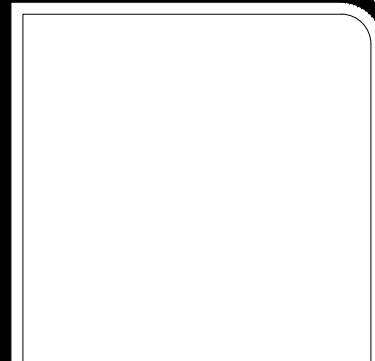
1X10 TRIM BAND (COLOR #1)

ARTISAN SQUARE
SIDING (COLOR #3)

CORNER BOARD (COLOR #3)

PARGE COAT ON FOUNDATION

1 EAST ELEVATION
1/4" = 1'-0"



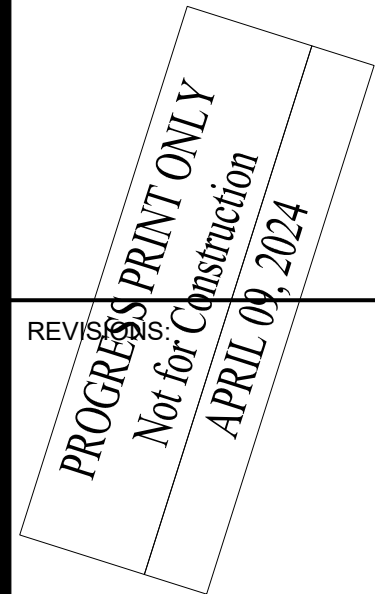
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REVISIONS

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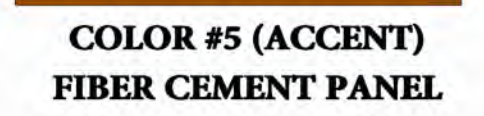
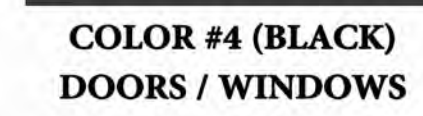
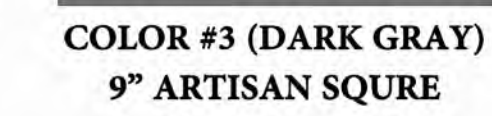
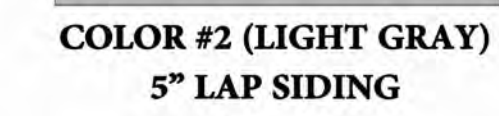
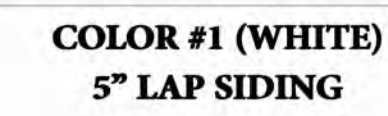
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SCALE: AS NOTED

SHEET TITLE:

EAST
ELEVATION

A2-2



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SHEET TITLE:
SOUTH
ELEVATION

A2-3



1 SOUTH ELEVATION
1/4" = 1'-0"



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SHEET TITLE:
PERSPECTIVE 1

P1



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SHEET TITLE:
PERSPECTIVE 2

P2



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SHEET TITLE:
PERSPECTIVE 3

P3



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SHEET TITLE:
PERSPECTIVE 4

P4



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SHEET TITLE:
PERSPECTIVE 5

P5



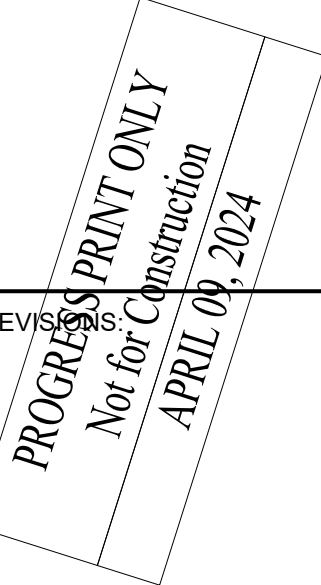
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SHEET TITLE:
PERSPECTIVE 6

P6



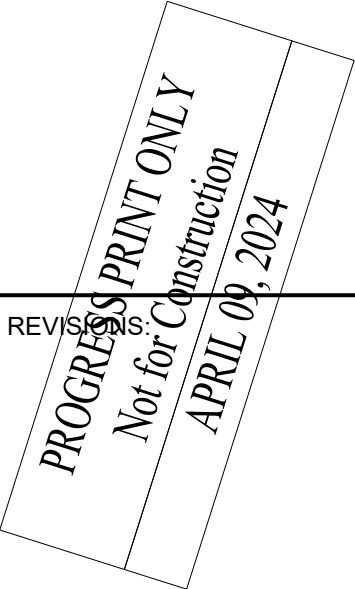
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DATE:

PROJECT No. 2418

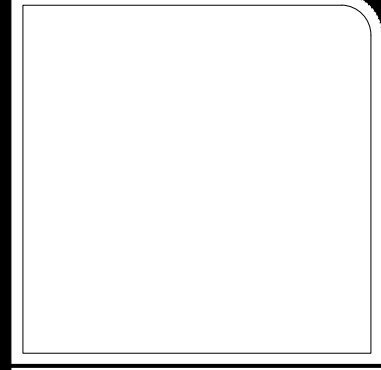
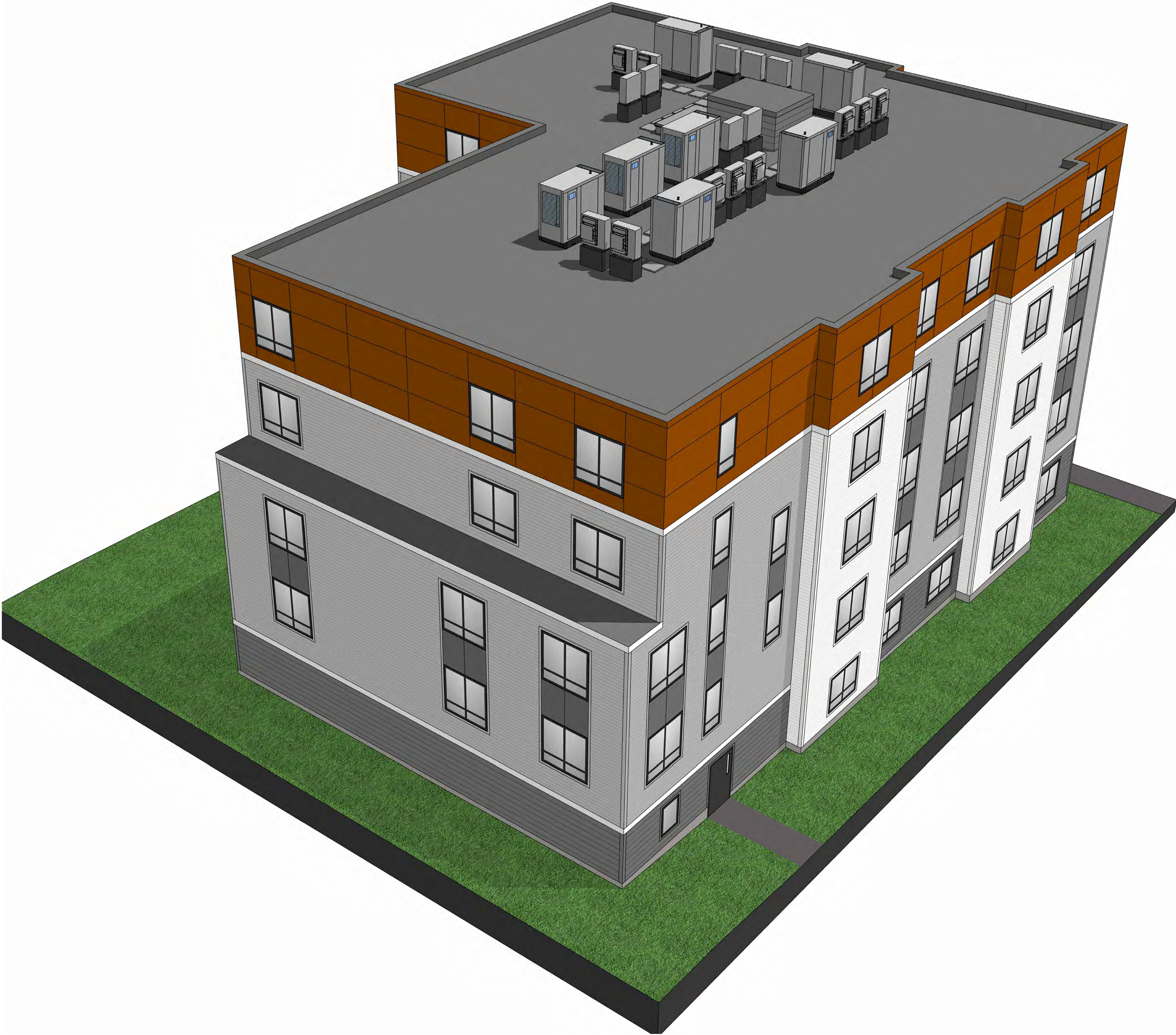
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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 7

P7



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SHEET TITLE:
PERSPECTIVE 8

P8

158 Lancaster Street - Looking towards 50 Cedar Street



** Note: see architectural sheets for building treatments , material color, and selections*

158 Lancaster Street + 50 Cedar Street
Portland, ME

Ann Dodd-Collins <doddco@gmail.com>
to planningboard@portlandmaine.gov

Jun 18, 2024, 10:40:47 AM (3 days ago)



To: Planning Board, Portland ME
From: Ann Dodd-Collins, 120 Pleasant Ave, Portland ME

I urge you to consider and approve the redevelopment of the former Oxford Street Shelter location into a new Avesta Housing and Preble Street Site-based Housing First building.

I moved to Portland in September 2015 and began volunteering at Preble Street two months later. Before the pandemic, I got to know several of our neighbors who ate lunch at the former soup kitchen on Oxford Street, and I saw first hand what a difference having a safe place to live and sleep made in their lives. I saw their faces change from faces that showed stress and anxiety to faces that were smiling.

The job of the planning board this evening is to evaluate the technicalities of this proposal, and this proposal meets the requirements. Site-based Housing First is one step in ending long-term, chronic homelessness in Maine. It is cost-effective, and it is needed. We have known for a long time now that once people are safe and supported by 24-hour onsite social work staff in permanent housing, they can stabilize and work toward a more fulfilling and independent future; including addressing substance use disorder, focusing on health, education, or employment, and rebuilding relationships with friends and family. And that benefits us all.

Please approve the new Avesta Housing and Preble Street Site-based Housing First building proposal.

Ann Dodd-Collins

Delene Perley <deleneperley@gmail.com>

Jun 13, 2024, 9:35:43 AM (4 days ago)



to planningboard@portlandmaine.gov

I totally support creating housing for the unhoused with assistance to help

The individuals deal with their other issues. It only makes sense. Stability in a living place and then work on the rest.

Once people are safe and supported by 24-hour onsite social work staff in permanent housing, they can stabilize and work toward a more fulfilling and independent future; including addressing substance use disorder, focusing on health, education, or employment, and rebuilding relationships with friends and family.

Thank you for your work.

Delene Perley
15 Middle Street

George Rheault <george.rheault@gmail.com>

Jun 20, 2024, 12:42:44 PM (21 hours ago)



to Planning Board, kkraft, jmy, Mark Dion, Pious Ali, April Fournier, Roberto Rodríguez, Anna Trevorow, Victoria Pelletier, Regina Phillips, Anna Bullett, Kate Sykes

I am categorically opposed to the siting of a Housing First project at the former Oxford Street Shelter.

I am withholding my many thoughts and comments (including technical and legal objections) until I see the initial planning staff memo (still holding out hope that the staff might do the right thing), but it should go without saying that this entire proposal represents a complete failure of what our community's planning process should be doing.

Concentrating the impoverished, the addicted, the mentally ill and the unhoused in a small area of the peninsula (indeed which is already a tiny portion of sprawling Cumberland County) is one of the most cynical and frankly, evil, acts I have seen conducted in my almost nine years of calling Portland home. The level of cowardice on display among our policy-makers and the leadership of the social services community is jaw-dropping as is the raw political self-interest.

Attached please find two notorious examples of how badly the segregation of the troubled in Bayside has worked out for many in the last several decades who were forced into close quarters here while trying to seek the meager help and assistance offered by our broken social safety net.

If our planning department, planning board, city officials, federal and state representatives and the individual members of the Board of Directors of AVESTA and PREBLE STREET want to perpetuate this kind of environment in order to exchange favors with Tom Watson's real estate development affiliate, then they will have to live with that infamy and any foreseeable results that follow.

2022 Bayside Murder (see attachment for webpage version of TV news report)

Suspect in Portland homicide pleads not guilty | [newscentermaine.com](https://www.newscentermaine.com)

<https://www.newscentermaine.com/article/news/crime/suspect-in-november-portland-homicide-pleads-not-guilty-crime/97-04365211-f80d-4203-aa8d-0c9157ea643f>

2004 Bayside Rape (see attachments regarding crime for which the perpetrator is still serving time for)

CRIME

Suspect in November Portland homicide pleads not guilty

According to the police affidavit, Frederick Johnson strangled 23-year-old Bethany Kelley, who was homeless at the time in Portland



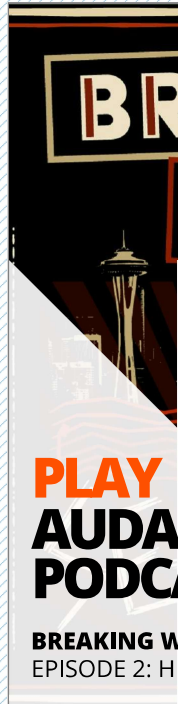
Author: **Jack Molmud**

Published: **7:11 PM EDT May 3, 2023**

Updated: **7:29 PM EDT May 3, 2023**



PORTLAND, Maine — More than six months on since 23-year-old Bethany Kelley's body was left lifeless outside Portland's Bayside neighborhood in November, her suspected killer is pleading not guilty, and a newly published police account shows the details of Kelley's death.



According to the affidavit filed by the Portland Police Department, Frederick Johnson, 46, reportedly strangled Kelley after he attempted to make sexual advances toward her.

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Why everything is terrible to some Americans

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Yahoo Finance

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Kelley, who was 23, was homeless at the time and staying at Preble Street's Elena's Way shelter, according to those who knew her.

The affidavit goes into detail about how Johnson, Kelley, and another man hung out the evening of Nov. 17, 2022, and walked near Kennebec Street, where her body was found the

next morning.

Kelley's mom, Julie Kelley, spoke to NEWS CENTER Maine from her home in Oregon.

"She was a beautiful, strong soul. And she had a son and was caring for people in her life," Kelley said.

Bethany Kelley's death also shows the dangers faced by unhoused people, Preble Street's Andrew Bove said.

"People that are unsheltered are incredibly vulnerable. Most people don't appreciate the level of fear unsheltered folks live in the day to day," Bove said. "People who are sleeping outside are incredibly vulnerable, and they need access to safety, shelter, and resources just like everyone else."

Bove said a prime example of the dangers faced by unhoused Mainers comes at the Bayside neighborhood encampment, which the city has waived these last few weeks on dispersing the crowd.

"They have been victimized over the last couple of months," Bove said. He added his team heard reports that people come to the encampment and assaulted the unhoused people staying there.

In Bethany Kelley's case, her suspected killer is pleading not guilty. He faces other unrelated charges and is currently being held in the Aroostook County Jail.

LOCAL & STATE

Out & About/B12
Deaths/B10
Weather/B12

Thursday, September 2, 2004

Portland Press Herald / York Edition

SECTION 5

Transient arrested in violent attack

A Portland woman was beaten and sexually assaulted in an hours-long attack by a stranger.

By DAVID HENCH
Staff Writer

A transient from Florida who has been in town for just a week is being held on charges that he raped and beat a Portland woman near the city's main post office on Forest Avenue.

Authorities say Brandon Drewry, 42, dragged a 21-year-old woman into a small wooded area at Brattle and Kennebec streets, choked her until she was unconscious, beat her and sexually

assaulted her over a period of hours Monday night and Tuesday morning.

He was held in the Cumberland County Jail with bail set at \$100,000 after his arrest Tuesday on charges of gross sexual assault, kidnapping and aggravated assault.

"This guy is an animal. Hopefully he doesn't get out on the streets for a long period of time," said Police Chief Michael Chitwood. "The woman is lucky to be alive today."

The woman told police Tuesday that she was walking near Portland and Brattle streets about 11 p.m. Monday when she struck up a conversation with a man she did not know. They had



Brandon Drewry

walked together partway down Brattle Street when the man grabbed her and dragged her into a wooded area along some unused railroad tracks, she said.

The alley, between the post office and a boarded-up storage building on Kennebec Street, is littered with beer bottles and cans along with other debris, signs that it is used as a drinking spot. Cleared areas were strewn with broken glass.

The woman told police that the man threatened to maim her with broken glass, and police said

he did cut her legs with shards of glass.

At some point after 4 a.m. Tuesday, the woman was able to crawl out of the wooded area and make her way to her nearby home, where family members called for help.

The woman was treated at Maine Medical Center on Tuesday for two black eyes, a broken eye socket, cracked ribs and a fractured jaw. She is expected to recover from her injuries.

She gave police a description of her attacker and noted that he said he had stayed at the city's shelter on Oxford Street.

Detectives Maryann Bailey

Please see **ASSAULT**, Page B10



Staff photo by John Ewing

"This guy is an animal," said Portland Police Chief Michael Chitwood, pointing out the scene of the assault. "The woman is lucky to be alive today."

ASSAULT

Continued from Page B1

and Paul Murphy went to the Preble Street Resource Center on Oxford Street, which provides services to the poor and homeless, to ask workers whether the attacker's description was familiar. While waiting there, they saw Drewry. His clothing and physique matched closely what the woman had described, including the blue and white sneakers.

When they interviewed him, he gave conflicting stories, police said. He said he had stayed in the Oxford Street shelter Monday night, but shelter records showed that a man listing his name as Brandon Dreary had last stayed there Sunday night, court papers said.

When the woman was shown a photo lineup, she forcefully identified Drewry as her attacker.

Drewry told police that he had been in town for only a few days and produced a Florida identification card. Chitwood said Drewry's criminal history in Florida includes domestic violence, cocaine trafficking, car theft and resisting arrest. When he was picked up Tuesday, he did not resist, police said.

Drewry said he was attracted



Staff photo by John Ewing

Portland police say a woman was raped in this area near the intersection of Brattle and Kennebec streets. Police say the area is a known hangout for some of the city's homeless.

to the city because of its services for the needy, Chitwood said.

The city does not run background checks on people who seek a place to sleep in the emergency shelter, said Gerald Cayer, director of Portland's Department of Health and Human Services. Homeless people often have no identification and sometimes give aliases when they register. If the city learns that a person is a registered sex offender, the person is barred from the shelter, he said.

Cayer said the city's safety net does attract people from elsewhere in Maine and outside the state – even as far away as Florida – but he said the behavior of one person should not reflect on all homeless people.

Jan Bradley, assistant director of Preble Street, said the center does not plan to conduct background checks, saying that being more restrictive won't keep away bad people but could leave disabled or mentally ill people more vulnerable.

Jan Bradley, assistant director of Preble Street, said being more restrictive by conducting background checks won't keep away bad people but could leave disabled or mentally ill people more vulnerable.

Police plan to seek a DNA sample from Drewry, said Lt. Vern Malloch, head of Portland's investigations bureau. Drewry refused to give a sample to investigators Tuesday.

Drewry declined a request for an interview Wednesday, and the lawyer appointed to represent him at his initial appearance Wednesday, Rob Ruffner, said it was too early to discuss the case.

The state is likely to seek an indictment from a Cumberland County grand jury next month.

Police said it is impossible to predict such a sadistic attack but said women can take steps to increase their safety, such as not walking alone at night, being alert to surroundings and listening to their instincts.

Staff Writer David Hensch can be contacted at 791-6327 or at:

dhensch@pressherald.com

LOCAL & STATE

Comics/B6
Television/B7
Weather/B10

Saturday, December 16, 2006

Portland Press Herald/Final Edition

SECTION B

Rape victim describes four-hour ordeal

The woman, testifying against Brandon Drewry, says her attacker seemed most to enjoy hitting her.

By GREGORY D. KESICH
Staff Writer

More than two years ago, an anguished Portland woman called 911 to report that a man had dragged her by the hair into a dark alley and sexually assaulted her.

On Friday, the same woman appeared before a jury in Cumberland County Superior

Court to say that the man who did it was Brandon Drewry.

Drewry's much-delayed trial began on Wednesday, more than 27 months after his arrest on Aug. 31, 2004, the day of the 911 call.

He has been in jail ever since, unable to make bail. If convicted, he will face as much as 30 years in prison for kidnapping, gross sexual assault and other charges.

The prosecution's case relies heavily on the testimony of a 27-year-old Bayside woman who pointed toward Drewry in

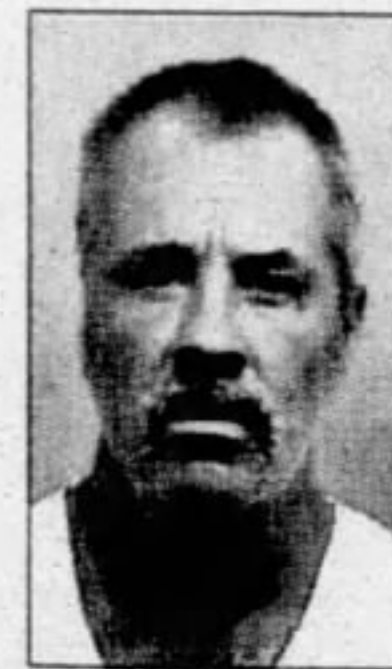
the courtroom on Friday and identified him as the man who attacked her. To convict him, the jury will have to believe her story, despite her admissions that she was a crack cocaine user who was walking on Portland Street at midnight, looking for drugs, when she was assaulted.

The woman was the first witness to testify after the lunch recess on Friday, following a day and a half of painstaking testimony from police evidence-handlers addressing questions about how clothing and other items were collected, catalogued

and stored.

The slight, brown-haired woman walked to the witness stand with her head down and arms folded across her chest. Her quiet voice could barely be heard as she answered questions from Assistant District Attorney Deb Chmielewski at the beginning of her three hours of testimony.

She said she was married and had two children. She said she was a crack user at the time of the assault and continued to use the drug after it. She said she had been accepted into a residential drug-treatment program



Brandon
Drewry

strange man. Later that night, she went out looking for drugs and found the same man still sitting there, alone.

The two walked down Brattle

that will start in a few days.

She told the jury that she walked outside for a soda on the night of Aug. 30 and saw a friend sitting on the steps of a building on Portland Street with a

Street sharing a marijuana cigarette. When they got near the entrance of an alley, the woman said, he attacked her.

"He grabbed me by my hair and dragged me down a side alley," she said. "He put his knees on my shoulders and started choking me with both hands."

According to her testimony, that began four hours of torture in which she was beaten, forced to perform sex acts and threatened with broken glass. She also said her assailant repeatedly

Please see TRIAL, Page B8

TRIAL

Continued from **Page B1**

sodomized her.

"What did he seem to enjoy most?" Chmielewski asked.

"Hitting me," the woman said. "He didn't stop. He'd take his cigarette breaks in between his hits, like it was a joke."

During one cigarette break, she said, she was able to grab her pants and run away. She made it to her house and called 911.

"I'm so scared, I'm so swollen from him choking me so hard I thought I was going to die," she told the dispatcher. "I'm lucky I ran and got away."

She identified a photograph of Drewry while she was treated for her injuries at Maine Medical Center.

Defense attorney Sarah Churchill asked the woman about differences in her accounts of the attack, which she gave to police over the next few days.

For instance, the hooded fleece windbreaker found in Drewry's backpack, which she identified for the jury as hers was originally described as "denim" or "suede" in some police reports.

"It's pretty hard to remember after you've been traumatized so much," the woman said.

"So the trauma makes it difficult for you to remember things?" Churchill asked.

"Certain things," the woman said.

While she testified, Drewry sat at the defense table and seemed too engrossed with his paperwork to look at her. He scribbled notes and organized papers, with a pencil stump behind his ear.

Drewry's trial was delayed once when he fired his lawyer, and again when his new lawyer had to withdraw because of a conflict.

It appeared that the trial would not go forward this week because of Drewry's behavior in court.

But since Justice Thomas Delahanty warned him on Wednesday that his outbursts could lead to a mistrial and more delay, he has quietly let his lawyers handle the case.

The trial is scheduled to continue on Monday with the conclusion of the woman's testimony.

Staff Writer Gregory D. Kesich can be contacted at 791-6336 or at:

gkesich@pressherald.com

George Rheault <george.rheault@gmail.com>

9:37 AM (1 hour ago)



to Planning Board, kkraft, jmy

Since local journalism of all kinds in Maine is operating on fumes, we have to turn to other communities for relevant illustrations to evaluate the proposed Housing First project at 197 Oxford Street.

Let's see how thoughtful our Planning Board members are in digesting stories like these. Despite the San Francisco context, they are extremely relevant to the discussions.

Can our Planning Board members (safely cocooned in their exclusionary zones) put themselves in the shoes of people who try to live and work amidst the barely contained chaos that some deeply self-interested institutions and players think is a great idea to provide more fuel to?

Building puts up fence to keep out Tenderloin chaos



A new fence at 83 McAllister St., the home of the popular Ariscault Bakery and condos, is being installed to protect customers and residents from street conditions in the Tenderloin.

BY RACHEL SWAN

Work crews have installed a striking architectural fixture outside a brick-and-limestone condo building in San Francisco's Tenderloin neighborhood: a tall aluminum fence with spear points.

Standing about 5 feet tall, the fence wraps around a paved patio that homeowners at 83 McAllister St. share with Arsicault Bakery, a popular business on the building's ground floor. The posts went up Wednesday, and workers were adding the last touches Thursday morning, using wrenches and drills to put a keypad lock on the gate.

Merchants in the area say the fence is absolutely necessary to protect shoppers and residents from street conditions in the Tenderloin, including drug use so prevalent that two San Francisco mayoral candidates are pushing the city to declare a state of emergency.

Wedge in the heart of downtown, the fenced-off area at 83 McAllister abuts the skate park at United Nations Plaza, with a straight sightline to City Hall. The block attracts chaos daily, but it also serves as a canvas for new urban designs and attempts at revitalization.

While it was not immediately clear who purchased the fence, a spokesperson for San Francisco Public Works said officials had issued a permit to the 83 McAllister Homeowners' Association. A staff member at Cityscape Property Management Group, the company that represents the condo owners, declined to comment on their behalf.

Jose Martinez, a prep cook at Taqueria Castillo, can peer out of the restaurant's front window to watch the fence rise across the street. He sees it as a reflection of merchants' fear and frustration.

"People come in and steal sodas," said Martinez, who was chopping beef and grilling onions Thursday morning. "They bother customers."

He threw up his hands in resignation. "What can we do?"

Workers for Urban Alchemy — the nonprofit city contractor that hires formerly incarcerated people to serve as ambassadors on downtown streets — expressed enthusiastic support for the fence, saying they had witnessed drug overdoses on the sidewalk near 83 McAllister St.

One ambassador, who was not authorized to give his name, said unhoused people sometimes light fires on the pavement, desperate to keep warm. A clerk at a nearby deli wore latex gloves sitting behind the counter, saying

he frequently has to shoo people or pick up detritus from the street.

An employee at Ariscault Bakery declined to comment as she fetched cups of coffee for the construction workers, who squatted among their tools Thursday morning. Hammers, extension cords and metal beams littered the patio, overshadowed by a loft building with elegant masonry.

Nearby, funk music blared from a boom box as shouts emanated from the street. Bakery customers zipped through an open gate in the unfinished fence, jostling coffee cups and bags of pastries, seemingly unperturbed by the noise.

Behind the tall metal bars, the patio was mostly empty.

Reach Rachel Swan: rswan@sfgate.com

Concerns raised over homeless housing



HomeRise, a permanent supportive housing development in Mission Bay, opened in late 2022 to great fanfare. But calls to 311, 911 and HomeRise's front desk staff have skyrocketed since then.

BY ALDO TOLEDO

Residents at a Mission Bay condo complex are raising alarms over what they say are hundreds of violent and disturbing incidents at a recently opened permanent supportive housing site across the street.

Located midway between the Giants' stadium and the Chase Center, HomeRise at Mission Bay is a 141-unit, four-story housing project run by the nonprofit HomeRise for the formerly homeless. It opened in late 2022 to great fanfare, touted as an example of a modern facility in a new, mixed-income neighborhood away from the Tenderloin, the location of most housing projects for the formerly homeless.

However, calls to 311, 911 and HomeRise's front desk staff have skyrocketed to more than 1,166 service calls — 656 of them police-related — since opening, according to data from the San Francisco police Southern District Station, which shared it with Supervisor Matt Dorsey's office. The station is adjacent to HomeRise.

"This is causing a great deal of pain for neighbors and HomeRise residents," Mission Bay resident Deanna Terzian said Thursday during a tense hearing on the issue at City Hall. "Fixing this location of HomeRise at Mission Bay is critical because we need a model that can work successfully."

Many elected San Francisco officials have long complained that the city warehouses its most troubled residents in the Tenderloin, mostly in single-room occupancy hotels where addiction, poverty and mental illness are pressing concerns. Mayor London Breed and others have advocated to place more formerly homeless people in other areas of the city to help them escape the grip of the Tenderloin. But placing those buildings in affluent, resource-rich neighborhoods like Mission Bay comes with its own challenges, and proposing new supportive housing can often draw the ire of nearby residents.

Supervisors pressed the Department of Homelessness and Supportive Housing Thursday on its strategy for ensuring safety when it opens supportive housing sites across the city.

HomeRise "is literally adjacent to the public safety building, so this should be the safest block in town," said Dorsey, whose district includes Mission Bay. "Instead, it is, honestly, a public nuisance."

HSH spokesperson Emily Cohen countered the idea that supportive housing sites lead to increases in crime. She pointed to a 2018 study by the UC Berkeley Goldman School of Public Affairs on shelters in San Francisco that showed they had "no effect on neighborhood crime" or property values, and that instead visible homelessness decreased.

The vast majority of supportive housing sites operate without complaints. Cohen said police data shows crime in a quarter-mile radius of other sites did not increase between six months before and after the sites' opening. HSH cited three sites where the number of incidents reported to police went down by between 12% and 28%.

Permanent supportive housing is "the most effective and evidence-based solution to chronic homelessness," Cohen said, drawing heckling from the audience.

About 160 of the service calls related to HomeRise were priority A, which the department says are emergency calls that "require a paid response because there may be an immediate threat to life or a substantial risk of major property loss and damage." Incidents residents have complained about include people openly doing drugs, a man who broke his window and left glass on the sidewalk, and a man who masturbated outside the HomeRise building. The Southern District's report says there were reports of 121 fights in the past 14 months — 20 of which involved either a gun or a knife.

Marcel Davis, senior interim director for resident services at HomeRise, told supervisors that the incidents in question involve just 3% of HomeRise tenants. Some of the calls for service and to the front desk came from residents at the Madrone, a building across the street that opened in 2011 with home prices from \$1 million for a one bedroom to up to \$2.9 million for a three-bedroom, two-bath unit. The nonprofit has been working with Madrone residents and HomeRise tenants to ensure that the neighborhood is safe, Davis said.

During Thursday's hearing, furious Mission Bay and South of Market residents criticized HSH officials and others, demanding that HomeRise evict troublesome residents of the Mission Bay site. They called for safety measures to prevent the same concerns from popping up at a soon-to-open site for youth experiencing homelessness at 1174 Folsom St.

Supportive housing providers and supporters raised concerns about the framing of Thursday's hearing, saying that they have been advocating for more investment in staffing, medical and mental health services, and clinicians to better help the few residents who cause problems.

The hearing became heated at times with heckles, boos and hisses interrupting public comment and prompting Supervisor Catherine Stefani to demand order in the chamber.

In light of the concerns, Dorsey told city officials he wants full-time private security for all supportive housing sites. Cohen told Dorsey it could cost \$60 million to \$70 million a year to provide full-time security at all such housing sites in the city. Cohen also said she's concerned with using private security to address the concerns since security guards, unlike supportive housing staff, often are not trained in crisis de-escalation. As of mid-March, HSH said it had about 13,000 supportive housing slots.

One provider said she was concerned about the wrong message being sent at the hearing. Lauren Hall from the Supportive Housing Provider Network — whose members operate more than 11,000 units in San Francisco — said thousands of supportive housing residents in the city are “thriving and doing well.” She criticized participants in Thursday's hearing for “othering” residents of supportive housing.

“This hearing focused on a small number of residents that highlighted the system's shortcomings and created a false narrative that (permanent supportive housing) as a whole is dangerous,” Hall said.

Reach Aldo Toledo: Aldo.Toledo@sfgchronicle.com

Heather K. <heatherkenvin@gmail.com>
to planningboard@portlandmaine.gov

Jun 13, 2024, 6:55:04 AM (4 days ago)



Dear Members of the Planning Board,

I support the redevelopment of the former Oxford Street Shelter location into a new Avesta Housing and Preble Street Site-based Housing First building.

As a resident of Portland who lives within walking distance of this location, as a volunteer with Preble Street's Food Security Hub, and as a mom who believes passionately that we must support proven solutions to end homelessness, I am writing to say, yes, please do this in my backyard.

Housing First is cost-effective and a proven method to help people experiencing homelessness. We need more site-based Housing First apartments in the city of Portland. Preble Street has demonstrated over and over again that it is led by compassionate people who make decisions based on what works. Let's do our job as a city to get people into safe and supported housing so they can take the next steps toward a stable and productive life.

Thank you for your service to our city.

Yours sincerely,
Heather Kenvin
72 High Street, Unit 2
Portland ME 04101

Heather Murdoch Curry <hmurdochcurry@gmail.com>
to planningboard@portlandmaine.gov

Jun 13, 2024, 8:25:56 AM (4 days ago)



Dear Planning Board,

I am writing to ask you to support the redevelopment of the Preble Street Oxford Shelter into a new Avesta Housing and Preble Street Site based housing first project.

Once people are safe and supported by 24-hour onsite social work staff in permanent housing, they can stabilize and work toward a more fulfilling and independent future; including addressing substance use disorder, focusing on health, education, or employment, and rebuilding relationships with friends and family.

Maine needs 400 Site-based Housing First units, which translates to the establishment of 12-15 new properties.

For the health and safety of the unhoused and the housed populations for Portland, please consider this new project to move forward. Thank you

Heather Murdoch Curry

Laura S. Underkuffler <lu27@cornell.edu>

9:27 AM (1 hour ago)



to kkraft@portlandmaine.gov, planning@portlandmaine.gov

Hello Kevin (and staff),

Jim Hall (our neighbor) mentioned that you are looking into the density bonus calculations submitted by Reveler for the project that will cover five lots - 197 Oxford Street, 207 Oxford Street, 78 Chestnut Street, 50 Cedar Street, and 158 Lancaster Street. As an abutter to this project, and a land use lawyer and teacher (Cornell University), I have been trying to figure out how the developer generated what appears – in its submission – to be an impermissibly large number of units for this project. After a couple of days working on this, I have figured out what is wrong with their calculations and am sharing that with you.

In the developer's "Density Overview - Phased Joint Site Plan," it describes the land covered by the project as 1.58 acres (68,824.8 sq ft).

The developer proposes that a third party (named as "co-applicant") will build all of the affordable housing required under IZ rules for this project on a single lot, the old Oxford Street Shelter site. In other words, it is utilizing a building that will be 100% affordable housing on that lot to satisfy the 25% affordable housing requirement of the entire project (consisting of the five lots named above).

The question becomes: to what density bonus under Code Section 18.2.4 and Table 18-C it is entitled?

Section 18.2.4A, "Density and dimensional bonuses," is clear. It states: "[t]he maximum number of units that would otherwise be allowed under this Land Use Code shall be increased for an eligible project [under Section 18.2.2C] in the manner described in Table 18-C."

Table 18-C, entitled "Bonuses for Eligible Projects," sets forth the required step-by-step calculation.

First, the "base" is calculated - that is, "the number of units allowed [for the project] under existing zoning without the bonus [set forth in Table 18-C]." In this case, that is 68,824.8 sq ft divided by 725 sq ft required per unit = 95 permitted units (base).

Next, this base is multiplied by the "percentage of low-income/workforce units" that the project as a whole contains. Here, the developer plans to create 52 affordable units out of a total of 146 units (to be built now or later). Thus, in this case, 52 affordable units out of a total of 146 units = 35.8%.

With 35.8% affordable units, Table 18-C states that the density bonus to be used is 1.3. This is then multiplied by the "base," above. Thus, 95 units (base) x 1.3 (multiplier) = 123.5 units (total) permitted.

* * * *

The developer's claim that it is entitled to build 146 units is incorrect.

How did the developer come up with the larger number? The answer is simple. Although it treated all of the lots as "the development" – one unified development – for all purposes, including the ability to use the affordable housing on the old City Shelter site to meet its 2% inclusionary housing requirement for the entire project, when it came to the calculation of the density bonus under Table 18-C it suddenly departed from this treatment.

First, for the purposes of the density calculation and the density calculation only, the developer divides the project into two physical pieces: the old City Shelter lot, and all of the rest of the land.

Then, the developer makes two separate density bonus calculations: one for the old City Shelter lot – which, as 100% affordable housing, generates a 2.5 density bonus; and another for the remaining lots, again using the affordable housing on the old City Shelter site to generate a 1.3 density bonus. This inflates the number of permitted units from 123.5 to 146.

Here are the calculations:

1. Piece of land #1 - old City Shelter site (197 Oxford Street)

Land area involved: 13,939 sq ft

13,939 sq ft divided by 725 sq ft required per unit (under existing zoning) = 19.23 units (the base).

Percentage of the building on that lot that is affordable: 100%.

Under Table 18-C, with 10% affordable units, the density bonus is 2.5.

Multiplying the base (19.23 units) x 2.5 (multiplier) = 48.07 units permitted on the old Shelter site

2. Piece of land #2 - the remaining lots

Land area involved: 54,885.8 sq ft.

54,885.8 sq ft divided by 725 sq ft required per unit (under existing zoning) = 75.70 units (the base).

Percentage of project as a whole (using the old Oxford Shelter site) that is affordable housing: 52 affordable units out of 146 planned units = 35.6%.

With 35.6% affordable units, the density bonus under Table 18C is 1.3.

Multiplying that density bonus by the "base": 75.70 units (base) x 1.3 (multiplier) = 98.41 units permitted on the remaining (other four) lots.

Then – together – the "number of units permitted" for the old Shelter lot, and the "number of units permitted" for the other lots, are added together.

Thus 48.07 units + 98.41 units = the 146.48 units claimed by the developer.

* * * *

There is no doubt but that a developer can off-load all affordable housing units into one building, and include that number of affordable units in the calculation of the density bonus applicable to the project as a whole. What it cannot do is to insist upon treating all lots as one project under the Code for all purposes, including meeting IZ requirements, and then turn around and claim that the lot with all of the project's IZ units is now a "separate development," with its own generated (maximum) density bonus – with that number of bonus units then added to "the rest" of the project.

Table 18-C is very explicit as to how a density bonus is to be calculated. The base number of units allowable under current zoning for the project is to be multiplied by a multiplier derived from the percentage of affordable units to be built in the project for which approval is sought. There is no allowance for artificially

dividing the project into pieces, with separate calculations done for specific (i.e., high IZ percentage) buildings.

It is possible that the developer could argue that its use of an inflated density multiplier is somehow authorized by the definition of "base" that accompanies Table 18-C. This states, in its entirety: "'Base' is the number of units allowed under the zoning without this bonus but with any other bonuses applied." However, because both of the bonus calculations that the developer attempts to use in this case are in fact derived from Table 18-C, this language has no relevance in this case.

The original idea of inclusionary zoning was that market rate buildings would include affordable units, "us[ing] a common entrance, and ... provid[ing] no indications from common areas" or other characteristics that they are units for the poor. See Code Section 18.2.3C. Indeed, this developer has used that model in in other market rate projects that it has done. As time has gone by, however, the idea that developers of market rate projects can off-load all IZ units into one "low-income" building has apparently been accepted. This, in the minds of many, is unfortunate. To reward that off-loading by also giving developers an inflated density bonus because of the use of that model, would compound the problem. It would also be unfair to developers who elect to follow the original intention and spirit of the IZ rules, by incorporating their affordable units into their market-rate buildings – and are penalized with lower density bonuses as a result.

I appreciate your attention to this matter. I would be happy to talk about this further if you would like ([207-347-1888](#)). With very best regards, Laura

Laura S. Underkuffler
Owner of 215 Oxford Street
J. DuPratt White Professor of Law
Cornell University

Laura S. Underkuffler <lu27@cornell.edu>

Jun 13, 2024, 2:44:19 PM (4 days ago)



to kkraft@portlandmaine.gov, planning@portlandmaine.gov

Hello Kevin (and staff),

As an abutter to the proposed affordable-housing building proposed by Reveler (and "co-applicant" Avesta) for its 197 Oxford Street, 207 Oxford Street, 78 Chestnut Street, 50 Cedar Street, and 158 Lancaster Street project, as well as a land-use lawyer and teacher (Cornell University), I am writing to bring a legal problem with the current application to your attention.

The structure of the transaction that is now before the Planning Board was described in a press release by Avesta and Preble Street six months ago. This press release stated:

"Avesta Housing ... and Preble Street ... have announced plans to provide Site-Based Housing First permanent housing with on-site support services ... on the site of the former Oxford Street homeless shelter in Portland.

"Avesta Housing has secured an option agreement to purchase the 1/3 acre parcel. Avesta is considering plans to develop [a project] ... consisting of two components – site-based Housing First and multifamily residential – with approximately 30-50 affordable apartments."

Rod Harmon, *Avesta and Preble Street Announce Plans for New Site-Based Housing First*, [Avesta News](#), Nov.13, 2023.

The plan, as stated in this press release and as reflected in project's now submitted documents, is as follows. The Developer (Reveler), which owns all of the land that this Development involves, will spin off its obligation to build and maintain 25% units of affordable housing under IZ (inclusionary zoning) rules by selling the old Oxford Shelter lot to Avesta. Avesta will then (using public money) build the units. Because this spin-off will occur immediately after the plan's approval, the Developer will avoid any responsibility for the cost of building the affordable units, and it will retain no post-transaction responsibility for what happens before or after they are built. In short, under this kind of plan, a developer simply sells a lot to a third party, and then is finished with the affordable housing obligation.

This is undoubtedly a very advantageous plan for the Developer. However, it has several fundamental legal flaws under requirements of the City Code.

First, the lots presented as the "Project" or the "Development" – for the purpose of application to the City, and the meeting of all rules of the Zoning Code (including the construction of IZ units) – must be "contiguous and under the same ownership or control." See Land Use Code Section 3-11. The Developer in this case claims that this requirement is met by naming the third party – Avesta – as "co-applicant." However, parties can be "co-applicants" under the Code only when they share common ownership and control of the land to be developed (see Code Section 3-11). Under the structure of this deal, that is not now nor will it be the case. The Developer now owns all of the land, and the third party has no ownership interest at all. Then, as soon as the project is approved by the City, the Developer will sell the old Shelter lot (on which all of the proposed affordable housing will be built) to the third party. At that moment, the third party will become an owner of that lot; but also at that moment, the Developer be shed of any ownership interest that lot. It will also have divested itself of any legal responsibility for the building or maintenance or operation of the affordable housing that will supposedly be constructed on that lot.

There is undoubtedly a reason for this structure – presumably, the Developer wants no responsibility, financial or otherwise, for the building, maintenance, or operation of the affordable housing units. If this is the Developer's desire, it can pay the in-lieu-of fee as described below. However, a developer's sale of the "affordable housing lot" to a third party as soon as the project is approved is not "co-ownership," and it is not how the responsible party – the named Developer and Owner – can operate under the Code.

The Code is very specific. A Developer must either build the affordable units required by IZ zoning, or pay an in-lieu-of fee of \$150,000 per unit (as updated) to the City's Housing Trust Fund. In this case, 25% of (for instance) 75 market rate units would generate an obligation to construct 18.75 affordable units; multiplying that by the original in-lieu-of fee of \$150,000 per unit (see Code Section 18.2.3C4) generates an in-lieu-of fee of \$2,812,500. Under the proposed structure of this Project, the Developer will do neither. The only financial investment that the Developer will make in this case is the cost of the old Shelter Lot, to the extent that it is sold to Avesta for less than market value.

A deal structured like this does not meet the requirements for a Developer's proposal or a Developer's responsibility under the Code. Throughout, the Code states that "the *Developer*" – which is synonymous with "the *Owner*" – has the following responsibilities (among others) for "the *Project*," which includes both market rate and affordable units:

-- The affordable housing sections found in Code Section 18.2 are applicable to the "*developers*" of "*projects*" that are of ten units or more. Section 18.2.3C(1). The Code requires that those affordable housing units be included within [those] *development projects*. Sections 18.2.1, 18.2.2C, 18.2.3A, B; 18.2.3C ("At least 25% of the units *in the project* shall meet the definition of workforce housing," "*projects*" shall not be segmented or phased to avoid compliance with these provisions; discussion of availability of TIF subsidies "if at least 33% of the units in a *development* are workforce units;" etc.).

-- Off-site affordable housing units must be "located within the same Census Block as the parcel from which the *Project* triggering the creation of Workforce Units is located or within 1,500 feet of the *Project*." See Inclusionary Zoning Guidelines for Developers of Rental Housing ("Implementation Guidelines"), at 12.

-- The *Developer* – as *Owner* – of the entire project, including all of the affordable housing units (whether on-site or off-site) must ensure that buildings, including all affordable-unit buildings, as built and maintained meet the Code's specified building, architectural, landscaping, design, use, and other requirements. See Code Articles 6, 7, 14, 18, and so on. See also Implementation Guidelines at p. 5-6, 12; City of Portland Technical Manual Sections 4.1-4.8.

-- The *Developer* must assure that off-site (separate building) affordable units are "comparable or larger in size and bedroom count to the average units being created *within the associated Project*" and are "similar in quality to the units being created *within the Project*." See Implementation Guidelines at p. 12. "The *Developer* shall determine" the quality of units built, and that they have amenities comparable to the *Developer's* market rate units. See *id.* at p. 12.

-- Among remedies for failure to subsequently live up to the Affordable Housing Agreement filed with the City for the *Project*, the City may take this step: "Revocation of the *Project's* approval, Building Permit, or Certificate of Occupancy." See Implementation Guidelines at p. 11.

The Developer in this case cannot meet City Code requirements by simply spinning off the lot on which its required 25% of affordable housing units are going to be allegedly built (and then run thereafter) by a third party, which has no ownership interest in the larger development. The structure of the Code simply does not allow for a proposal that is structured in this way. At a minimum, the Developer in this case must retain the ownership interest in the land that is to be used for the affordable housing units, and must remain

legally responsible to the City and its residents for Code-compliant construction, maintenance, and (very importantly) operation of those units.

I appreciate your attention to this matter. With best regards, Laura

Laura S. Underkuffler
Owner of 215 Oxford Street
J. DuPratt White Professor of Law
Cornell University

Laura S. Underkuffler <lu27@cornell.edu>
to planningboard@portlandmaine.gov, Eric Freeman

Jun 19, 2024, 9:23:19 AM (2 days ago)



Dear Planning Board Members,

My husband and I own the house at 215 Oxford Street, which directly abuts the proposed Reveler project described in Application PL-002885-2024. This project will cover five lots - 197 Oxford Street, 207 Oxford Street, 78 Chestnut Street, 50 Cedar Street, and 158 Lancaster Street. As an abutter to this project, and a land use lawyer and teacher (Cornell University), I have been trying to figure out how the Developer generated what appears – in its prior submissions – to be an impermissibly large number of units for this project. In prior submissions, the Developer asserts that – as a result of density bonus calculations – it is entitled to build 146 units, now or in the future.

In fact, the number of allowed units under the Code and its density bonus provisions is 123.5.

I have previously raised this issue in a submission to the Planning Board staff. I do not know if the Developer is still insisting on this erroneous density bonus calculation. In the event that it is, I am submitting this public comment to the Board now.

Here is the calculation.

In the Developer's "Density Overview - Phased Joint Site Plan," it describes the land covered by the project as 1.58 acres (68,824.8 sq ft).

The Developer proposes that a third party (named as "co-applicant") will build all of the affordable housing required under IZ rules for this project on a single lot, the old Oxford Street Shelter site. In other words, it is utilizing a building that will be 100% affordable housing on that lot to satisfy the 25% affordable housing requirement of the entire project (consisting of the five lots named above).

The question becomes: to what density bonus under Code Section 18.2.4 and Table 18-C it is entitled?

Section 18.2.4A, "Density and dimensional bonuses," is clear. It states: "[t]he maximum number of units that would otherwise be allowed under this Land Use Code shall be increased for an eligible project [under Section 18.2.2C] in the manner described in Table 18-C."

Table 18-C, entitled "Bonuses for Eligible Projects," sets forth the required step-by-step calculation.

First, the "base" is calculated - that is, "the number of units allowed [for the project] under existing zoning without the bonus [set forth in Table 18-C]." In this case, that is 68,824.8 sq ft divided by 725 sq ft required per unit = 95 permitted units (base).

Next, this base is multiplied by the "percentage of low-income/workforce units" that the project as a whole contains. Here, the Developer apparently now states that it plans to create 48 affordable units out of a total of 146 units (to be built now or later). Thus, in this case, 48 affordable units out of a total of 146 units = 32.9%.

With 32.9% affordable units, Table 18-C states that the density bonus to be used is 1.3. This is then multiplied by the "base," above. Thus, 95 units (base) x 1.3 (multiplier) = 123.5 units (total) permitted.

* * * *

The Developer's claim that it is entitled to build 146 units is therefore incorrect.

How did the Developer come up with the larger number? The answer is simple. Although it treated all of the lots as "the development" – one unified development – for all purposes, including the ability to use the affordable housing on the old City Shelter site to meet its 25% inclusionary housing requirement for the entire project, when it came to the calculation of the density bonus under Table 18-C it suddenly departed from this treatment.

First, for the purposes of the density calculation and the density calculation only, the Developer divides the project into two physical pieces: the old City Shelter lot, and all of the rest of the land.

Then, the Developer makes two separate density bonus calculations: one for the old City Shelter lot – which, as 100% affordable housing, generates a 2.5 density bonus; and another for the remaining lots, again using the affordable housing on the old City Shelter site to generate a 1.3 density bonus. This inflates the number of permitted units from 123.5 to 146.

Here are the calculations:

1. Piece of land #1 - old City Shelter site (197 Oxford Street)

Land area involved: 13,939 sq ft

13,939 sq ft divided by 725 sq ft required per unit (under existing zoning) = 19.23 units (the base).

Percentage of the building on that lot that is affordable: 100%.

Under Table 18-C, with 10% affordable units, the density bonus is 2.5.

Multiplying the base (19.23 units) x 2.5 (multiplier) = 48.07 units permitted on the old Shelter site

2. Piece of land #2 - the remaining lots

Land area involved: 54,885.8 sq ft.

54,885.8 sq ft divided by 725 sq ft required per unit (under existing zoning) = 75.70 units (the base).

Percentage of project as a whole (using the old Oxford Shelter site) that is affordable housing: 48 affordable units out of 146 planned units = 32.9%.

With 32.9% affordable units, the density bonus under Table 18C is 1.3.

Multiplying that density bonus by the "base": 75.70 units (base) x 1.3 (multiplier) = 98.41 units permitted on the remaining (other four) lots.

Then – the "number of units permitted" for the old Shelter lot, and the "number of units permitted" for the other lots, are added together.

Thus 48.07 units + 98.41 units = the 146.48 units claimed by the Developer.

* * * *

There is no doubt that a developer can off-load all affordable housing units into one building, and include that number of affordable units in the calculation of the density bonus applicable to the project as a whole. What it cannot do is to insist upon treating all lots as one project under the Code for all purposes, including meeting IZ requirements, and then turn around and claim that the lot with all of the project's IZ units is now a "separate development," with its own generated (maximum) density bonus – with that number of bonus units then added to "the rest" of the project.

Table 18-C is very explicit as to how a density bonus is to be calculated. The base number of units allowable under current zoning for the project is to be multiplied by a multiplier derived from the percentage of affordable units to be built in the project for which approval is sought. There is no allowance for artificially dividing the project into pieces, with separate calculations done for specific (i.e., high IZ percentage) buildings.

It is possible that the Developer could argue that its use of an inflated density multiplier is somehow authorized by the definition of "base" that accompanies Table 18-C. This states, in its entirety: "'Base' is the number of units allowed under the zoning without this bonus but with any other bonuses applied." However, because both of the bonus calculations that the Developer attempts to use in this case are in fact derived from Table 18-C, this language has no relevance in this case.

The original idea of inclusionary zoning was that market rate buildings would include affordable units, "us[ing] a common entrance, and ... provid[ing] no indications from common areas" or other characteristics that they are units for the poor. See Code Section 18.2.3C. Indeed, this Developer has used that model in other market rate projects that it has done. As time has gone by, however, the idea that developers of market rate projects can off-load all IZ units into one "low-income" building has apparently been accepted. This, in the minds of many, is unfortunate. To reward that off-loading by also giving developers an inflated density bonus because of the use of that model, would compound the problem. It would also be unfair to developers who elect to follow the original intention and spirit of the IZ rules, by incorporating their affordable units into their market-rate buildings – and are penalized with lower density bonuses as a result.

I appreciate your attention to this matter. I would be happy to talk about this further if you would like ([207-347-1888](#)). With very best regards, Laura

Laura S. Underkuffler
Owner of 215 Oxford Street
J. DuPratt White Professor of Law
Cornell University

Laura S. Underkuffler <lu27@cornell.edu>
to planningboard@portlandmaine.gov, Eric Freeman

Jun 19, 2024, 9:46:56 AM (2 days ago)



Dear Planning Board Members,

As an abutter to the proposed affordable-housing building proposed by Reveler (and "co-applicant" Avesta) for its 197 Oxford Street, 207 Oxford Street, 78 Chestnut Street, 50 Cedar Street, and 158 Lancaster Street project, as well as a land-use lawyer and teacher (Cornell University), I am writing to bring a legal problem with Reveler's current application to your attention.

The structure of the transaction that is now before the Planning Board was described in a press release by Avesta and Preble Street six months ago. This press release stated:

"Avesta Housing ... and Preble Street ... have announced plans to provide Site-Based Housing First permanent housing with on-site support services ... on the site of the former Oxford Street homeless shelter in Portland.

"Avesta Housing has secured an option agreement to purchase the 1/3 acre parcel. Avesta is considering plans to develop [a project] ... consisting of two components – site-based Housing First and multifamily residential – with approximately 30-50 affordable apartments."

Rod Harmon, *Avesta and Preble Street Announce Plans for New Site-Based Housing First*, [Avesta News](#), Nov.13, 2023.

The plan, as stated in this press release and as reflected in project's now submitted documents, is as follows. The Developer (Reveler), which owns all of the land that this Development involves, will spin off its obligation to build and maintain 25% units of affordable housing under IZ (inclusionary zoning) rules by selling the old Oxford Shelter lot to Avesta. Avesta will then (using public money) build and operate the units. Because this spin-off will occur immediately after the plan's approval, the Developer will avoid any responsibility for the cost of building the affordable units, and it will retain no post-transaction responsibility for what happens before or after they are built. In short, under this kind of plan, a developer simply sells a lot to a third party, and then is finished with the affordable housing obligation.

This is undoubtedly a very advantageous plan for the Developer. However, it has several fundamental legal flaws under requirements of the City Code.

First, the lots presented as the "Project" or the "Development" – for the purpose of application to the City, and the meeting of all rules of the Zoning Code (including the construction of IZ units) – must be "contiguous and under the same ownership or control." See Land Use Code Section 3-11. The Developer in this case claims that this requirement is met by naming the third party – Avesta – as "co-applicant." However, parties can be "co-applicants" under the Code only when they share common ownership and control of the land to be developed (see Code Section 3-11). Under the structure of this deal, that is not now nor will it be the case. The Developer now owns all of the land, and the third party has no ownership interest at all. Then, as soon as the project is approved by the City, the Developer will sell the old Shelter lot (on which all of the proposed affordable housing will be built) to the third party. At that moment, the third party will become an owner of that lot; but also at that moment, the Developer be shed of any ownership interest in that lot. It will also have divested itself of any legal responsibility for the building or maintenance or operation of the affordable housing that will supposedly be constructed on that lot.

There is undoubtedly a reason for this structure – presumably, the Developer wants no responsibility, financial or otherwise, for the building, maintenance, or operation of the affordable housing units. If this is the Developer's desire, it can pay the in-lieu-of fee as described below. However, a developer's sale of the "affordable housing lot" to a third party as soon as the project is approved is not "co-ownership," and it is not how the responsible party – the named Developer and Owner – can operate under the Code.

The Code is very specific. A Developer must either build the affordable units required by IZ zoning, or pay an in-lieu-of fee of \$150,000 per unit (as updated) to the City's Housing Trust Fund. In this case, 25% of (for instance) 75 market rate units would generate an obligation to construct 18.75 affordable units; multiplying that by the original in-lieu-of fee of \$150,000 per unit (see Code Section 18.2.3C4) generates an in-lieu-of fee of \$2,812,500. Under the proposed structure of this Project, the Developer will do neither. The only financial investment in affordable units that the Developer will make is the cost of the old Shelter Lot, to the extent that it is sold to Avesta for less than market value.

A deal structured like this does not meet the requirements for a Developer's proposal or a Developer's responsibility under the Code. Throughout, the Code states that "the *Developer*" – which is synonymous with "the *Owner*" – has the following responsibilities (among others) for "the *Project*," which includes both market rate and affordable units:

-- The affordable housing sections found in Code Section 18.2 are applicable to the "*developers*" of "*projects*" that are of ten units or more. Section 18.2.3C(1). The Code requires that those affordable housing units be included within [those] *development projects*. Sections 18.2.1, 18.2.2C, 18.2.3A, B; 18.2.3C ("At least 25% of the units *in the project* shall meet the definition of workforce housing," "*projects*" shall not be segmented or phased to avoid compliance with these provisions; discussion of availability of TIF subsidies will occur "if at least 33% of the units in a *development* are workforce units;" etc.).

--Off-site affordable housing units must be "located within the same Census Block as the parcel from which the *Project* triggering the creation of Workforce Units is located or within 1,500 feet of the *Project*." See Inclusionary Zoning Guidelines for Developers of Rental Housing ("Implementation Guidelines"), at 12.

-- The *Developer* – as *Owner* – of the entire project, including all of the affordable housing units (whether on-site or off-site) must ensure that buildings, including all affordable-unit buildings, as built and maintained, meet the Code's specified building, architectural, landscaping, design, use, and other requirements. See Code Articles 6, 7, 14, 18, and so on. See also Implementation Guidelines at p. 5-6, 12; City of Portland Technical Manual Sections 4.1-4.8.

-- The *Developer* must assure that off-site (separate building) affordable units are "comparable or larger in size and bedroom count to the average units being created *within the associated Project*" and are "similar in quality to the units being created *within the Project*." See Implementation Guidelines at p. 12. "The *Developer* shall determine" the quality of units built, and that they have amenities comparable to the *Developer's* market rate units. See *id.* at p. 12.

-- Among remedies for failure to subsequently live up to the Affordable Housing Agreement filed with the City for the *Project*, the City may take this step: "Revocation of the *Project's* approval, Building Permit, or Certificate of Occupancy." See Implementation Guidelines at p. 11.

There are many more.

The Developer in this case cannot meet City Code requirements by simply spinning off the lot on which its required 25% of affordable housing units are going to be allegedly built (and then run thereafter) by a third party, which has no ownership interest in the larger development. The structure of the Code simply does

not allow for a proposal that is structured in this way. At a minimum, the Developer in this case must retain the ownership interest in the land that is to be used for the affordable housing units, and must remain legally responsible to the City and its residents for Code-compliant construction, maintenance, and (very importantly) operation of those units.

I appreciate your attention to this matter. With best regards, Laura

Laura S. Underkuffler
Owner of 215 Oxford Street
J. DuPratt White Professor of Law
Cornell University

Lynn Chamberlain <luvmillrlite@yahoo.com>

Jun 18, 2024, 3:39:14 PM (3 days ago)



to planningboard@portlandmaine.gov

Hello members of the Portland Zoning Board

My name is Lynn Chamberlain and I live in Bow, New Hampshire. I am writing in regard to the proposed re development of the former Oxford Street shelter into an Avesta housing first building.

My brother Todd Lemoine was a very grateful recipient of an apartment in Portland after many years of chronic homelessness. He moved into the Huston Commons in July of 2019 After years of an occasional letter from him and random phone calls the one call, I will never forget was the one I received from him telling me he had a place. Our extended family and I were overjoyed.

Not only was he grateful I was extremely grateful as well. No more worrying on frigid winter nights or brutal summer heat where he would be sleeping or if he was safe

I was able to reconnect with my younger It meant the world to both of us. The staff there were caring and always made me feel welcome. It was nice to visit him every few weeks in a safe and comfortable place. It meant the world to both of us. The staff at the Huston Commons were so caring, always made me feel welcome and it brought me so much comfort knowing someone was watching over him. They became family to us, and we both cared for them deeply.

My brother Todd passed away on February 25, 2023.

I thought having the prospective from a family member of a recipient of an apartment from the Avesta housing program would give some insight on the impact that this has not only on the tenant but also the family members and loved ones who are able to reconnect. Because of this I have wonderful memories of the last few years of my brother's life, it has helped me get through the grief.

I miss my brother every day, but I am eternally grateful for all the assistance he received from the Preble Street staff and our "family" of staff at the Huston Commons.

Site-Based Housing First 0 views

Subscribe 

Nancy Nickerson <nannickers@gmail.com> Jun 14, 2024, 3:53:59 PM (3 days ago)
to planningboard@portlandmaine.gov



Dear Members of the Planning Board:

I am, and have been, a Portland resident and taxpayer for over three decades. I have become very rooted in this city, and want to see shelter, safety, dignity and good opportunities for all Portland residents. I write today to urge support for the establishment of more Site-based Housing First programs, an approach to homelessness that has a track record of success, and should be expanded in this city. This approach provides a cost-effective, permanent solution for homelessness, particularly for those who are chronically homeless and other vulnerable individuals, such as those afflicted by substance abuse and behavioral health disorders. With Site-based Housing, 24-7 on-site professional social work staff provide supportive services and crisis intervention, to maximize housing stability and prevent returns to homelessness. In a study of tenants of Logan Place (the first of Preble Street's three current Housing First initiatives), there was an 81 percent decrease in police contacts, a 71 percent decrease in ambulance use, and a 74 percent decrease in emergency room visits, after being successfully housed with Housing First.

Once people are housed and feel safe, their lives can begin to stabilize....permanent housing, substance abuse treatment, and meaningful employment, among other things, become much more possible and likely. There are over 100 people now on the waiting list for the limited Housing First options currently available; please give strong consideration to expansion of Housing First, particularly to the redevelopment of the former Oxford Street Shelter for this purpose. Homeless individuals, and our whole community, will be the beneficiaries of the positive outcomes that will ensue from additional Site-based Housing First.

Thank you for your attention to my concerns.

Nancy Nickerson

rgraef@gwi.net <rgraef@gwi.net>
to planningboard@portlandmaine.gov

11:14 AM (2 hours ago)



Dear Members of the Planning Board,

I am writing to you opposition to part of the development proposal for 197 Oxford Street, specifically the 28 Housing First apartments in Phase 1 which are to be managed by Preble Street. People who are exiting homelessness and need the wrap-around services offered at Housing First facilities should not be housed in an area where they will in all probability be pulled back into situations they should be trying. For years shelters and many services for the unhoused and those trying to turn their lives around have been concentrated in Bayside. This may be convenient for the service providers, but how effective is it for those who are struggling and how fair is it for the other residents and businesses of Bayside.

You are members of Portland's Planning Board. If one takes a walk around Bayside now and see the misery, anger, anxiety, frustration and sadness of the people living there, one has to wonder, "How did this happen? Who allowed this?" Please do your part to turn this practice around by not approving more transitional or Housing First facilities in bayside. To the extent of your ability and influence, encourage these much-needed apartments and services to be spread throughout the city.

Thank you for taking the time and making the effort to serve on the Planning Board.

Sincerely,

Rosanne Graef
30 Salem St.

Avery Yale Kamila <avery.kamila@gmail.com>

11:15 AM (3 hours ago)



to planningboard@portlandmaine.gov, kkraft, Mark Dion

Dear Planning Board members,

I'm writing to you about the discriminatory plan by Reveler/Port Property to build a segregated poor house for formerly single adult unhoused residents with active substance use disorder at 197 Oxford Street, across the street from the city's Family Shelter in the already overburdened Bayside neighborhood. If approved, this will be another policy move by Portland City Hall that prioritizes the needs of the single adult unhoused population above the needs of all other residents, including asylum seeking and refugee children.

The children living in the Family Shelter represent the most marginalized members of our community, who are in need of protection and safety. Instead, this cynical plan that flouts the spirit of the inclusionary zoning ordinance, would mix active drug users with these vulnerable children, who also include the many children living in the hundreds of nearby apartments.

The last time the city endorsed such discriminatory policy choices was when the Oxford Street Shelter was open. This caused the children in the Family Shelter to suffer greatly as they were regularly exposed to discarded needles, human waste, overdoses, violence in the street, theft, and racial harassment (from the majority white unhoused population). The city of Portland deliberately moved its single adult unhoused shelter to lessen the burden on the Family Shelter children and other neighborhood children.

Now, this private developer seeks to bring these two vulnerable populations together again in order to allow it to build "market rate" apartments, which are unaffordable to the vast majority of Portland employees. The plan calls for a "poor house" on Oxford Street, while the market rate apartments will be sited on other streets, effectively ghettoizing this portion of an already overburdened street, which will no doubt raise City Hall's costs for public safety and public health, thereby further increasing taxes.

The immediate neighborhood around 197 Oxford already is home to a number of housing first apartments. However, unlike this terrible proposal, they are mixed among affordable and market rate units, rather than being clustered in a single building.

I urge you to vote against this troubling and discriminatory poor house scheme, and instead require the developer to build units for a variety of incomes and life situations in the same buildings. That is what voters wanted when the inclusionary zoning ordinance was passed. Voters did NOT vote to build discriminatory poor houses. And they certainly didn't vote to place drug users next to refugee children, as Reveler seeks to do.

Sincerely,
Avery

Deborah Fell
377 Cumberland Avenue
Portland, ME 04101

June 21, 2024

Why is Housing First in Bayside a good idea?
Who benefits from this plan?

I am a resident of the Bayside neighborhood and oppose the Avesta, Preble Street and Reveler plan to convert a portion of the former Oxford Street shelter into a Housing First facility. While I support the plan for building affordable housing in that location, placing Housing First on Oxford St is unfair to Bayside, Portland and the clients they are claiming to serve.

Locating the housing in Bayside will only further its designation as a hub for homelessness/loitering/drug activity/crime and exacerbate the problems residents have experienced for years. In their press release announcing the plan last fall, Avesta and Preble Street stated their intention to "continue their stewardship of the community". Take a walk through Bayside, particularly 55 Portland Street and the vicinity of Elena's Way, and the negligent quality of that stewardship is plainly obvious. The open tolerance of illegal activity is not safe, family friendly or beneficial to anyone. Bayside residents and businesses deserve better.

Placing the shelter in Bayside does not help greater Portland. While housing for the homeless, drug addicted and mentally ill is needed, placing it near downtown is counter to a healthy and thriving business district. Take a stroll down Congress Street, and you see empty storefronts and encounter activity spilling from nearby Portland St.

The clients that Avesta and Preble Street plan to house are not served by the Bayside location either. Avesta even acknowledges that most people entering Housing First would "prefer to separate from their former unhealthy lifestyles." Bayside presents a setting that is chaotic, with drug dealers and a pro-drug homeless lifestyle entrenched - all obstacles the Housing First clients are seeking to leave and overcome. A less urban, quiet and greener setting farther from downtown seems more conducive to a healing environment. The Preble St and Avesta claim that 24/7 "highly trained social work staff" will mitigate all problems and that "inside" the building, not "around", is what matters, is ludicrous. The sorry state outside Elena's Way, with its 24/7 highly trained social work staff, proves that Preble St is unable or unwilling to manage the chaos or fulfill its (hollow) promises to the community. Besides which, when the residents step out of the facility, they will be once again immersed in the negative street activity.

I know Preble Street has a big "investment" in Bayside, the Oxford St site is conveniently located near their offices (noted as a positive in their press release) and expanding their domain is important to them. Preble St allows and condones the activity around its buildings, drawing more people to the area. Giving Preble St the responsibility of Housing First will only add to and aggravate the situation.

Preble St and Avesta will receive significant funding for the Housing First and affordable housing construction, allowing Reveler to offset the costs for their market value apartments through this partnership. Bayside residents have clearly voiced support for affordable housing and strong opposition to Housing First on the Oxford Street site during previously held meetings, and have been ignored. While apparently legal, this is a cynical use of taxpayer and donor funds for a flawed project that does not help anyone, but the funding recipients. Couldn't the money be better utilized in a location that more sensibly supports the intended purpose of Housing First and does not further negatively impact an already struggling community?

Sincerely,
Deborah Fell

Mindi McMains <mindimcmains@gmail.com>

Jun 20, 2024, 6:47:40 AM (yesterday)



to planningboard@portlandmaine.gov, Joel Landry, Danielle Smaha

To The Portland Planning Board:

I am contacting you regarding the proposed redevelopment of the Oxford Street Shelter into new housing under the collaboration of Avesta Housing and Preble Street Site-based Housing First. My brother, Brad McKnight, was an original tenant at Huston Commons and lived there until his death in February 2023. It meant so much to me to know that Brad was off the street and being well cared for at Huston Commons. And there are so many more Brads out there who deserve the same dignity and security that was afforded my brother.

When I sat down to write this letter of testimony to you, I was going to regale you with anecdotes illustrating what a great guy Brad McKnight was. The only problem is that there are not many examples. Brad was not a great guy, but neither was he a bad guy. He was an alcoholic.

As the middle child with two siblings, Brad was the Golden Boy and the obvious favorite of not only our parents but also our teachers, extended family, etc. He learned very early to use charm and flattery to manipulate others. He was also a gifted athlete and talented academic, so he was never anything but the center of attention and the life of the party. In his early teens, when he began adding alcohol to the mix, things began changing dramatically for him.

During his young adulthood, Brad's dependence on alcohol increased while his social and survival skills correspondingly decreased. Alcohol had already, by this time, robbed him of his athletic scholarships, estranged him from our stepfather and his lucrative business that had always had a place open for Brad, and had also put him on probation for beating up his girlfriend and drunk driving. His coping skills were underdeveloped to begin with due to his Golden Boy status, and history of never being accountable for mistakes and offenses toward others. His circle of codependents and enablers was shrinking dramatically.

Alcoholism, as many now realize, is a disease of isolation. Its insidious influence over its victims ensures that subtle personality flaws are magnified, while adding new negative traits of its own to the mix. Before long, its victims have alienated their support network, who either become disenchanted with the alcoholic's deceit and manipulation, and/or they simply run out of expendable resources that would only be wasted by the alcoholic in pursuit of their next bender.

This is the short story of what happened to Brad. His subconscious alienation techniques had worked so well that, by the time our mother was on her deathbed in a hospice unit of a hospital in Taunton, Massachusetts, in July of 2009, she wanted nothing to do with him. I asked her if she wanted me to drive up to Portland to see if I could find him on the streets and bring him to her for their goodbyes. She responded with an emphatic, "NO!!!" The same was true of our father when he passed away in Watertown, New York in July of 2016, after spending many years and tens of thousands of dollars facilitating—no, enabling—Brad to bounce back and forth from Maine to northern New York, leaving behind ill will, destruction, warrants, and lost security deposits in his wake. Dad had long since washed his hands of Brad.

Our older brother, Mark, and I had also done what we could to help Brad, to no avail. Any help he received at the hands of friends and family went directly to fueling his self-destruction via alcohol. Mark and

I decided many years prior to Brad's acceptance into Huston Commons that we could no longer afford to support Brad's illness financially. It did him no good, and we were struggling ourselves with our own burdens in life. Mark, sadly, gave up contact with Brad after receiving too many late night angry phone calls denouncing him for not "caring enough" to wire him money.

I never gave up hope, though, nor did I cut off contact with him. I was notified in late 2017, that Brad was hospitalized in Portland with several alcoholism and exposure-related maladies. His case workers contacted me regarding a new housing facility in Portland that was geared toward the chronically homeless with conditions and circumstances just like Brad's: Huston Commons. This was the answer to my prayers that he would somehow be off the street and in safe housing.

His case workers teamed up with his hospital caregivers, and he was allowed to stay in the hospital until a room was made available to him in January of 2018. As I stated above, he lived there for the remaining six years of his life, off the streets and well cared for. The staff at Huston Commons not only cared for his physical needs but also made sure that he was availing himself of all social programs to which he was entitled, from Social Security to SNAP to Medicare. He had no worries from that point on regarding his safety or security. And he developed meaningful friendships with his neighbors and staff members. Interestingly, once his immediate needs were met, he relinquished the manipulative tactics which he had previously employed to secure his next fix. We kept in contact throughout that time period, and we enjoyed a close relationship even if it was only via phone. I feel confident that, when he passed away last year, he was secure in the knowledge that he possessed dignity and worth, despite not overcoming his alcoholism, and that he was loved. The assistance provided to Brad through Huston Commons essentially gave my brother back to me, and for that I am eternally grateful.

As I previously stated, Brad was not unique in his situation. Not only is the disease of addiction distressing for family members, it is very costly to the community. I have no idea the cost of Brad's hospital stay in 2017; however, I am sure that it would have been avoided altogether if housing had been made available earlier in his life, and this is just one example of how Brad's situation burdened the community. For younger people on the street, housing and essentials could make the difference in whether they are able to kick their addictions, acquire education and employment skills, and re-enter the workforce, thereby contributing to the community rather than draining it, as is the case with the chronically homeless.

In closing, these housing initiatives such as the one before your Board, are not only beneficial to individuals participating in the program but are also a practical and cost-saving method of addressing the homeless problem of Portland. Out of gratitude for all that was made available to my brother, and for the difference that was made at the end of his life, I urge you to pass this proposal on behalf of all of the other Brad McKnights on the streets of Portland.

Thank you for taking the time to read my testimony.

Sincerely,

Mindi M. McMains

3. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO FIELD EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES, OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.
4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF PORTLAND AND SERVING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.
5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED "AS-BUILT". IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.
6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.
7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED **TOPOGRAPHIC SURVEY, BAYSIDE PARCELS BY OWEN HASKEL, INC. DATED 2/17/23**
8. SUBSURFACE DATA WILL BE OBTAINED BY THE PROJECT GEOTECHNICAL ENGINEER AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THROUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.
10. **CONSTRUCTION MANAGEMENT PLAN AND SITE LOGISTICS NARRATIVE WILL BE PROVIDED BY THE CONTRACTOR AND SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.**
11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.
12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.
13. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM ADJACENT STRUCTURES. PROVIDE A COPY OF THE SURVEY TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

3. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.
2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.
6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.
8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.
9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILLING, CONCRETE SHALL BE CURED PER STRUCTURAL ENGINEER'S SPECIFICATIONS.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.
12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.
14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAYER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN.
3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.
4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.
5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A LICENSED PROFESSIONAL LAND SURVEYOR.
2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.
6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF SITE PLAN – LEVEL III AND SUBDIVISION PERMIT FROM THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.
3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF PORTLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM. (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.
2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACORN ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS. SEE BORING LOGS FOR ADDITIONAL INFORMATION.
3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.
4. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES WHERE NOT NOTED ON THE GRADING PLAN. SLOPES IDENTIFIED ON THE GRADING PLAN TAKE PRECEDENT. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST **GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.**
6. CONTRACTOR TO REVIEW EXISTING SOIL CONDITIONS, TEST PITS, AND BORINGS. THERE WILL BE NO ADDITIONAL PAYMENT FOR UNSUITABLE SOILS.
7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF $N=0.012$ OR LESS.
8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
9. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.
10. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT **GEOTECHNICAL ENGINEER**, IF APPLICABLE.

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.
2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.
3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.
4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET, THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENTATION CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.
6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.
7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

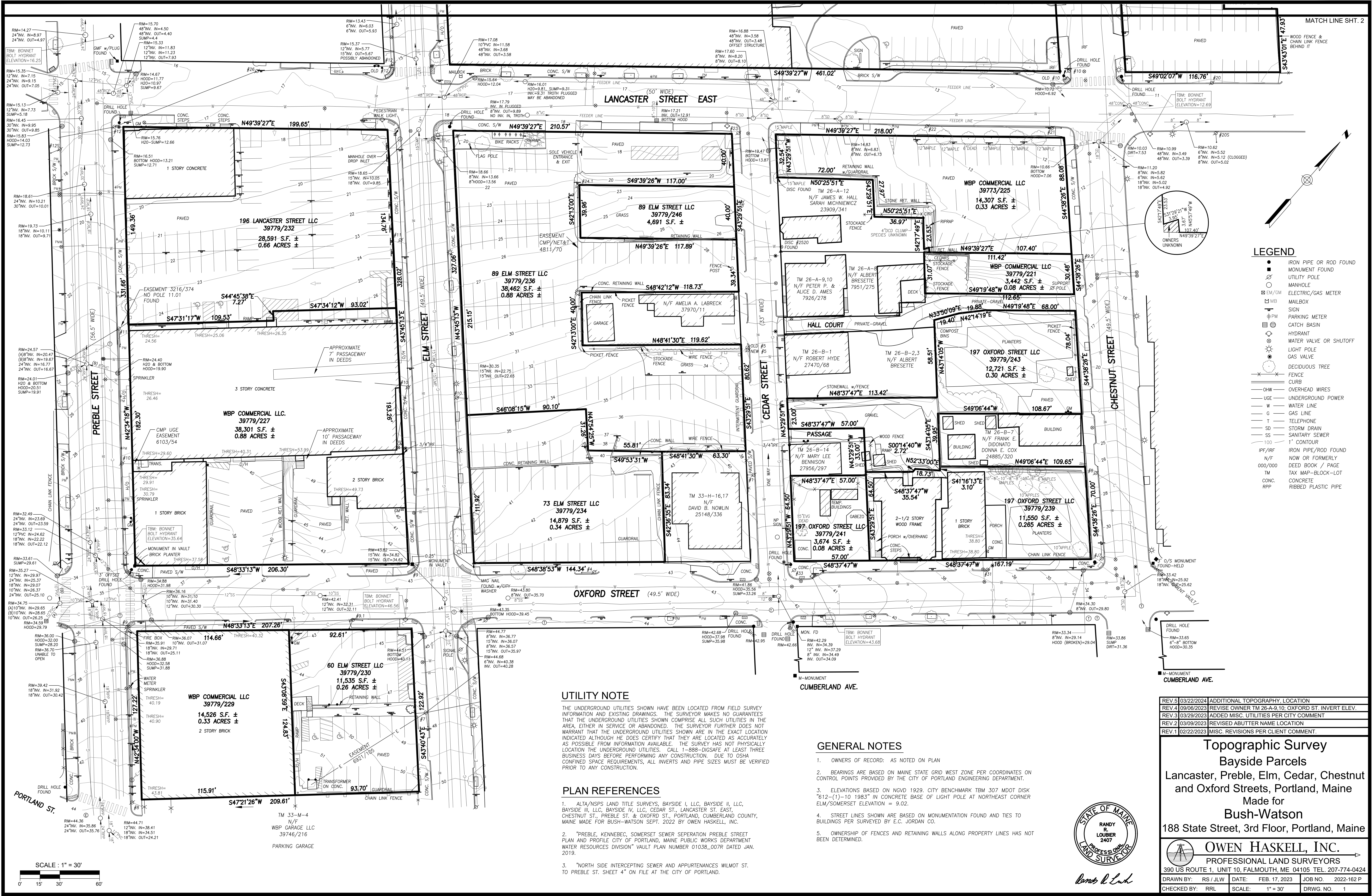
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
2. CONTRACTOR TO BYPASS EXISTING SEWER FLOW CONTROL AT CONNECTION TO EXISTING SYSTEM AT NO ADDITIONAL COST.
3. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.
4. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED AND SHOWN TO PASS PRIOR TO BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16); GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
5. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.
6. CONTRACTOR TO PROVIDE 5.5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
7. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAINT ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.
8. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT "WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE", MOST RECENT REVISION.
9. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH CITY OF PORTLAND, STATE OF MAINE AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.
10. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.

1. ALL WATER PIPE INSTALLATION SHALL CONFORM TO THE **PORTLAND WATER DISTRICT** SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
13. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
14. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.
15. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE **CITY OF PORTLAND TECHNICAL MANUAL** PRIOR TO ANY WORK.
16. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.
17. ALL UTILITY PIPES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SAGS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.
18. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.
19. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.
20. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.
21. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.
22. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.
23. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.
24. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
 - ROCK AND CONCRETE FOUNDATIONS
 - CONCRETE SLABS
 - BITUMINOUS ASPHALT PAVEMENT
 - CONCRETE PADS AND BLOCKS
 - FENCE POST AND FENCING
 - UNDERGROUND UTILITY LINES
 - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
 - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
 - OTHER TRASH & MISCELLANEOUS SOLID WASTES
2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
4. THE CLIENT HAS NOT REQUESTED NOR HAS ACORN COMPLETED A PHASE I - ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY.

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

[illegible]



UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEY HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

PLAN REFERENCES

- ALTA/NSPS LAND TITLE SURVEYS, BAYSIDE I, LLC, BAYSIDE II, LLC, BAYSIDE III, LLC, BAYSIDE IV, LLC, CEDAR ST., LANCASTER ST. EAST, CHESTNUT ST., PREBLE ST. & OXFORD ST., PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR BUSH-WATSON SEPT. 2022 BY OWEN HASKELL, INC.
- "PREBLE, KENNEBEC, SOMERSET SEWER SEPARATION PREBLE STREET PLAN AND PROFILE CITY OF PORTLAND, MAINE PUBLIC WORKS DEPARTMENT WATER RESOURCES DIVISION" VAULT PLAN NUMBER 01038_007R DATED JAN. 2019.
- "NORTH SIDE INTERCEPTING SEWER AND APPURTENANCES WILMOT ST. TO PREBLE ST. SHEET 4" ON FILE AT THE CITY OF PORTLAND.

GENERAL NOTES

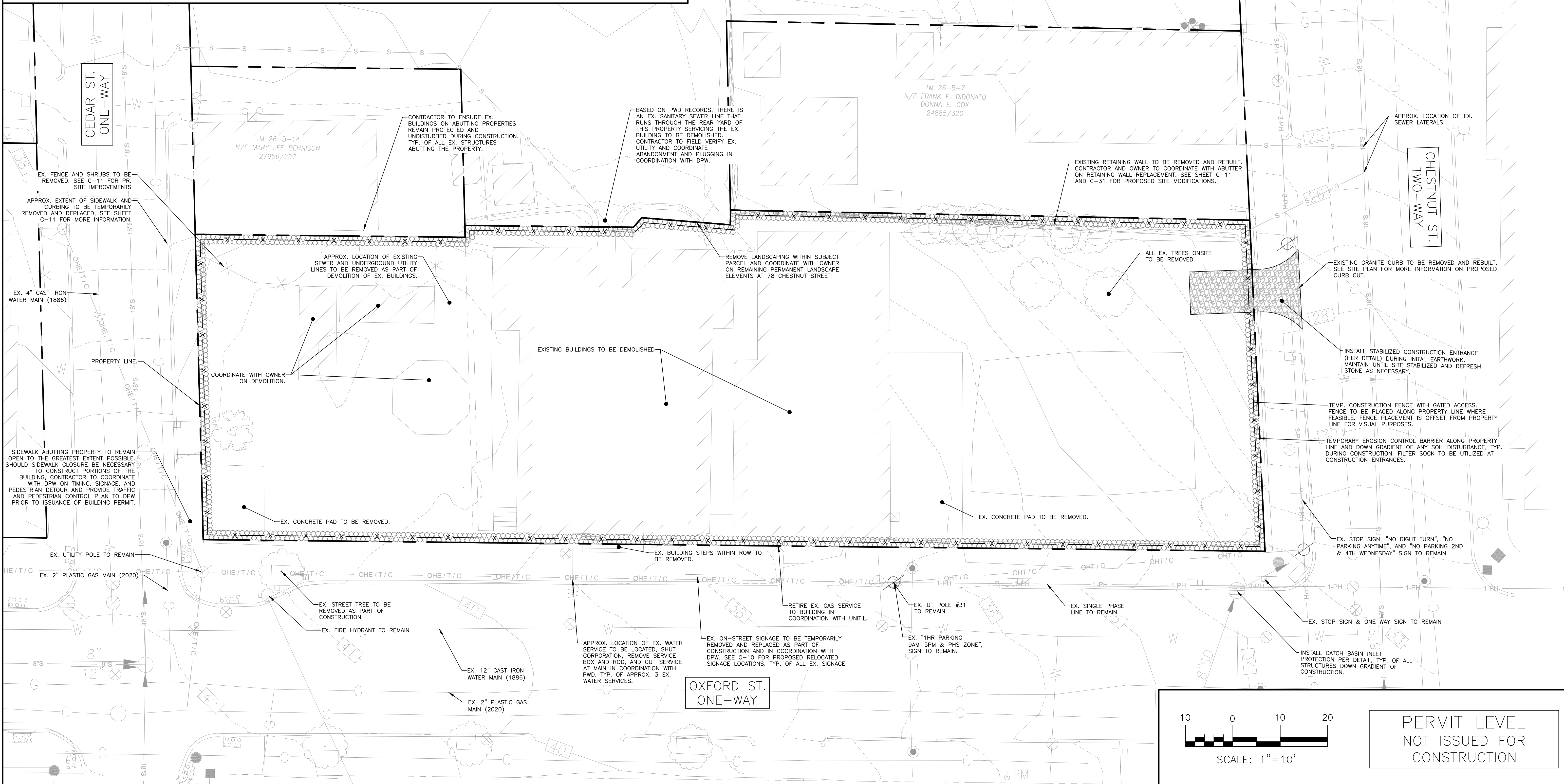
- OWNERS OF RECORD: AS NOTED ON PLAN
- BEARINGS ARE BASED ON MAINE STATE GRID WEST ZONE PER COORDINATES ON CONTROL POINTS PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT.
- ELEVATIONS BASED ON NGVD 1929. CITY BENCHMARK TBM 307 MDT DISK "612-(1)-10 1983" IN CONCRETE BASE OF LIGHT POLE AT NORTHEAST CORNER ELM/SOMERSET ELEVATION = 9.02.
- STREET LINES SHOWN ARE BASED ON MONUMENTATION FOUND AND TIES TO BUILDINGS PER SURVEYED BY E.C. JORDAN CO.
- OWNERSHIP OF FENCES AND RETAINING WALLS ALONG PROPERTY LINES HAS NOT BEEN DETERMINED.

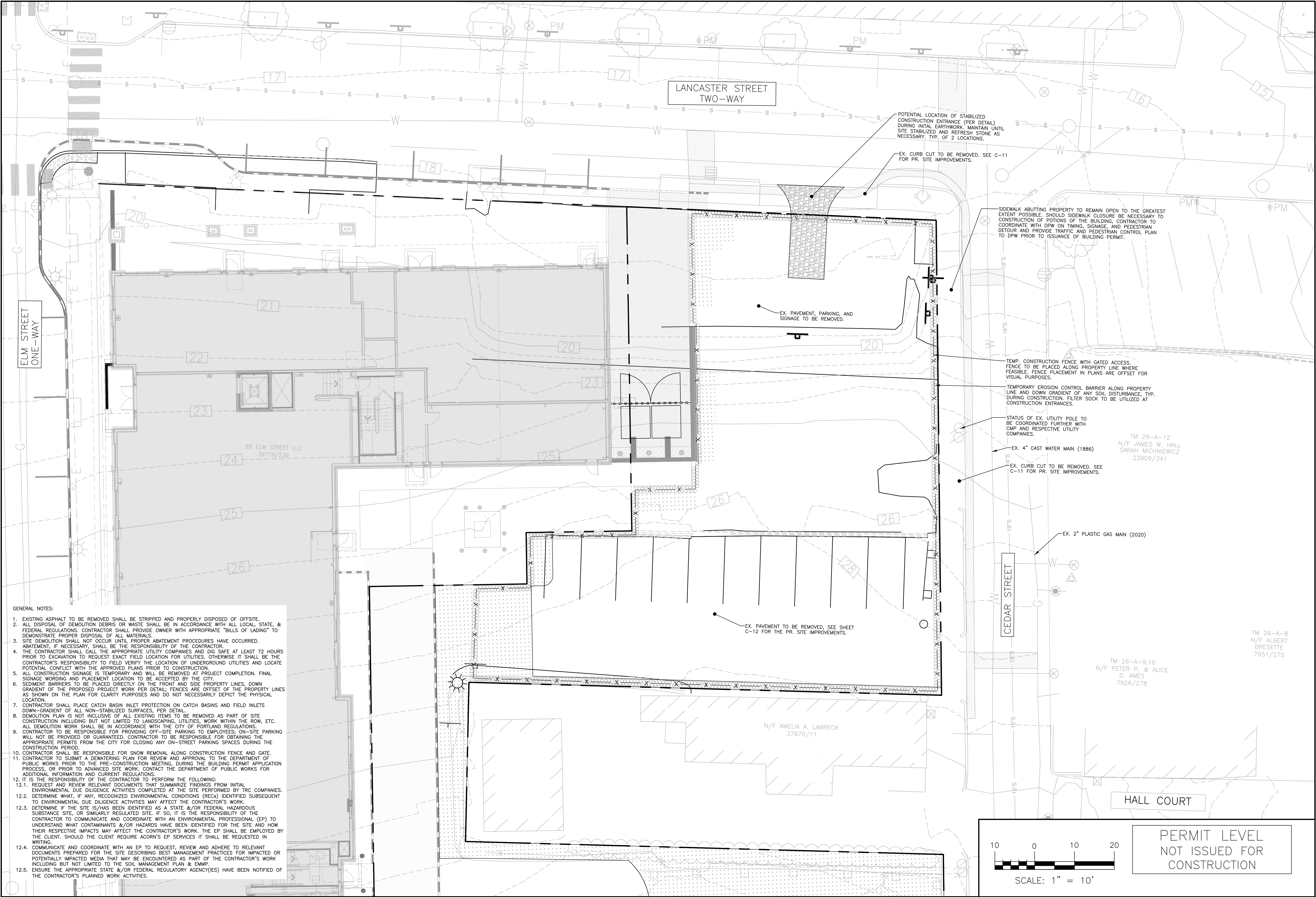
REV 5	03/22/2024	ADDITIONAL TOPOGRAPHY LOCATION
REV 4	09/06/2023	REVISE OWNER TM 26-A-9.10: OXFORD ST. INVERT ELEV.
REV 3	03/29/2023	ADDED MISC. UTILITIES PER CITY COMMENT
REV 2	03/09/2023	REVISED ABUTTER NAME LOCATION
REV 1	02/22/2023	MISC. REVISIONS PER CLIENT COMMENT.

Topographic Survey
Bayside Parcels
Lancaster, Preble, Elm, Cedar, Chestnut
and Oxford Streets, Portland, Maine
Made for
Bush-Watson
188 State Street, 3rd Floor, Portland, Maine

 OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS 390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424	
DRAWN BY: RS/JRL	DATE: FEB. 17, 2023
CHECKED BY: JRL	SCALE: 1" = 30'
	DRWG. NO. 1

1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OFFSITE.
2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
5. CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER SURFACE; FENCES ARE REQUIRED TO BE PLACED ON THE PROPERTY LINE ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY REFLECT THE PHYSICAL LOCATION OF THE PROPERTY LINE.
7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SLOPES, PER DETAIL.
8. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
9. CONTRACTOR IS RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CITY AND THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE PRE-CONSTRUCTION MEETING, DURING THE BUILDING PERMIT APPLICATION PROCESS, OR PRIOR TO ADVANCED SITE WORK. CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR ADDITIONAL INFORMATION AND CURRENT REGULATIONS.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE FOLLOWING:
 - 12.1. REQUEST AND REVIEW RELEVANT DOCUMENTS THAT SUMMARIZE FINDINGS FROM INITIAL ENVIRONMENTAL DUE DILIGENCE ACTIVITIES COMPLETED AT THE SITE PERFORMED BY TRC COMPANIES INC.
 - 12.2. DETERMINE WHAT, IF ANY, RECOGNIZED ENVIRONMENTAL CONDITIONS (RCGs) IDENTIFIED SUBSEQUENT TO ENVIRONMENTAL DUE DILIGENCE ACTIVITIES MAY AFFECT THE CONTRACTOR'S WORK.
 - 12.3. DETERMINE IF THE SITE IS/HAS BEEN IDENTIFIED AS A STATE &/OR FEDERAL HAZARDOUS SUBSTANCE SITE, OR SIMILARLY REGULATED SITE. IF SO, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMMUNICATE AND COORDINATE WITH AN ENVIRONMENTAL PROFESSIONAL (EP) TO UNDERSTAND WHAT CONTAMINANTS &/OR HAZARDS HAVE BEEN IDENTIFIED FOR THE SITE AND HOW THEIR RESPECTIVE IMPACTS MAY AFFECT THE CONTRACTOR'S WORK. THE EP SHALL BE EMPLOYED BY THE CLIENT. SHOULD THE CLIENT REQUIRE ACOGN'S EP SERVICES IT SHALL BE REQUESTED IN WRITING.
 - 12.4. COORDINATE AND OBTAIN ALL NECESSARY REVIEW AND APPROVAL DOCUMENTS PREPARED FOR THE SITE DESCRIBING BEST MANAGEMENT PRACTICES FOR IMPACTED OR POTENTIALLY IMPACTED MEDIA THAT MAY BE ENCOUNTERED AS PART OF THE CONTRACTOR'S WORK INCLUDING BUT NOT LIMITED TO THE SOIL MANAGEMENT PLAN & EMPM.
 - 12.5. ENSURE THE APPROPRIATE STATE &/OR FEDERAL REGULATORY AGENCY(IES) HAVE BEEN NOTIFIED OF THE CONTRACTOR'S PLANNED WORK ACTIVITIES.

[illegible]



ISSUED FOR	BY
JOINT MAJOR SITE	DATE
PLAN APPLICATION	7/6/24

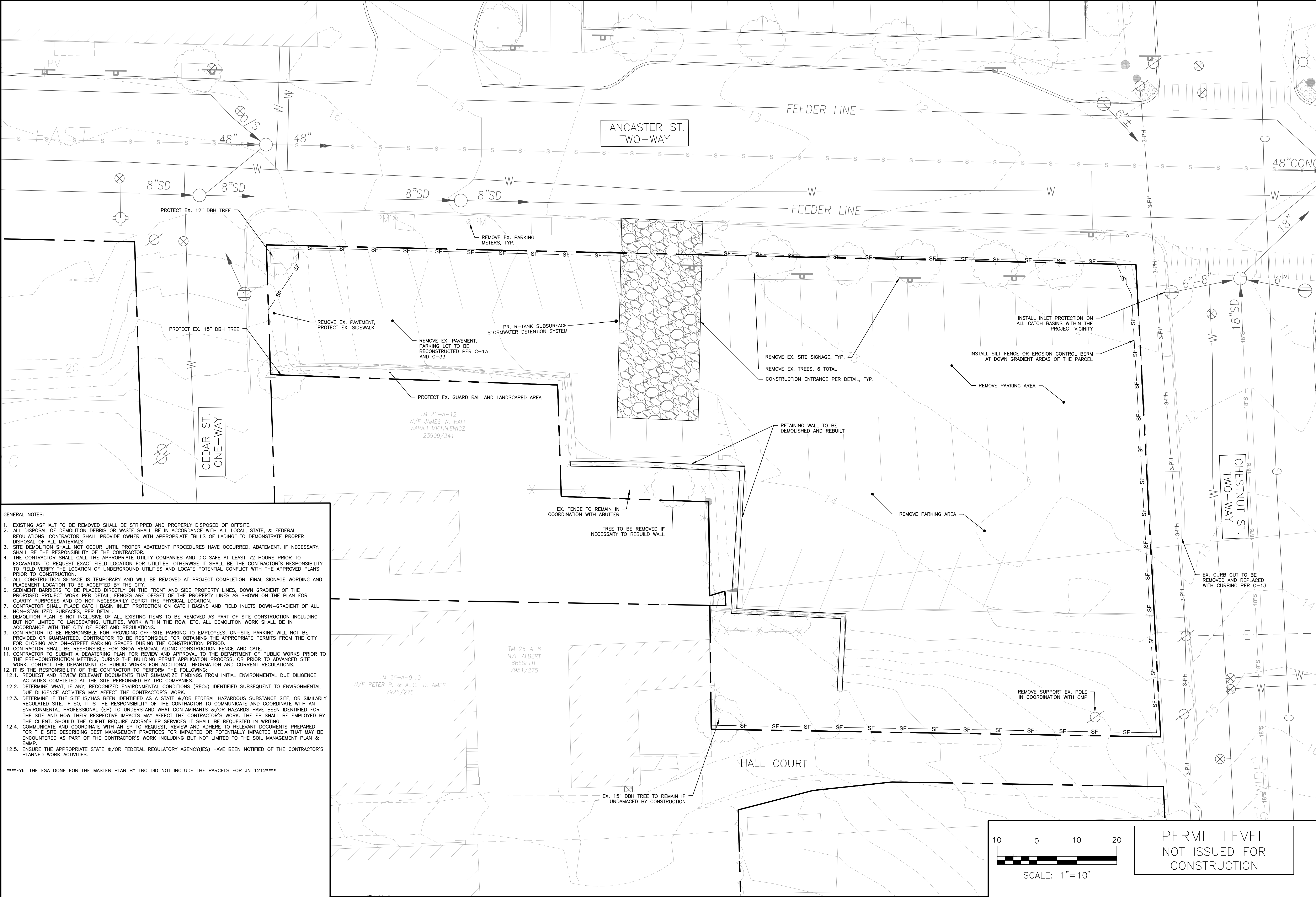
PHASE 2 - CONSTRUCTION MANAGEMENT PLAN	REVELER DEVELOPMENT
PHASE 2 - PHASED OXFORD STREET REDEVELOPMENT	188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.	ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104	(207) 775-2655

FILE: 1212.2_AE_CIVIL	JN: 1212
SCALE: AS NOTED	DESIGNED BY: SUL
DRAWN BY: DNM	CHECKED BY: SUL

STATE OF MAINE	SAMUEL J. LEBEL
16508	PROFESSIONAL ENGINEER

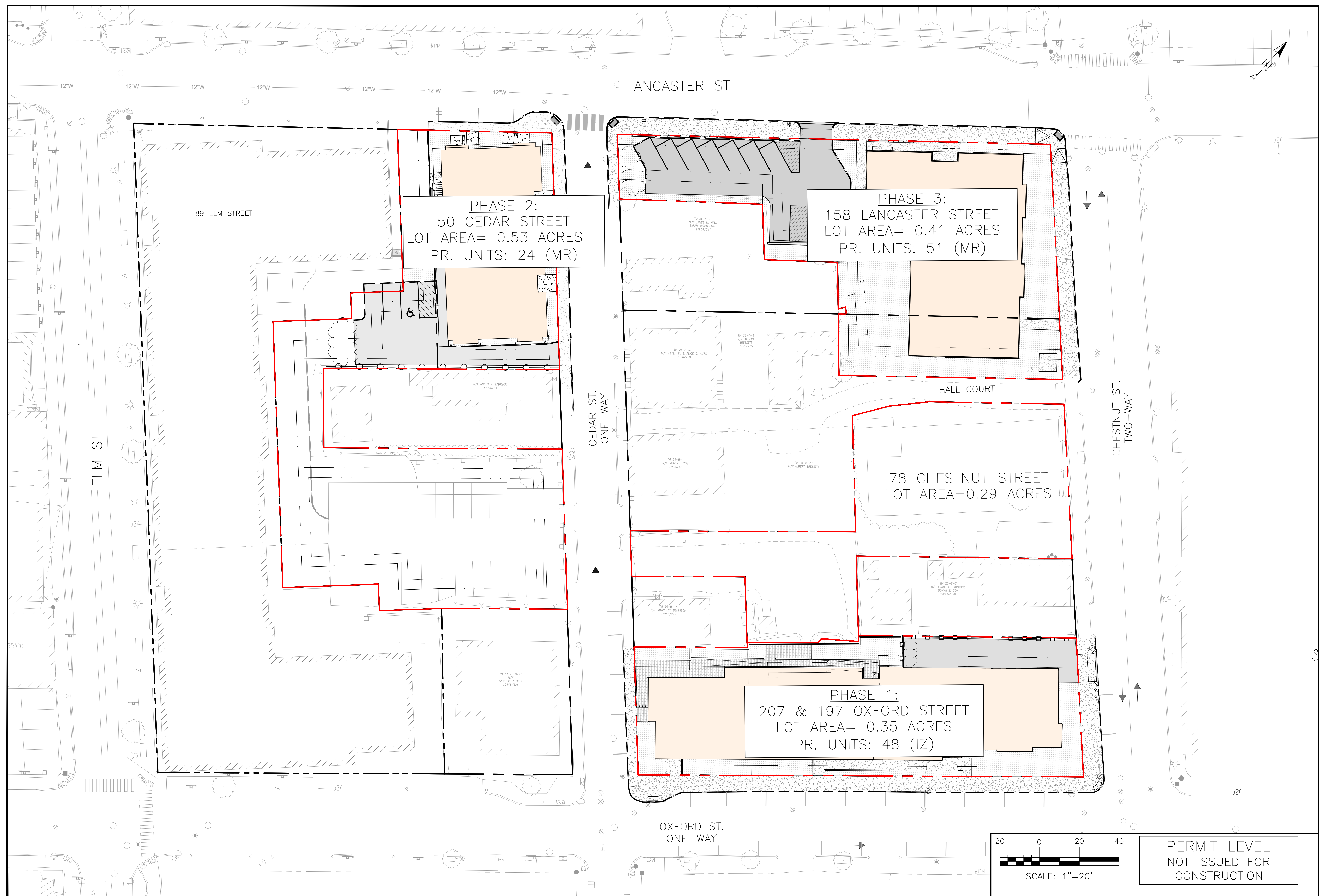
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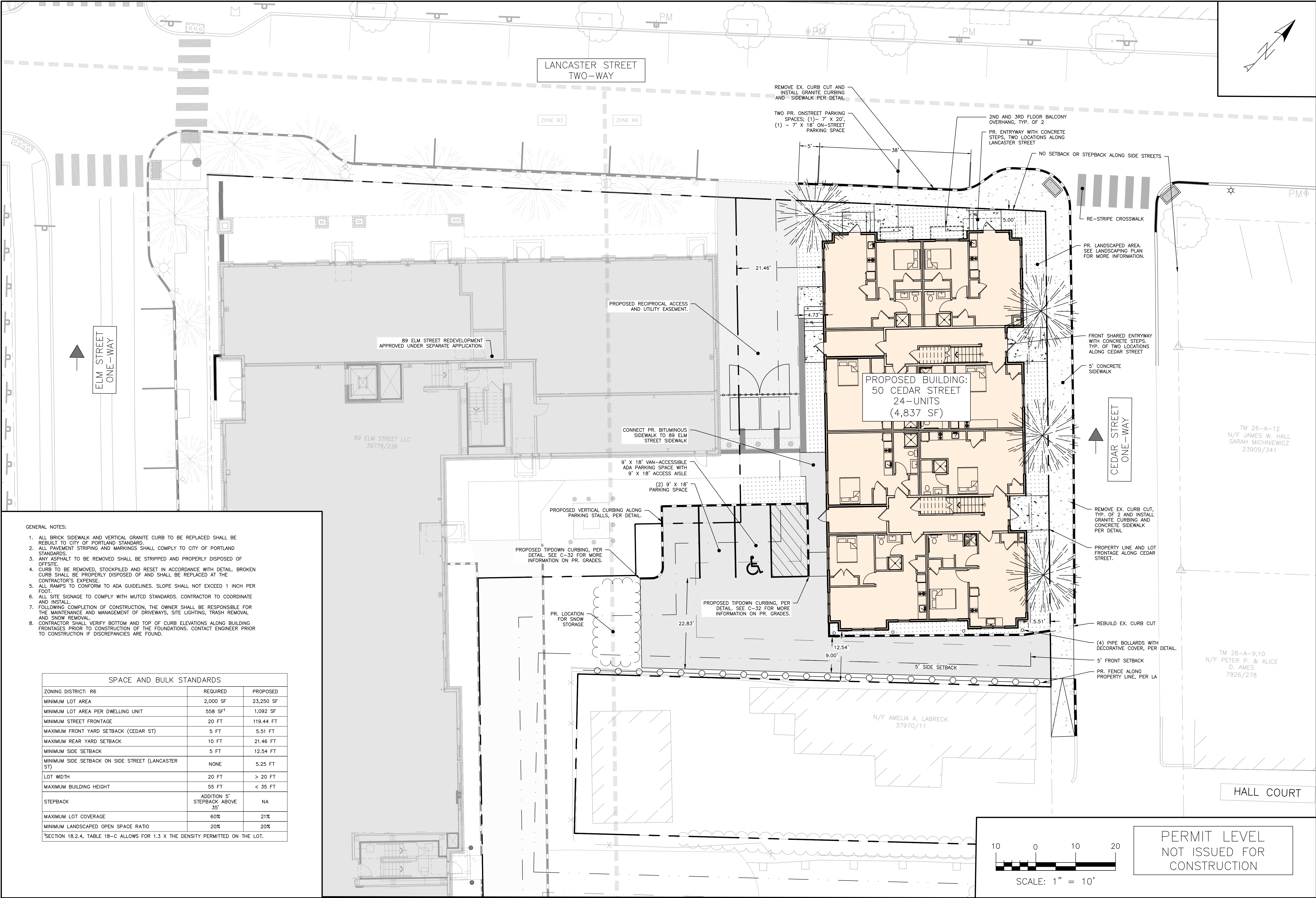


- GENERAL NOTES:
- EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
 - ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
 - SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
 - ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
 - SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
 - CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
 - DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
 - CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
 - CONTRACTOR TO SUBMIT A DEWATERING PLAN FOR REVIEW AND APPROVAL TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE PRE-CONSTRUCTION MEETING, DURING THE BUILDING PERMIT APPLICATION PROCESS, OR PRIOR TO ADVANCED SITE WORK. CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR ADDITIONAL INFORMATION AND CURRENT REGULATIONS.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE FOLLOWING:
 - REQUEST AND REVIEW RELEVANT DOCUMENTS THAT SUMMARIZE FINDINGS FROM INITIAL ENVIRONMENTAL DUE DILIGENCE ACTIVITIES COMPLETED AT THE SITE PERFORMED BY TRC COMPANIES.
 - DETERMINE WHAT, IF ANY, RECOGNIZED ENVIRONMENTAL CONDITIONS (RECs) IDENTIFIED SUBSEQUENT TO ENVIRONMENTAL DUE DILIGENCE ACTIVITIES MAY AFFECT THE CONTRACTOR'S WORK.
 - DETERMINE IF THE SITE IS/HAS BEEN IDENTIFIED AS A STATE &/OR FEDERAL HAZARDOUS SUBSTANCE SITE, OR SIMILARLY REGULATED SITE. IF SO, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMMUNICATE AND COORDINATE WITH AN ENVIRONMENTAL PROFESSIONAL (EP) TO UNDERSTAND WHAT CONTAMINANTS &/OR HAZARDS HAVE BEEN IDENTIFIED FOR THE SITE AND HOW THEIR RESPECTIVE IMPACTS MAY AFFECT THE CONTRACTOR'S WORK. THE EP SHALL BE EMPLOYED BY THE CLIENT. SHOULD THE CLIENT REQUIRE ACORN'S EP SERVICES IT SHALL BE REQUESTED IN WRITING.
 - COMMUNICATE AND COORDINATE WITH AN EP TO REQUEST, REVIEW AND ADHERE TO RELEVANT DOCUMENTS PREPARED FOR THE SITE DESCRIBING BEST MANAGEMENT PRACTICES FOR IMPACTED OR POTENTIALLY IMPACTED MEDIA THAT MAY BE ENCOUNTERED AS PART OF THE CONTRACTOR'S WORK INCLUDING BUT NOT LIMITED TO THE SOIL MANAGEMENT PLAN & EMP.
 - ENSURE THE APPROPRIATE STATE &/OR FEDERAL REGULATORY AGENCY(IES) HAVE BEEN NOTIFIED OF THE CONTRACTOR'S PLANNED WORK ACTIVITIES.

FYI: THE ESA DONE FOR THE MASTER PLAN BY TRC DID NOT INCLUDE THE PARCELS FOR JN 1212*

ISSUED FOR	BY
JOINT SITE PLAN APPLICATION	DATE
	4/16/24
PHASE 3 - CONSTRUCTION MANAGEMENT PLAN	
PROJECT NAME: PHASE 3 - PHASED OXFORD STREET REDEVELOPMENT	
CLIENT: REVELER DEVELOPMENT	
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101	
DRAWING NO. C-05	
1212_AE_CIVIL	
JN:	1212
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	DNM
CHECKED BY:	SJL
DRAWING NO. C-05	

[illegible]



- GENERAL NOTES:
- ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
 - ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
 - ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
 - CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
 - ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
 - FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
 - CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

SPACE AND BULK STANDARDS		
ZONING DISTRICT: R6	REQUIRED	PROPOSED
MINIMUM LOT AREA	2,000 SF	23,250 SF
MINIMUM LOT AREA PER DWELLING UNIT	558 SF ¹	1,092 SF
MINIMUM STREET FRONTAGE	20 FT	119.44 FT
MAXIMUM FRONT YARD SETBACK (CEDAR ST)	5 FT	5.51 FT
MAXIMUM REAR YARD SETBACK	10 FT	21.46 FT
MINIMUM SIDE SETBACK	5 FT	12.54 FT
MINIMUM SIDE SETBACK ON SIDE STREET (LANCASTER ST)	NONE	5.25 FT
LOT WIDTH	20 FT	> 20 FT
MAXIMUM BUILDING HEIGHT	55 FT	< 35 FT
STEPBACK	ADDITION 5' STEPBK ABOVE 35'	NA
MAXIMUM LOT COVERAGE	60%	21%
MINIMUM LANDSCAPED OPEN SPACE RATIO	20%	20%

¹SECTION 18.2.4, TABLE 18-C ALLOWS FOR 1.3 X THE DENSITY PERMITTED ON THE LOT.

ISSUED FOR: BY: DATE: 4/7/24

PROJECT NAME: PHASE 2 - PHASED OXFORD STREET REDEVELOPMENT

CLIENT: REVELER DEVELOPMENT 188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.

ENGINEERING, INC.

PO BOX 3372, PORTLAND MAINE 04104

(207) 775-2655

FILE: 1212.2_AE_CIVIL

JN: 1212

SCALE: AS NOTED

DESIGNED BY: SUL

DRAWN BY: DNM

CHECKED BY: SUL

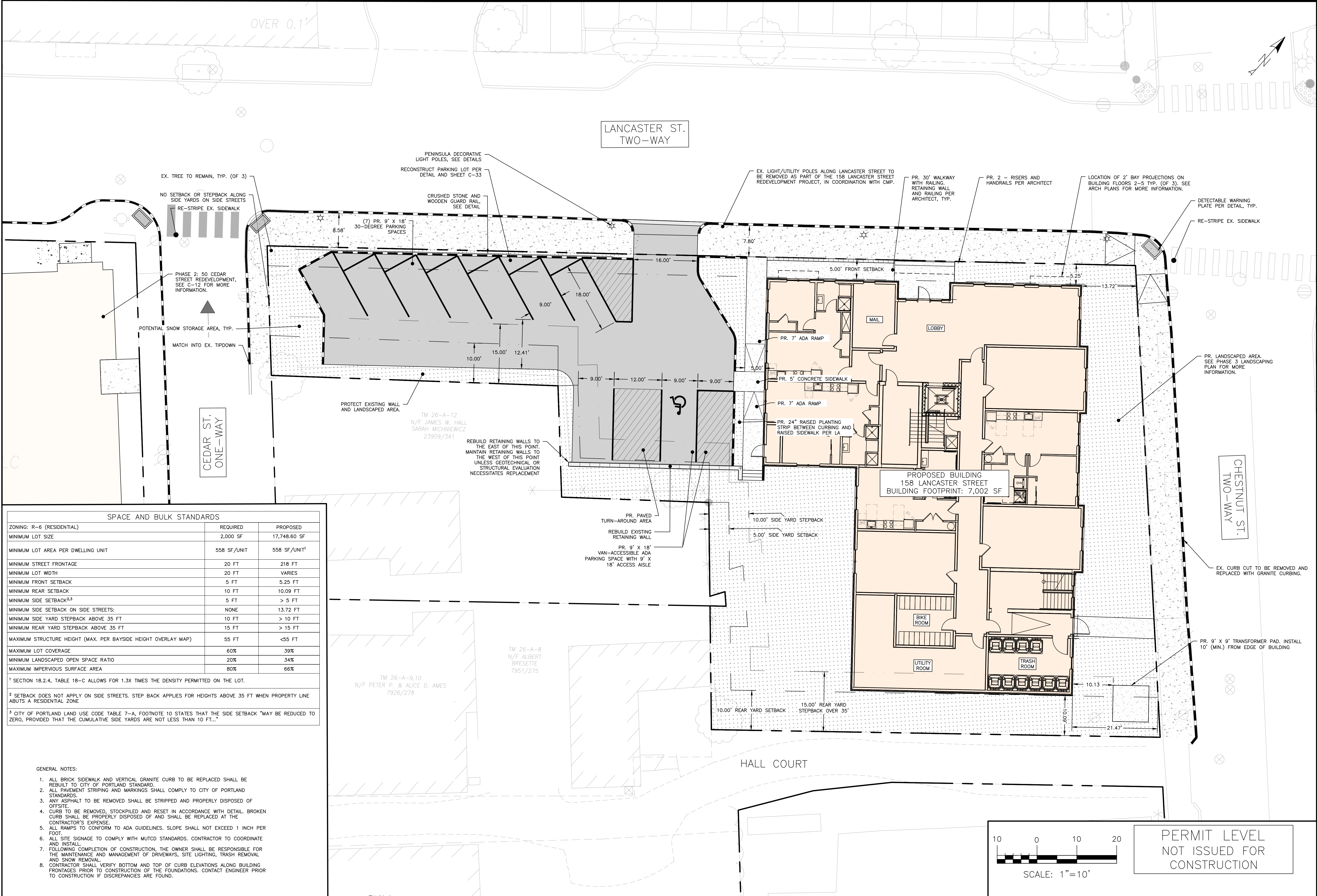
STATE OF MAINE

SAMUEL J. LABEL

16598

PROFESSIONAL ENGINEER

DRAWING NO. C-12



SPACE AND BULK STANDARDS		
ZONING: R-6 (RESIDENTIAL)	REQUIRED	PROPOSED
MINIMUM LOT SIZE	2,000 SF	17,748.60 SF
MINIMUM LOT AREA PER DWELLING UNIT	558 SF/UNIT	558 SF/UNIT ¹
MINIMUM STREET FRONTAGE	20 FT	218 FT
MINIMUM LOT WIDTH	20 FT	VARIES
MINIMUM FRONT SETBACK	5 FT	5.25 FT
MINIMUM REAR SETBACK	10 FT	10.09 FT
MINIMUM SIDE SETBACK ^{2,3}	5 FT	> 5 FT
MINIMUM SIDE SETBACK ON SIDE STREETS:	NONE	13.72 FT
MINIMUM SIDE YARD SETBACK ABOVE 35 FT	10 FT	> 10 FT
MINIMUM REAR YARD SETBACK ABOVE 35 FT	15 FT	> 15 FT
MAXIMUM STRUCTURE HEIGHT (MAX. PER BAYSIDE HEIGHT OVERLAY MAP)	55 FT	<55 FT
MAXIMUM LOT COVERAGE	60%	39%
MINIMUM LANDSCAPED OPEN SPACE RATIO	20%	34%
MAXIMUM IMPERVIOUS SURFACE AREA	80%	66%

¹ SECTION 18.2.4, TABLE 18-C ALLOWS FOR 1.3X TIMES THE DENSITY PERMITTED ON THE LOT.

² SETBACK DOES NOT APPLY ON SIDE STREETS. STEP BACK APPLIES FOR HEIGHTS ABOVE 35 FT WHEN PROPERTY LINE ABUTS A RESIDENTIAL ZONE

³ CITY OF PORTLAND LAND USE CODE TABLE 7-A, FOOTNOTE 10 STATES THAT THE SIDE SETBACK "MAY BE REDUCED TO ZERO, PROVIDED THAT THE CUMULATIVE SIDE YARDS ARE NOT LESS THAN 10 FT..."

- GENERAL NOTES:
- ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
 - ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
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 - CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
 - ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
 - FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
 - CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

ISSUED FOR
JOINT SITE PLAN APPLICATION

BY
DATE
SJM
4/16/24

PHASE 3 - SITE PLAN

PROJECT NAME:
PHASE 3 - PHASED OXFORD STREET REDEVELOPMENT

CLIENT:
REVELER DEVELOPMENT
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
1212 AE CIVIL

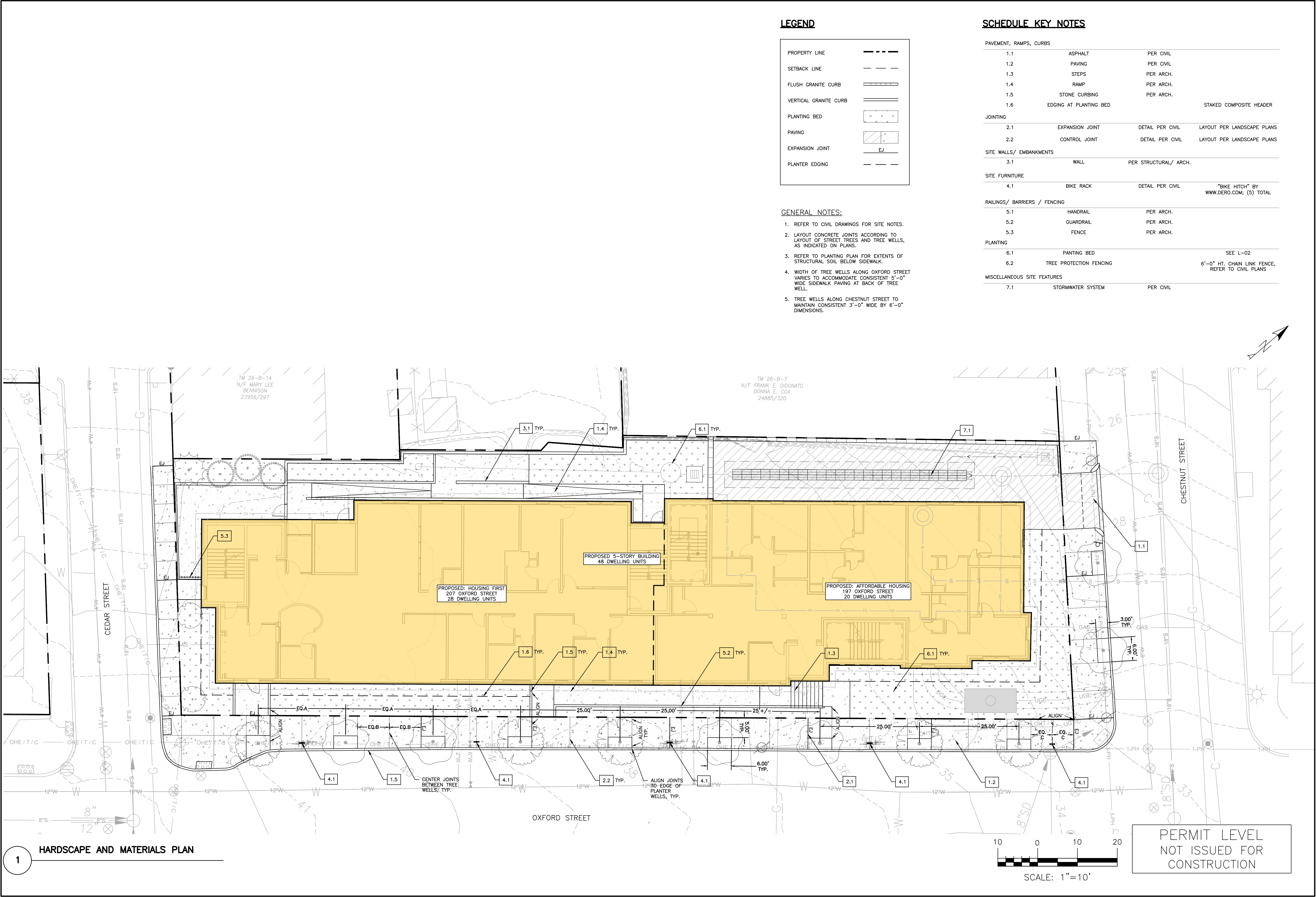
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

JN: 1212
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: DNM
CHECKED BY: SJL

STATE OF MAINE
SAMUEL J. LEBEL
16508
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-13

Page 570



1 HARDSCAPE AND MATERIALS PLAN

LEGEND

PROPERTY LINE	---
SETBACK LINE	---
FLUSH GRANITE CURB	=====
VERTICAL GRANITE CURB	=====
PLANTING BED	[Pattern]
PAVING	[Pattern]
EXPANSION JOINT	EJ
PLANTER EDGING	---

GENERAL NOTES:

1. REFER TO CIVIL DRAWINGS FOR SITE NOTES.
2. LAYOUT CONCRETE JOINTS ACCORDING TO LAYOUT OF STREET TREES AND TREE WELLS, AS INDICATED ON PLANS.
3. REFER TO PLANTING PLAN FOR EXTENTS OF STRUCTURAL SOIL BELOW SIDEWALK.
4. WIDTH OF TREE WELLS ALONG OXFORD STREET VARIES TO ACCOMMODATE CONSISTENT 5'-0" WIDE SIDEWALK PAVING AT BACK OF TREE WELL.
5. TREE WELLS ALONG CHESTNUT STREET TO MAINTAIN CONSISTENT 3'-0" WIDE BY 6'-0" DIMENSIONS.

SCHEDULE KEY NOTES

PAVEMENT, RAMPS, CURBS			
1.1	ASPHALT	PER CIVIL	
1.2	PAVING	PER CIVIL	
1.3	STEPS	PER ARCH.	
1.4	RAMP	PER ARCH.	
1.5	STONE CURBING	PER ARCH.	
1.6	EDGING AT PLANTING BED		STAKED COMPOSITE HEADER
JOINTING			
2.1	EXPANSION JOINT	DETAIL PER CIVIL	LAYOUT PER LANDSCAPE PLANS
2.2	CONTROL JOINT	DETAIL PER CIVIL	LAYOUT PER LANDSCAPE PLANS
SITE WALLS/ EMBANKMENTS			
3.1	WALL	PER STRUCTURAL/ ARCH.	
SITE FURNITURE			
4.1	BIKE RACK	DETAIL PER CIVIL	"BIKE HITCH" BY WWW.DERO.COM; (5) TOTAL
RAILINGS/ BARRIERS / FENCING			
5.1	HANDRAIL	PER ARCH.	
5.2	GUARDRAIL	PER ARCH.	
5.3	FENCE	PER ARCH.	
PLANTING			
6.1	PANTING BED		SEE L-02
6.2	TREE PROTECTION FENCING		6'-0" HT. CHAIN LINK FENCE, REFER TO CIVIL PLANS
MISCELLANEOUS SITE FEATURES			
7.1	STORMWATER SYSTEM	PER CIVIL	

ISSUED FOR
JOINT MAJOR SITE
PLAN APPLICATION

BY
DATE
SJL
6/10/24

DRAWING NAME:
HARDSCAPE AND MATERIALS PLAN

PROJECT NAME:
PHASE 1 - PHASED OXFORD STREET REDEVELOPMENT

CLIENT:
AVESTA HOUSING
307 CUMBERLAND AVE, PORTLAND, ME 04101

LANDSCAPE ARCHITECTURE

ACORN

FILE: 1212.1_AE_LA_2

JN: 1212.1

SCALE: AS NOTED

DESIGNED BY: ALDV

DRAWN BY: ALDV

CHECKED BY: SJL

LICENSED LANDSCAPE ARCHITECT

ALEXIS LOPEZ DELVECCIO

LARS303

7/17/2024

STATE OF MAINE

DRAWING NO.
L-01

THIS PLAN SHALL NOT BE ADORDED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT. ANY CHANGES SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2825

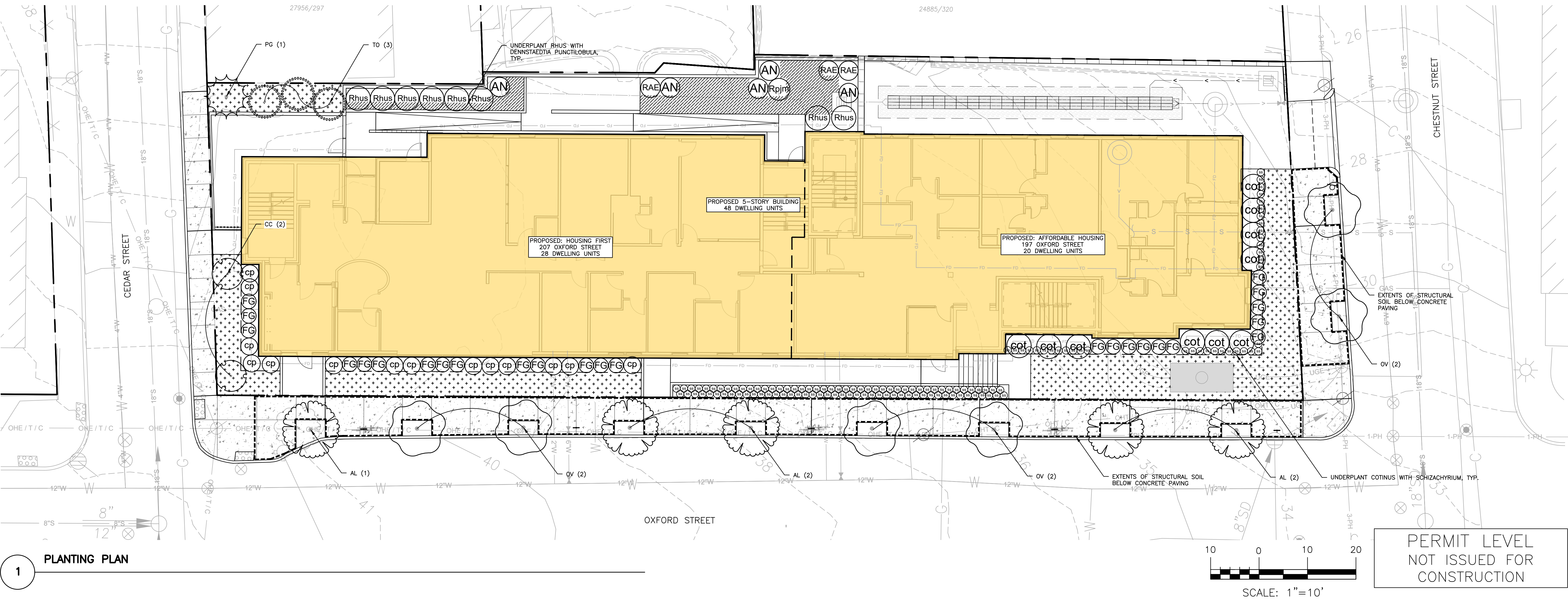
TREES						
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SPACING	SIZE	QTY	NOTES
	AMELANCHIER LAEVIS	SERVICEBERRY	PER PLAN	2" CAL.	5	STANDARD TRUNK; NATIVE
	CERCIS CANADENSIS 'FOREST FANSY'	EASTERN REDBUD	PER PLAN	1.5" CAL.	2	NATIVE
	OSTRYA VIRGINIA	AMERICAN HOPHORNBEAM	PER PLAN	2.5" CAL.	6	NATIVE
	PICEA GLAUCA	WHITE SPRUCE	PER PLAN	5-6" HT.	1	NATIVE
	THUJA PLICATA	ARBORVITAE	PER PLAN	5-6" HT.	3	NATIVE
HERBACEOUS PERENNIALS/ SHRUBS						
(AN)	AZALEA "NORTHERN HI-LIGHTS"	NORTHERN HI-LIGHTS AZALEA	42" O.C.	5 GAL.	5	-
	DENNSTAEDTIA PUNCTILOBLA	HAY SCENTED FERN	18" O.C.	1 QUART OR 1 GAL.	175	NATIVE
CP	COMPTONIA PEREGRINA	SWEET FERN	42" O.C.	5 GAL.	14	NATIVE
	COTINUS COGGYGRIA	SMOKE TREE	5' O.C.	5 GAL.	10	-
FG	FOTHERGILLA GADENII	DWARF FOTHERGILLA	36" O.C.	5 GAL.	25	-
RAE	RHODODENDRON 'ALBUM ELEGANS'	ELEGANT CATAWBA	4' O.C.	5 GAL.	3	-
Rpjm	RHODODENDRON 'P.J.M.'	PJM RHODODENDRON	4.5' O.C.	5 GAL.	1	-
Rhus	RHUS GLABRA	SMOOTH SUMAC	5' O.C.	5 GAL.	8	NATIVE
SH	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	18" O.C.	1 GAL.	128	NATIVE
SEEDING						
SYMBOL	SEED MIX	SPECIES	PERCENTAGE	AREA		RATE
	GRASS MIX	SEE SEEDING NOTES	-	1230 SF		7 LBS /100 SF; 300 LBS/ACRE

1. NO PLANTING IS TO BE INSTALLED UNTIL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
2. SUBSTITUTIONS TO THE PLANTING SCHEDULE ARE TO BE REVIEWED FOR APPROVAL BY THE LANDSCAPE ARCHITECT FOR.
3. CONTRACTOR IS TO VERIFY UTILITIES ON PROPERTY AND TO PROTECT DURING EXCAVATION FOR PLANTS.
4. PLANT QUANTITIES LISTED IN THE PLANTING SCHEDULE ARE PROVIDED TO THE CONTRACTOR AS A CONVENIENCE; CONTRACTORS ARE TO VERIFY ALL PLANT QUANTITIES ON THE PLANS. IN THE EVENT OF A DISCREPANCY BETWEEN THE SCHEDULE AND THE DRAWING, THE DRAWING SHALL TAKE PRECEDENCE.
5. PLANTING MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
6. THE CONTRACTOR SHALL SUBMIT NURSERY PHOTOGRAPHS OF ALL SHRUBS AND HERBACEOUS MATERIAL TO THE LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO ACCEPTANCE.
7. THE CONTRACTOR SHALL SUBMIT NURSERY PHOTOGRAPHS OF ALL TREES TO THE LANDSCAPE ARCHITECT FOR REVIEW. THE LANDSCAPE ARCHITECT IS SUBSEQUENTLY TO TAG ALL STREET TREES IN THE NURSERY PRIOR TO ACCEPTANCE.
8. ALL PLANT MATERIAL DELIVERED TO THE SITE, INCLUDING TREES, SHRUBS, AND HERBACEOUS PERENNIALS, SHALL BE LOCATED IN A TEMPORARY "NURSERY" IN A SHADED AREA PROTECTED FROM WIND AND WATERED REGULARLY, ACCORDING TO THE SEASON AND PLANTS' REQUIREMENTS.
9. ALL TREE LOCATIONS ARE TO BE STAKED IN THE FIELD FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. FINAL PLANTING LOCATIONS ARE TO BE DETERMINED BY THE LANDSCAPE ARCHITECT.
10. ALL SHRUBS AND HERBS ARE TO BE LAID OUT IN THE FIELD, ACCORDING TO THE LAYOUT PROVIDED IN THE PLANS, FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
11. TOPSOIL SHALL BE FREE FROM SUBSOIL, STONES LARGER THAN 1" OR ANY UNDESIRABLE MATERIAL, CONTAIN 5% ORGANIC MATTER AND HAVE A PH SUITABLE TO THE LOCAL GROWING CONDITIONS.
12. INSTALL ALL TREES, SHRUBS, AND HERBS PER PLANTING DETAILS.
13. ALL DISTURBED AREAS, INCLUDING THOSE NOT INDICATED ON THE PLANS, DUE TO CONSTRUCTION ACTIVITY OR THE STORAGE OF MATERIALS OR EQUIPMENT WITHIN, ARE TO BE RE-SEED TO MATCH ADJACENT GRADES AND RE-SEED TO MATCH EXISTING OR PROPOSED LANDSCAPE. IF SITE CONDITIONS ARE UNCLEAR, CONTACT THE LANDSCAPE ARCHITECT TO VERIFY THE APPROPRIATE RE-SEEDING SPECIFICATION.
14. ALL PLANTING BEDS ARE TO RECEIVE 3" OF SHREDDED HARDWOOD MULCH.
15. CONTRACTOR IS TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING INSTALLATION.
16. CONTRACTOR IS TO BE RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL PLANT MATERIAL AND LANDSCAPING IMPROVEMENTS UNTIL THE START OF THE WARRANTY PERIOD.
17. THE PROPERTY OWNER IS RESPONSIBLE FOR THE CONTINUED CARE AND MAINTENANCE OF THE LANDSCAPED AREA. PLANTINGS THAT SHOW SIGNS OF DISEASE OR CONSTRUCTION DAMAGE ONE YEAR PERIOD FOLLOWING CONSTRUCTION SHALL BE REPLACED PRIOR TO ANY DEFECT GUARANTEE AT THE ADDITIONAL COST TO THE OWNER.

REQUIRED STREET TREES		
TOTAL UNITS (MULTI-FAMILY RESIDENTIAL)	REQUIRED STREET TREES PER UNIT	TOTAL REQUIRED TREES
48	1	48
PROPOSED (NEW) STREET TREES	EXISTING STREET TREES TO REMAIN	TOTAL STREET TREES ON-SITE
14	0	14
DEFICIT OF TOTAL REQUIRED TREES (TOTAL REQUIRED – TOTAL ON SITE)	MONETARY CONTRIBUTION TO TREE FUND IN LIEU OF INSTALLED STREET TREES	TOTAL CONTRIBUTION
34	\$400/ TREE	\$3,400

1. "GRASS MIX" IS TO BE COMPRISED OF THE FOLLOWING ELEMENTS:
 - 1.1. "NO MOW LAWN SEED MIX WITH RYE" SEED MIX, APPLIED PER THE RATE LISTED ON THE PLANTING SCHEDULE
 - 1.2. ADD THE FOLLOWING SPECIES TO THE "NO MOW LAWN SEED MIX WITH RYE" AT A RATE OF 1/2 OZ PER 7 LB OF SEED MIX:
 - 1.2.1. LUPINE PERENNIS (LUPINE)
 - 1.2.2. COREOPSIS LANCEOLATA (LANCELEAF COREOPSIS)
- ALL SEED IS TO BE PROVIDED BY:
WWW.PRAIRIENURSERY.COM
1-800-476-9453
P.O. Box 306, Westfield, WI 53064
3. SEEDING INSTRUCTIONS:
 - 3.1. PREPARE THE SEEDING ARE PER PLANTING BED PREPARATION NOTES; FINAL PLANTING BED IS TO BE SMOOTH, TILLED AND FINELY GRADED FOR FIRM SEED TO SOIL CONTACT.
 - 3.2. SEED SHALL BE (BETWEEN APRIL 1ST 20TH AND BEFORE OCTOBER 20TH), OR IN SPRING (BETWEEN APRIL 1 AND JUNE 1ST).
 - 3.3. SEED VIA BROADCAST SPREADER OR DROP SEEDER PER THE RATE LISTED ON THE PLANS. IF HAND-BROADCASTING SEED, DISTRIBUTE IN A NORTH-SOUTH DIRECTION, THEN SUBSEQUENTLY IN AN EAST-WEST DIRECTION.
 - 3.4. PROVIDE TEMPORARY IRRIGATION FOR ALL SEEDED PLANTING AREAS FOR ESTABLISHMENT (MINIMUM 2 MONTHS). WATER EVERY OTHER DAY FOR 15 DAYS AFTER SEEDING. ADJUST WATERING SCHEDULE PER WEATHER CONDITIONS; HOT, DRY TEMPERATURES MAY REQUIRE ADDITIONAL WATERING WHILE PERSISTENT RAIN WILL REQUIRE LESS. DURING PERIODS OF HOT, DRY WEATHER, LAWN SHOULD RECEIVE MIN. 1" OF WATER PER WEEK.
 - 3.5. MOWING SCHEDULE:
 - 3.5.1. DURING THE GROWING SEASON, GRASS CAN BE MOWED 1X MONTH TO MAINTAIN A HEIGHT OF 4". NEVER REMOVE MORE THAN THE TOP 1/3 OF LEAF GROWTH. NOW MOW TO A HEIGHT LESS THAN 4" IF DESIRED. GRASS CAN BE MOWED LESS REGULARLY TO MAINTAIN A HIGHER GRASS HEIGHT.
 - 3.5.2. AT THE END OF THE GROWING SEASON, MOW LAWN TO 2".

1. PROVIDE 30" STRUCTURAL SOIL BELOW PAVING, IN THE LOCATION INDICATED ON THE PLANS.
2. STRUCTURAL SOIL IS TO BE COMPOSED OF "CU-STRUCTURAL SOIL" BY CORNELL UNIVERSITY, OR APPROVED EQUAL. MIX STRUCTURAL SOIL IN THE REQUIRED PROPORTIONS PER MANUFACTURER'S SPECIFICATIONS.



PLANTING NOTES

1. LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE.
2. PLANT MATERIAL PROVIDED BY THE CONTRACTOR IS TO CONFORM TO THE HIGHEST STANDARD AS ADOPTED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. (ANSI). PLANT MATERIAL IS TO BE HEALTHY SPECIMENS, FREE FROM DISEASE OR DAMAGE.
3. THE CONTRACTOR IS TO FURNISH PLANTS AND SOD SHOWN ON THE DRAWINGS. PLANTS ARE TO CONFORM WITH THE BOTANICAL IDENTIFICATIONS. PLANTS ARE TO BE SOURCED FROM A NURSERY WITHIN THE SAME CLIMATIC ZONE AS THE SITE LOCATION. NO SUBSTITUTIONS OF PLANT SPECIES ARE PERMITTED WITHOUT PRIOR APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE & THE LANDSCAPE ARCHITECT.
4. SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF, FRUIT, COLOR, TIME OF BLOOM & CLIMATIC LOCATION AS APPROVED BY LANDSCAPE ARCHITECT.
5. LOCATE AND VERIFY EXISTING & PROPOSED UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.
6. PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM PLANTING AREAS.
7. THE CONTRACTOR IS TO VERIFY SITE LAYOUT & GRADES & INFORM THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR CHANGES IN LAYOUT AND/OR GRADING PRIOR TO CONSTRUCTION. NO PLANTING IS TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
8. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. FINAL LOCATIONS OF PLANTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
9. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE. PLANT AND STAKES ARE TO BE SET PLUMB UNLESS OTHERWISE NOTED. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.
10. WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.
11. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN PLANT MATERIALS INCLUDING SOD/SEED AREAS IN A HEALTHY STATE DURING CONSTRUCTION AND DURING REQUIRED WARRANTY PERIODS. ANY DAMAGE TO PLANT MATERIAL DUE TO NEGLECT BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
12. REPAIR DAMAGE DUE TO LANDSCAPE INSTALLATION OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK.
13. SOAK ALL PERENNIALS FOR 24 HOURS PRIOR TO INSTALLATION.
14. A LIST OF PLANTS INCLUDING BOTANICAL NAMES, SIZES, AND SPACING ARE SHOWN ON THE DRAWINGS. QUANTITIES ARE PROVIDED FOR CONTRACTOR'S CONVENIENCE AND ARE TO BE VERIFIED. IN THE EVENT THAT QUANTITIES OR OMISSIONS OCCUR THE PLAN DRAWINGS ARE TO BE FOLLOWED.
15. IRRIGATION: A TEMPORARY UNDERGROUND DRIP AND SPRINKLER IRRIGATION SYSTEM IS TO BE PROVIDED FOR ALL PLANT MATERIAL AND SOD OR SEEDED AREAS.
16. DISTURBED SITE AREAS ARE TO BE DRESSED WITH 6" MIN. OF AMENDED TOPSOIL FOR LAWNS AND 12" MIN. FOR PLANT BEDS. TOPSOIL FOR SEEDED AND/OR SEEDED AREAS IS TO BE TWO PARTS SHARP SAND, ONE PART LOAM AND ONE PART ORGANIC COMPOST.
17. PLANT BEDS ARE TO BE MULCHED TO A DEPTH OF 2" MIN. WITH NATURAL BARK MULCH WITH BARK SIZES NO LARGER THAN 3". PERENNIAL PLANT BEDS ARE TO BE MULCHED WITH BARK SIZES NO MORE THAN 1". TREES IN LAWN AREAS ARE TO HAVE MULCH RINGS OF 5' DIA.
18. TREES ADJACENT TO PEDESTRIAN ROUTES AND WITHIN PARKING ISLANDS ARE TO BE LIMBED TO 6' ABOVE GRADE.
19. ALL TREE SPECIES SHALL BE WATERED AT LEAST 2-4 TIMES EACH WEEK WITH 10-15 GALLONS ADMINISTERED TO EACH TREE DEPENDING ON THE WEATHER AND CURRENT MOISTURE LEVEL. WATERING WILL CONSIST OF 10-15 GALLONS ADMINISTERED TO EACH TREE EVERY TIME THEY ARE WATERED.

PLANTING SCHEDULE

DECIDUOUS TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
MI	<i>Malus "Ivory Spear"</i>	Ivory Spear Crabapple	1	1.75-2" cal	as shown	
LS	<i>Liquidambar styraciflua "Slender Silhouette"</i>	Slender Silk Sweet Gum	4	2.75-3" cal	as shown	
QP	<i>Quercus paukestris</i>	Pin Oak	2	2.5-3" cal	as shown	
ZS	<i>Zelkova Serrata</i>	City Sprite Zelkova	1	2.75-3" cal	as shown	
DECIDUOUS SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
HH	<i>Hypericum 'Hidcote'</i>	St. John's Wort	5	24"-36" ht.	36" O.C.	
EVERGREEN SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
IXSH	<i>Ilex glabra 'Shamrock'</i>	Shamrock Inkberry	7	30"-36" ht.	60" O.C.	

SITE LANDSCAPING & BUFFERS

PARKING & SCREENING:

THE SITE HAS 3 PROPOSED PARKING SPACES WHICH REQUIRE THE PLANTING OF TWO TREES (OR ONE TREE AND THREE SHRUBS) PER FIVE PARKING SPACES.

PROPOSED TREES & SHRUBS = 1 TREES, 6 SHRUBS.

PLANTING REQUIREMENTS PER FRONTAGE:

THE SITE HAS 190 FEET OF FRONTAGE IN THE R-8 DISTRICT, WHICH REQUIRES THE 6 SHADE TREES OR THE EQUIVALENT OF A SHADE TREE VIA 6 PLANTINGS (1 PER 30 FEET)

PROPOSED STREET TREES = 8
TOTAL STREET TREES = 8

TREE PLANTING REQUIREMENTS:

REQUIREMENT - ONE STREET TREE IS REQUIRED PER DWELLING UNIT (24).

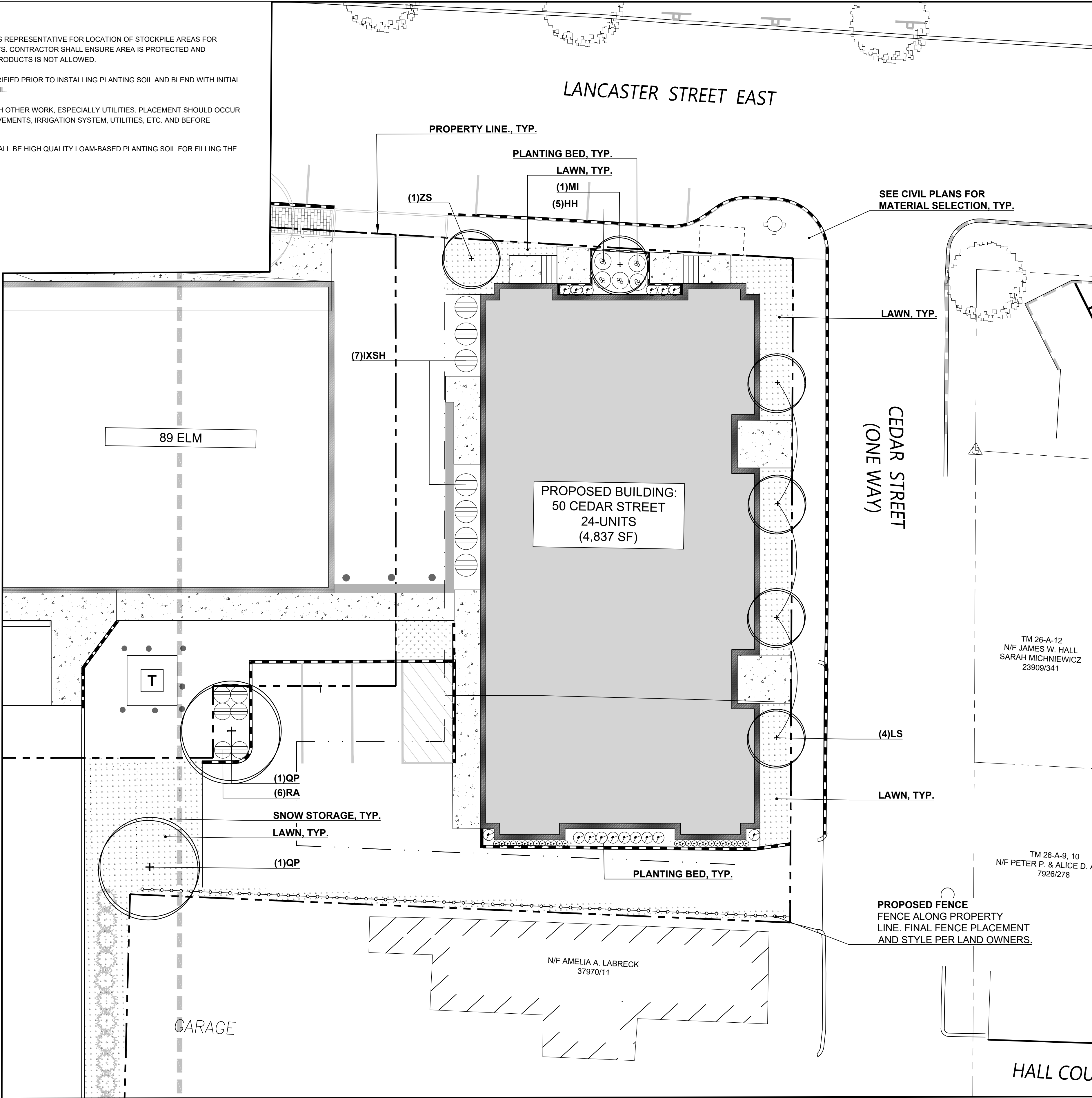
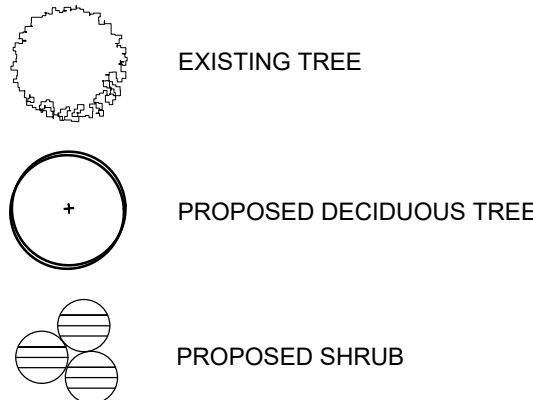
PROPOSED TREES = 8
TOTAL TREES = 8

THE REMAINING STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

SITE SOIL NOTES

1. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR LOCATION OF STOCKPILE AREAS FOR STRIPPED TOPSOIL AND PLANTING SOIL PRODUCTS. CONTRACTOR SHALL ENSURE AREA IS PROTECTED AND CONTAMINATION OR DISTURBANCE OF STORED PRODUCTS IS NOT ALLOWED.
2. CONTRACTOR SHALL ENSURE SUBGRADE IS SCARIFIED PRIOR TO INSTALLING PLANTING SOIL AND BLEND WITH INITIAL LIFT OR PLACEMENT OF PROPOSED PLANTING SOIL.
3. COORDINATE PLACEMENT OF PLANTING SOIL WITH OTHER WORK, ESPECIALLY UTILITIES. PLACEMENT SHOULD OCCUR AFTER INSTALLATION OF ALL HARDSCAPE IMPROVEMENTS, IRRIGATION SYSTEM, UTILITIES, ETC. AND BEFORE INSTALLATION OF PLANTS.
4. SILVA CELL SOIL FOR STREET TREE PLANTING SHALL BE HIGH QUALITY LOAM-BASED PLANTING SOIL FOR FILLING THE SILVA CELLS.

PLANTING LEGEND



Prepared For:

REVELER, LLC
188 STATE STREET, 3RD FLOOR
PORTLAND, ME 04101

Prepared By:

Dry landscape architecture, LLC
31 miller ave.
biddeford, me 04005

Date:

APRIL 17, 2023

Issued For:

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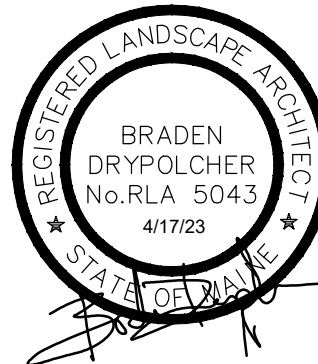
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50 Cedar Street

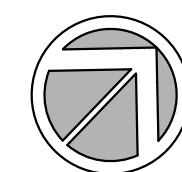
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Portland ME 04103

Revisions:



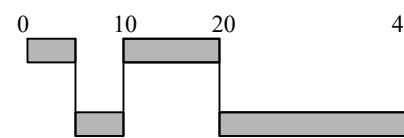
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Scale: 1" = 20'-0"



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PLANTING NOTES

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- SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF, FRUIT, COLOR, TIME OF BLOOM & CLIMATIC LOCATION AS APPROVED BY LANDSCAPE ARCHITECT.
- LOCATE AND VERIFY EXISTING & PROPOSED UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.
- PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM PLANTING AREAS.
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- INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE. PLANT AND STAKES ARE TO BE SET PLUMB UNLESS OTHERWISE NOTED. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.
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- REPAIR DAMAGE DUE TO LANDSCAPE INSTALLATION OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK.
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- PLANT BEDS ARE TO BE MULCHED TO A DEPTH OF 2" MIN. WITH NATURAL BARK MULCH WITH BARK SIZES NO LARGER THAN 3". PERENNIAL PLANT BEDS ARE TO BE MULCHED WITH BARK SIZES NO MORE THAN 1". TREES IN LAWN AREAS ARE TO HAVE MULCH RINGS OF 5' DIA.
- TREES ADJACENT TO PEDESTRIAN ROUTES AND WITHIN PARKING ISLANDS ARE TO BE LIMBED TO 6' ABOVE GRADE.
- ALL TREE SPECIES SHALL BE WATERED AT LEAST 2-4 TIMES EACH WEEK WITH 10-15 GALLONS ADMINISTERED TO EACH TREE DEPENDING ON THE WEATHER AND CURRENT MOISTURE LEVEL. WATERING WILL CONSIST OF 10-15 GALLONS ADMINISTERED TO EACH TREE EVERY TIME THEY ARE WATERED.

SITE SOIL NOTES

- CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR LOCATION OF STOCKPILE AREAS FOR STRIPPED TOPSOIL AND PLANTING SOIL PRODUCTS. CONTRACTOR SHALL ENSURE AREA IS PROTECTED AND CONTAMINATION OR DISTURBANCE OF STORED PRODUCTS IS NOT ALLOWED.
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- SILVA CELL SOIL FOR STREET TREE PLANTING SHALL BE HIGH QUALITY LOAM-BASED PLANTING SOIL FOR FILLING THE SILVA CELLS.

SITE LANDSCAPING & BUFFERS

PARKING & SCREENING:

THE SITE HAS 3 PROPOSED PARKING SPACES WHICH REQUIRE THE PLANTING OF TWO TREES (OR ONE TREE AND THREE SHRUBS) PER FIVE PARKING SPACES.

PROPOSED TREES & SHRUBS = 1 TREES, 7 SHRUBS.

PLANTING REQUIREMENTS PER FRONTAGE:

THE SITE HAS 369 FEET OF FRONTAGE IN THE R-6 DISTRICT, WHICH REQUIRES THE 12 SHADE TREES OR THE EQUIVALENT OF A SHADE TREE VIA 6 PLANTINGS (1 PER 30 FEET)

PROPOSED STREET TREES = 8

EXISTING STREET TREES = 2

TOTAL STREET TREES = 10

THE REMAINING TWO STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

TREE PLANTING REQUIREMENTS:

REQUIREMENT - ONE STREET TREE IS REQUIRED PER DWELLING UNIT (40).

PROPOSED TREES = 16

EXISTING TREES = 6

TOTAL TREES = 22

THE REMAINING 29 STREET TREES WILL BE PROVIDED THROUGH A CONTRIBUTION TO THE CITY OF PORTLAND TREE FUND. THROUGH THE PLANTINGS OF THE PROPOSED TREES AND CONTRIBUTION TO THE TREE FUND, THE APPLICATION WILL MEET THE MINIMUM STREET TREE PLANTING REQUIREMENTS.

PLANTING SCHEDULE

DECIDUOUS TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
PA	<i>Prunus 'accolade'</i>	Accolade Cherry	4	2.5-3" cal	as shown	
OV	<i>Ostrya virginiana</i>	American Hophorn	3	2.5-3" cal	as shown	
QP	<i>Quercus paustris</i>	Pin Oak	2	2.5-3" cal	as shown	
ZS	<i>Zelkova Serrata</i>	City Sprite Zelkova	3	2.5-3" cal	as shown	
EVERGREEN TREES						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
PG	<i>Picea glauca</i>	White Spruce	1	8-10'	as shown	
TD	<i>Thuja occidentalis "Degroot's Spire"</i>	Degroot's Spire Arborvitae	3	8-10'	as shown	
DECIDUOUS SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
HH	<i>Hypericum 'Hidcote'</i>	St. John's Wort	7	24"-36" ht.	48" O.C.	
MPN	<i>Myrica pensylvanica</i>	Northern Bayberry	5	24"-30" ht.	60" O.C.	
RA	<i>Rhus aromatica</i>	Lo-gro Sumac	11	24"-30" ht.	48" O.C.	
EVERGREEN SHRUBS						
CODE	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	NOTES
IXSH	<i>Ilex glabra 'Shamrock'</i>	Shamrock Inkberry	10	30"-36" ht.	48" O.C.	
JUC	<i>Juniperus conferta 'Emerald Sea'</i>	Emerald Sea Shore Juniper	6	18"-24" ht.	48" O.C.	

CRUSHED STONE & WOODEN GUARDRAIL
SEE CIVIL PLANS, TYP.

SEE CIVIL PLANS FOR SIDEWALK
MATERIAL SELECTION, TYP.

LANCASTER STREET EAST

(3)ZS

SEE CIVIL PLANS FOR
MATERIAL SELECTION, TYP.

EX. SMH RM: 11.20'
INV. IN: 5.02' (18")
QP. IN: 5.52' (8")
INV. IN: 5.62' (6")
INV. OUT: 4.92' (18")

SEE CIVIL PLANS FOR
MATERIAL SELECTION, TYP.

LAWN, TYP.

(3)OV

GROUNDCOVER
(6)IXSH

4' SCREEN FENCE

TOP OF TRANSFORMER
PAD SHALL BE 6" ABOVE
FINAL GRADE AT MINIMUM

PLANTING LEGEND

- EXISTING TREE
- EXISTING EVERGREEN TREE
- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUB

Prepared For:

REVELER, LLC
188 STATE STREET, 3RD FLOOR
PORTLAND, ME 04101

Prepared By:

Dry landscape architecture, l.l.c
31 miller ave.
biddeford, me 04005

Date:

APRIL 16, 2024

Issued For:

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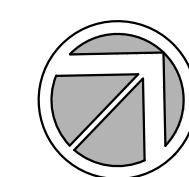
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158 Lancaster
Street
PHASE 3
Portland ME 04103

Revisions:



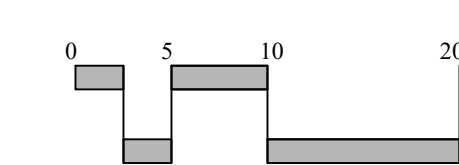
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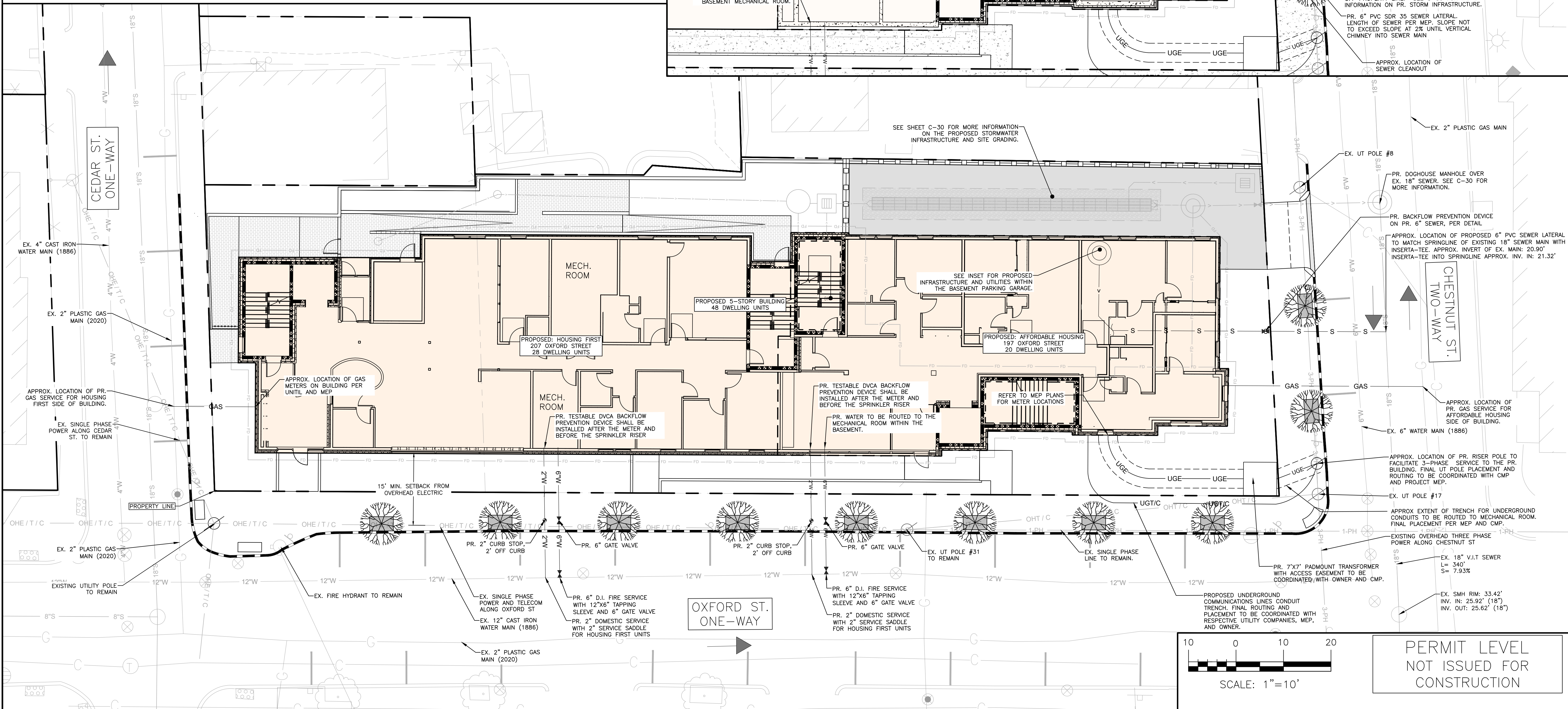
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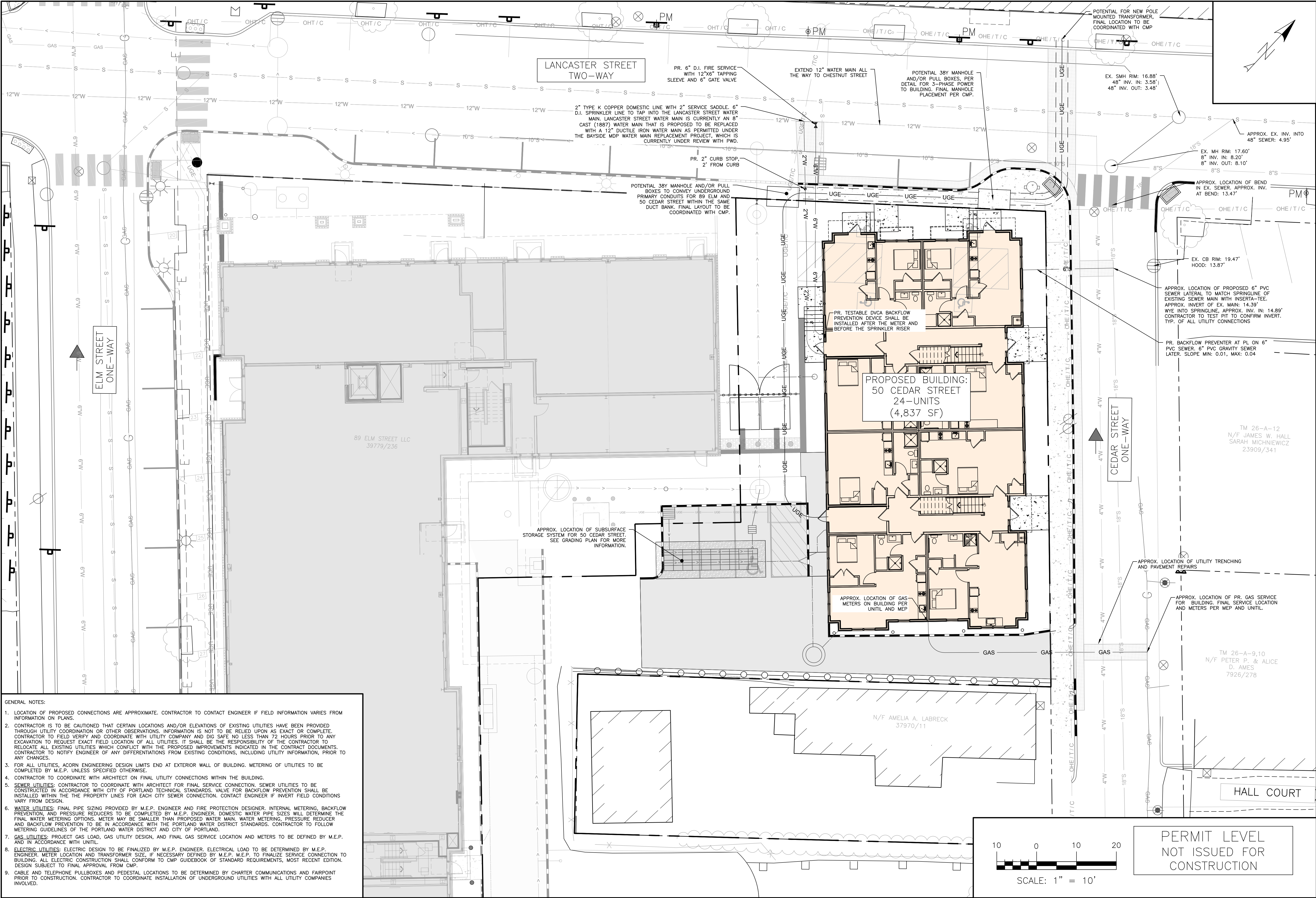
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NOTE: This drawing is PRELIMINARY REVIEW
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construction document.

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND BE SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY WORKS.
3. FOR ALL UTILITIES, ACCORDING ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. **SEWER UTILITIES:** CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. **WATER UTILITIES:** FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. **GAS UTILITIES:** PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNIFIT.
8. **ELECTRIC UTILITIES:** ELECTRIC DESIGN TO BE FINAIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METERING AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONNECTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PROVIDER. DURING CONSTRUCTION, CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

[illegible]



- GENERAL NOTES:
1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
 2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
 3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
 4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
 5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
 6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER, AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
 7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNTIL.
 8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL CMP.
 9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

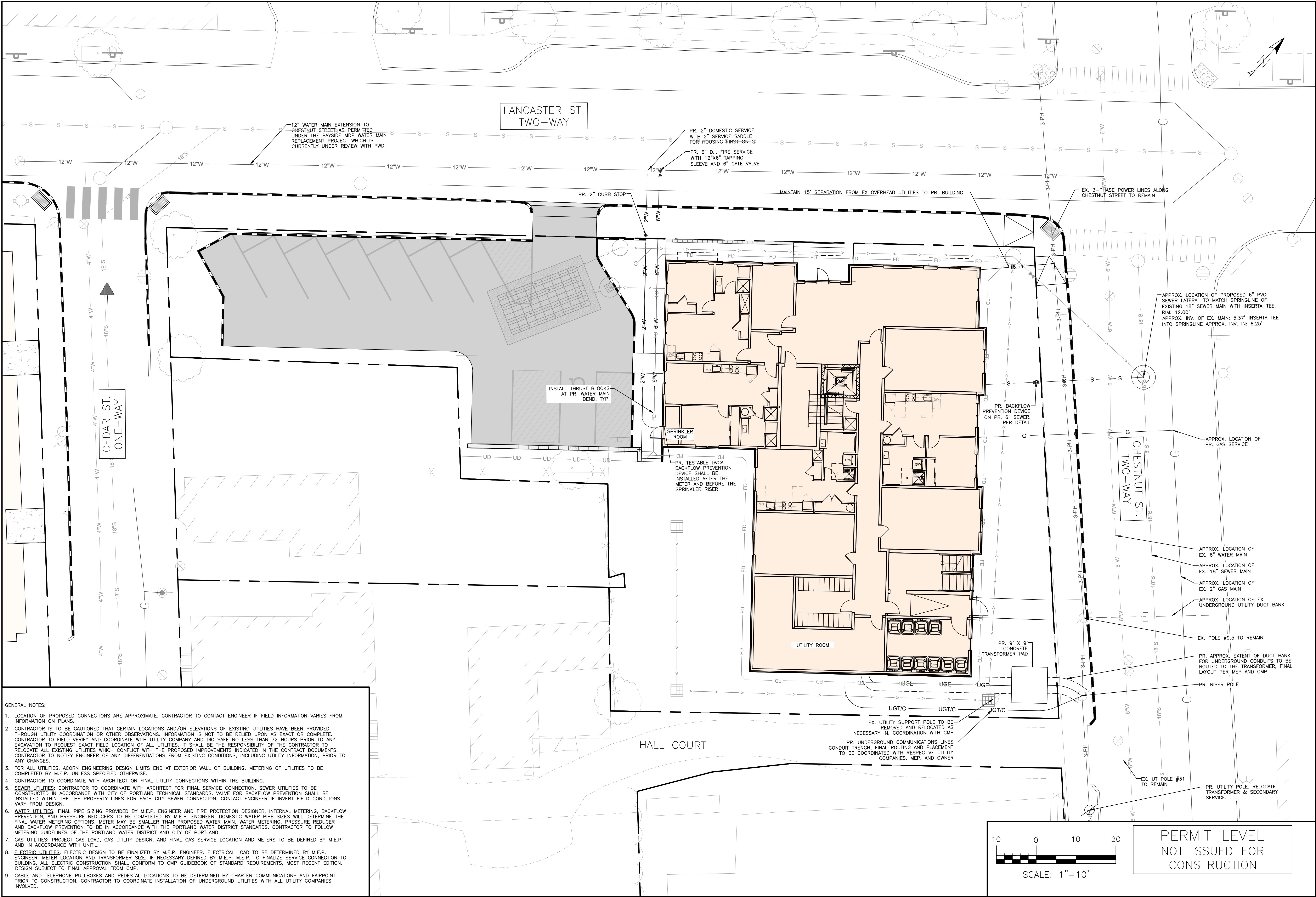
ISSUED FOR	BY
JOINT MAJOR SITE	DATE
PLAN APPLICATION	4/7/24

PHASE 2 – UTILITY PLAN
PROJECT NAME: PHASE 2 – PHASED OXFORD STREET REDEVELOPMENT
CLIENT: REVELER DEVELOPMENT 188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
16506 PROFESSIONAL ENGINEER
STATE OF MAINE SAMUEL J. LABEL 16506 LICENSED PROFESSIONAL ENGINEER

FILE: 1212_2_AE_CIVIL
JN: 1212
SCALE: AS NOTED
DESIGNED BY: SUL
DRAWN BY: DNM
CHECKED BY: SUL

DRAWING NO.
C-22



- GENERAL NOTES:
1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
 2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
 3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
 4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
 5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
 6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
 7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNIL.
 8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
 9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

ISSUED FOR	BY
JOINT SITE PLAN APPLICATION	SJL
	4/16/24
PHASE 3 - UTILITY PLAN	
PHASE 3 - PHASED OXFORD STREET REDEVELOPMENT	
REVELER DEVELOPMENT	
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101	
CLIENT	
DRAWING NAME:	
PROJECT NAME:	
PHASE 3 - PHASED OXFORD STREET REDEVELOPMENT	
CLIENT	
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101	
ACORN ENGINEERING, INC.	
PO BOX 3372, PORTLAND MAINE 04104	
(207) 775-2655	
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ELEVATIONS, AUTHORIZED WITHOUT LIABILITY TO ACORN ENGINEERING, INC.	
1212_AE_CIVIL	
JN:	1212
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	DNM
CHECKED BY:	SJL
STATE OF MAINE SAMUEL J. LEBEL 16508 PROFESSIONAL ENGINEER	
DRAWING NO.	
C-23	

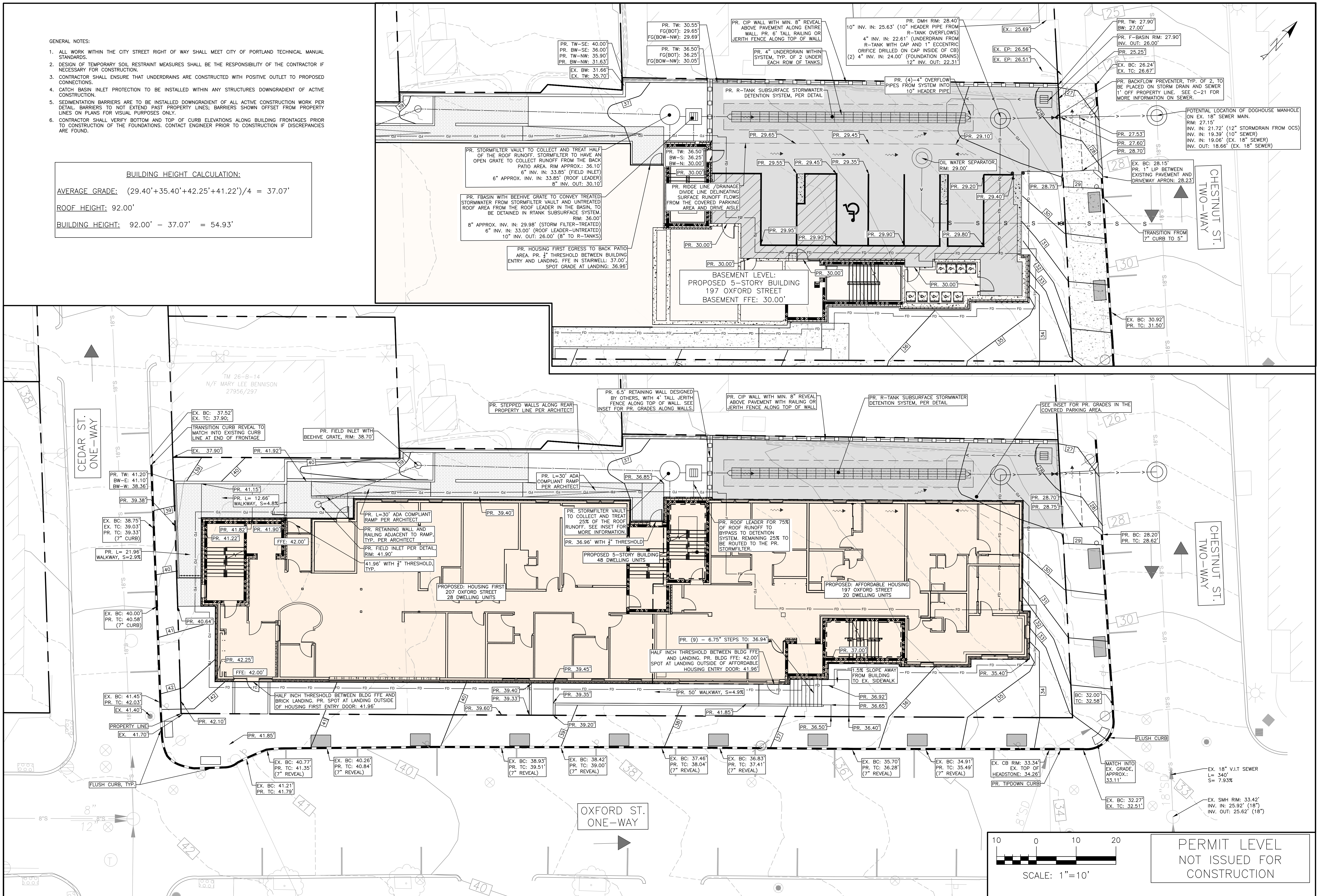
- GENERAL NOTES:
1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
 2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
 3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
 4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADEMENT OF ACTIVE CONSTRUCTION.
 5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADEMENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
 6. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

BUILDING HEIGHT CALCULATION:

AVERAGE GRADE: $(29.40' + 35.40' + 42.25' + 41.22') / 4 = 37.07'$

ROOF HEIGHT: 92.00'

BUILDING HEIGHT: $92.00' - 37.07' = 54.93'$



ISSUED FOR	BY
JOINT MAJOR SITE PLAN APPLICATION	SJL
	DATE
	7/11/22

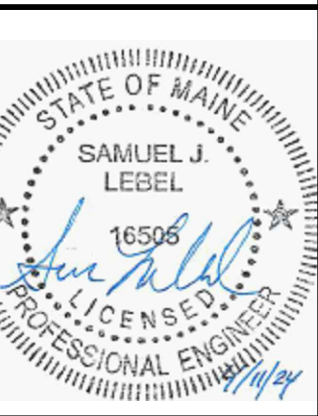
PHASE 1 - GRADING & DRAINAGE PLAN
PROJECT NAME: PHASE 1 - PHASED OXFORD STREET REDEVELOPMENT
CLIENT: AVESTA HOUSING
307 CUMBERLAND AVE, PORTLAND, ME 04101

ACORN ENGINEERING, INC. ENGINEERING, INC.

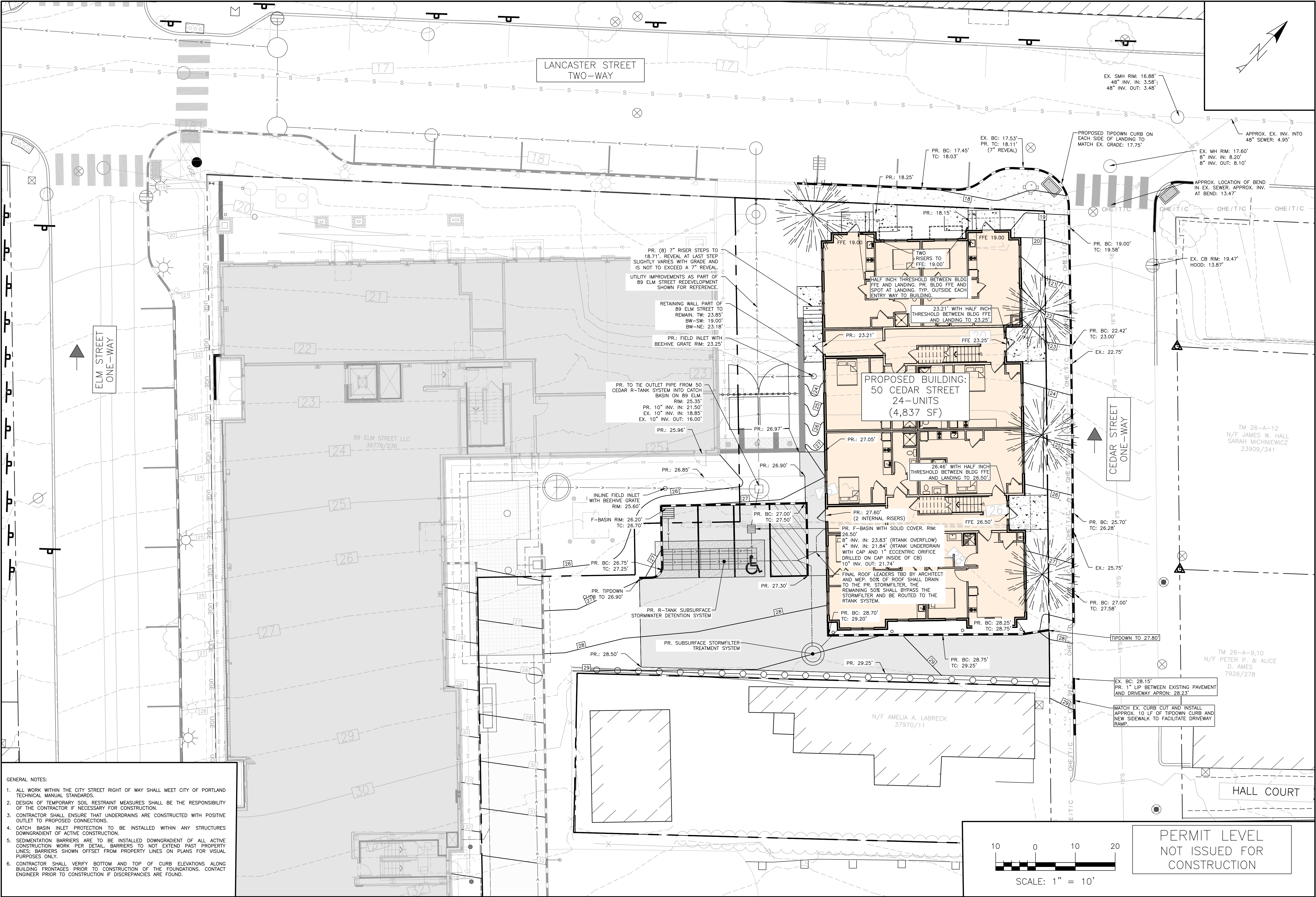
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY VARIATIONS, AUTHORIZED WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

PO BOX 3372, PORTLAND MAINE 04104 (207) 775-2655

FILE:	1212.1_AE.CNVL
JN:	1212.1
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	DNM
CHECKED BY:	SJL

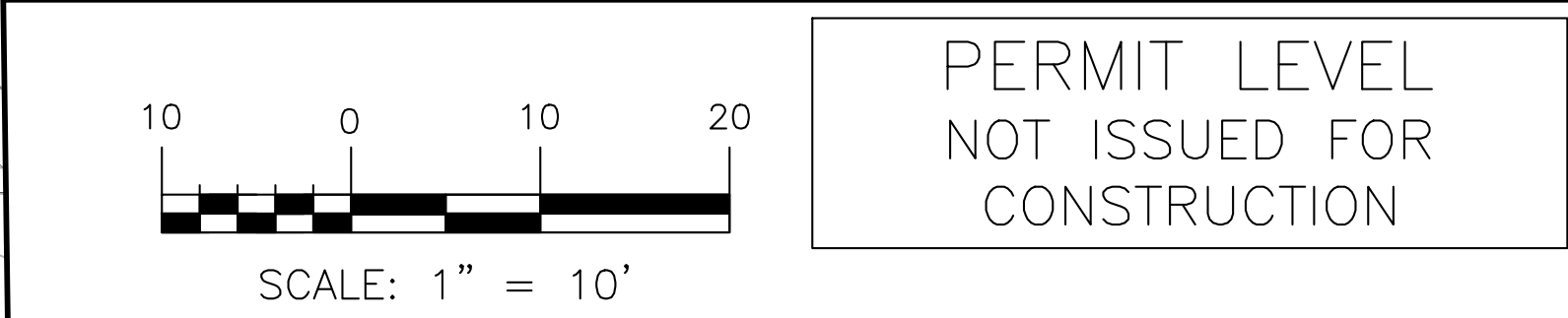


DRAWING NO. C-31



GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
6. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.



ISSUED FOR	BY
JOINT MAJOR SITE	DATE
PLAN APPLICATION	4/7/2024

PHASE 2 - GRADING PLAN	PROJECT NAME:
PHASE 2 - PHASED OXFORD STREET REDEVELOPMENT	REVELER DEVELOPMENT
	188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

ACORN ENGINEERING, INC.	STATE OF MAINE
REGISTERED PROFESSIONAL ENGINEER	SAMUEL J. LABEL
16596	

FILE: 1212.2_AE_CIVIL	JN: 1212
SCALE: AS NOTED	DESIGNED BY: SUL
DRAWN BY: DNM	CHECKED BY: SUL

DRAWING NO.
C-32

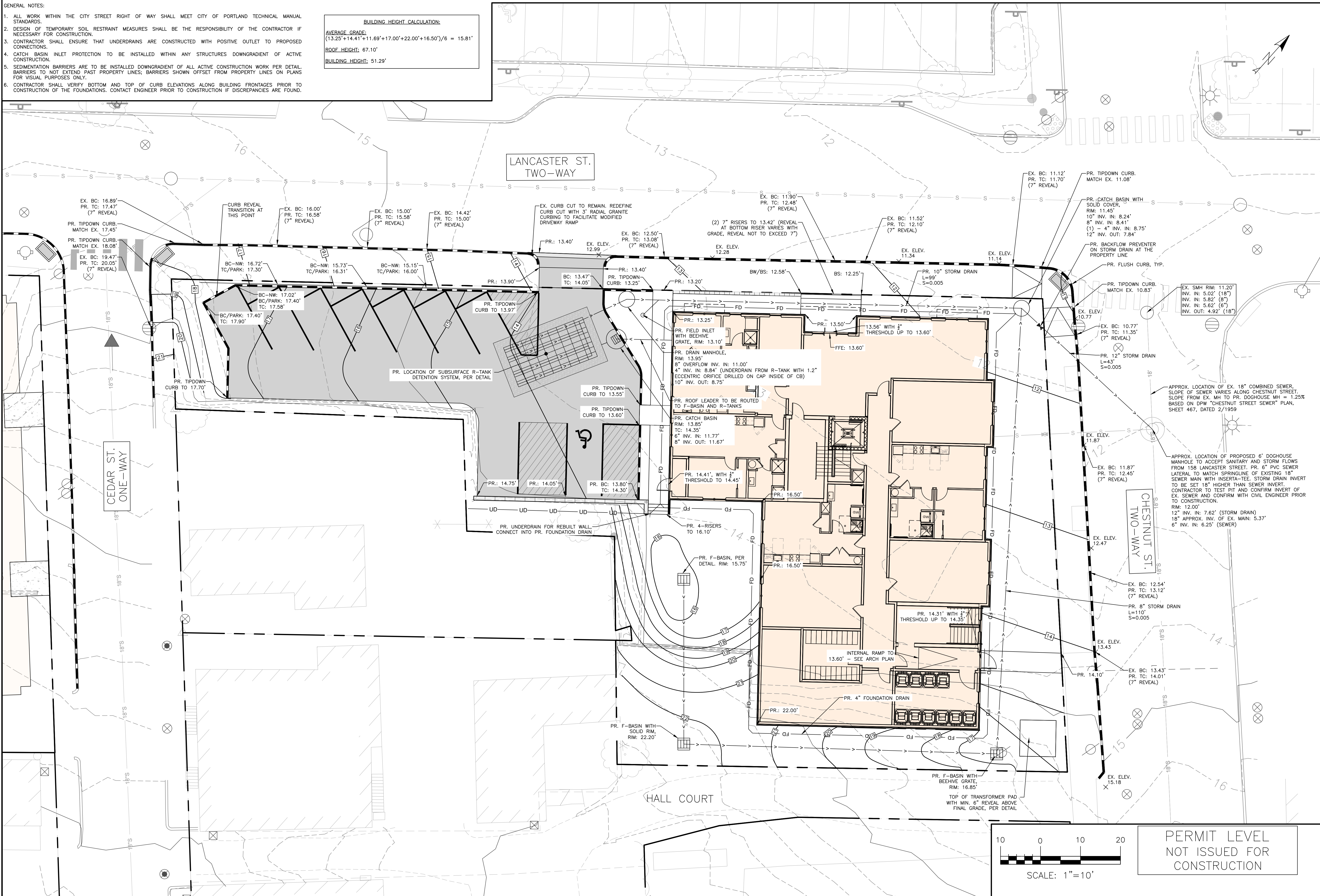
1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
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5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
6. EXISTING BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

BUILDING HEIGHT CALCULATION:

AVERAGE GRADE:
(13.25'+14.41'+11.69'+17.00'+22.00'+16.50')/6 = 15.81'

ROOF HEIGHT: 67.10'

BUILDING HEIGHT: 51.29'

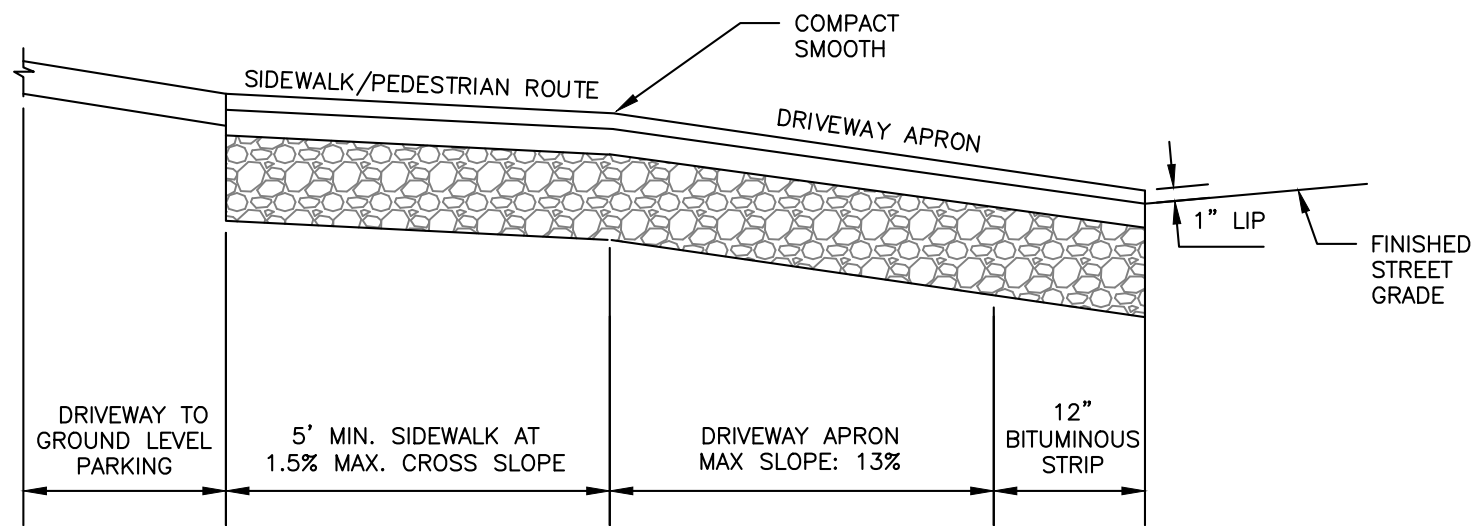
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-
- Diagram illustrating the cross-section of a concrete curb and esplanade assembly. The assembly is shown adjacent to a building face.
- Labels and dimensions:
- SEE NOTE 4
 - 6" x 6" - W2.0 x W2.0 WELDED WIRE REINFORCEMENT
 - 10" AGGREGATE BASE, CRUSHED, TYPE B GRAVEL
 - 4" REINFORCED CONCRETE, 4000 PSI MIN.
 - 6" TYP.
 - ESPLANADE PER LANDSCAPING PLAN.
 - 1.5%
 - COMPACTED SUBGRADE
 - SEE PLAN

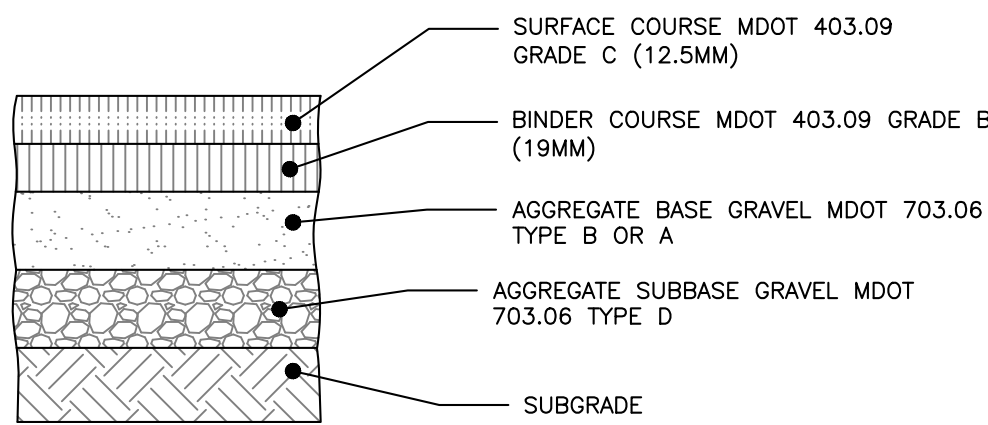
REINFORCED CONCRETE SIDEWALK
NOT TO SCALE

-
- MILL EX. SURFACE COAT AND PROVIDE HIPLAP JOINT WITH SURFACE COURSE EX. BASE COURSE
- SAWCUT
- 2' MIN.
- 2' MIN.
- EXISTING PAVEMENT
- EXISTING BASE AND SUBBASE
- This diagram illustrates a sawcut joint between an existing pavement and a new pavement. The existing pavement is on the left, and the new pavement is on the right. The new pavement consists of a surface course and a base course. A sawcut is shown in the new pavement, with a minimum distance of 2 feet from the joint. The base course is shown as a hatched area, and the surface course is shown as a solid area. The joint is labeled 'EXISTING PAVEMENT' and 'EXISTING BASE AND SUBBASE'.

PAVEMENT SAWCUT DETAIL
NOT TO SCALE



DRIVEWAY APRON SECTION
NOT TO SCALE



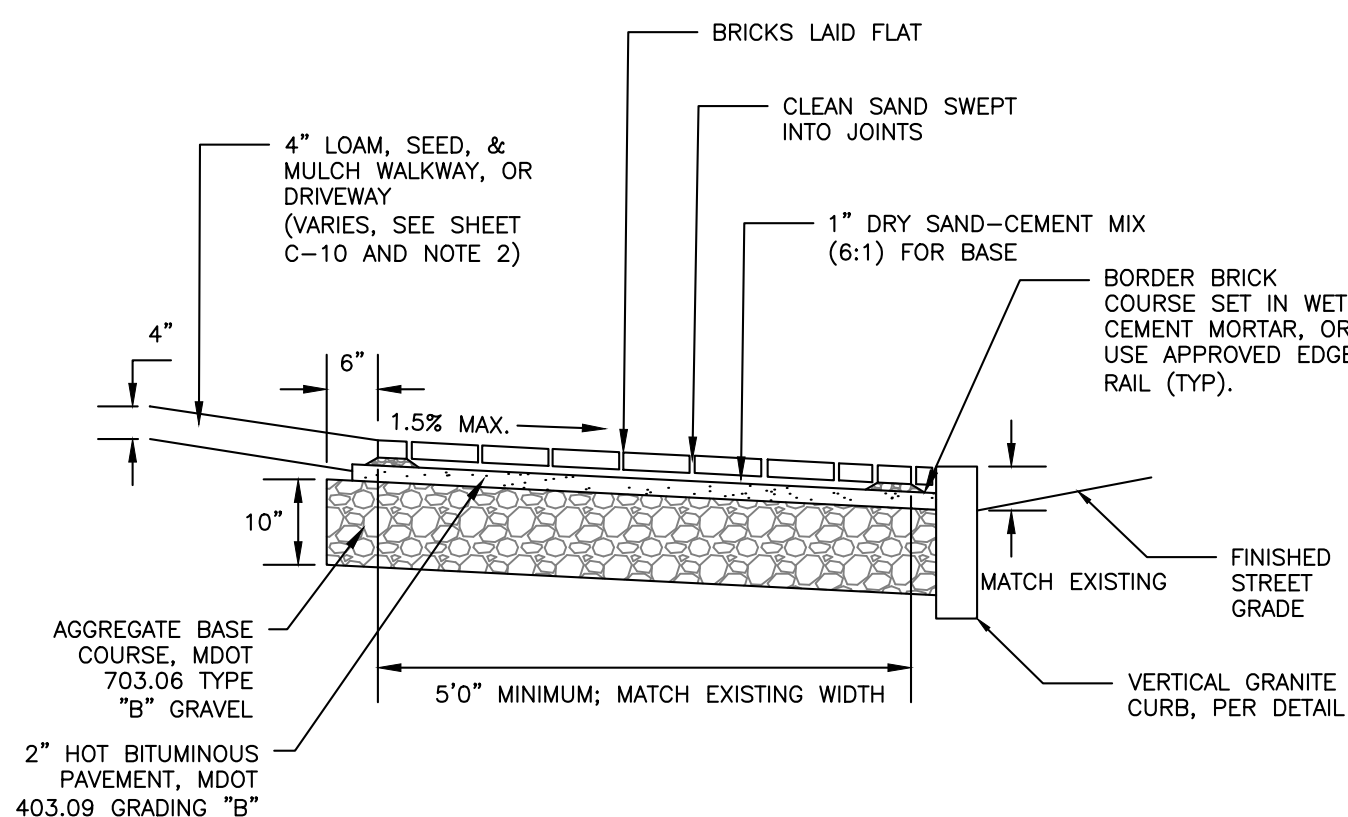
NOTE:
COMPACT AGGREGATES TO 95% MAXIMUM DRY
DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
1"-1/2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B OR A
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

LOCAL BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE

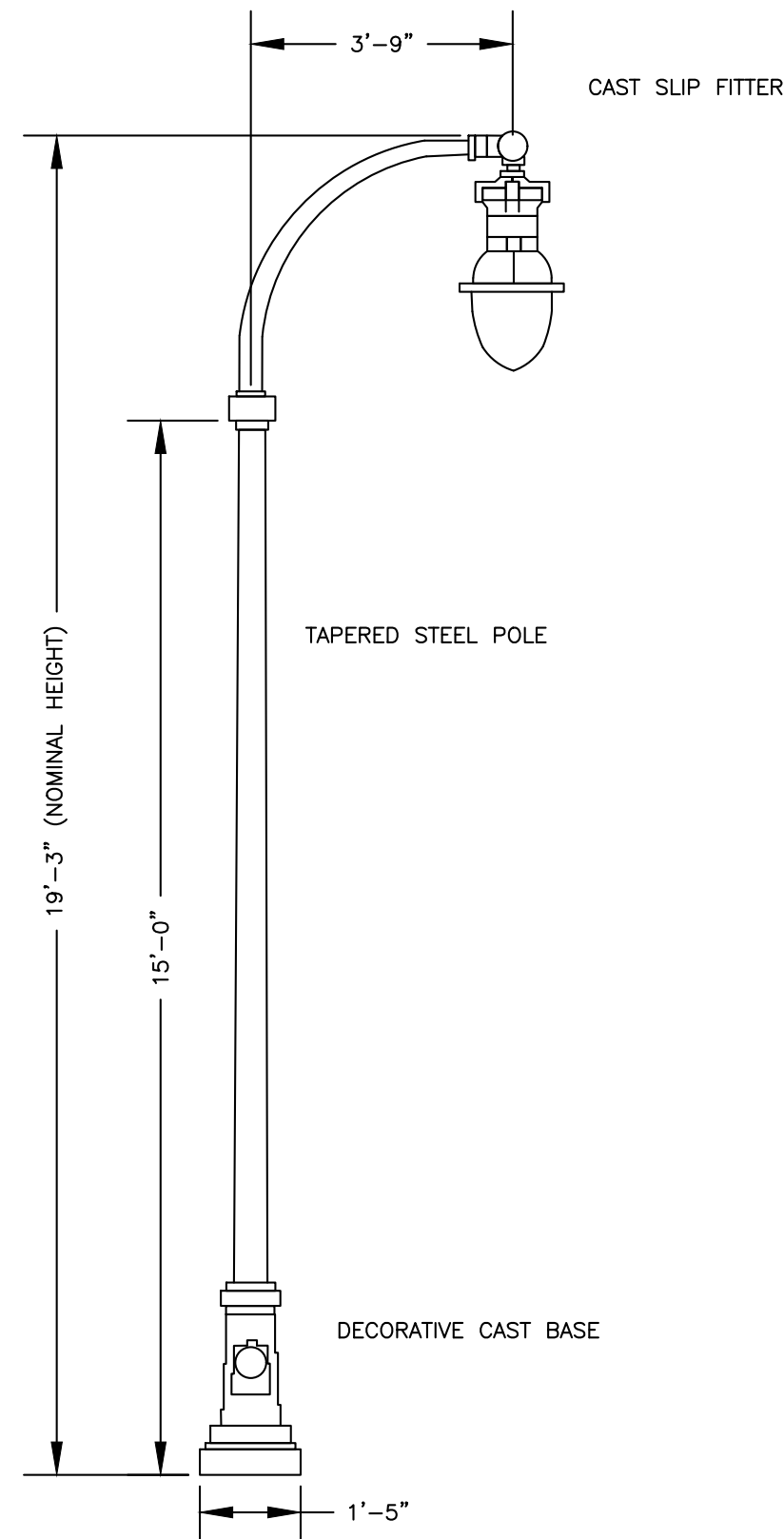
-
- CONCRETE: 5000 PSI @ 28 DAYS
 CEMENT: TYPE III PER ASTM C150-81
 LIGHT POLE BASE SHALL BE AS SUPPLIED
 BY GEORGE R. ROBERTS CO., OR
 APPROVED EQUAL
 DIAMETER TBD BASED UPON THE
 MANUFACTURER'S RECOMMENDATION.
- CONDUIT EXTENDS 2" OVER BASE
 GROUND WIRE (SUPPLIED
 BY CONTRACTOR)
 ANCHOR BOLTS (SUPPLIED BY CONTRACTOR), SHALL
 TO SIZE AND PATTERN AS SHOWN BY BASE MANUFACTURER
 BOLTS PER POLE, PER PORTLAND DEPARTMENT OF
 WORKS STANDARDS.
- 1" CHAMFER
 2" MIN, 3" MAX REVEAL IN ADDITION
 TO EMBEDMENT DEPTH REQUIRED BY
 MANUFACTURER
 12" RADIUS MIN.
 GROUND WIRE (SUPPLIED BY CONTRACTOR)
 CONDUIT 30" BELOW
 FINISH GRADE
 DIAMETER SEE NOTE 4
 3" CLEAR
 3" CLEAR
- SECTION VIEW**
- #3 BAR HOOPS @
 12" O.C.
 CONDUIT, SUPPLIED BY CONTRACTOR,
 ORIENTATION AND QTY Varies
 #5 REBAR VERTICAL EQ.
 SPACED
- PLAN VIEW**
- CONTRACTOR TO VERIFY
 CONDUIT DIMENSIONS

LIGHT POLE BASE
NOT TO SCALE



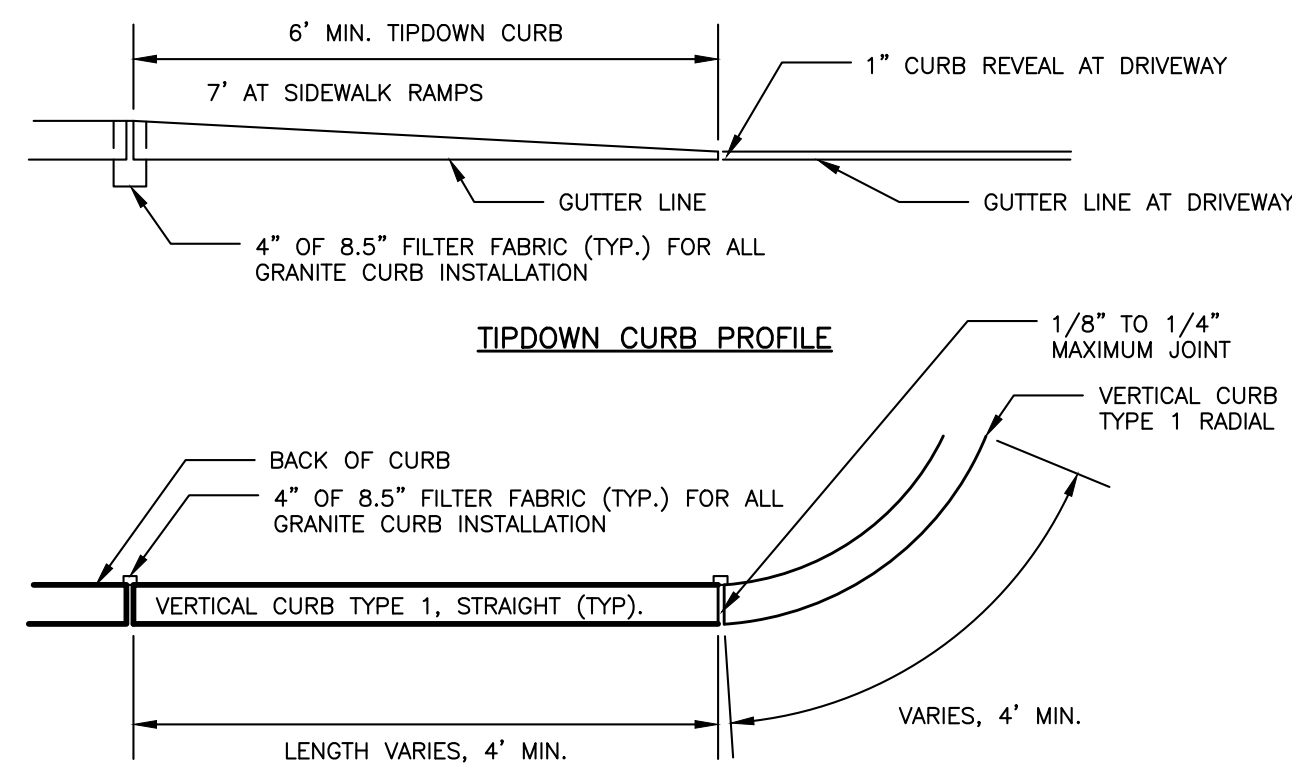
BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL
NOT TO SCALE

2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.

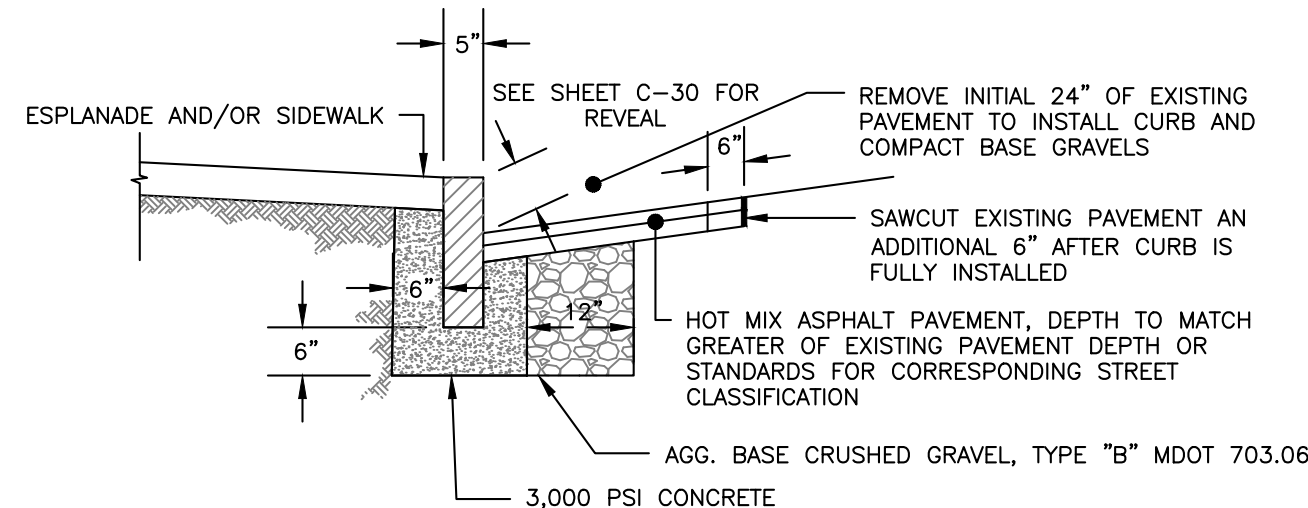


- ONE SIDE: 80'-110' ON CENTER
PLACE IN FURNISHING ZONE OVERHANG TOWARDS STREET; WHERE FIXTURE
CONFLICTS WITH OVERHEAD UTILITIES, MAY BE PLACED ON BACK OF
SIDEWALK.

PENINSULA MEDIUM DECORATIVE LIGHTING ALONG LANCASTER STREET
NOT TO SCALE



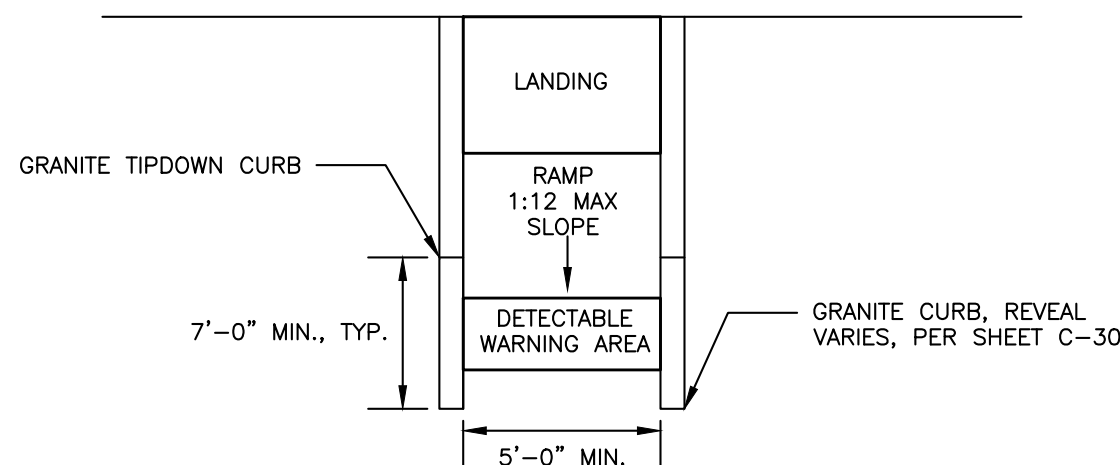
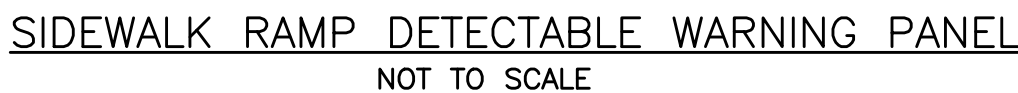
VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

1. CURB SHALL BE RESET IN ACCORDANCE WITH MDT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.
2. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
3. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10 INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF THE CURB.
4. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
5. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL



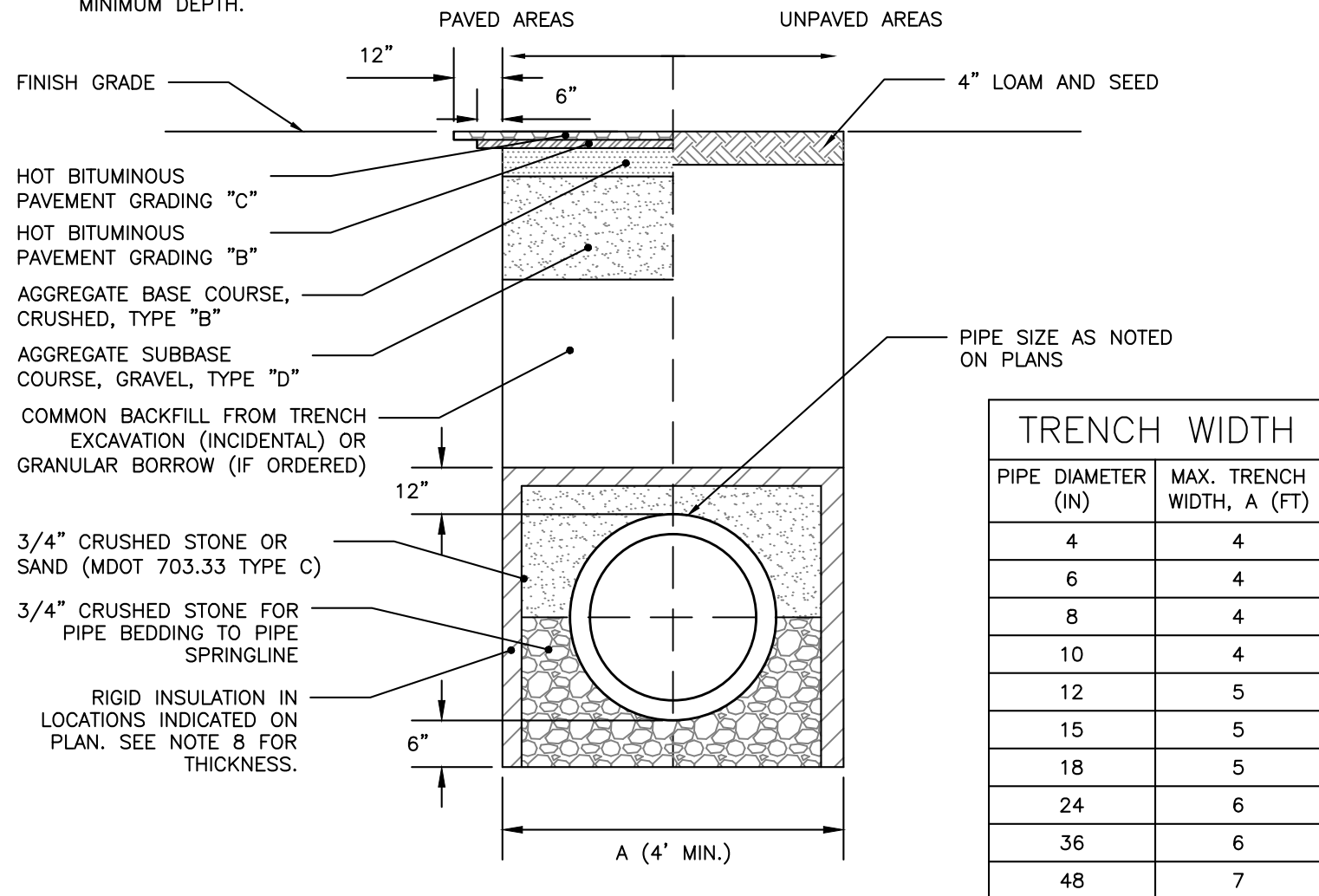
DESIGN ELEMENT	SLOPE IN DIRECTION OF TRAVEL	CROSS SLOPE
APPROACH	8.33% MAX	2%
LANDING	2%	2%
RAMP	8.33% MAX	MATCH STREET GRADE
SIDEWALK	PER C-30	2%

SIDEWALK RAMP LAYOUT
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

NOTES:

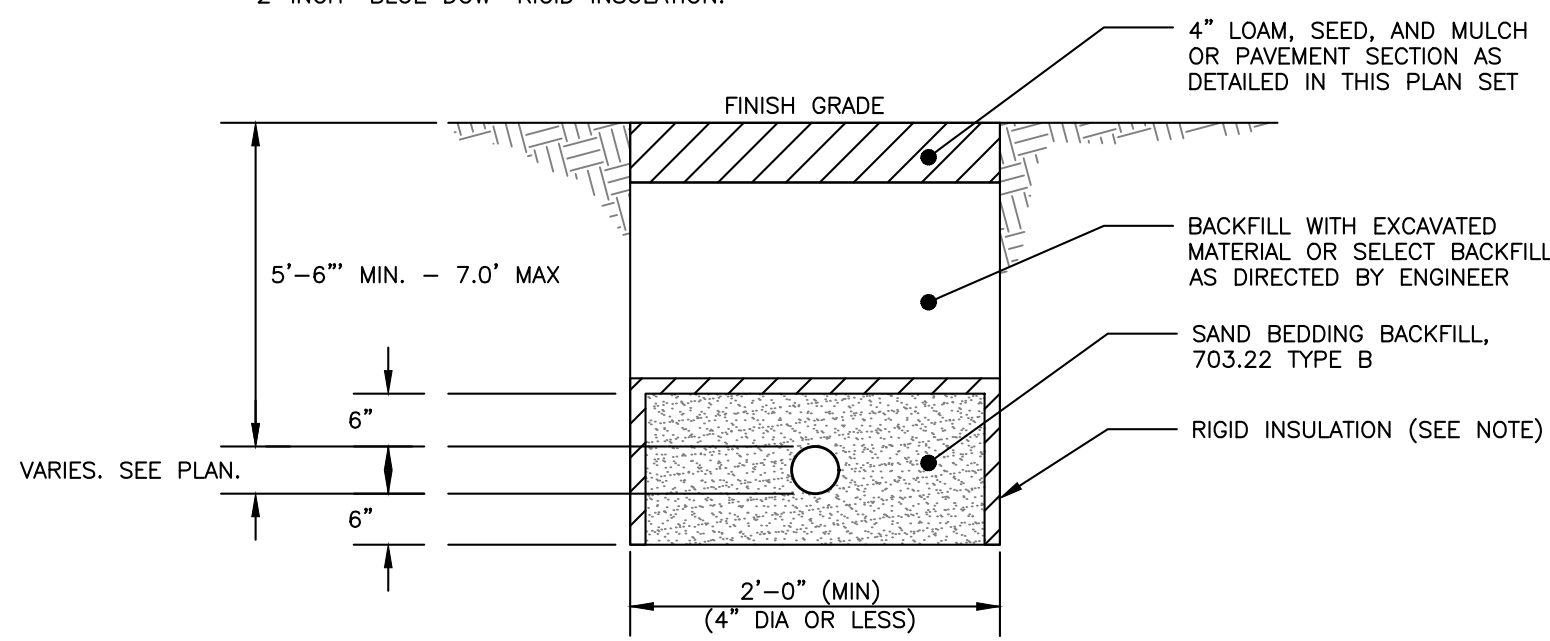
1. ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II-2.
3. BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF.SD) SHALL BE ORIENTED UP.
5. ALL STORM DRAINS SHALL BE PVC SDR 35 MIN PS-46 RATING OR IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 - SANITARY SEWER AND STORM DRAIN - PART 2.5.2
6. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
7. THIS DETAIL SHALL BE APPLIED ONLY TO PIPE TRENCHES WITHIN OF THE CITY OF PORTLAND ROW. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.



CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL
NOT TO SCALE

NOTES:

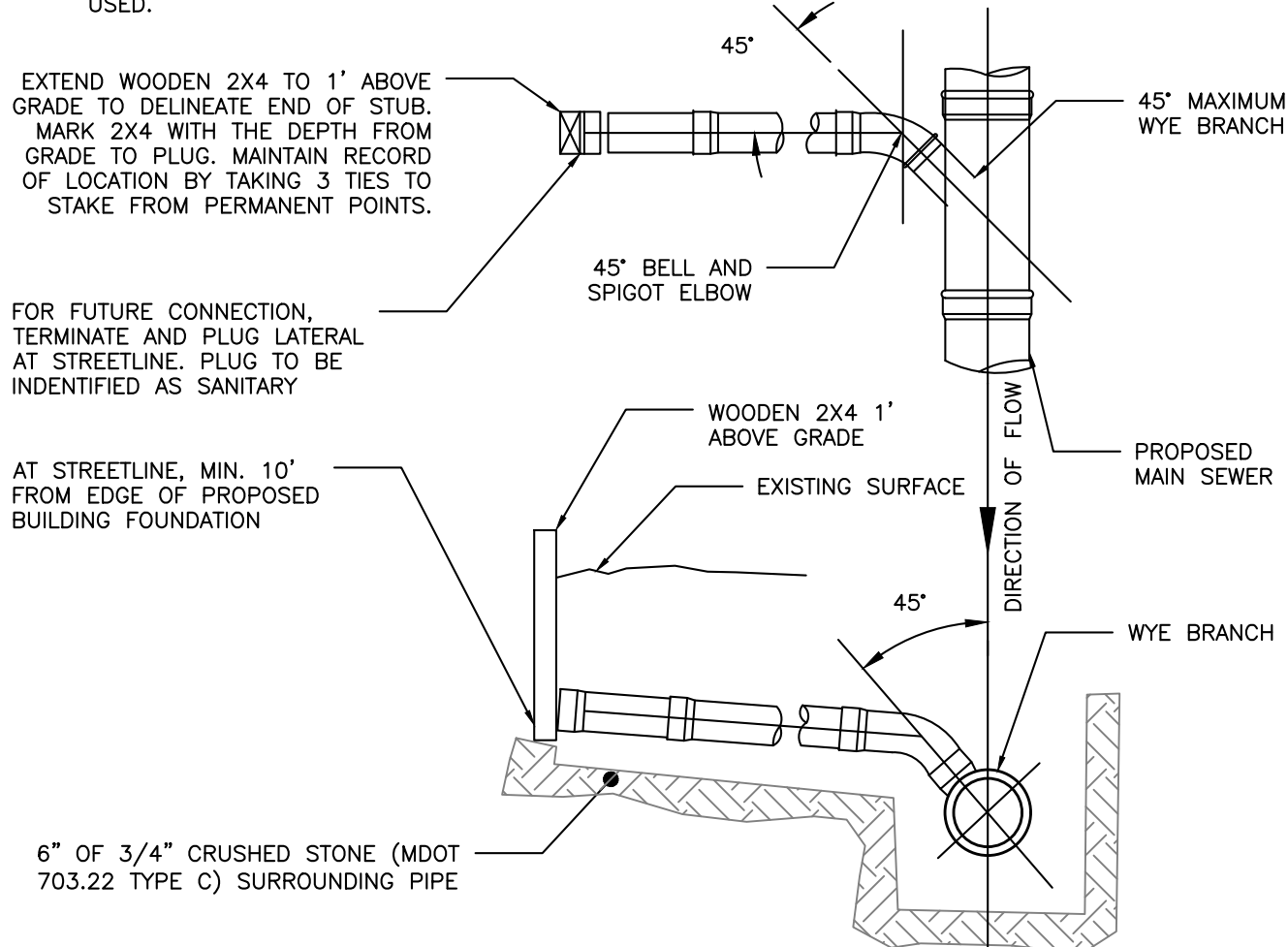
1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS POSSIBLE ADD TWO LAYERS OF 2-INCH "BLUE DOW" RIGID INSULATION.



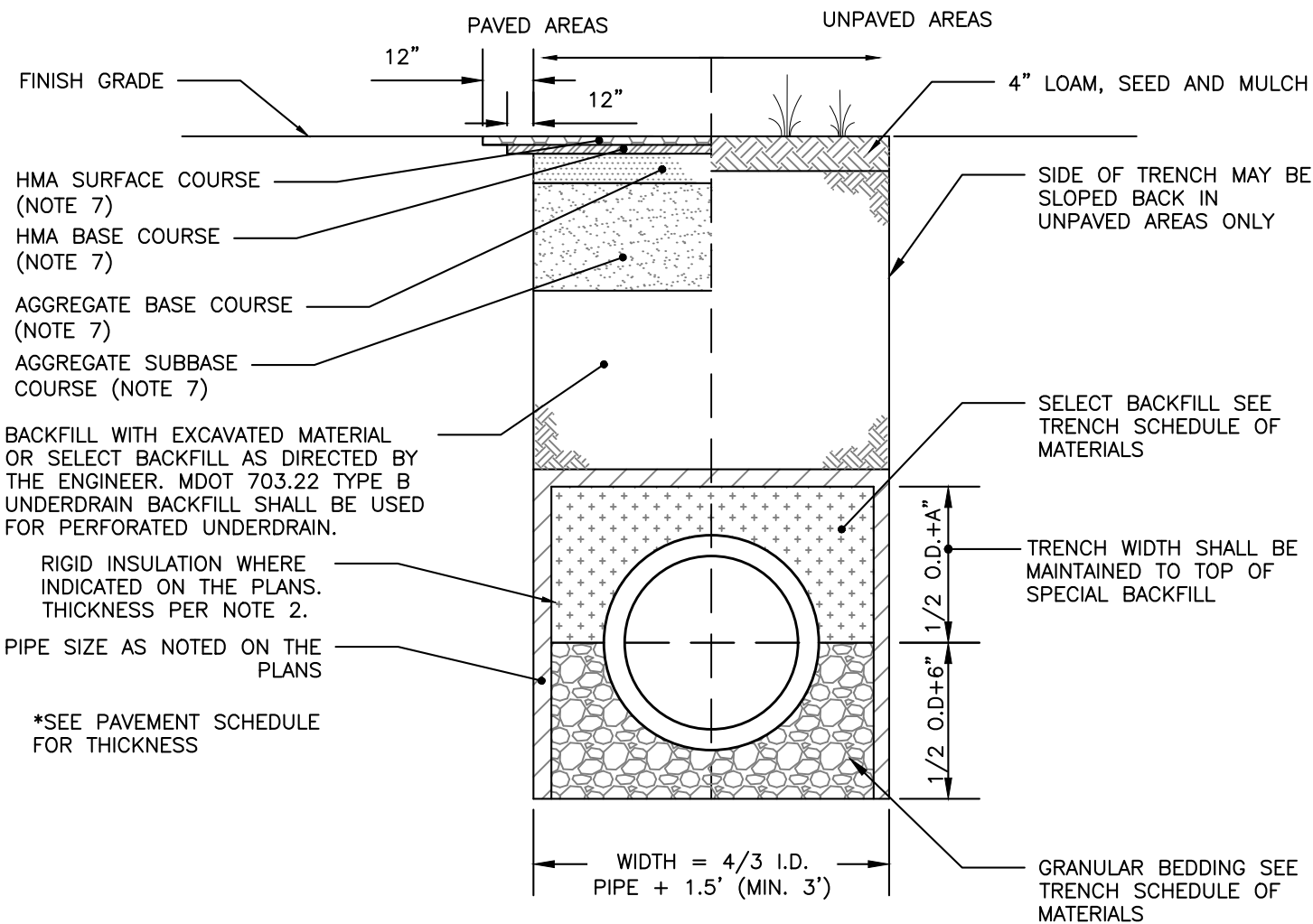
WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE

NOTES:

1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO STRUCTURE PLUMBING WITH ARCHITECTURAL CONTRACTOR.
3. CONNECTION OF PROPOSED SEWER LATERAL TO STRUCTURE PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.



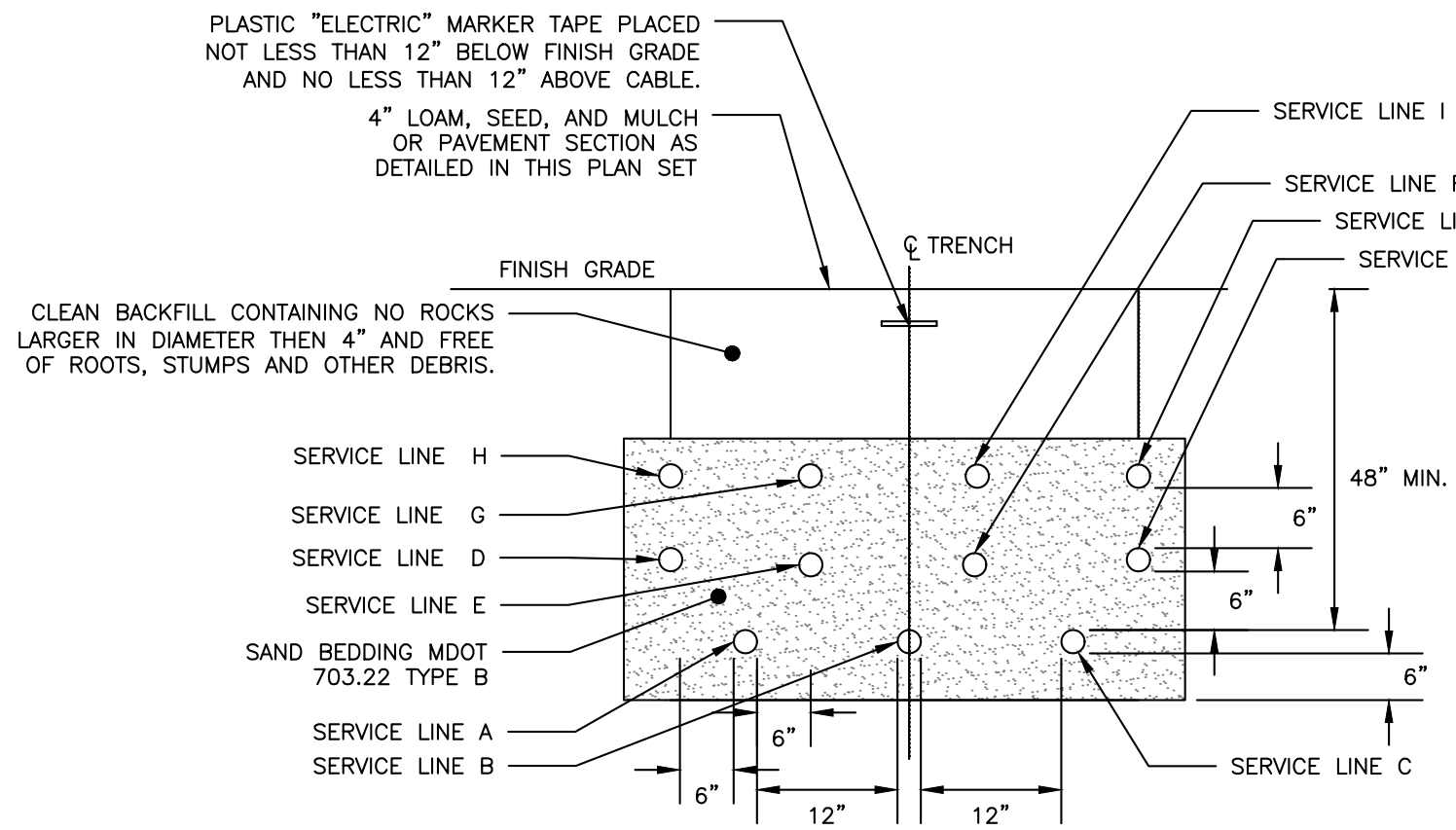
SEWER TEE/WYE CONNECTION DETAIL
NOT TO SCALE



STORM DRAIN AND SEWER TYPICAL TRENCH SECTION
NOT TO SCALE

ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP) MIN PS-46 RATING
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
D	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
E	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
F	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
G	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
H	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
I	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	-
J	4"	SCHEDULE 40 PVC	SPARE	-
K	4"	SCHEDULE 40 PVC	SPARE	-

NOTES:

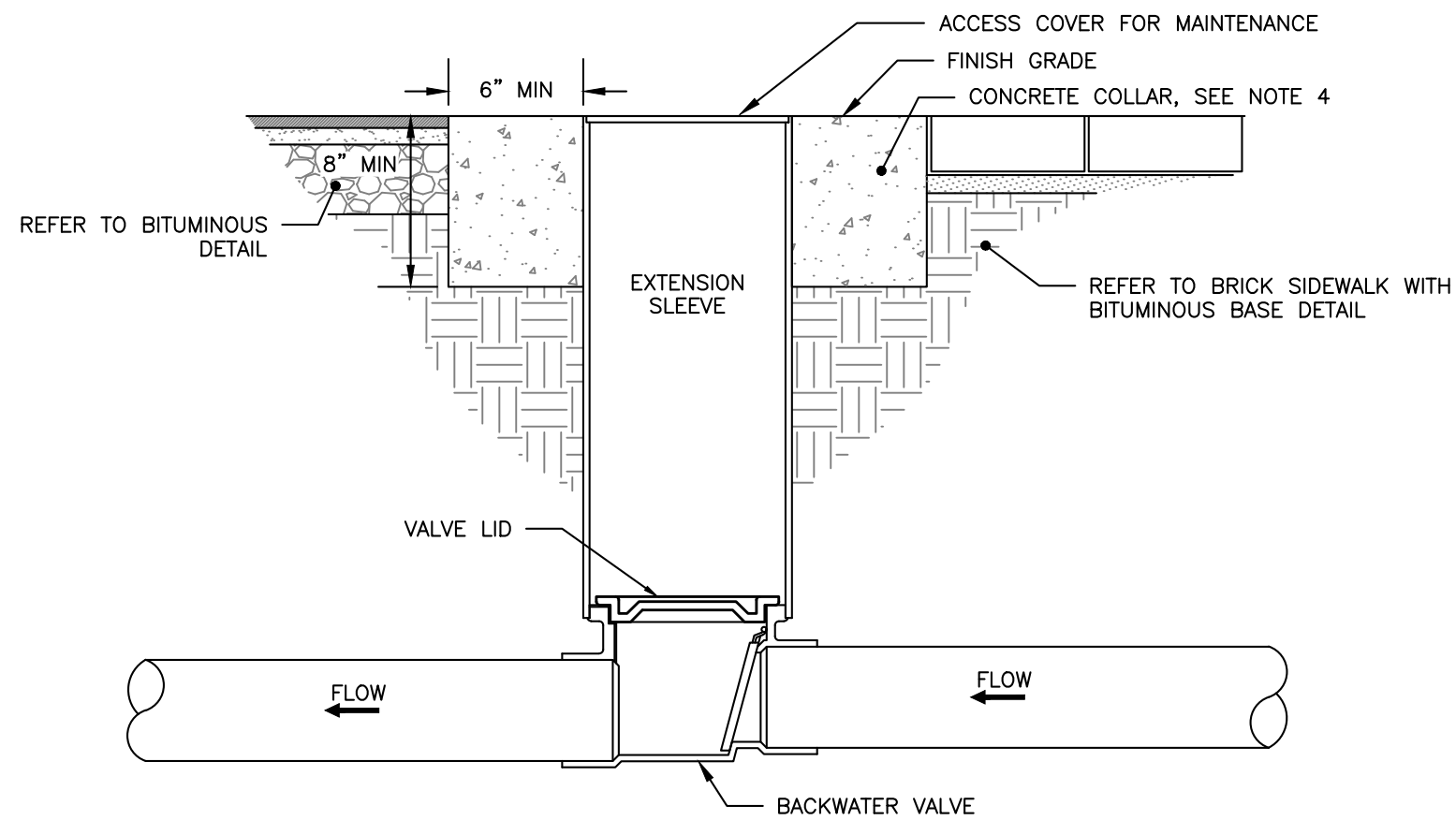
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH - PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE

SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

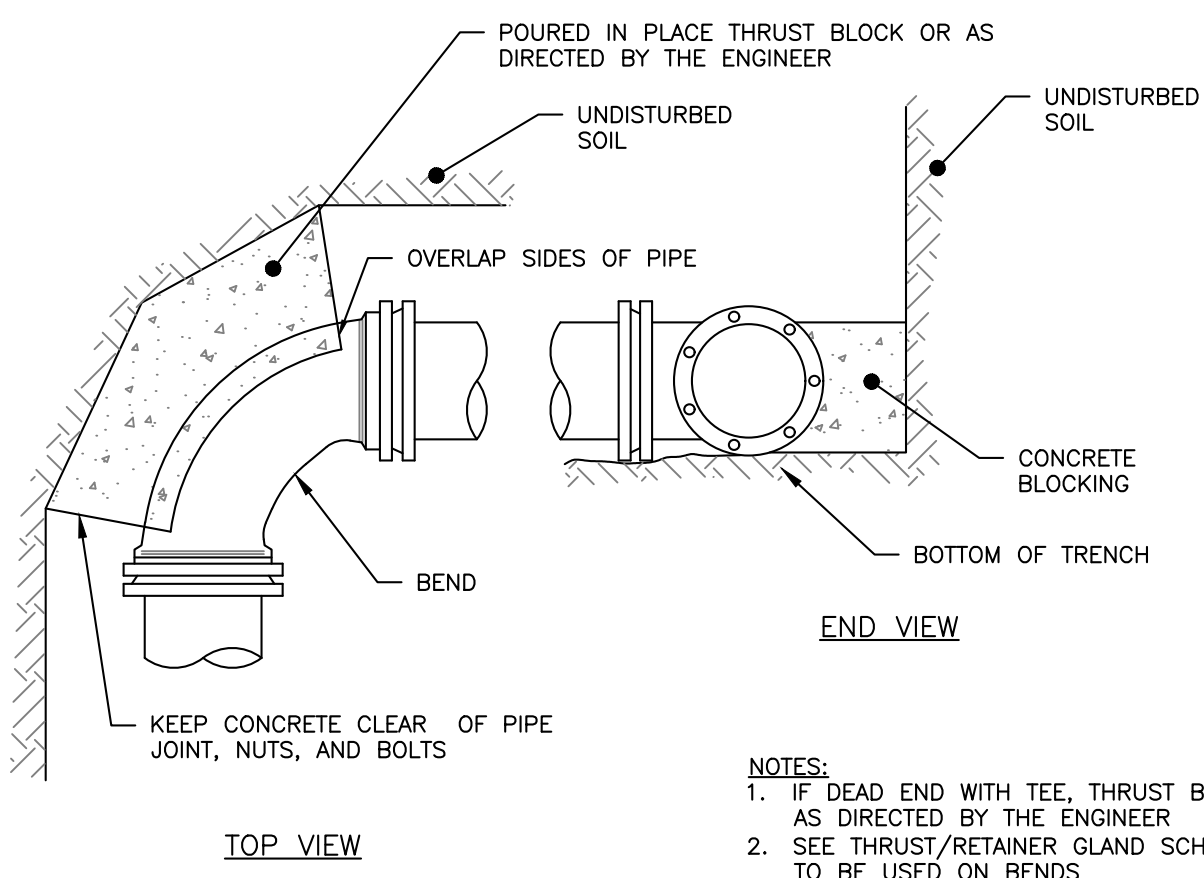
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER:
 - 4.1. 2'-0" - STORM DRAIN
 - 4.2. 5'-0" - SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF BIDDEFORD ROW.
7. THICKNESS AS NOTED BY SURFACE DETAILS
8. ALL PROPOSED TREES PLANTED WITHIN 10' OF A STORM OR SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.



NOTES:

1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE "SEWER" ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

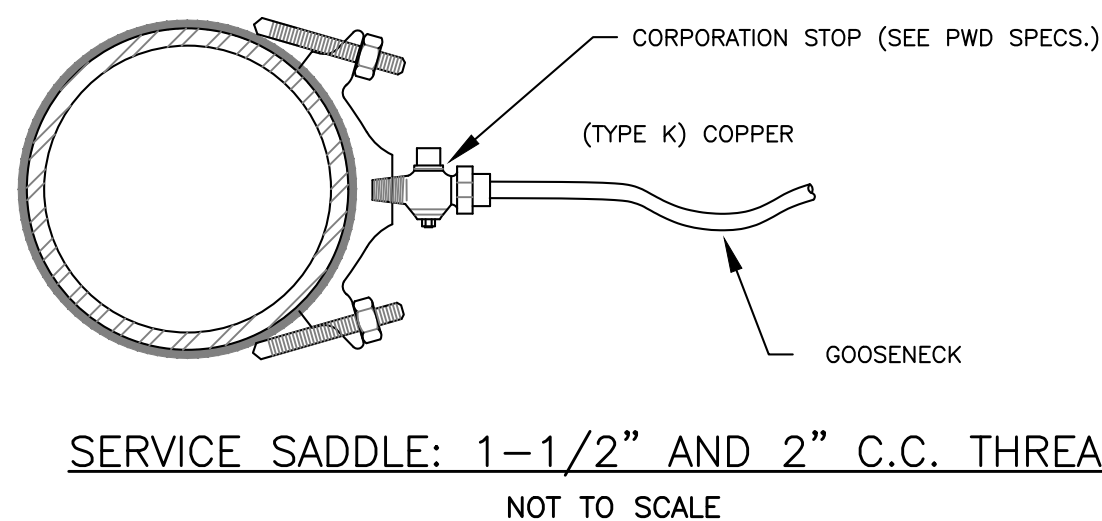
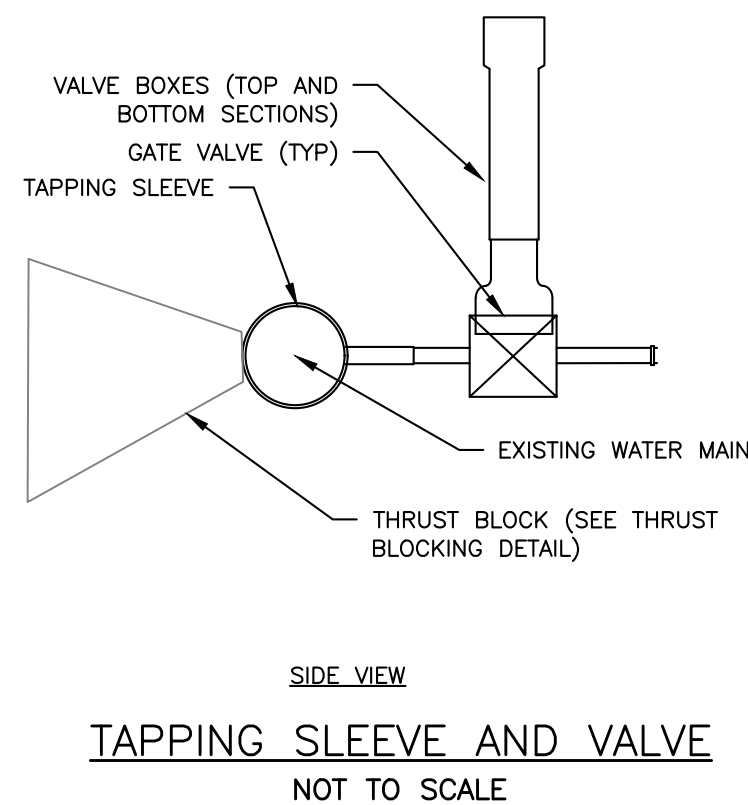
BACKFLOW VALVE ASSEMBLY
NOT TO SCALE



NOTES:

1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED OR AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

THRUST BLOCKING: REGULAR BEND
NOT TO SCALE

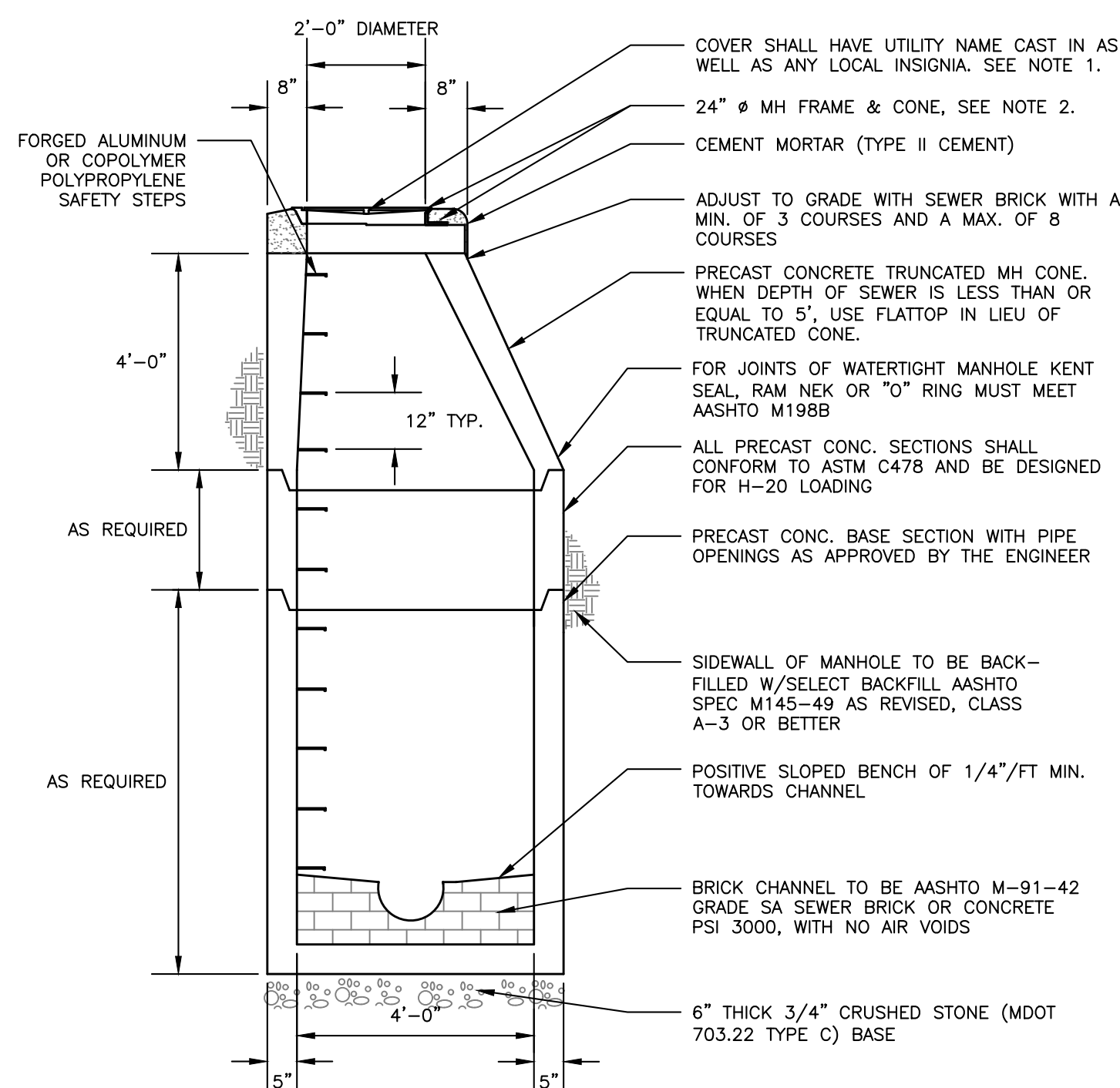


SERVICE SADDLE: 1-1/2" AND 2" C.C. THREAD
NOT TO SCALE

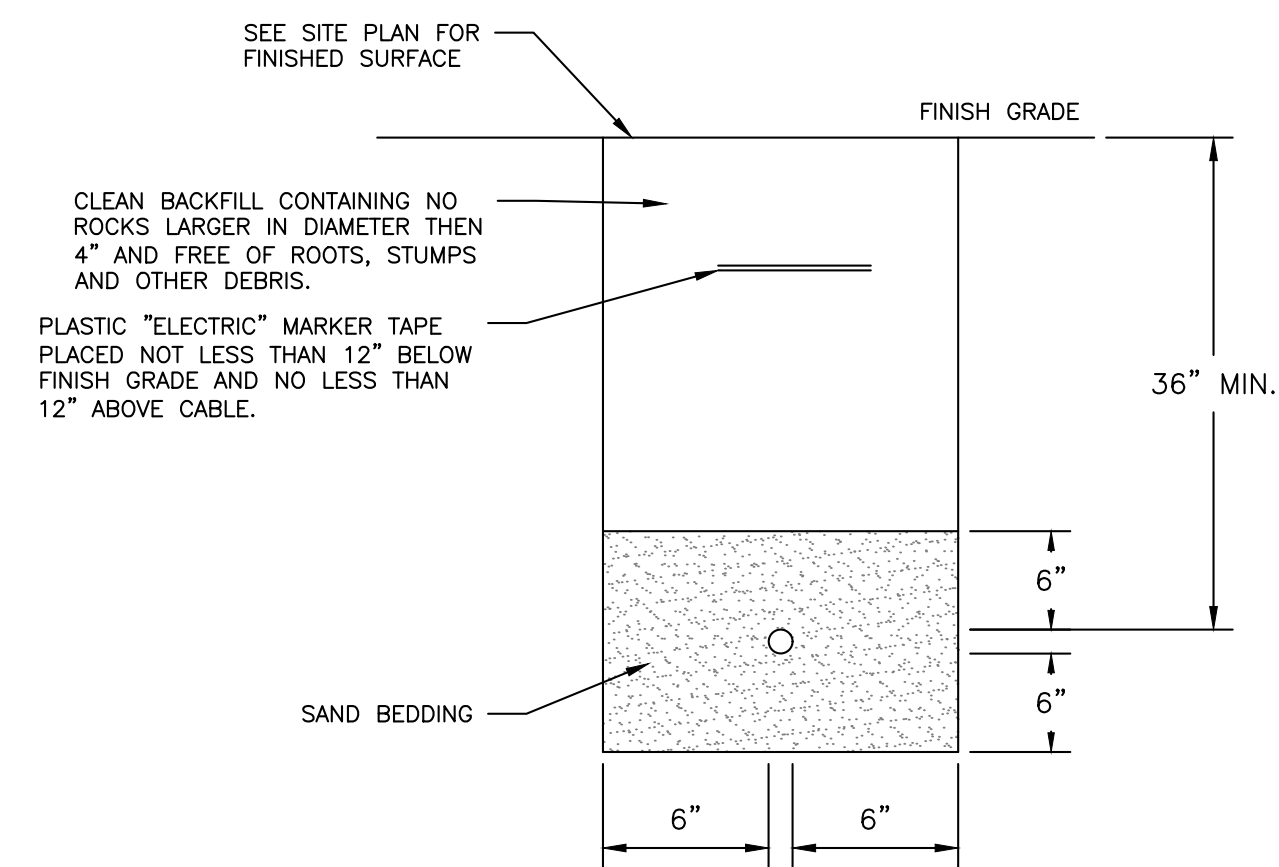
PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY
JOINT MAJOR SITE PLAN APPLICATION	DATE
	7/10/22
UTILITY DETAILS - 1	
PROJECT NAME: PHASED OXFORD STREET REDEVELOPMENT	
CLIENT: AVESTA HOUSING & REVELER DEVELOPMENT	
307 CUMBERLAND AVE, PORTLAND, ME 04101	
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101	
DRAWING NO. C-42	
FILE: 1212_AE-CIVIL	
JN: 1212.1	
SCALE: AS NOTED	
DESIGNED BY: SUL	
DRAWN BY: DNM	
CHECKED BY: SUL	
STATE OF MAINE SAMUEL J. LABEL 16506 LICENSED PROFESSIONAL ENGINEER	

1. WITHIN CITY OF PORTLAND ROW, STORM DRAIN MANHOLE SHALL CONFORM WITH "STANDARD PRECAST SEWER MANHOLE DETAIL", WITH THE EXCEPTION THAT THE COVER SHALL BE MARKED AS "DRAIN". REFER TO CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 - SANITARY SEWER AND STORM DRAIN, FIGURE II-1
2. SUBMITTAL REQUIRED FOR MANHOLES, MANHOLE FRAMES & MANHOLE COVERS

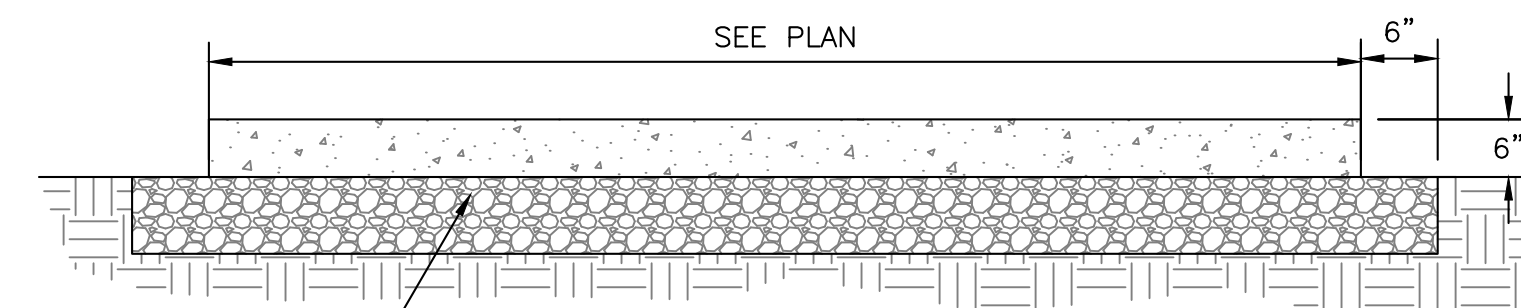
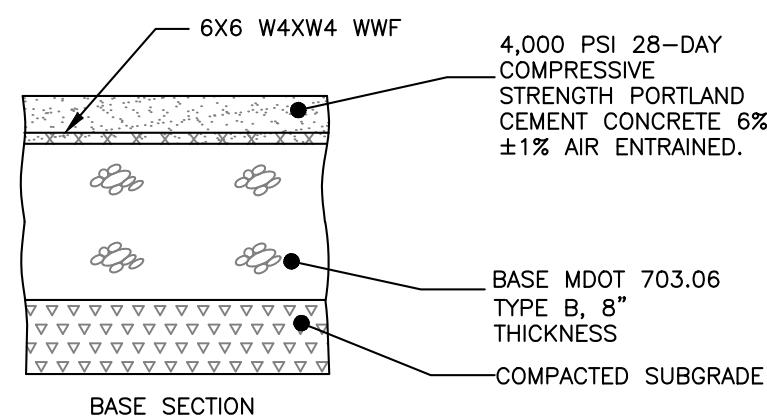


NOT TO SCALE

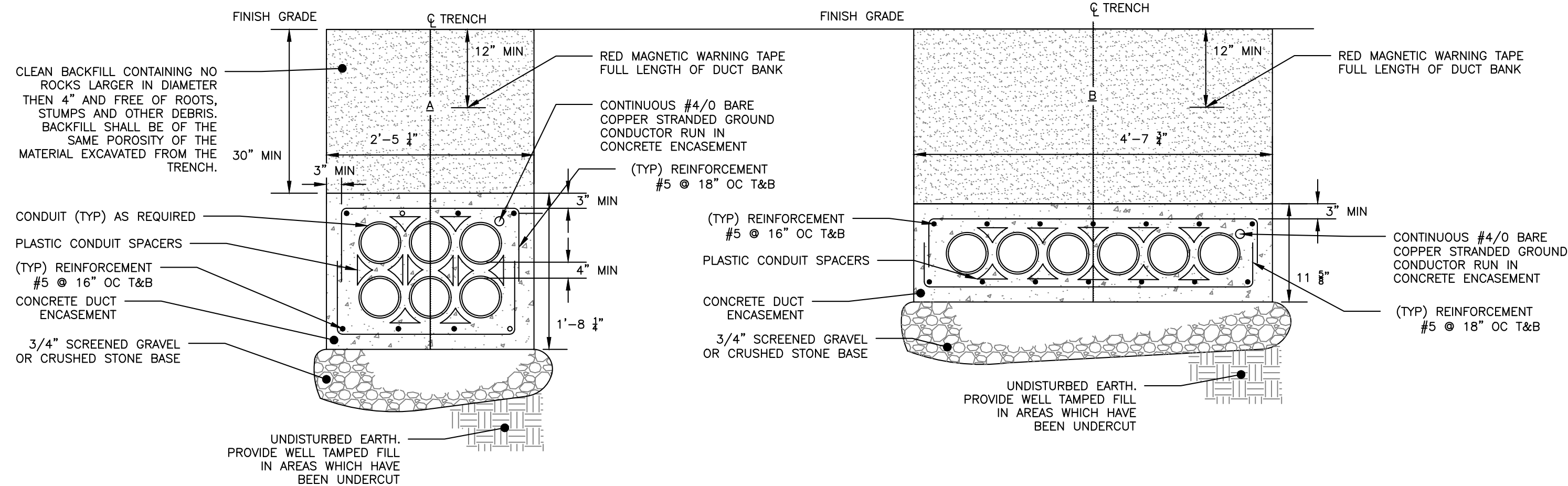


NOT TO SCALE

1. PROOFROLL AND COMPACT SUBGRADE
2. COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
3. FINISH WITH A STIFF, COARSE, FIBER BROOM.
4. REFER TO PLANS FOR DIMENSIONS.
5. TRANSFORMER TO BE CONSTRUCTED ON CONCRETE PAD MIN. 6" REVEAL TO FINISHED GRADE TO ENSURE POSITIVE DRAINAGE AWAY FROM THE TRANSFORMER.
6. EXTEND BASE 6" ON ALL SIDES OF CONCRETE PAD.

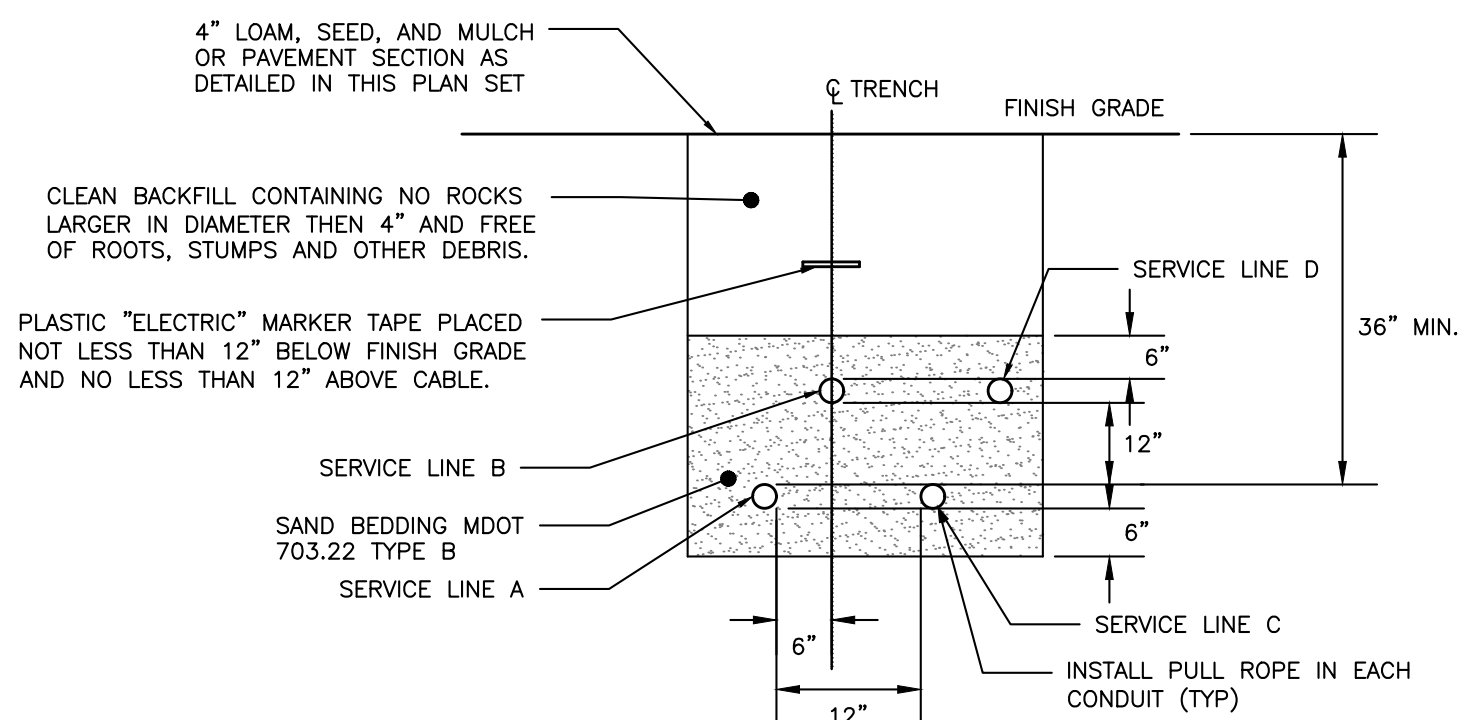


NOT TO SCALE



1. "A" WILL BE USED FOR MAJORITY OF INSTALLATION. DUCT BANK WILL NEED TO BE DEEPER AND NARROWER NEAR MANHOLES.
2. "B" WILL BE USED AS NEEDED. DUCT BANK WILL NEED TO BE WIDER AND SHALLOWER.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. MIN. SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.
5. ALL CONSTRUCTION TO BE IN COMPLIANCE WITH CMP'S CONSTRUCTION STANDARDS AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE.
6. ALL 90 DEGREE BENDS SHALL BE GALVANIZED LONG SWEEP BENDS. CONDUIT BELL ENDS REQUIRED AT SPICE BOXES, TRANSFORMER BASES, AND SWITCH CABINETS.
7. CONDUITS SHALL BE PROPERLY PITCHED TO DRAIN INTO TRANSFORMER FOUNDATIONS, MANHOLES, OR SPICE BOXES. THREE INCHES PER 100 FEET MINIMUM SLOPE. IF CONDUITS SLOP TOWARD THE RISER POLE, A COMPANY APPROVED DRAINAGE BOX AT THE RISER BASE SHALL BE INSTALLED.
8. INSTALL 1" (OR MULE TAPE) PULLING LINE IN EACH CONDUIT.
9. INSTALL 4/0 CU NEUTRAL IN CONDUIT DUCT BANK.
10. INSTALL CONDUIT SPACERS

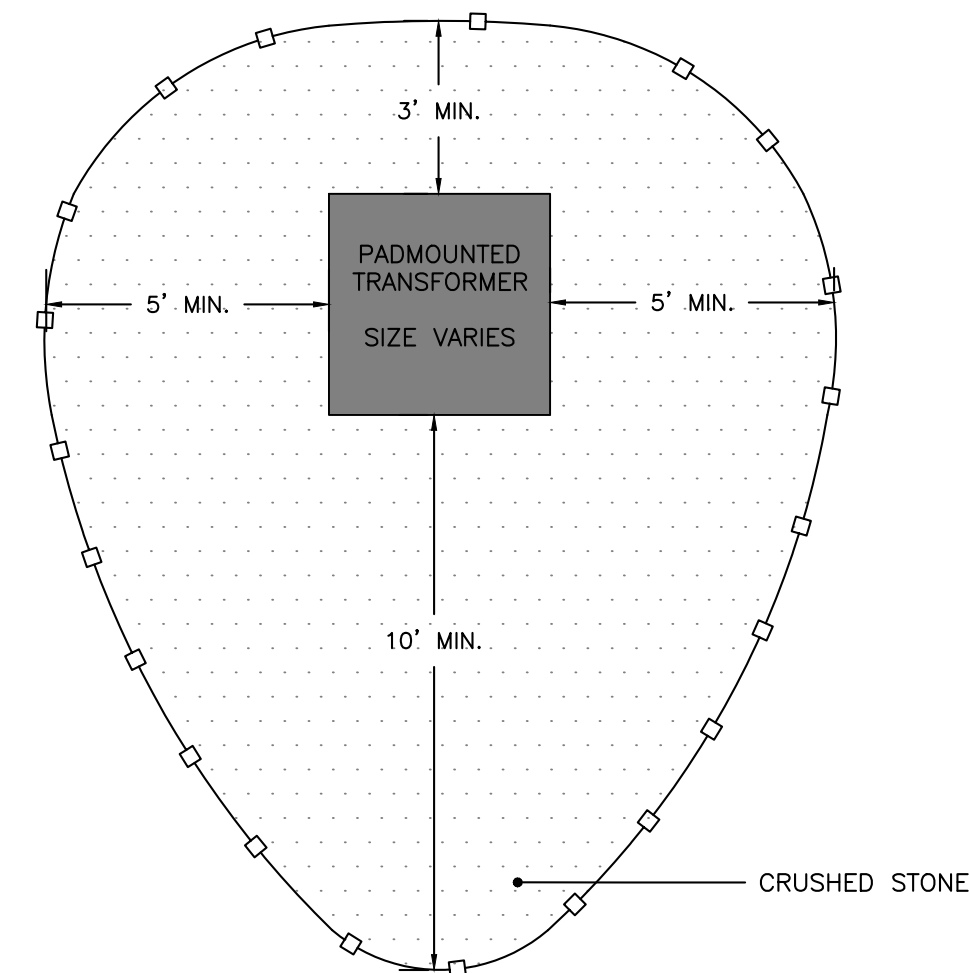
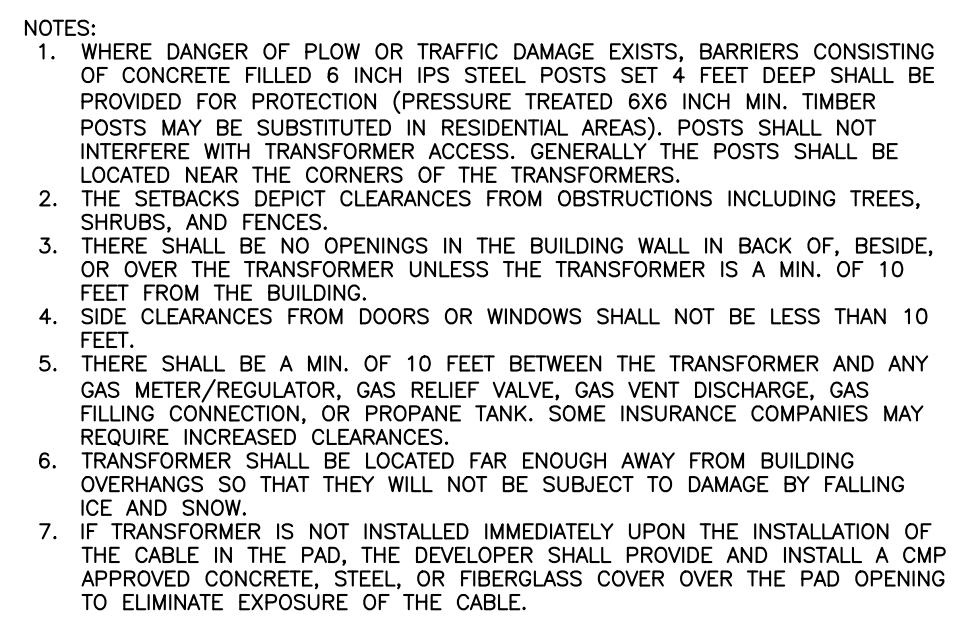
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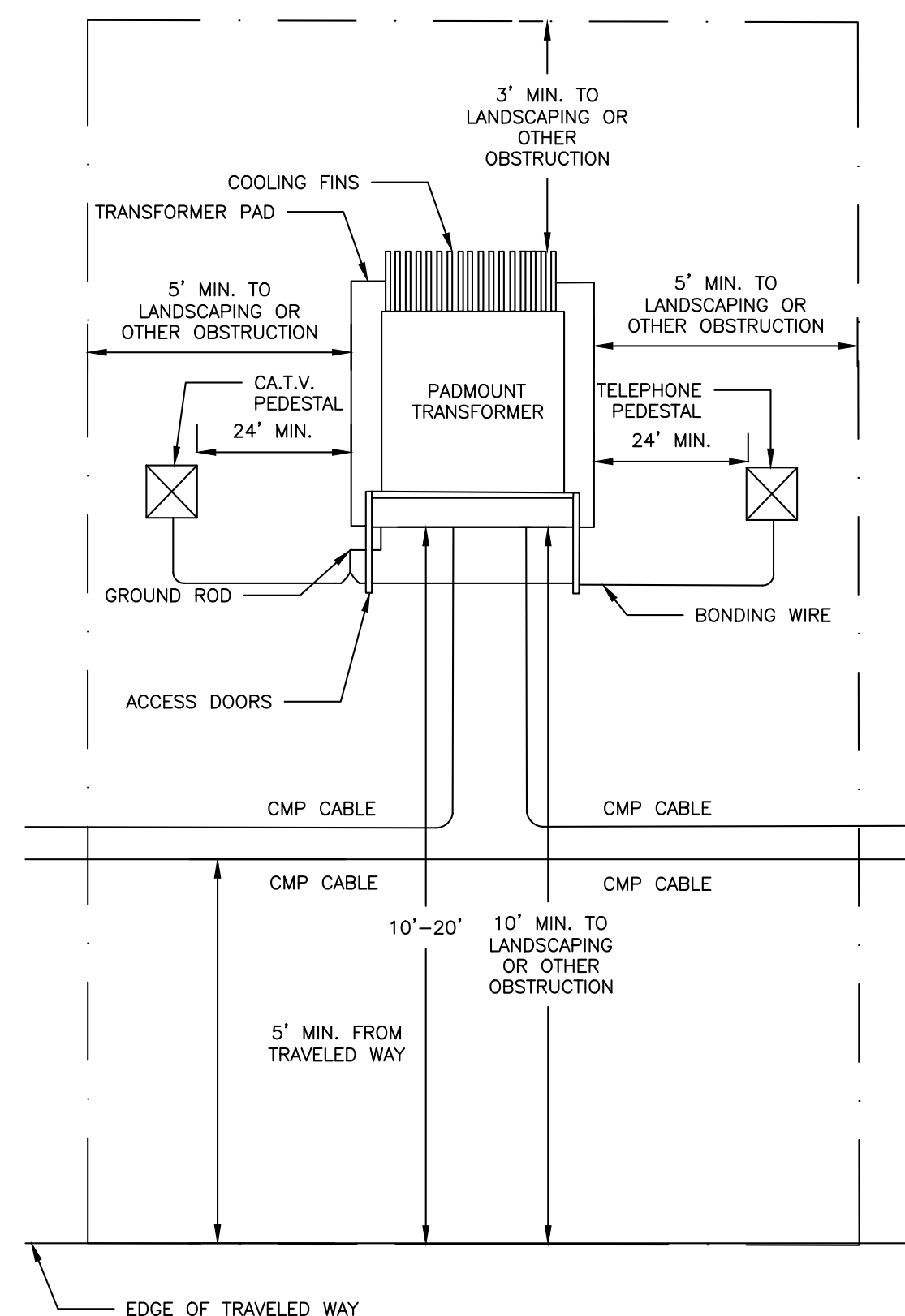
CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2-5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2-4"	SCHEDULE 40 PVC	COMMUNICATION	-
C	2-4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2-4"	SCHEDULE 40 PVC	CABLE	-

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

NOT TO SCALE



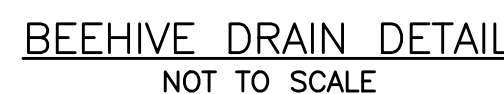
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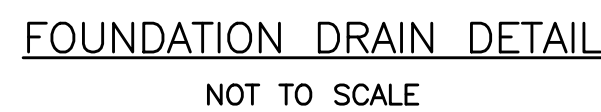
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.



1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.



1. INSTALL HOOD ON ALL OUTLETS 24" OR LESS.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS.



1. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT, #4 REBAR MINIMUM 8" O.C. OR EQUIVALENT WITH ENGINEER OF RECORD'S APPROVAL.
2. FIBER-REINFORCED CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
3. DESIGN LOAD FOR H=20 WHEEL LOAD.
4. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
5. REINFORCE TO 0.15 IN SQ./F. JOINTS SEALED WITH RAM-NUG GASKET OR EQUAL.
6. POLYPROPYLENE STEPS SHALL BE 12" O.C. STEPS 12" O.C.
7. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS.
8. EXTERIOR WATERPROOFING.
9. FLEXIBLE WATERTIGHT PIPE BOOTS TO CONFORM TO ASTM C-923.
10. SHALL MEET THE APPLICABLE CITY OF PORTLAND STANDARDS.
11. CATCH BASIN SHALL BE AS MANUFACTURED BY PRECAST OF MAINE OR APPROVED EQUAL.
12. MAIN MANHOLE SHALL BE PLACED OVER OUTLET. HODDS SHALL BE BY PLASTIC PIPE FABRICATION (OR EQUIVALENT).



CIRCULAR CATCH BASIN FRAME & GRATE W/O D-RING
NOT TO SCALE



24" SQUARE CATCH BASIN "TYPE F"
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

DRAINAGE DETAILS - 1

DRAINAGE DETAILS - 1

PHASED OXFORD STREET REDEVELOPMENT

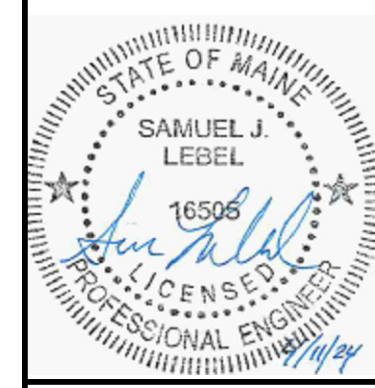
DRAWING NAME:

DRAWING NAME:

O R N
ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1212_AE_CIVIL
JN:	1212.1
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	DNM
CHECKED BY:	SJL

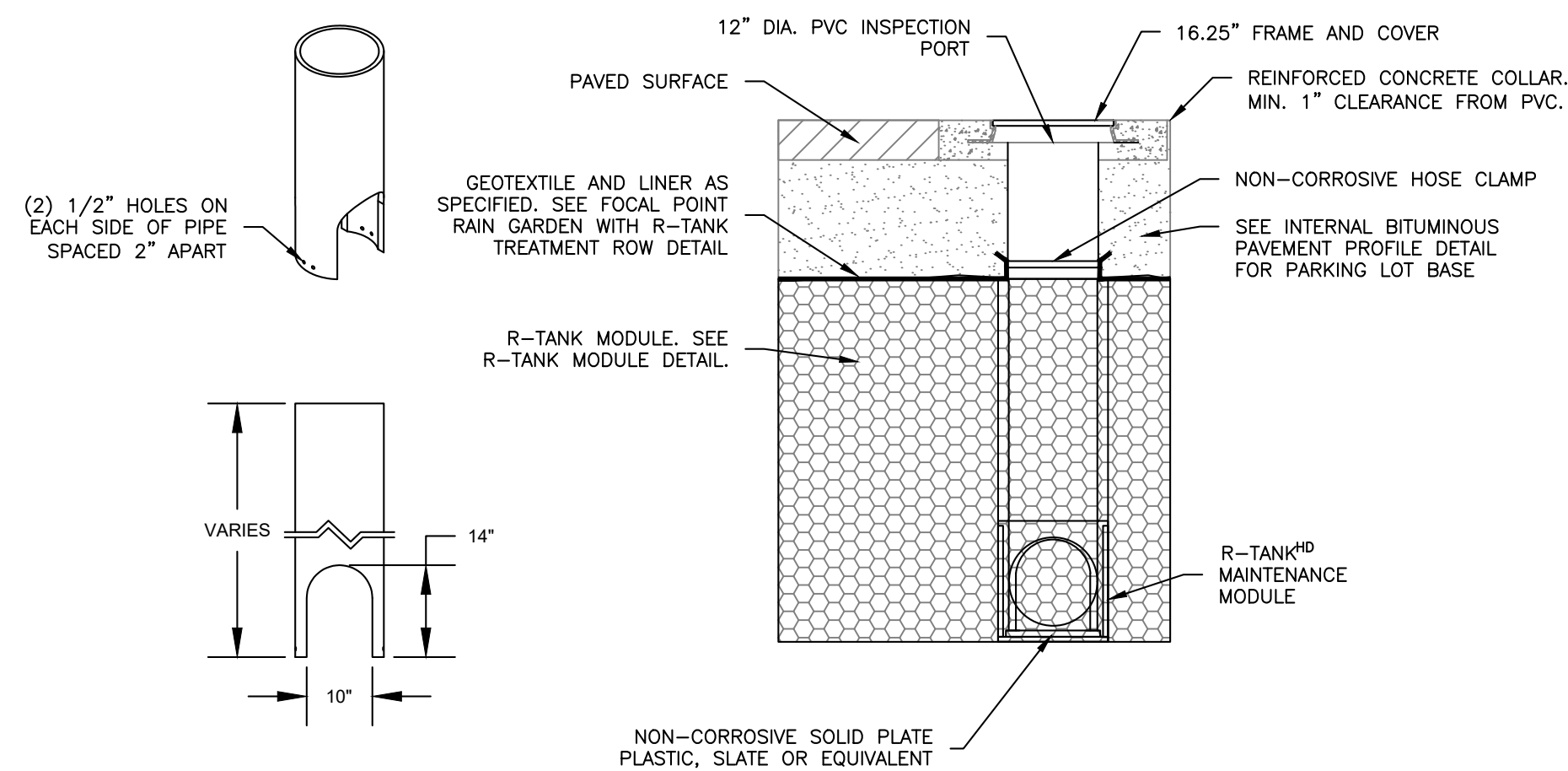


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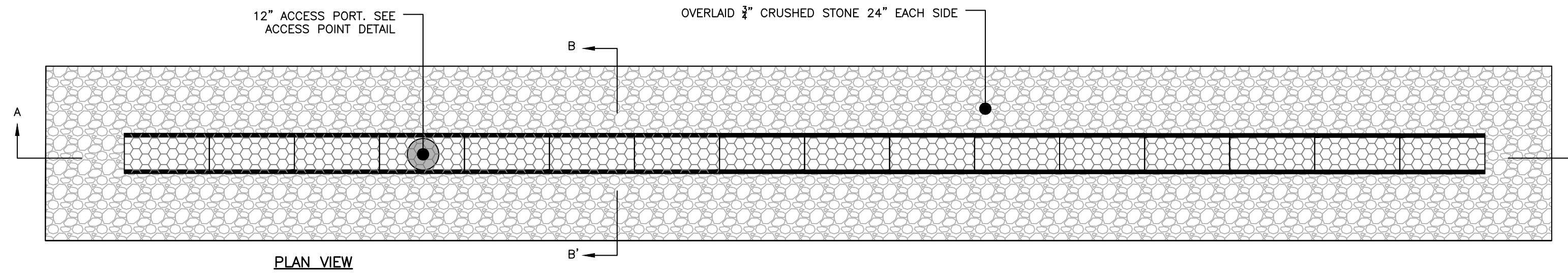
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NOTES

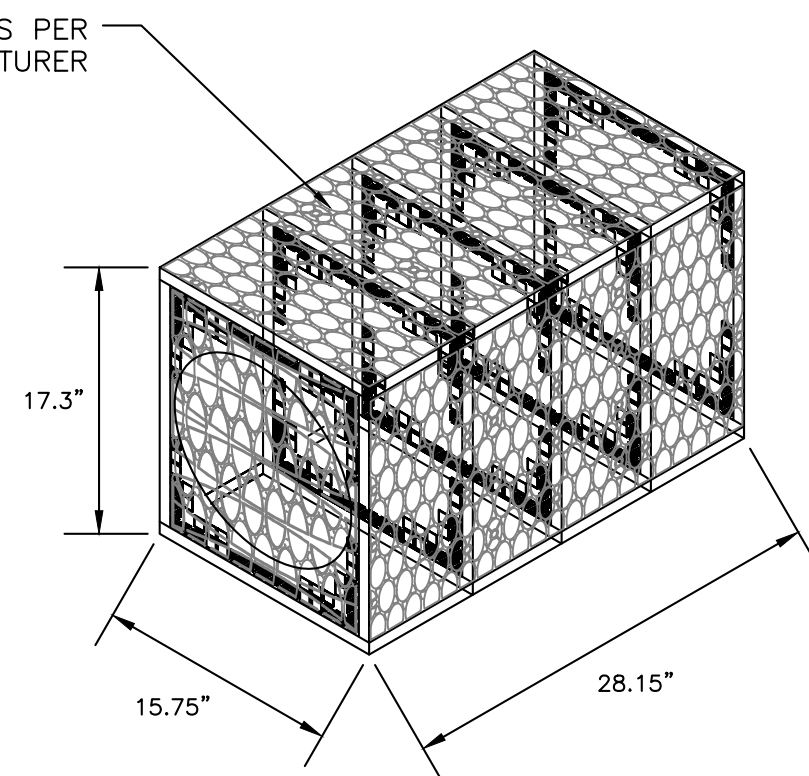
1. THE INSPECTION PORT IS USED IN THE MAINTENANCE MODULE TO INSPECT THE LEVEL OF SEDIMENT ACCUMULATION.
2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH MAINTENANCE ROW VIA THE ACCESS STRUCTURE FROM EITHER END AS NEEDED.
3. R-TANK[®] MAY BE USED IN TRAFFIC APPLICATIONS.
4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.
5. IF INSPECTION PORT IS LOCATED IN A NON-TRAFFIC AREA, A PLASTIC CAP CAN BE USED IN LIEU OF A FRAME AND COVER WITH CONCRETE COLLAR



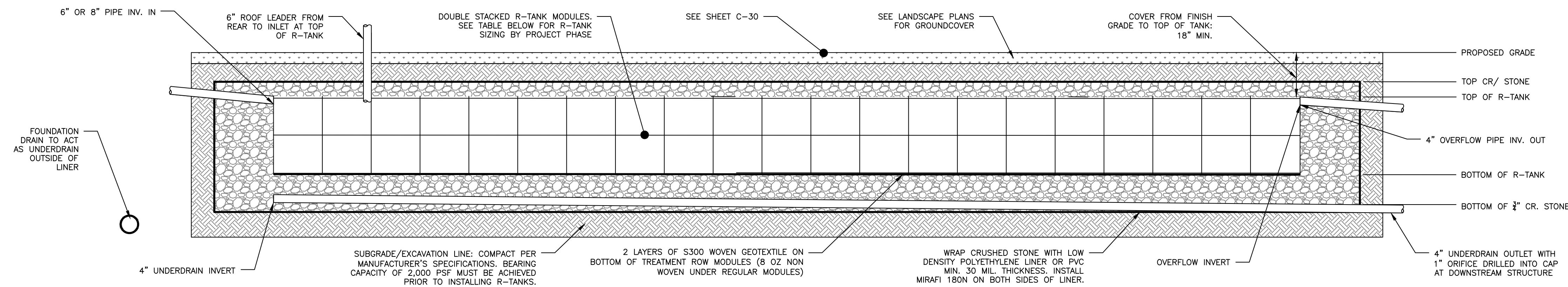
ACCESS PORT WITH SOLID COVER
NOT TO SCALE



R-TANK MODULE DETAIL
NOT TO SCALE



NOTES:
INSTALLATION TO MEET MANUFACTURER'S SPECIFICATIONS.

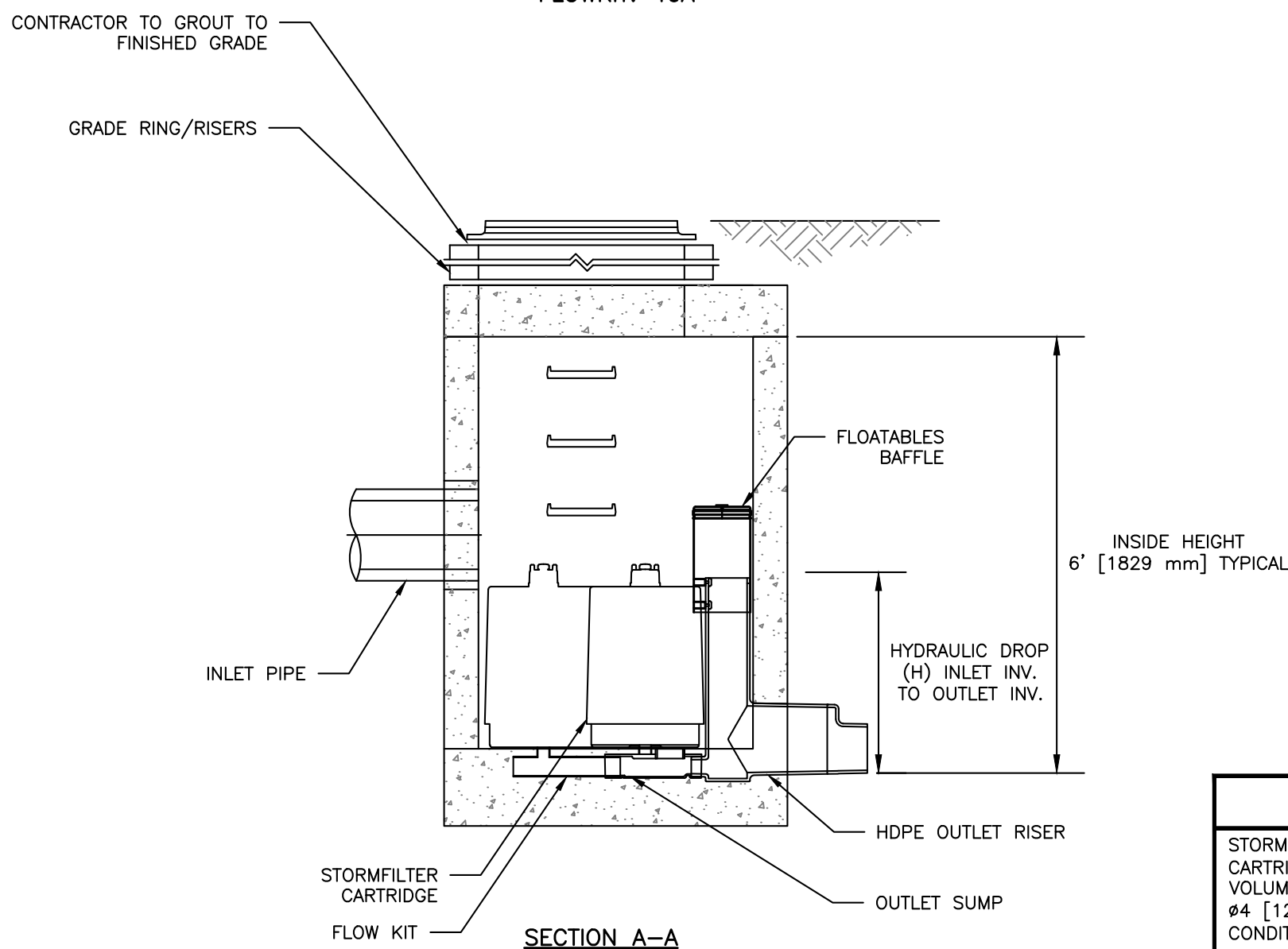
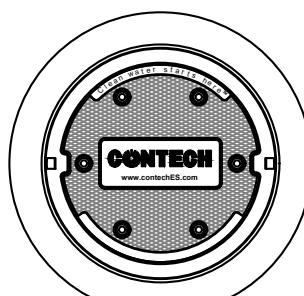
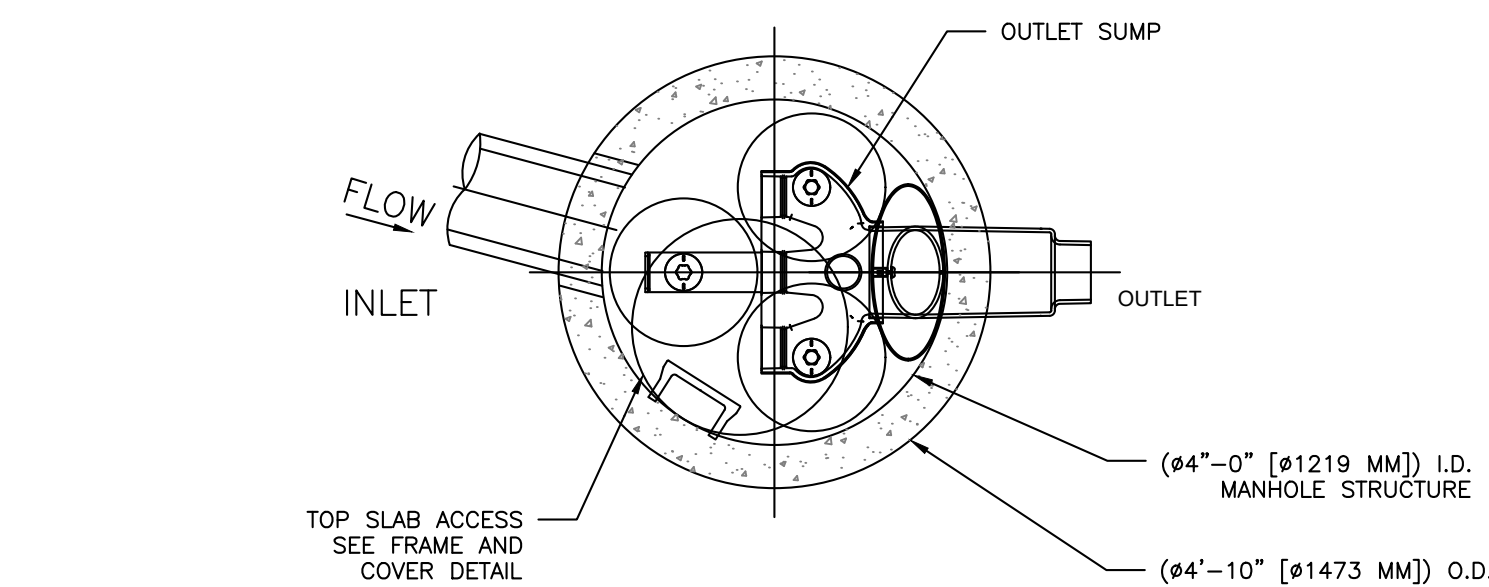


SECTION A-A

R-TANK SUBSURFACE DETENTION SYSTEM
NOT TO SCALE

R-TANK SUBSURFACE STORMWATER DETENTION SYSTEM OVERVIEW BY PHASE:

	PHASE 1: 197 OXFORD ST.	PHASE 2: 50 CEDAR ST.	PHASE 3: 158 LANCASTER ST.
FINISHED GRADE:	28.40'	26.75	13.50'
TOP OF CRUSHED STONE:	26.95'	26.25'	13.00'
TOP OF R-TANK:	25.96'	25.25'	12.00'
OVERFLOW INVERT OUT:	25.63'	24.92'	11.67'
BOTTOM OF R-TANK:	23.13'	22.43'	9.18'
UNDERDRAIN INVERT OUT:	22.80'	22.09'	8.84'
BOTTOM OF STONE:	22.38'	21.68'	8.43'
TOTAL TANK COUNT	50	40	72
NUMBER OF 4" OVERFLOW DRAINS	4	3	4



GENERAL NOTES

1. REFER TO SHEET C-30 FOR RIM AND INVERT ELEVATION INFORMATION.
2. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
3. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
4. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
5. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
6. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524 mm] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
7. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
8. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
9. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
- E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNOCO OR EQUAL AND PROVIDED BY CONTRACTOR.
- F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES.											
#4 [1219 mm] MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS [28.3 L/s] . IF THE SITE CONDITIONS EXCEED 1.0 CFS [28.3 L/s] AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.											
CARTRIDGE SELECTION											
CARTRIDGE HEIGHT	27" [686 mm]			18" [458 mm]			LOW DROP				
RECOMMENDED HYDRAULIC DROP (H)	3.05' [930 mm]			2.3' [700 mm]			1.8' [550 mm]				
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]	2 [1.30]	1.67* [1.08]	1 [0.65]		
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.44]	10 [0.63]	8.35 [0.54]	5 [0.32]		

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB[®] (PSORB) MEDIA ONLY

ISSUED FOR	BY
JOINT MAJOR SITE PLAN APPLICATION	DATE
	7/10/22

DRAINAGE DETAILS - 2

PHASED OXFORD STREET REDEVELOPMENT

CLIENT: AVESTA HOUSING & REVELER DEVELOPMENT
307 CUMBERLAND AVE, PORTLAND, ME 04101
188 STATE STREET, 3RD FLOOR, PORTLAND, ME 04101

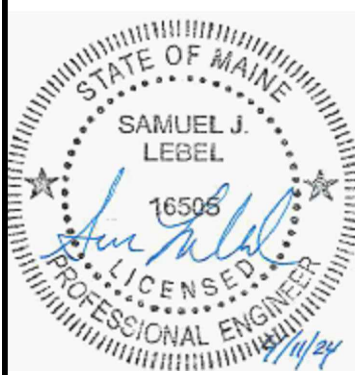
DRAWING NAME:

PROJECT NAME:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACOORN ENGINEERING, INC. ANY ALTERATIONS AUTHORIZED BY THE ENGINEER SHALL BE SHOWN ON THIS SET OF PLANS WITHOUT LIABILITY TO ACOORN ENGINEERING, INC.

ACOORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

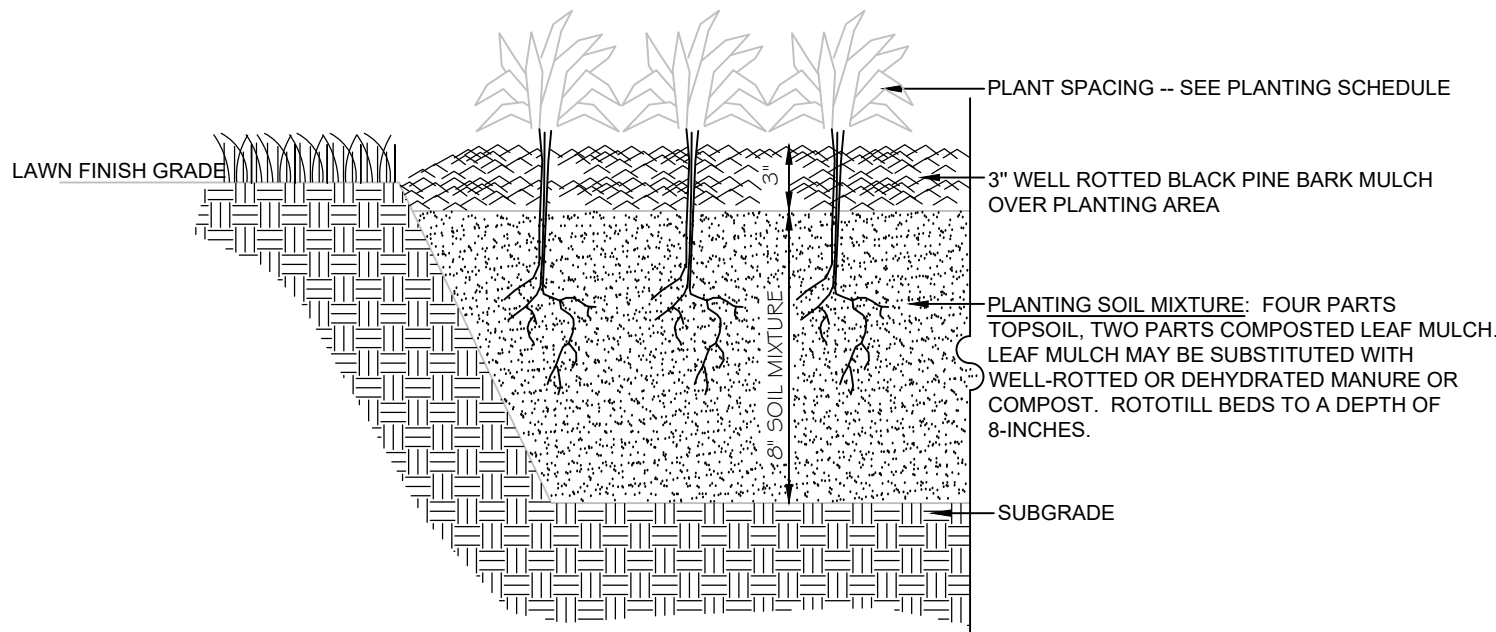
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SCALE: AS NOTED
DESIGNED BY: SUL
DRAWN BY: DNM
CHECKED BY: SUL



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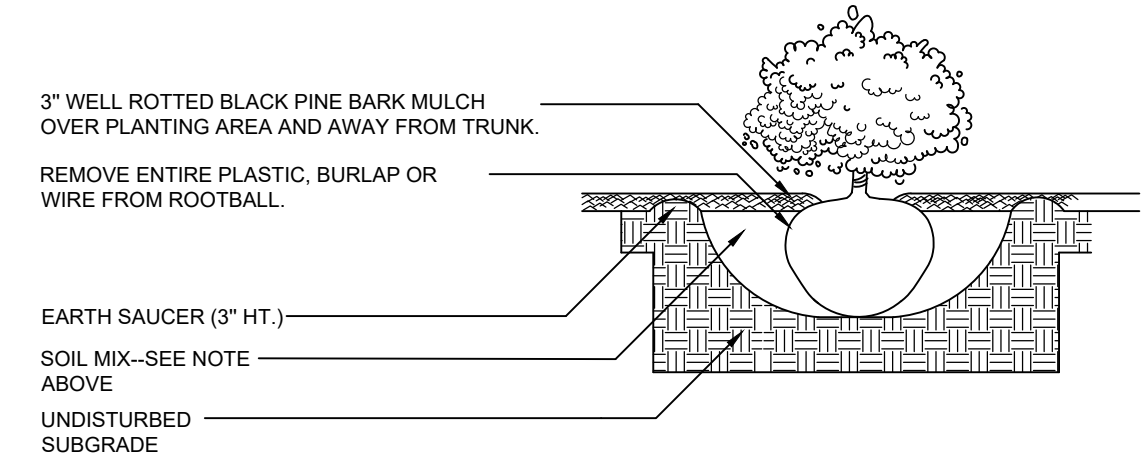
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PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION



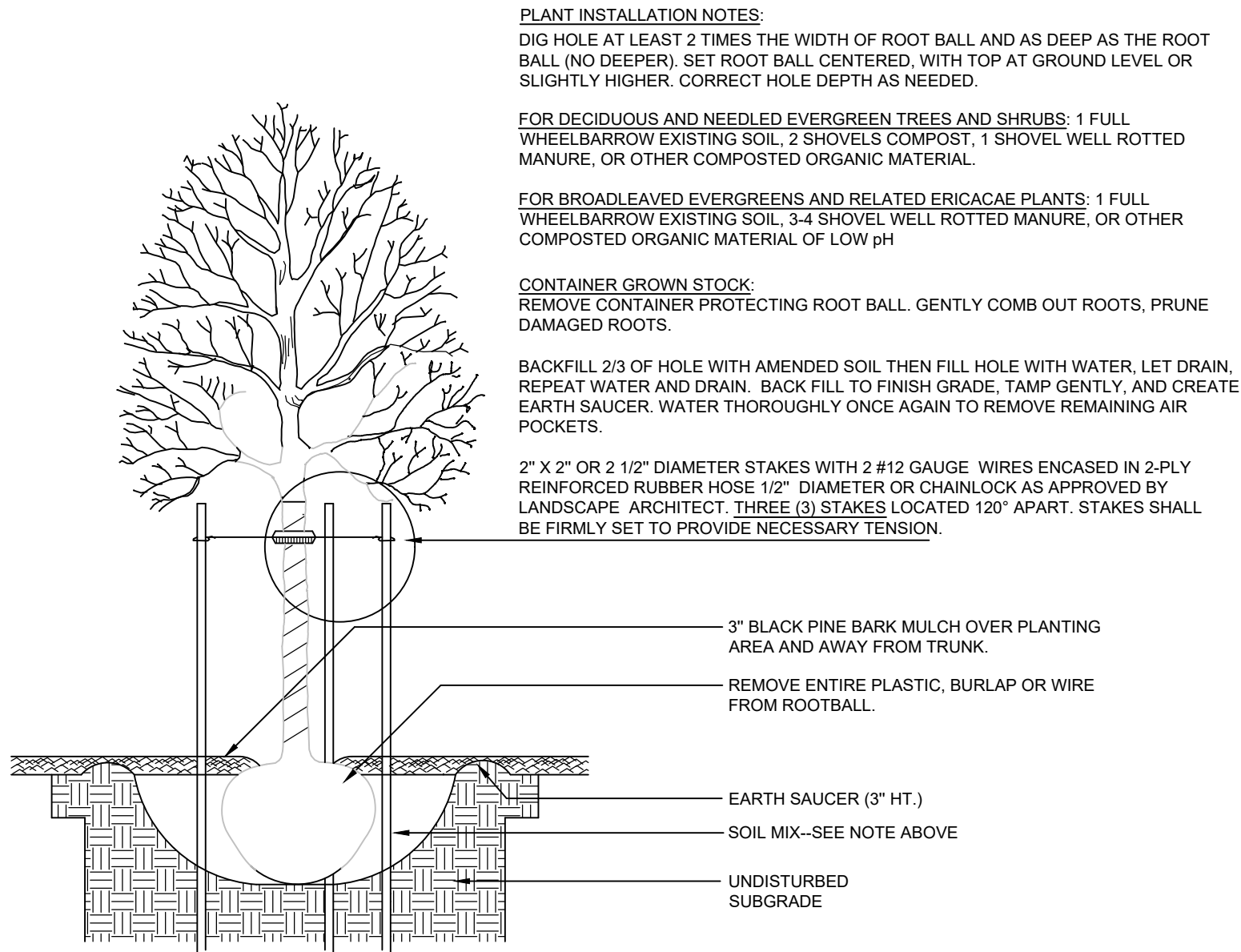
01 PLANTING BED AND MULCH DETAIL

SCALE: N.T.S.



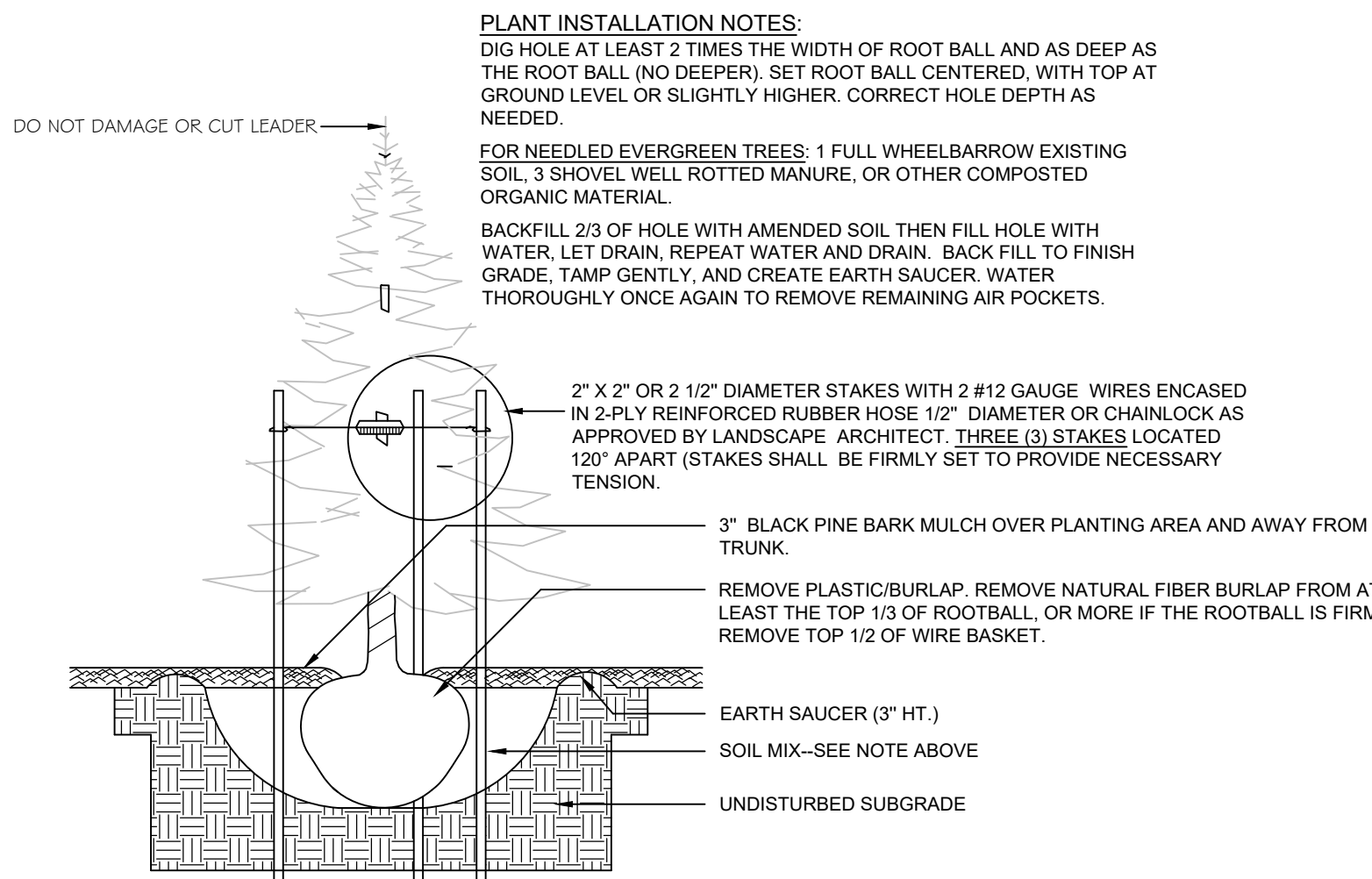
02 SHRUB INSTALLATION

SCALE: N.T.S.



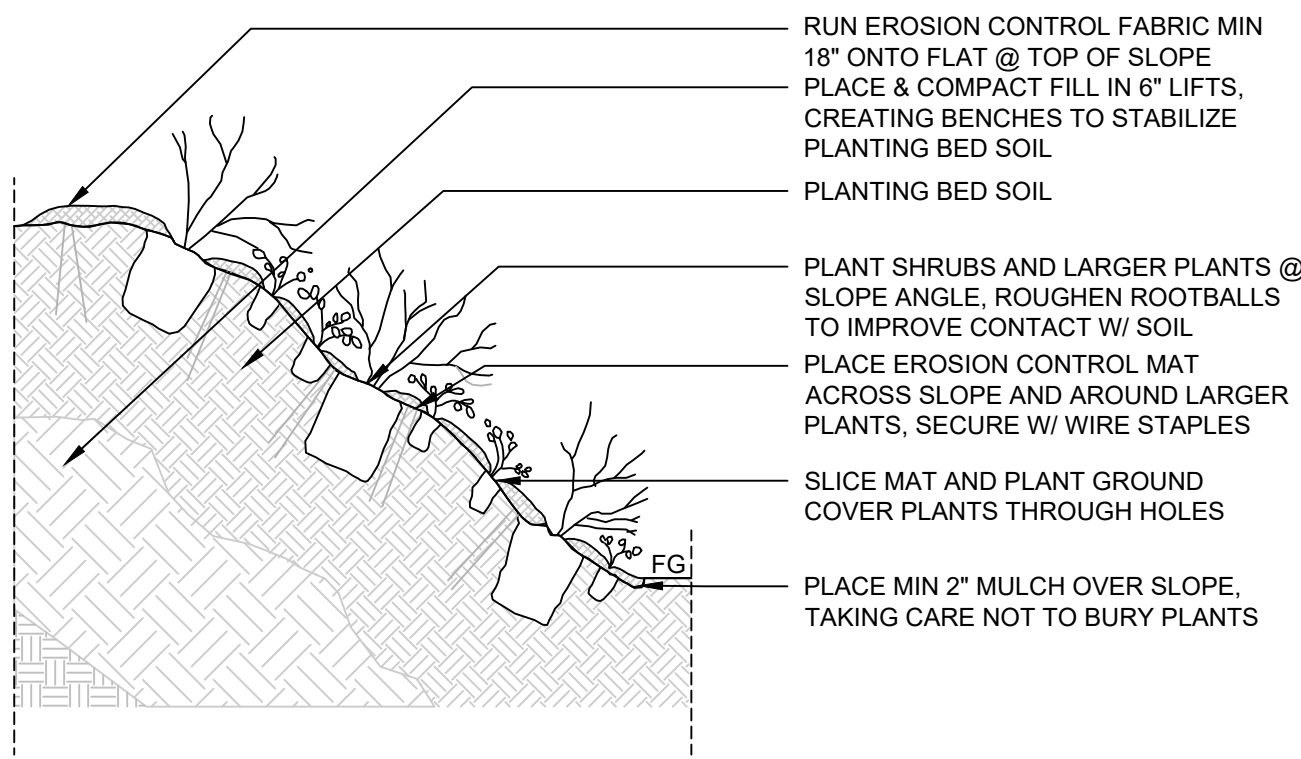
03 DECIDUOUS TREE DETAIL

SCALE: N.T.S.



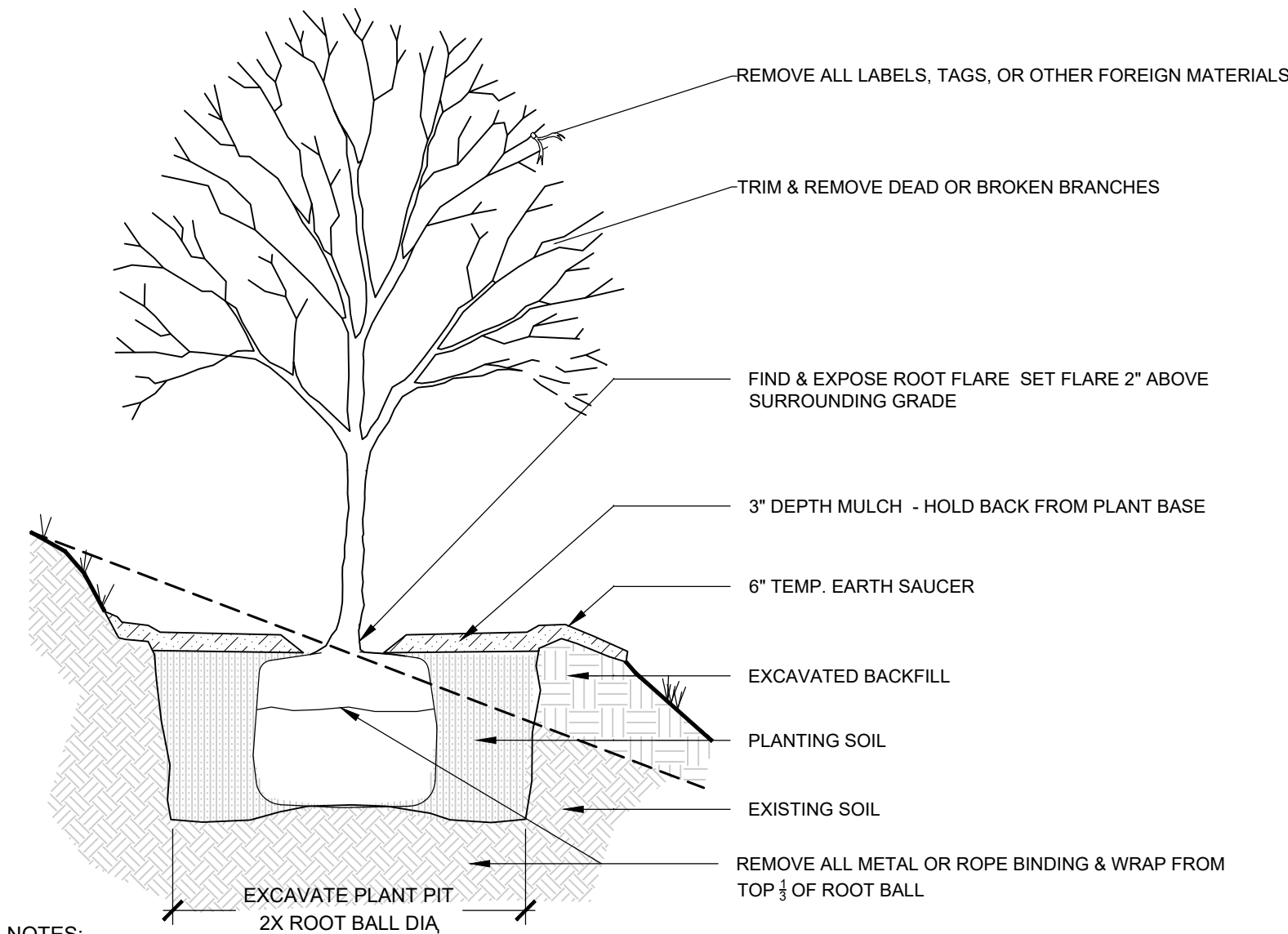
04 CONIFEROUS TREE DETAIL

SCALE: N.T.S.



05 SLOPE PLANTING DEATIL

SCALE: N.T.S.

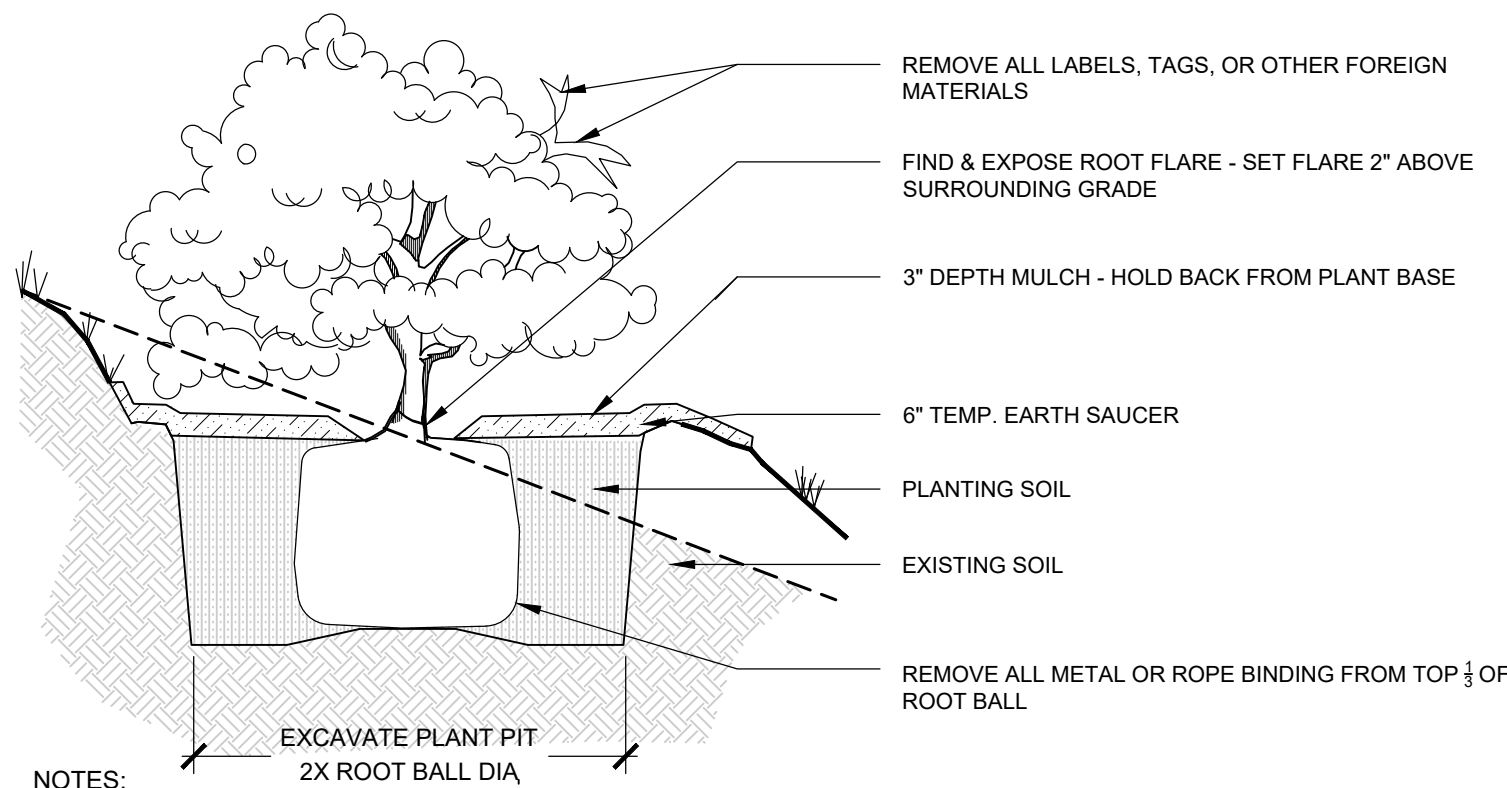


NOTES:

1. TREE TO BE SET PLUMB.
2. SECURE TREE AS MAY BE REQUIRED ACCORDING TO TREE SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

06 TREE PLANTING ON SLOPE

SCALE: N.T.S.

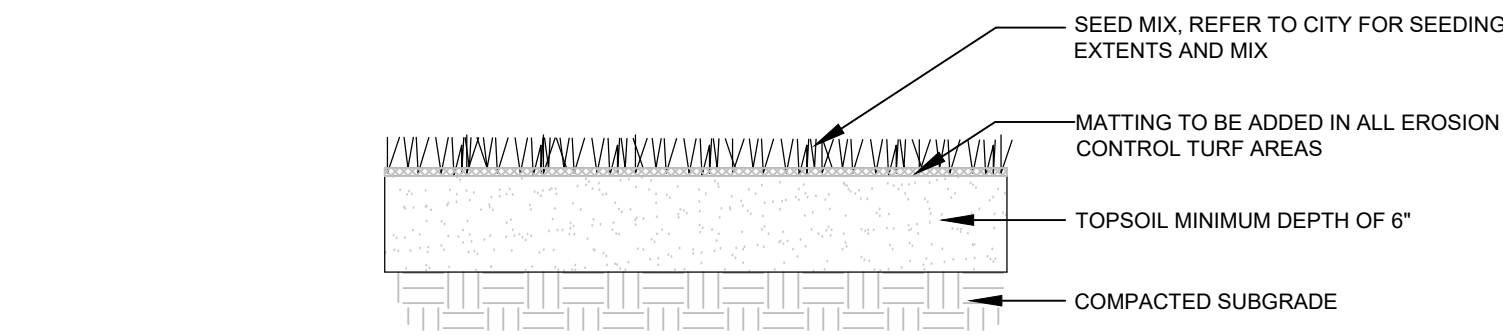


NOTES:

1. SHRUB TO BE SET PLUMB.
2. SECURE SHRUB AS MAY BE REQUIRED ACCORDING TO SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

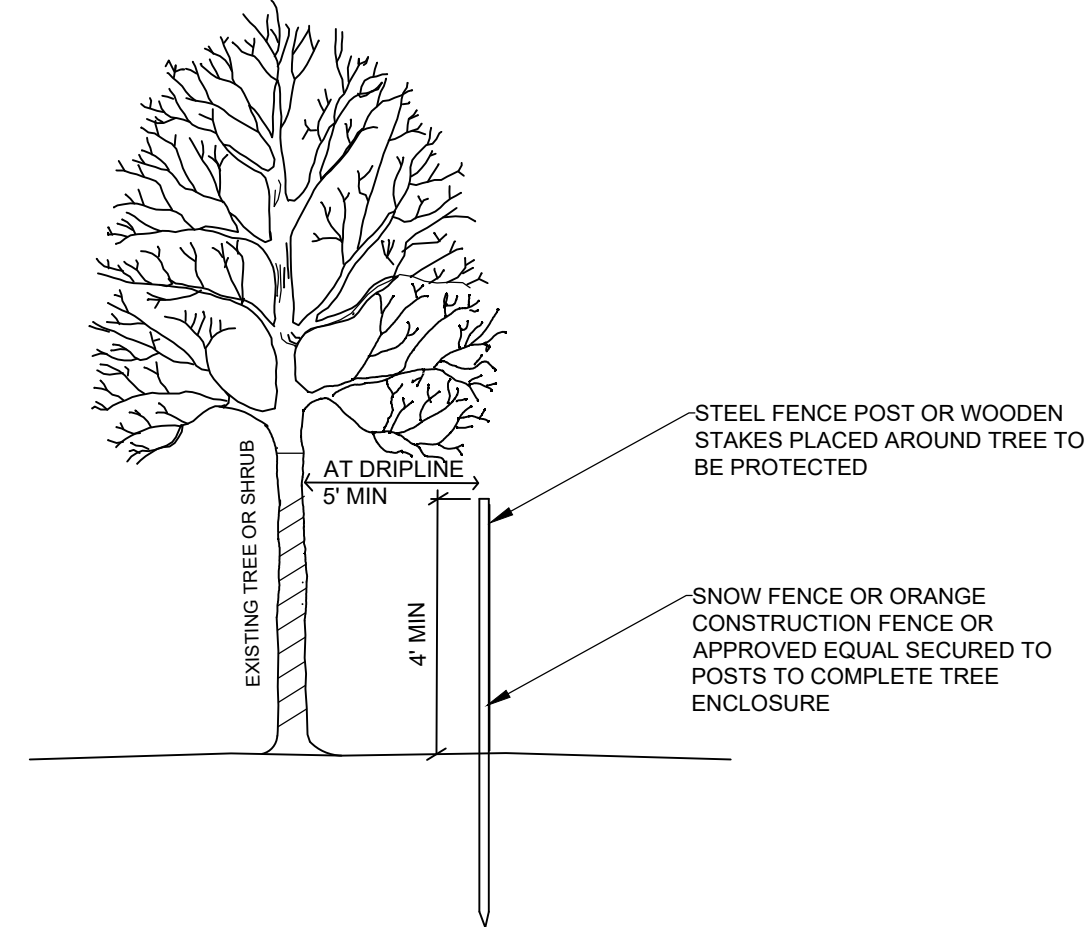
07 SHRUB PLANTING ON SLOPE

SCALE: N.T.S.



08 LAWN SEED MIX

SCALE: N.T.S.



09 TREE PROTECTION

SCALE: N.T.S.

Prepared For:

REVELER, LLC
188 STATE STREET, 3RD FLOOR
PORTLAND, ME 04101

Prepared By:

Dry landscape architecture, LLC
31 miller ave.
biddeford, me 04005

Date:

APRIL 17, 2023

Issued For:

PERMITTING DOCUMENTS

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Title: DETAILS

158
Lancaster Street
&
50 Cedar Street
PHASE 2 & 3
Portland ME 04103

Revisions:



North:

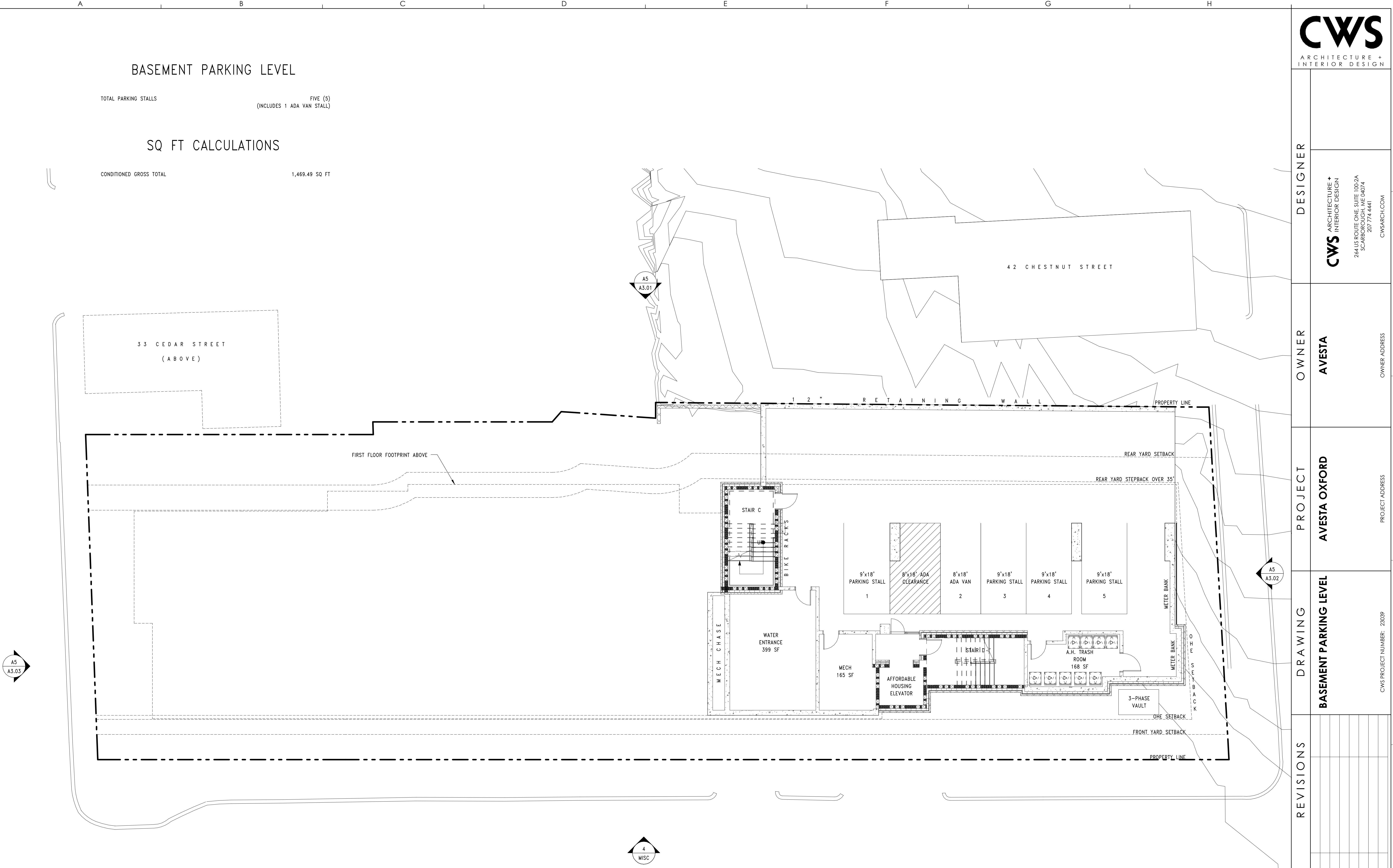
Sheet No.:

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Scale:

AS NOTED

NOTE: This drawing is PRELIMINARY REVIEW
ONLY. It is NOT intended for use as a
construction document.



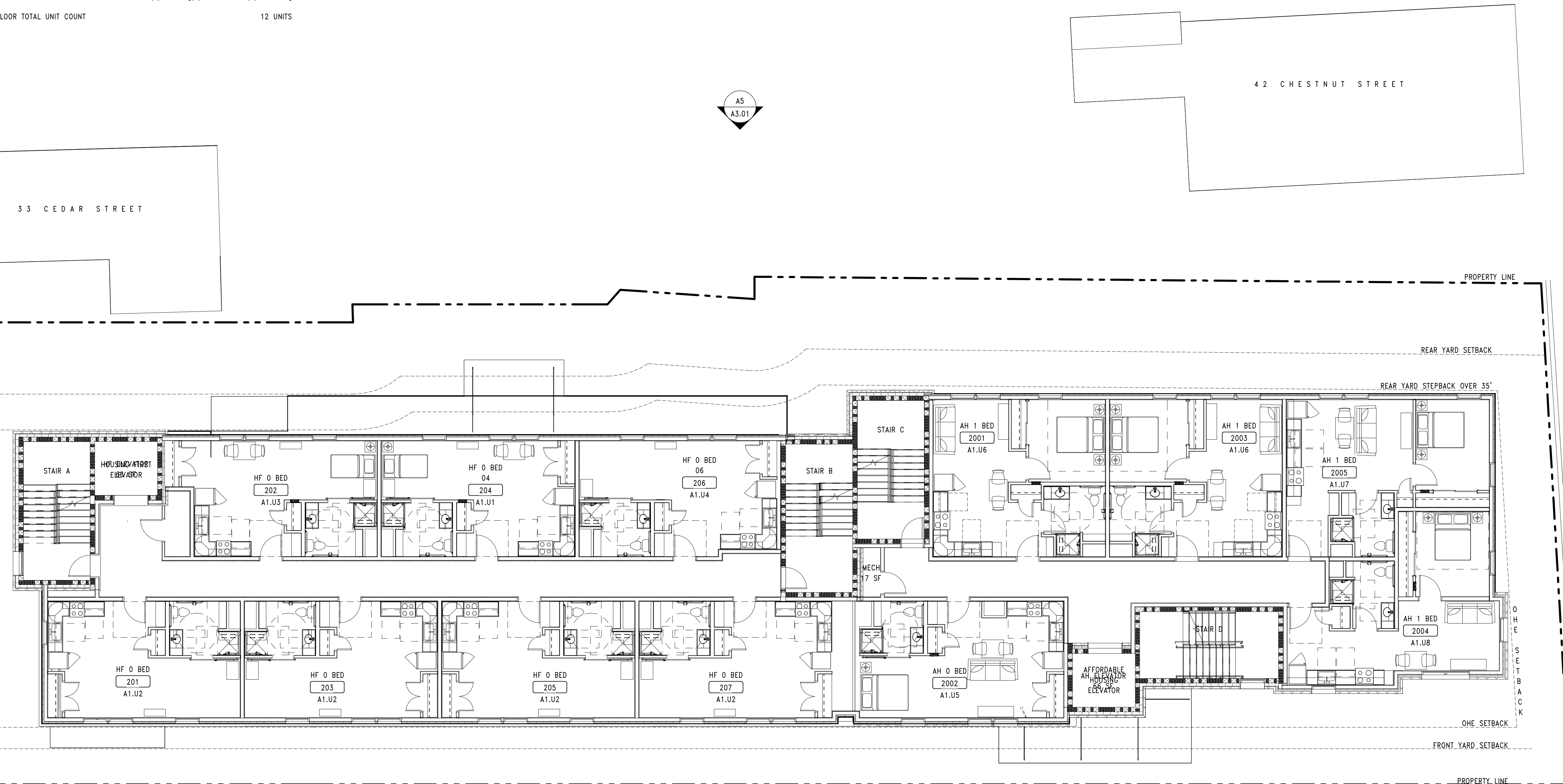
DESIGNER		OWNER		PROJECT		DRAWING		REVISIONS		DRAWING NUMBER	
CWS ARCHITECTURE + INTERIOR DESIGN 264 US ROUTE ONE, SUITE 100-2A SCARBOROUGH, ME 04074 207.774.4441 CWSARCH.COM		AVESTA OWNER ADDRESS		AVESTA OXFORD PROJECT ADDRESS		BASEMENT PARKING LEVEL CWS PROJECT NUMBER: 23039				A1.00	
										SCALE: 1/8" = 1'-0"	
										DATE: APRIL, 8 2024	
										MUNICIPAL SUBMISSION	

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MUNICIPAL SUBMISSION

SECOND FLOOR GROSS TOTAL	8,623.05 SQ FT
HOUSING FIRST GROSS TOTAL	4,691.49 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	3,931.56 SQ FT

HOUSING FIRST	SEVEN (7) 0-BDRM UNITS
AFFORDABLE HOUSING	FIVE (5) UNITS [(4) 1-BDRM & (1) 0-BDRM]
SECOND FLOOR TOTAL UNIT COUNT	12 UNITS



1	SECOND FLOOR	
	REFERENCED FROM: A3.01	SCALE: 1/8" = 1'-0"

CWS ARCHITECTURE +
INTERIOR DESIGN

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SCARBOROUGH, ME 04074
207 774 4441

CWSARCH.COM

AVESTA

PROJECT

DRAWING

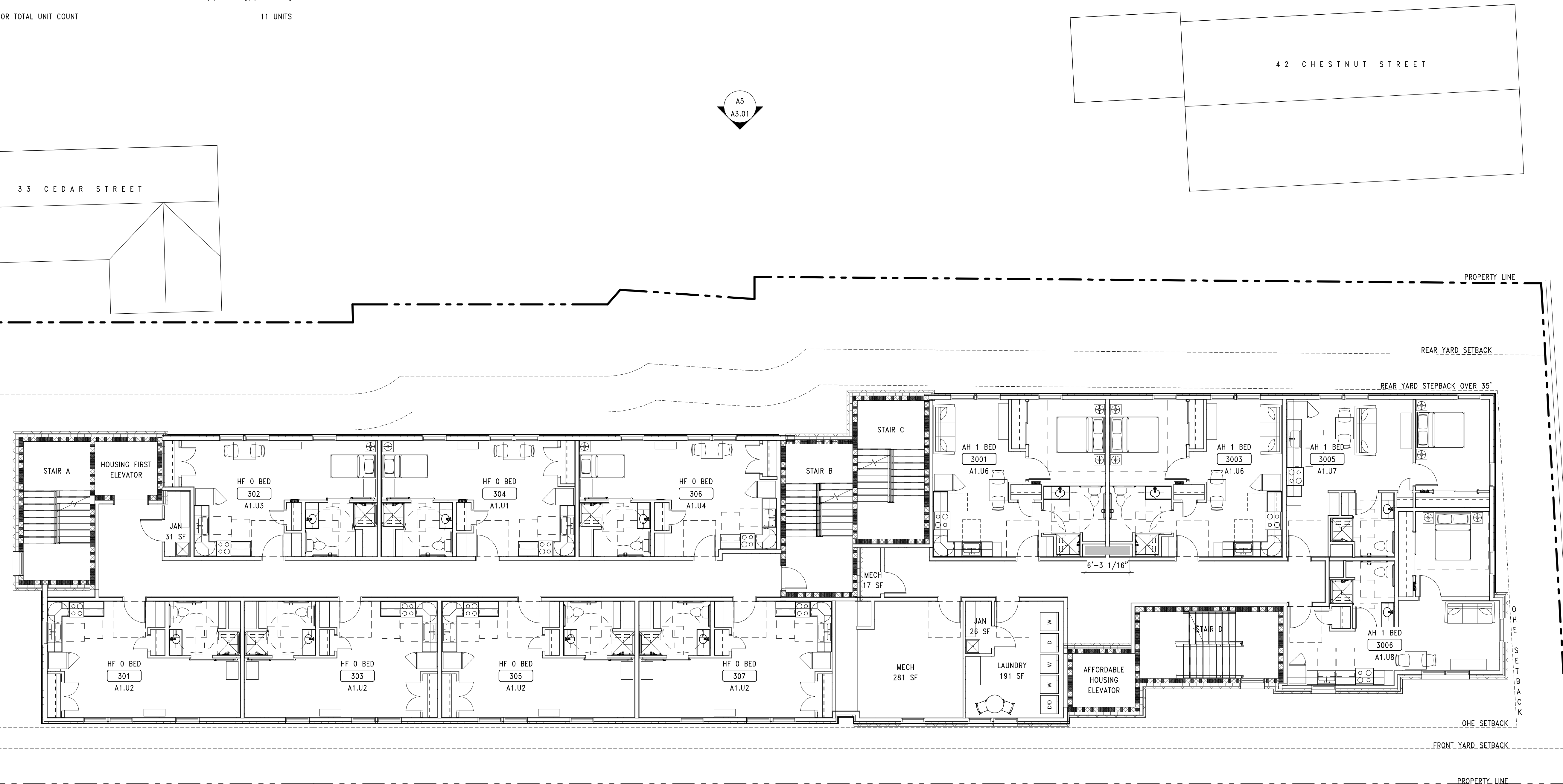
REVISIONS

DRAWING NUMBER
A1.20

SCALE:	1/8" = 1'-0"
DATE:	APRIL, 8 2024

THIRD FLOOR GROSS TOTAL	8,623.05 SQ FT
HOUSING FIRST GROSS TOTAL	4,691.49 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	3,931.56 SQ FT

HOUSING FIRST	SEVEN (7) 0-BDRM UNITS
AFFORDABLE HOUSING	FOUR (4) UNITS [(4) 1-BDRM]
THIRD FLOOR TOTAL UNIT COUNT	11 UNITS



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CWS
ARCHITECTURE
INTERIOR DESIGN

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207 774 4441

CWSARCH.COM

OWNER

AVESIA

PROJECT

AVESIA OXFORD

DRAWING

THIRD FLOOR PLAN

REVISIONS

DRAWING NUMBER

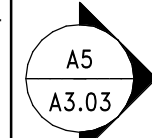
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SCALE: $1/8" = 1'-0"$

DATE: APRIL, 8 2024 4/9/2024

FOURTH FLOOR GROSS TOTAL	8,623.05 SQ FT
HOUSING FIRST GROSS TOTAL	4,691.49 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	3,931.56 SQ FT

HOUSING FIRST	SEVEN (7) 0-BDRM UNITS
AFFORDABLE HOUSING	FIVE (5) UNITS [(4) 1-BDRM & (1) 0-BDRM]
SECOND FLOOR TOTAL UNIT COUNT	12 UNITS



A5	FOURTH FLOOR	
	REFERENCED FROM: A3.01	SCALE: 1/8" = 1'-0"

C:\Users\Bhen Reed\Documents\23039_Avesta Oxford SI_R23_CENTRAL_breedRCBPW.rvt

4
MISC

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INTERIOR DESIGN

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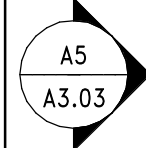
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SCALE:	1/8" = 1'-0"
DATE:	APRIL, 8 2024

MUNICIPAL SUBMISSION

FIFTH FLOOR GROSS TOTAL	7,418.29 SQ FT
HOUSING FIRST GROSS TOTAL	4,691.49 SQ FT
AFFORDABLE HOUSING GROSS TOTAL	2,726.80 SQ FT

HOUSING FIRST	SEVEN (7) 0-BDRM UNITS
AFFORDABLE HOUSING	THREE (3) UNITS [(2) 1-BDRM & (1) 0-BDRM]
FIFTH FLOOR TOTAL UNIT COUNT	10 UNITS



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PROJECT
AVESTA OXFORD

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FIFTH FLOOR PLAN

CWS PROJECT NUMBER: 23039

REVISIONS

RAWING NUMBER

A1.50

SCALE: $1/8" = 1'-0"$

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PROJECT

AVESTA OXFORD

DRAWING

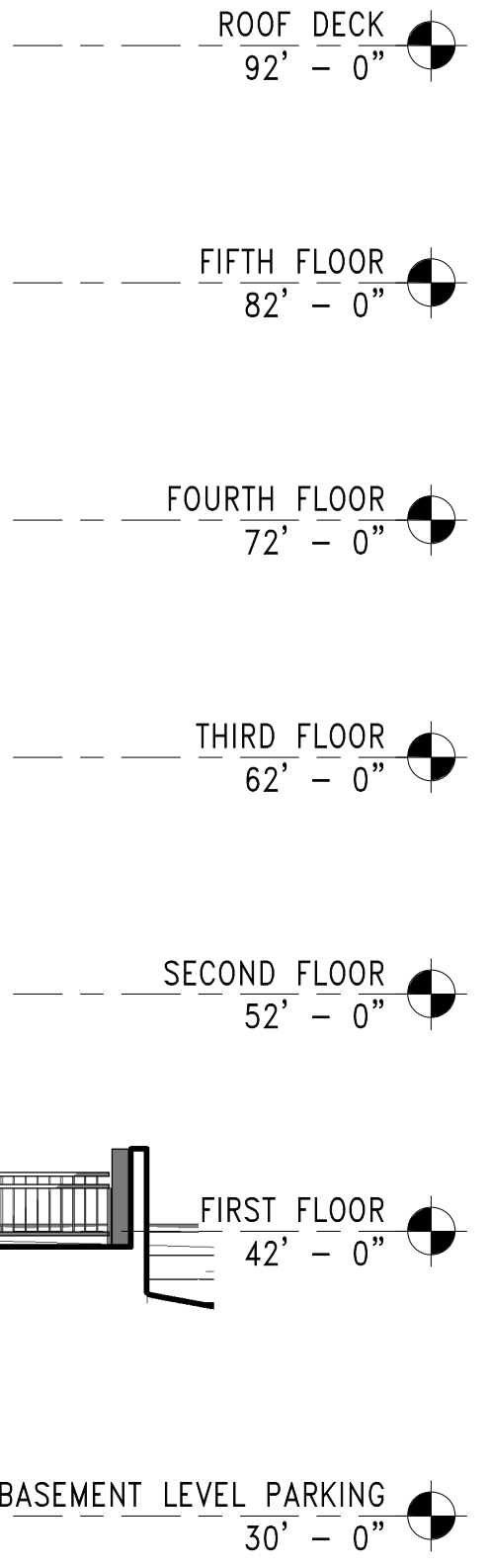
NORTH ELEVATION

REVISIONS

DRAWING NUMBER

A3.01

SCALE:	1/8" = 1'-0"
DATE:	APRIL, 8 2024

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A5	NORTH ELEVATION	
	REFERENCED FROM: A1.00	SCALE: 1/8" = 1'-0"

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CWS

ARCHITECTURE +
INTERIOR DESIGN

DESIGNER

CWS

ARCHITECTURE +
INTERIOR DESIGN

OWNER

CWS

ARCHITECTURE +
INTERIOR DESIGN

PROJECT

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DRAWING NUMBER

A3.02

SCALE:

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CWSARCH.COM

OWNER ADDRESS

PROJECT ADDRESS

CWS PROJECT NUMBER: 23039

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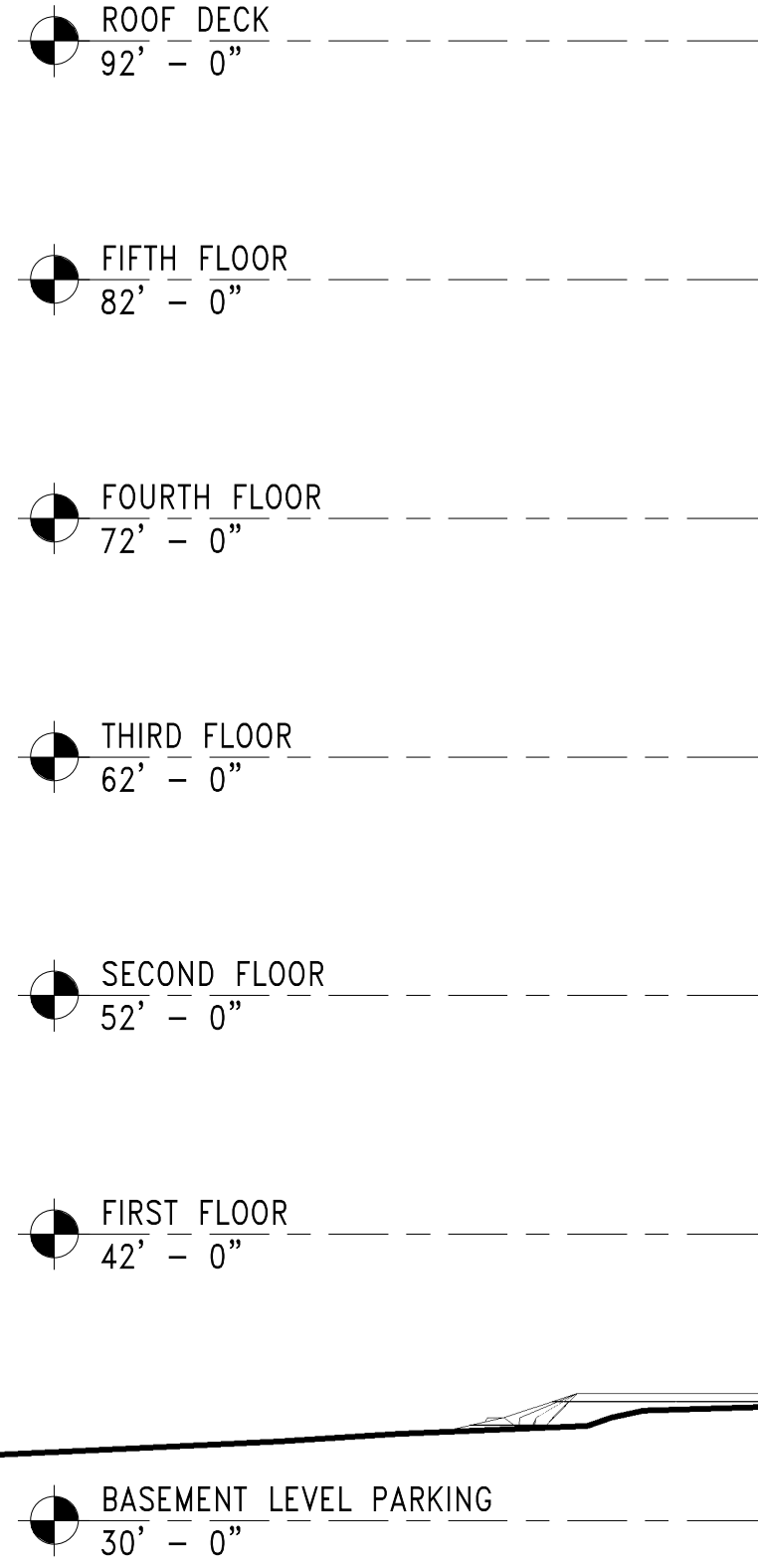
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Page 597

MUNICIPAL SUBMISSION





AVESTA

PROJECT

AVESTA OXFORD

DRAWING

SOUTH ELEVATION

[illegible]

DRAWING NUMBER
A3.04

SCALE:	1" = 10'-0"
DATE:	APRIL, 8 2024

MUNICIPAL SUBMISSION

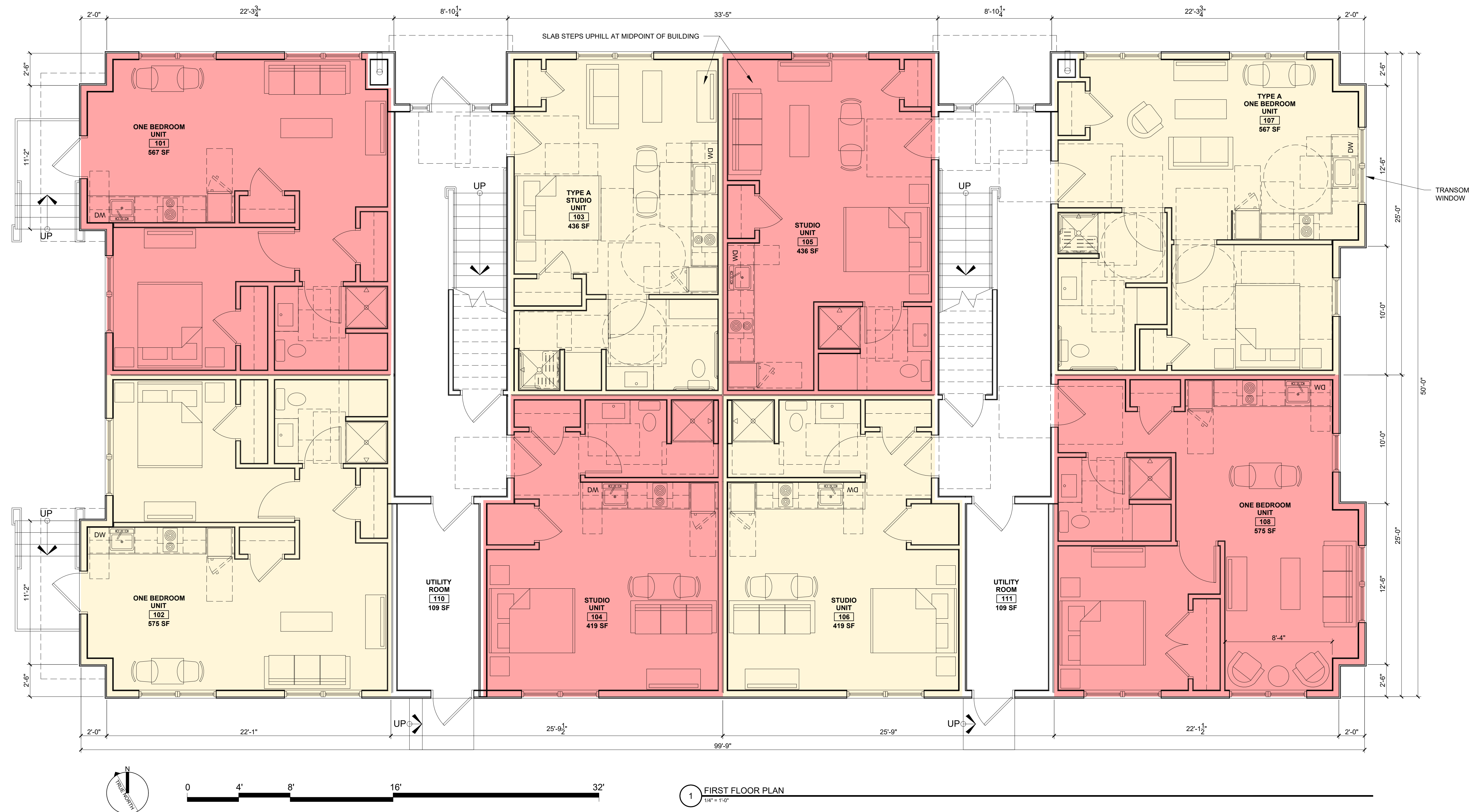


A5	SOUTH ELEVATION	
	REFERENCED FROM: A1.00	SCALE: 1" = 10'-0"

LANCASTER STREET

CEDAR STREET

4,796 SF FLOOR PLATE



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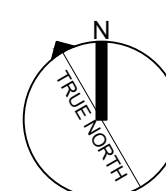
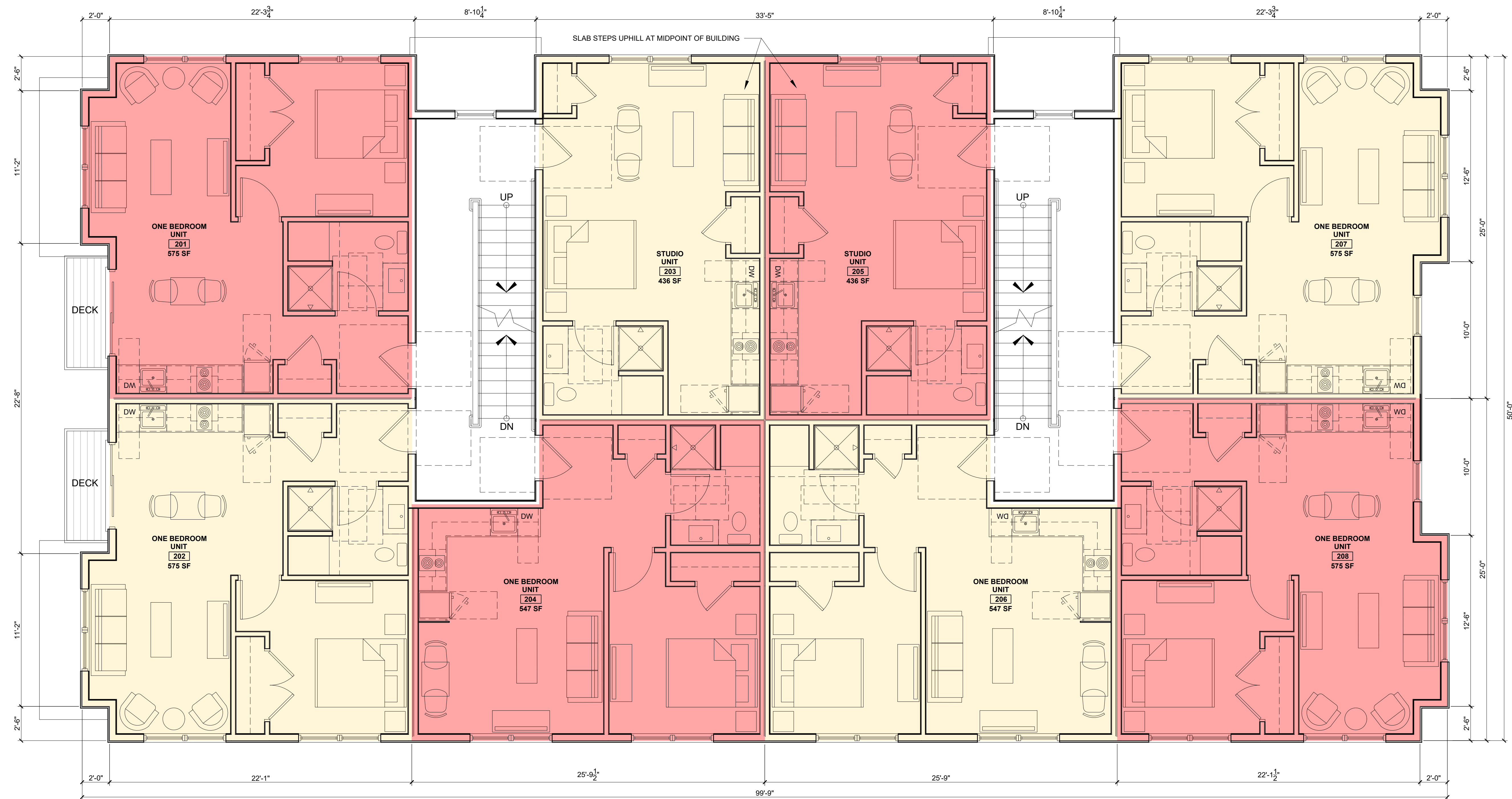
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FIRST FLOOR
PLAN

A1-1

LANCASTER STREET

CEDAR STREET

4,796 SF FLOOR PLATE



1 SECOND FLOOR PLAN
1/4" = 1'-0"

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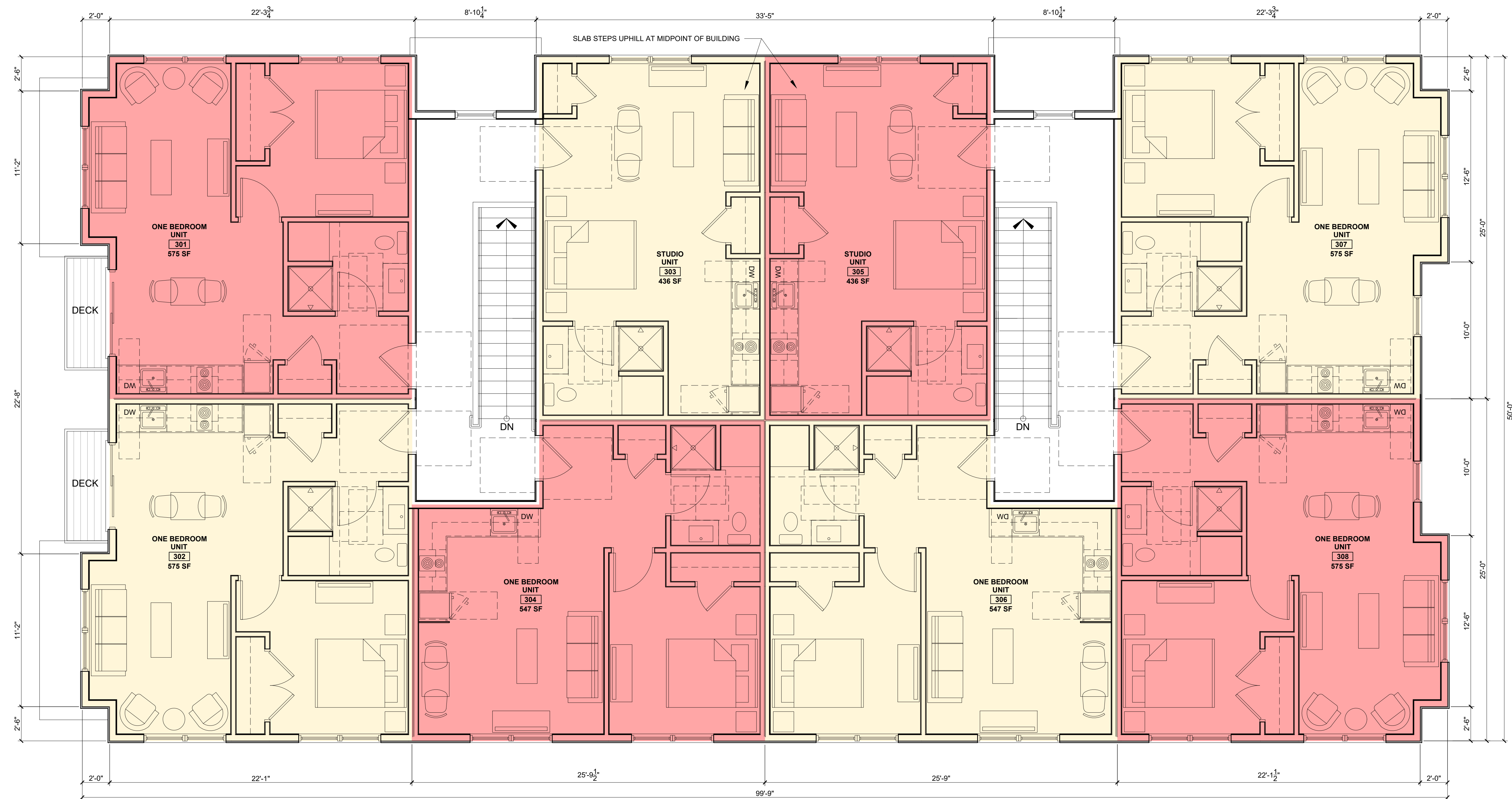
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CHECKED BY: RJS
SCALE: AS NOTED
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SECOND FLOOR PLAN

A1-2

LANCASTER STREET

CEDAR STREET

4,796 SF FLOOR PLATE



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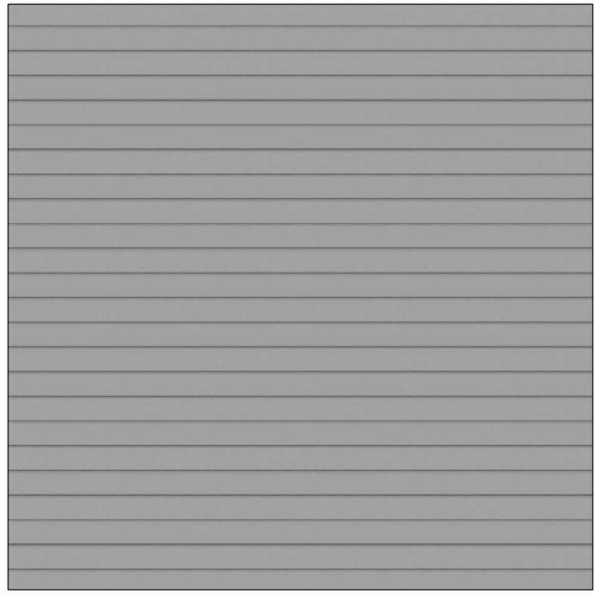
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THIRD FLOOR
PLAN

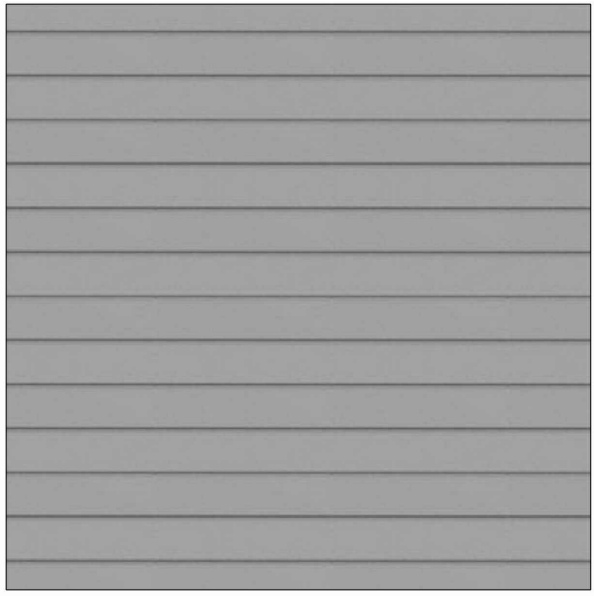
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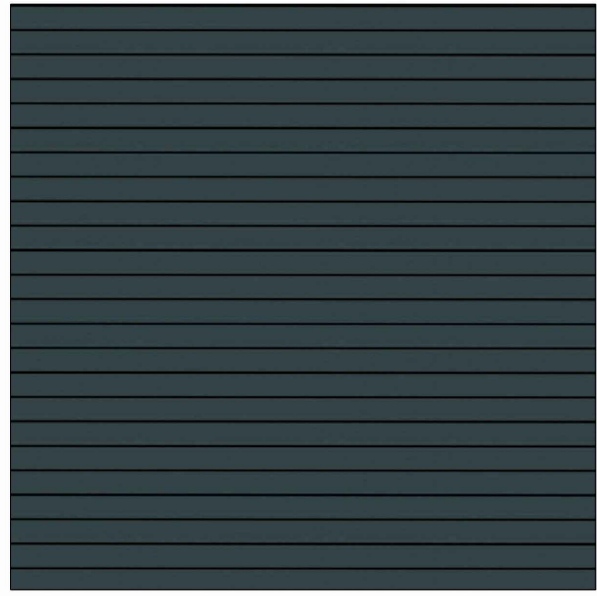
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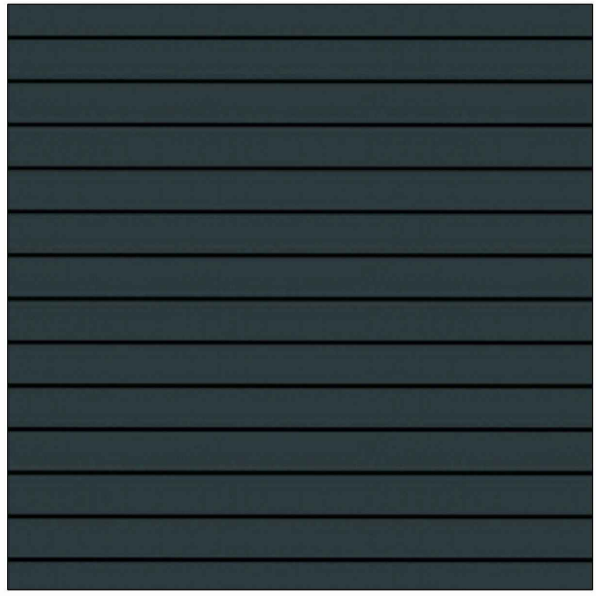
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5" LAP SIDING



COLOR #2 (GRAY)
9" ARTISAN SQUARE



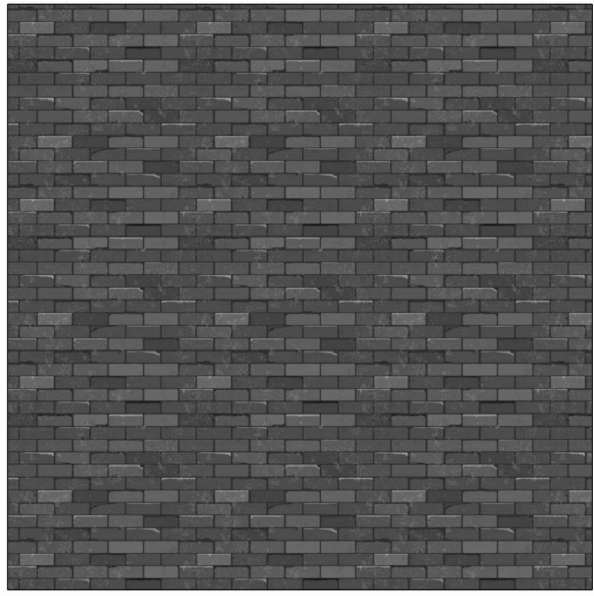
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5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
BRICK



1 WEST ELEVATION
1/4" = 1'-0"

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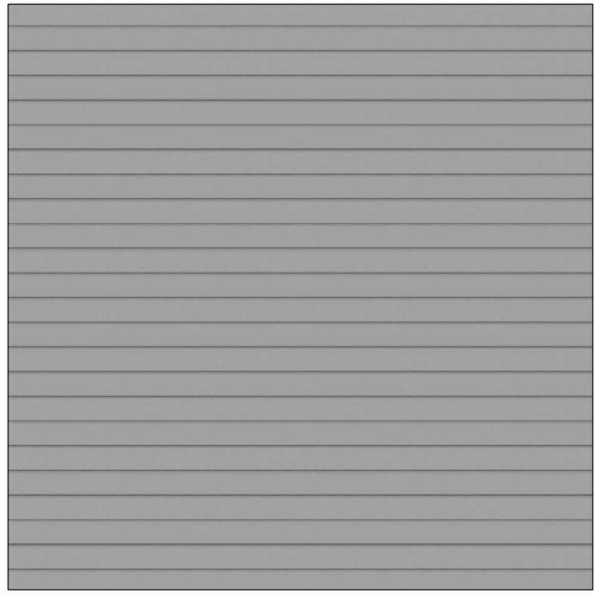
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SHEET TITLE:
WEST
ELEVATION

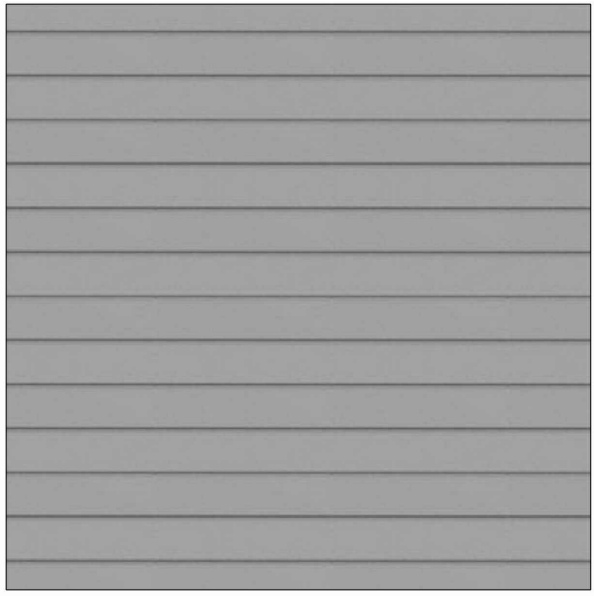
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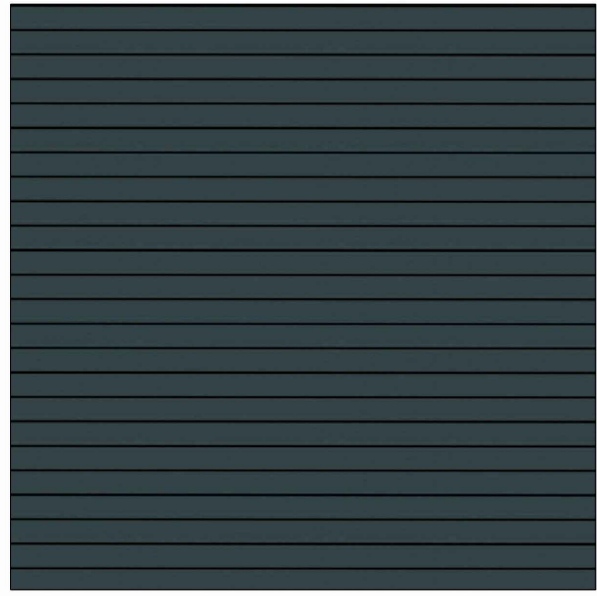
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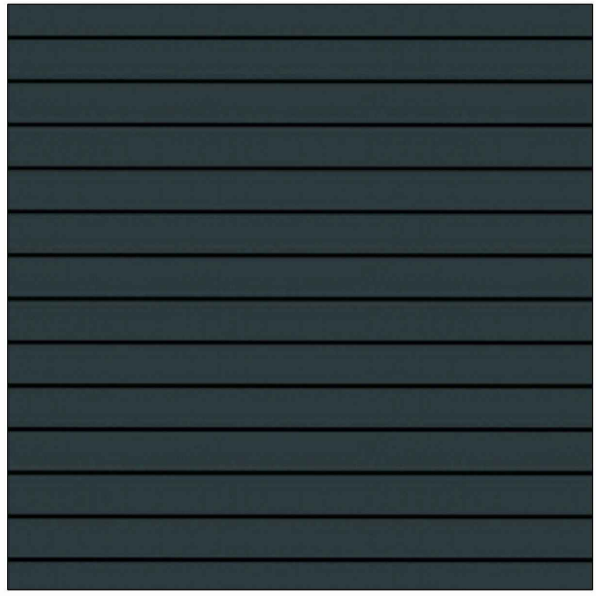
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COLOR #2 (GRAY)
9" ARTISAN SQUARE



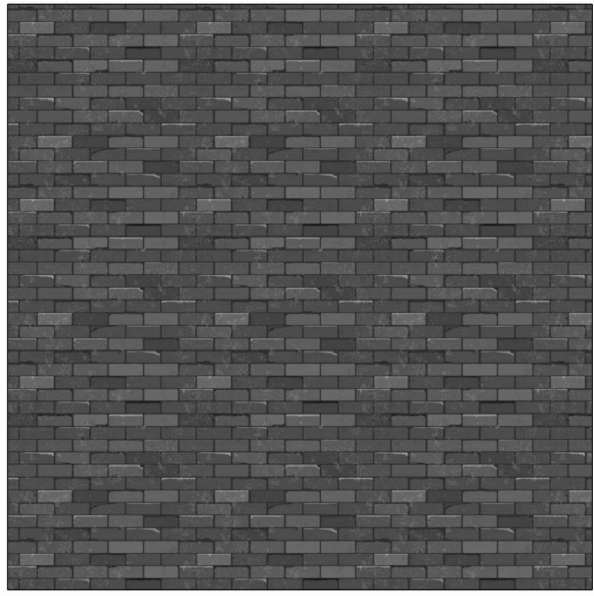
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5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
BRICK



1 NORTH ELEVATION
1/4" = 1'-0"

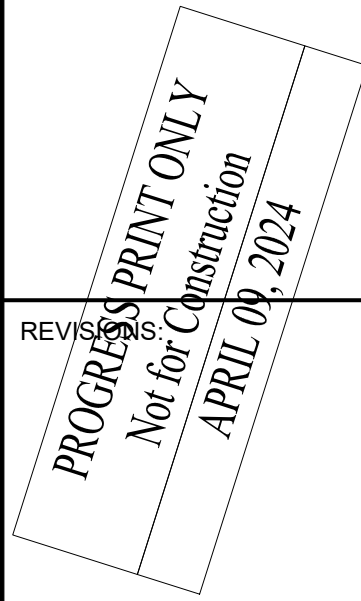
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SCALE: AS NOTED

SHEET TITLE:

NORTH
ELEVATION

A2-1



COLOR #1 (WHITE)
5" LAP SIDING



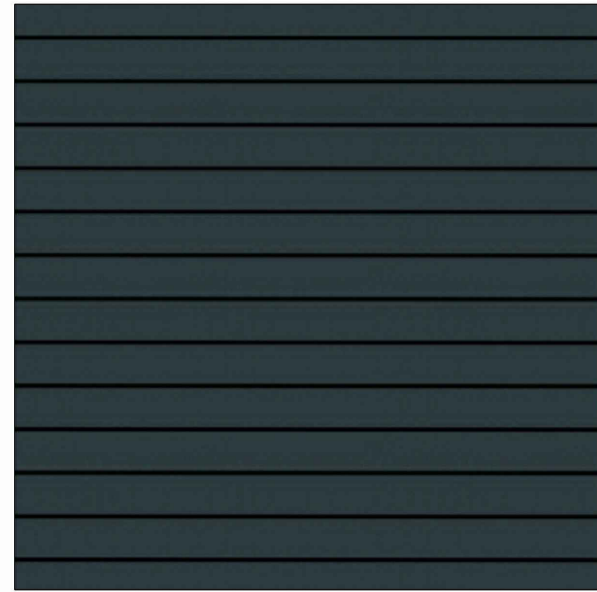
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COLOR #2 (GRAY)
9" ARTISAN SQUARE



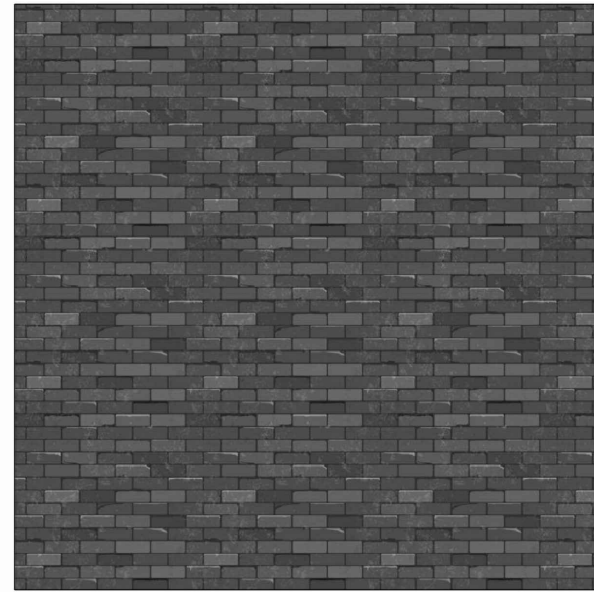
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COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



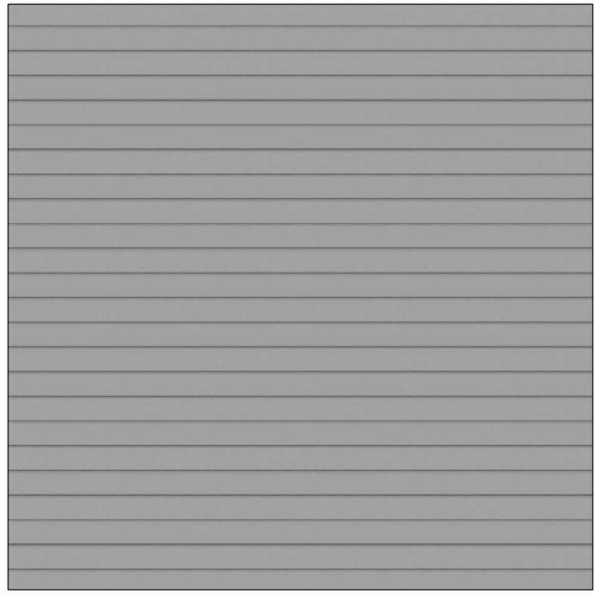
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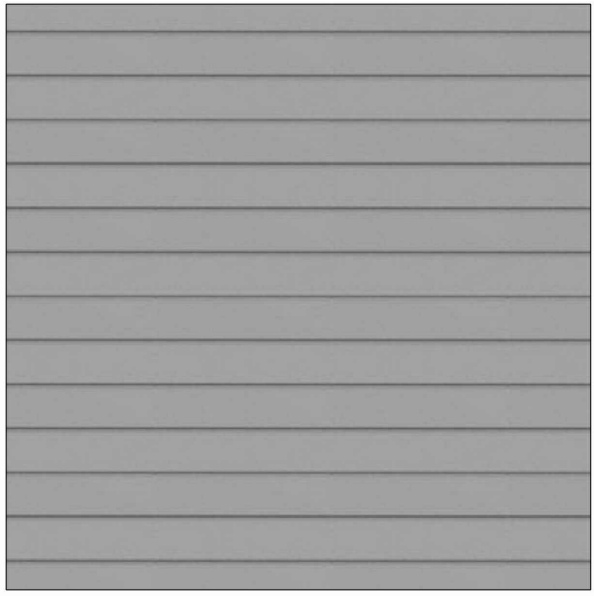
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1/4" = 1'-0"



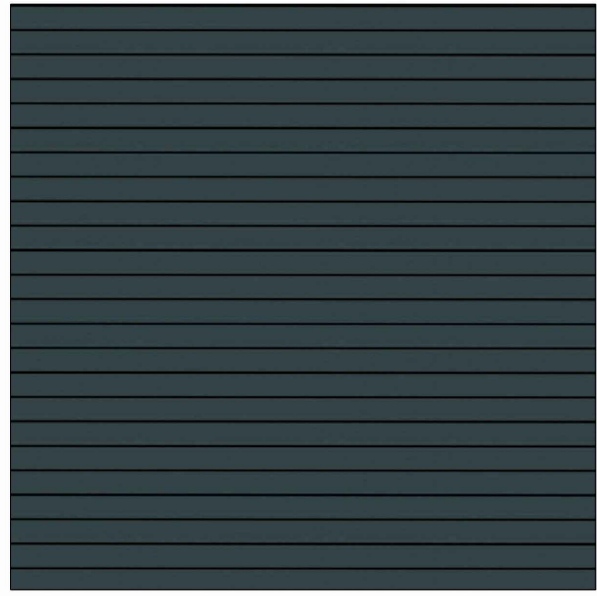
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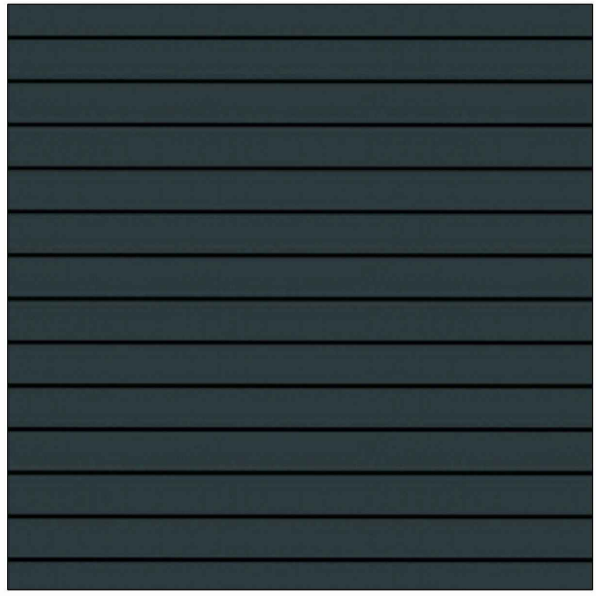
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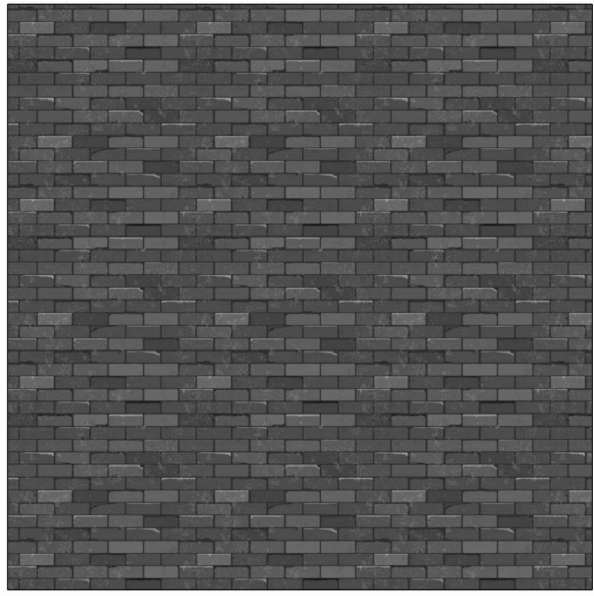
COLOR #3 (EVENING BLUE)
5" LAP SIDING



COLOR #3 (EVENING BLUE)
9" ARTISAN SQUARE



COLOR #4 (BLACK)
DOORS AND WINDOWS



COLOR #5 (DARK GRAY)
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1 SOUTH ELEVATION
1/4" = 1'-0"

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SCALE: AS NOTED
SHEET TITLE:
SOUTH
ELEVATION

A2-3



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SHEET TITLE:
PERSPECTIVE 1

P1



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SHEET TITLE:	PERSPECTIVE 2

P2



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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 3

P3



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SCALE:	AS NOTED
SHEET TITLE:	PERSPECTIVE 4

P4



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SHEET TITLE:
PERSPECTIVE 5

P5



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SHEET TITLE:
PERSPECTIVE 6

P6



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DRAWN BY: RRT

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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 7

P7



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MULTI-FAMILY BUILDING
50 CEDAR STREET
PORTLAND, MAINE

RSA

RYAN SENATORE
ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
O: 207-747-5159
C: 207-650-6414
senatorearchitecture.com

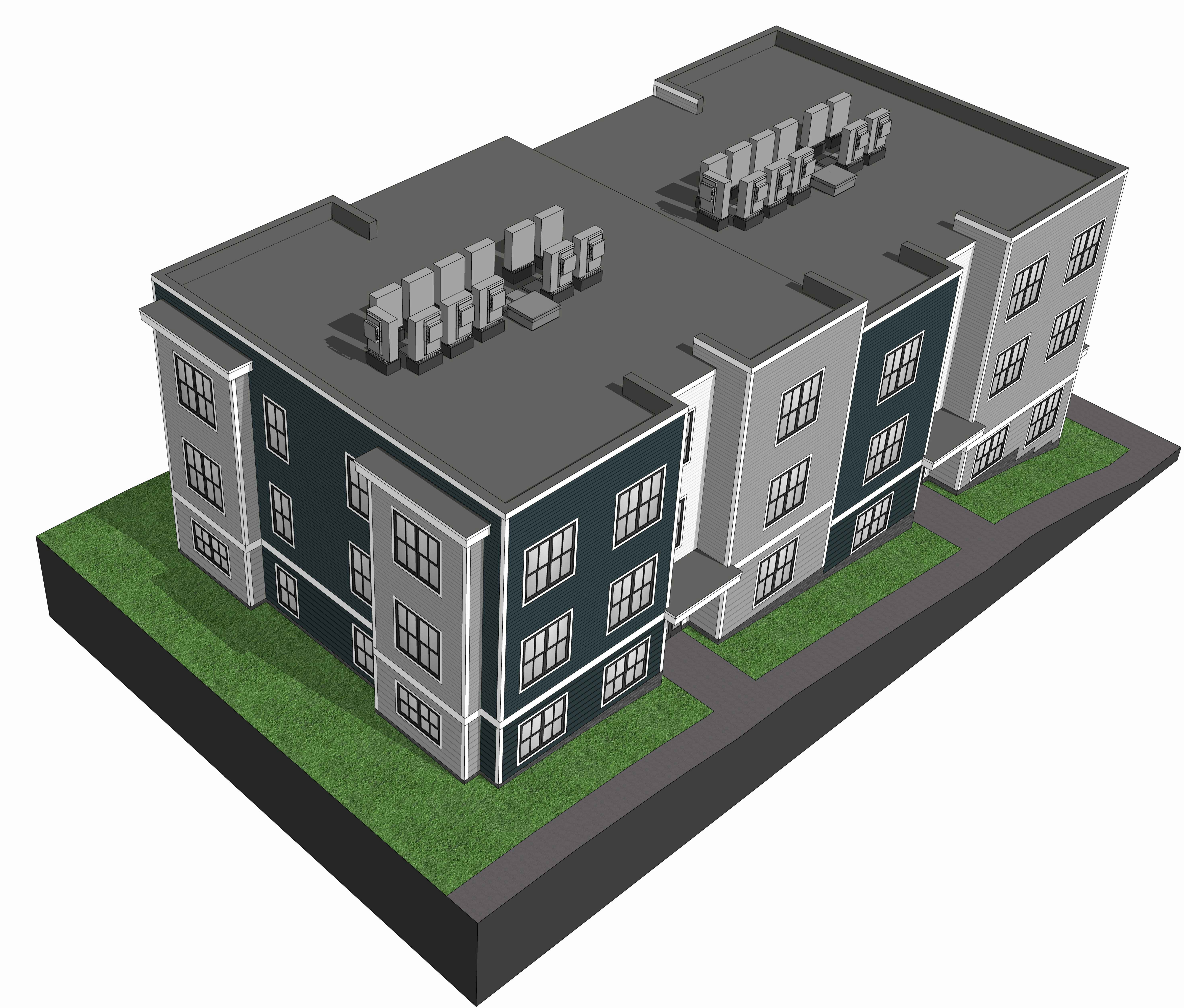
CONSULTANTS:

REVISIONS

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APRIL 09, 2024

DATE:	
PROJECT No.	2312
DRAWN BY:	RRT
CHECKED BY:	RJS
SCALE:	AS NOTED
SHEET TITLE:	PERSPECTIVE 8

P8



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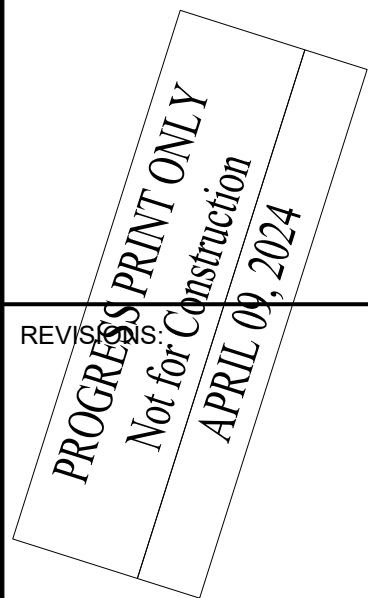
MULTI-FAMILY BUILDING

50 CEDAR STREET
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PROJECT No. 2312

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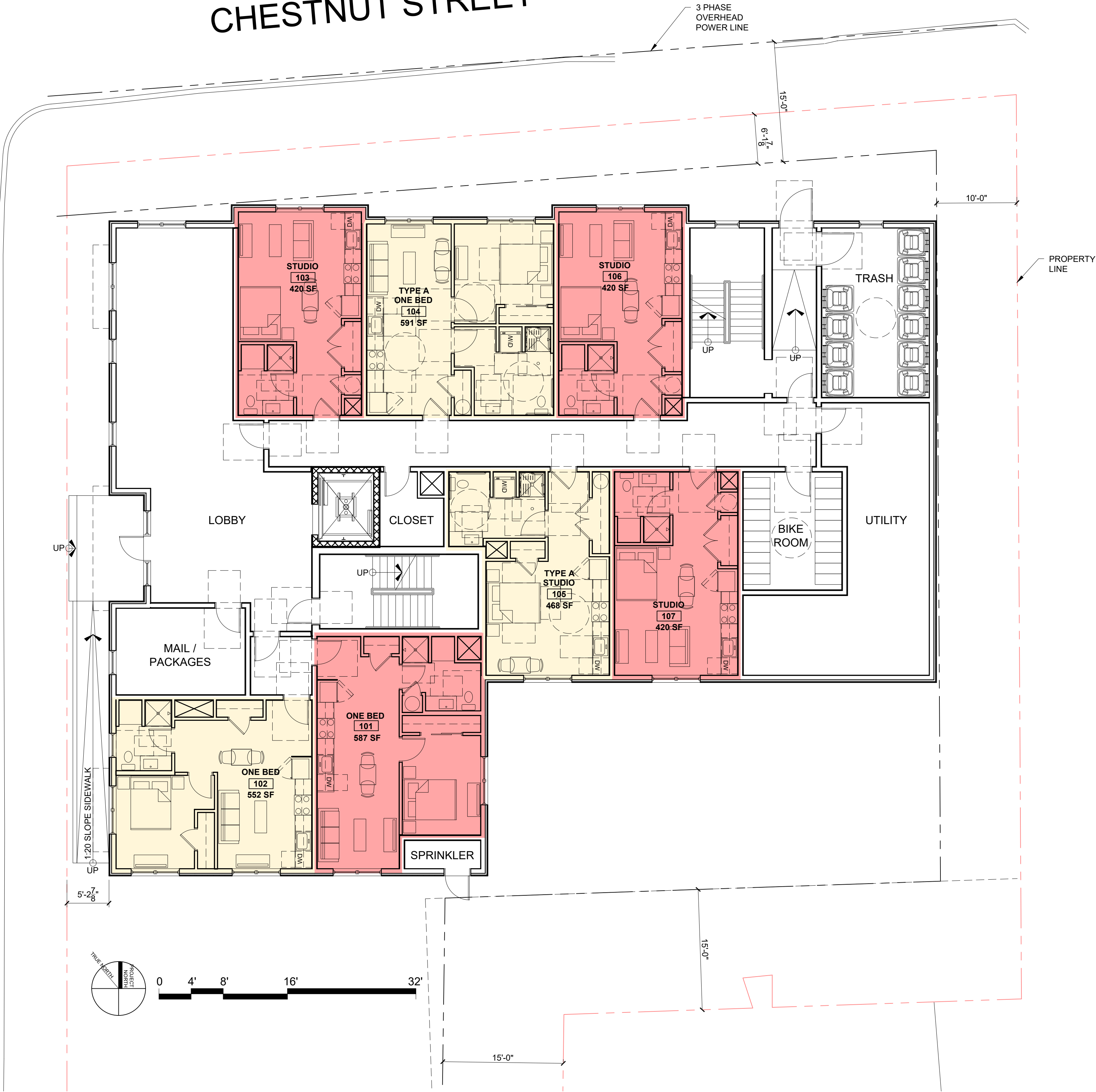
SHEET TITLE:
PERSPECTIVE 9

P9

6,960 SF FLOOR PLATE
4 STUDIO APARTMENTS
3 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FIRST FLOOR PLAN
1/8" = 1'-0"

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APARTMENTS
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DATE:
PROJECT No. 2418
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SCALE: AS NOTED

SHEET TITLE:
FIRST FLOOR
PLAN

A1-1

7,072 SF FLOOR PLATE
5 STUDIO APARTMENTS
6 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 SECOND FLOOR PLAN
1/8" = 1'-0"

7,072 SF FLOOR PLATE
5 STUDIO APARTMENTS
6 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET

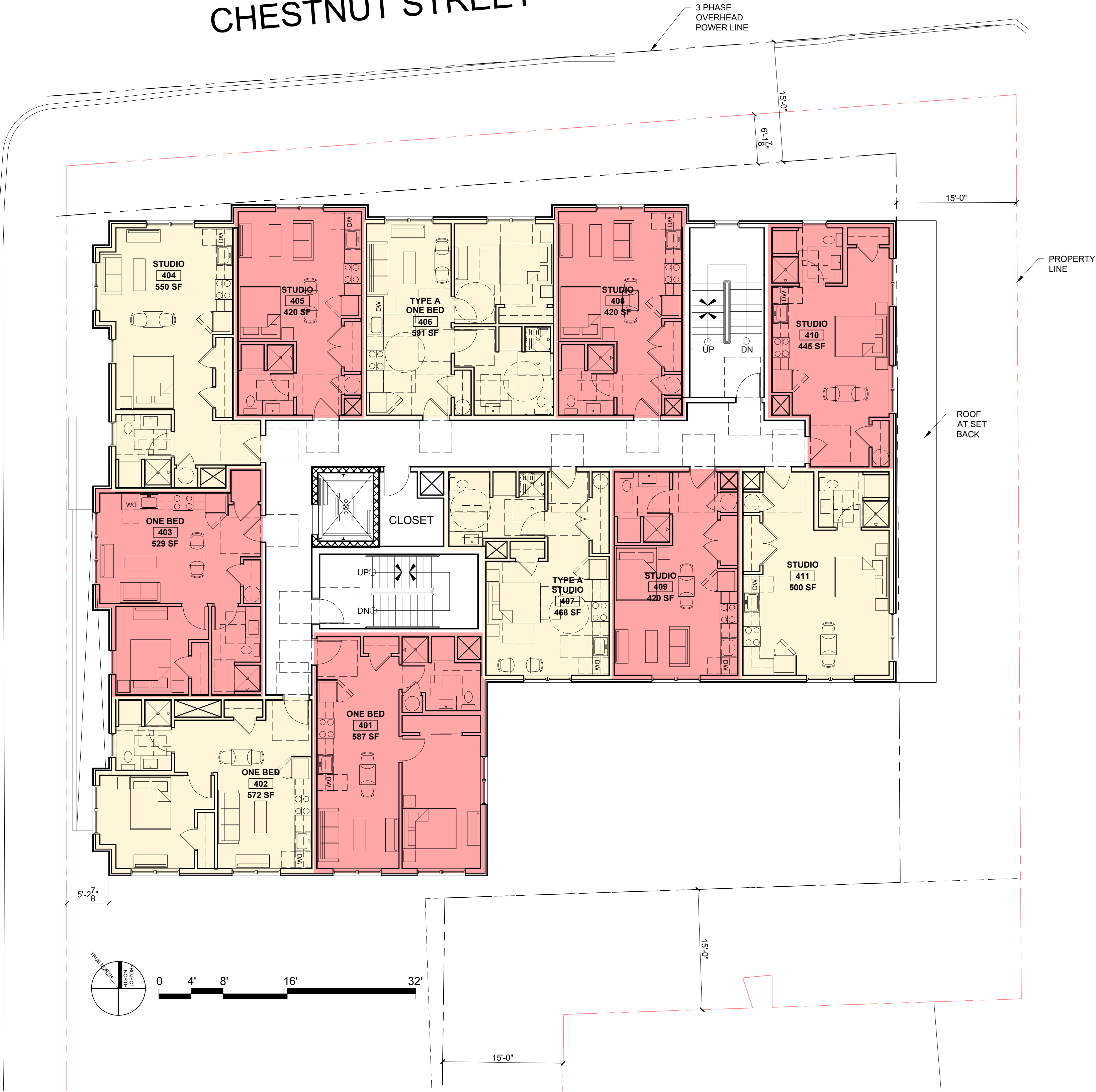


1 THIRD FLOOR PLAN
1/8" = 1'-0"

6,788 SF FLOOR PLATE
7 STUDIO APARTMENTS
4 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FOURTH FLOOR PLAN
1/8" = 1'-0"

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PROJECT No. 2418

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SCALE: AS NOTED

SHEET TITLE:
FOURTH FLOOR
PLAN

A1-4

6,788 SF FLOOR PLATE
7 STUDIO APARTMENTS
4 ONE BEDROOM APARTMENTS

LANCASTER STREET

CHESTNUT STREET



1 FIFTH FLOOR PLAN
1/8" = 1'-0"



1 WEST ELEVATION
1/4" = 1'-0"



COLOR #1 (WHITE)
5" LAP SIDING



COLOR #2 (LIGHT GRAY)
5" LAP SIDING



COLOR #3 (DARK GRAY)
9" ARTISAN SQUIRE



COLOR #4 (BLACK)
DOORS / WINDOWS



COLOR #5 (ACCENT)
FIBER CEMENT PANEL



1 NORTH ELEVATION
1/4" = 1'-0"

APARTMENTS
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PORTLAND, MAINE

RSA
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DATE:

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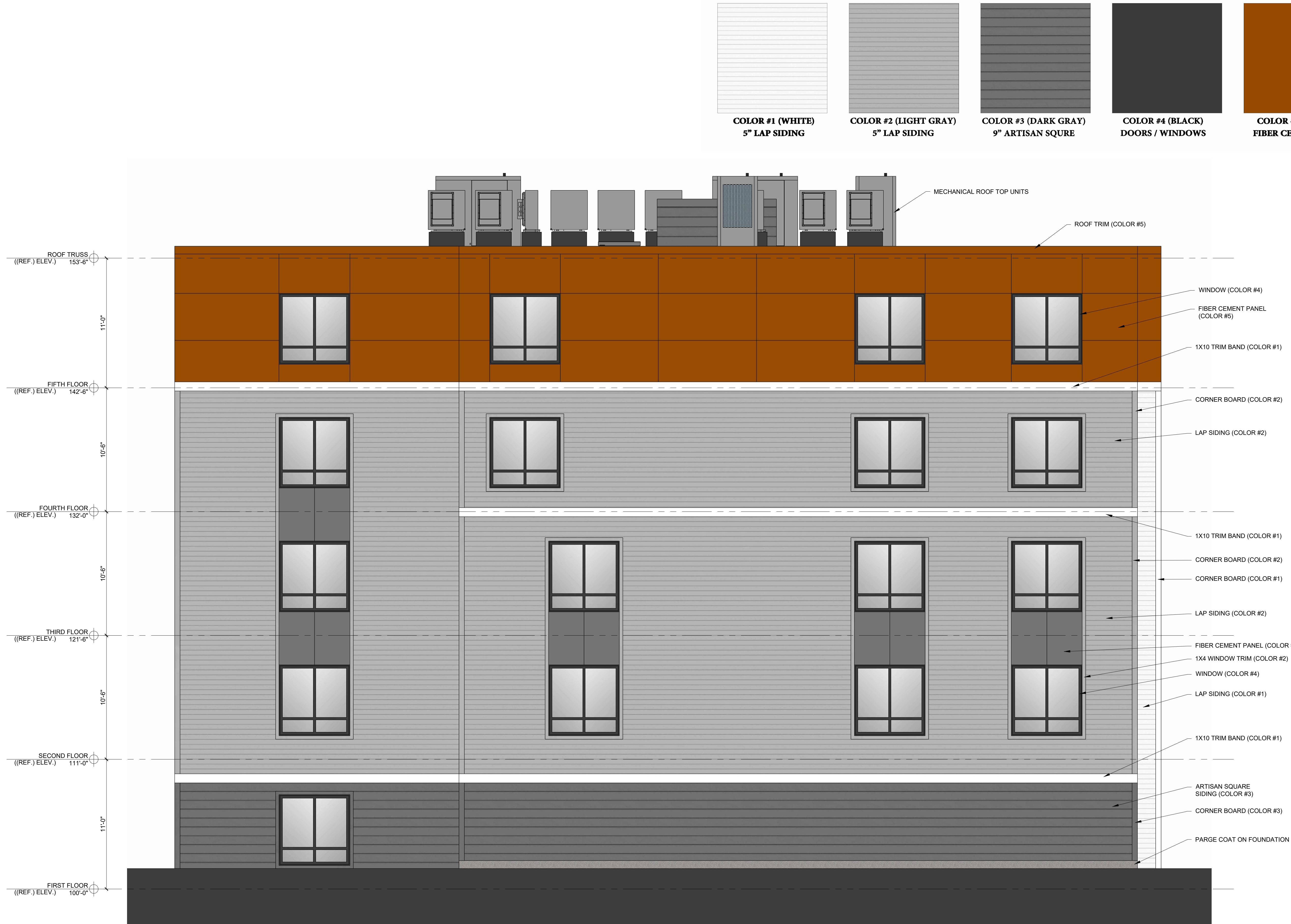
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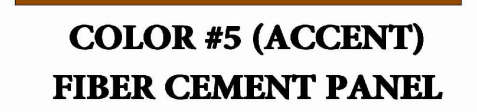
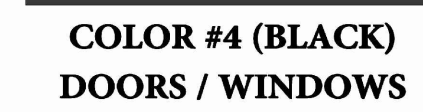
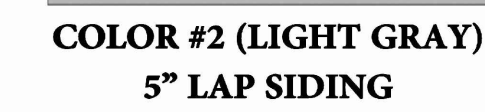
SCALE: AS NOTED

SHEET TITLE:
NORTH
ELEVATION

A2-1



1 EAST ELEVATION
1/4" = 1'-0"



APARTMENTS
158 LANCASTER STREET
PORTLAND, MAINE



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APRIL 09, 2024

SHEET TITLE:
SOUTH
ELEVATION

A2-3



1 SOUTH ELEVATION
1/4" = 1'-0"



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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 1

P1



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SHEET TITLE:
PERSPECTIVE 2

P2



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SHEET TITLE:	PERSPECTIVE 3

P3



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P4



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PROJECT No. 2418
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SCALE: AS NOTED
SHEET TITLE:
PERSPECTIVE 5

P5



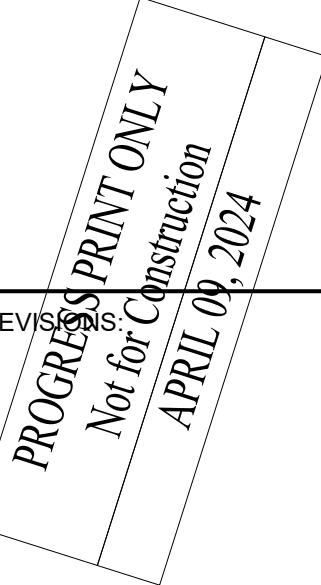
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CONSULTANTS:



DATE:

PROJECT No. 2418

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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 6

P6



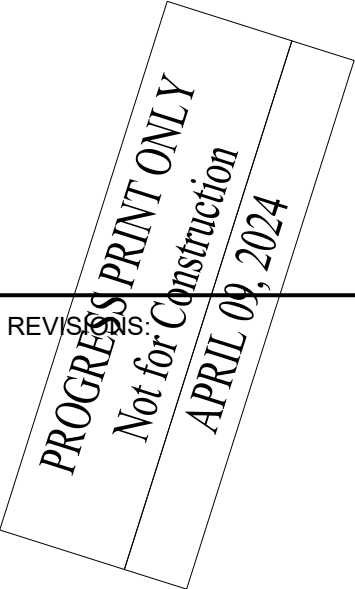
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CONSULTANTS:



DATE:

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SCALE: AS NOTED

SHEET TITLE:
PERSPECTIVE 7

P7



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DATE:	
PROJECT No.	2418
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SCALE:	AS NOTED
SHEET TITLE:	PERSPECTIVE 8

P8

To: Chair Mazer & Members of the Planning Board
From: Maya Balassa
Date: June 21, 2024
Re: 156 High Street
Project ID: PL-002905-2024
CBL: 046 DO17001
Meeting Date: June 25, 2024

I. INTRODUCTION

Avesta Housing and Williston-Immanuel United Church (WIUC) have submitted a Major Site Plan application to facilitate the development of 33 affordable housing units at 156 High Street in the B-3 Downtown Business zone. The project proposes to renovate a section of WIUC into 21 units and construct an addition over the parking lot with 12 units. The site is 23,007 square feet. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.1.

The Planning and Urban Development Department mailed 104 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the June 15 and 18, 2024 editions of the *Portland Press Herald*.

Applicant: Williston-Immanuel United Church & Avesta Housing
Applicant Acorn Engineering, Inc.
Representatives:

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14.6

<i>Waiver Requests</i>	<i>Applicable Standards</i>
The applicant is requesting to 2 spaces (40%) of the 5 parking spaces be compact.	Technical Manual, Section 1.10.2.1 allows up to 20% of parking spaces to be compact. <i>Staff are supportive</i>
The applicant is requesting to allow two of the compact spaces be 9 feet by 14.07 feet. An approximately one-foot reduction from the Technical Manual requirement.	Technical Manual, Section 1.10.2 specifies the dimensions of compact spaces to be 8 feet by 15 feet. <i>Staff are supportive</i>
The applicant is requesting to have a 22-foot drive aisle width in the covered 90-degree parking lot.	Technical Manual, Section Figure I-16A requires a minimum drive aisle width of 24 feet for right-angled parking. <i>Staff are supportive</i>

III. PROJECT DATA

Existing Zoning	B-3 Business
Property Size	23,007 square feet
Existing Use	Place of assembly
Proposed Use	Residential/Place of assembly

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	13,355 square feet	16,199 square feet	+2,844 square feet
Building Floor Area	34,233 square feet	44,788 square feet	10,555 square feet
Impervious Surface Area	21,113.17 square feet	21,135.87 square feet	+22 square feet
Parking Spaces	14	5	-9
Bicycle Parking Spaces	0	9	+9

IV. BACKGROUND & EXISTING CONDITIONS

The site currently contains the Williston-Immanuel United Church and a small surface parking lot with 14 spaces. The site is bounded by High Street to the east, Deering Street to the north, and Deering Place to the west. The site is zoned B-3 Business zone, which encompasses downtown. The site is also located in the Downtown Entertainment Overlay zone and the Congress Street Historic District. Across Deering Place and Deering Street lies a swath of R-6 Residential zone that goes west into the Parkside neighborhood.

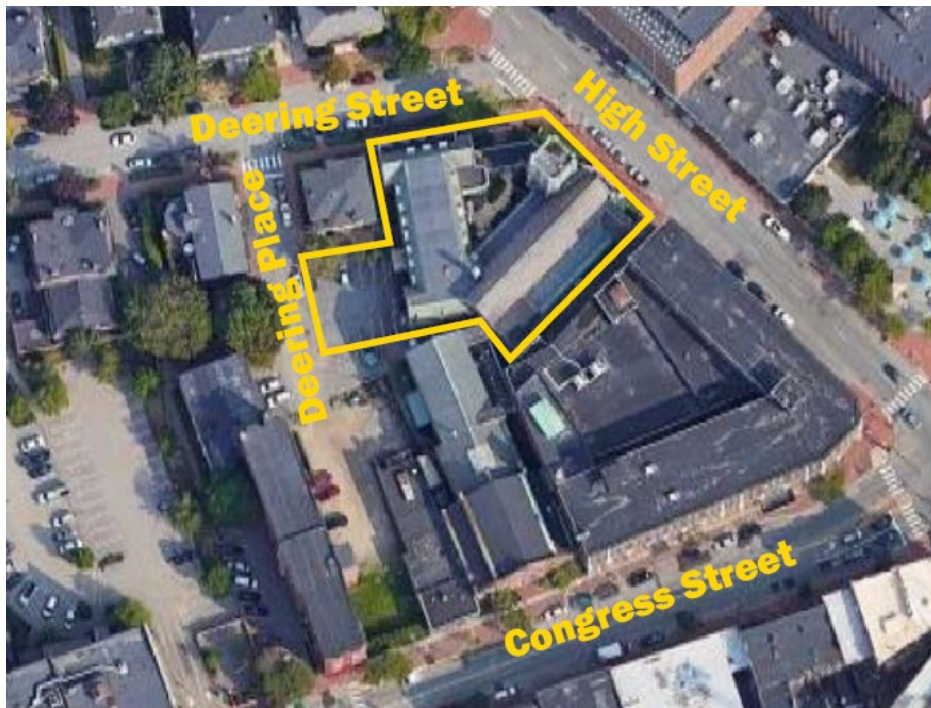


Figure 1 156 High Street site from GoogleMaps

The surrounding area contains a mixture of residential and commercial uses. Within a few blocks of the site is the State Theater, Hygge Hair Studio, the Westin Portland Harborview Hotel, Congress Square Park, the Portland Museum of Art, Green Elephant, and Geno's Rock Club.

The site is within .25 miles of several metro bus stops. Within a quarter mile of the project site are bus stops for the GP Metro lines 1, 7, 8, 9A, and the Biddeford-Saco-Old Beach transit line 60.

V. PROPOSED DEVELOPMENT

The applicant is proposing to renovate the existing Parish House of the WIUC into 21 affordable units and construct a five-story addition off the Parish House over the existing parking lot with 12 affordable units, in conjunction with sidewalk improvements. The five-story addition is proposed to be 58.9 feet in height. The existing 14 space surface parking lot is proposed to be reduced to five spaces, with two compact spaces and one ADA space. The lot is accessed off Deering Place.

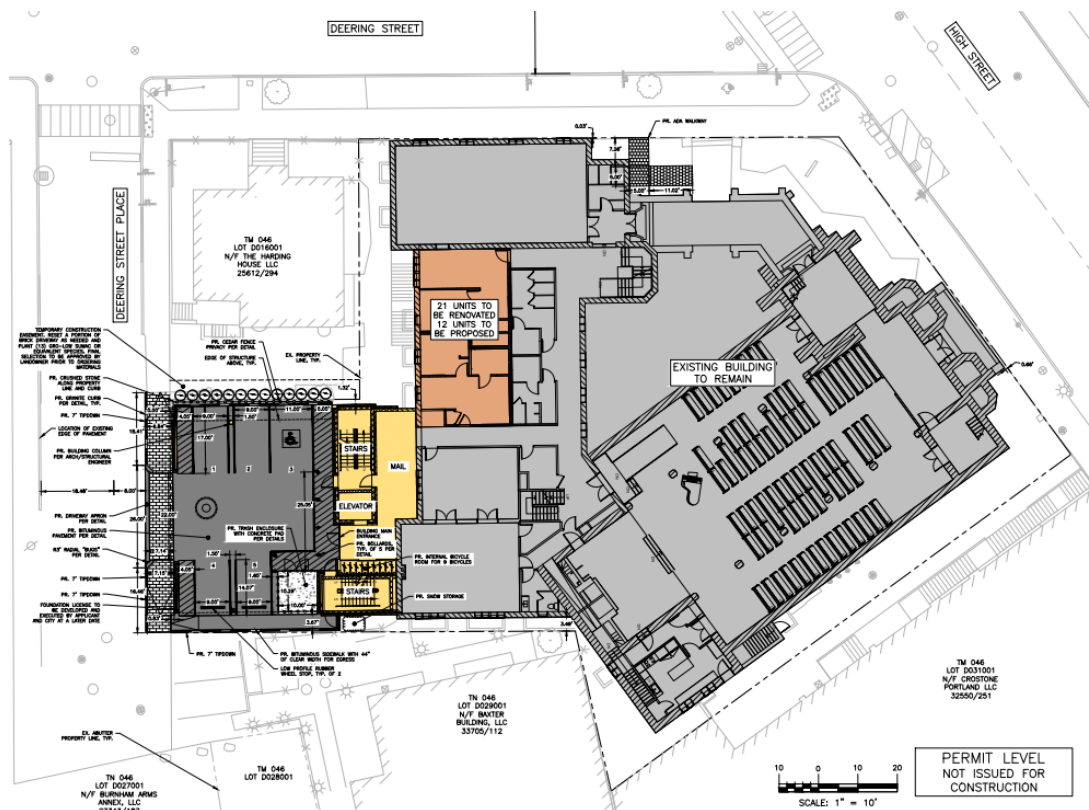


Figure 2 Site Plan for 156 High Street

VI. RIGHT, TITLE, & INTEREST

The applicant has submitted the deed showing ownership of the property by Williston-Immanuel United Church showing right, title, and interest.

VII. FINANCIAL & TECHNICAL CAPACITY

A letter from Bangor Savings Bank has been included that confirms the applicant has the resources to fund this project. The applicant team includes Avesta Housing, Acorn Engineering, and Invivid Architecture. The applicant is showing financial and technical capacity.

VIII. ZONING ANALYSIS

The site is located in the B-3 Downtown Business zone. The proposed multi-family is a permitted use in the B-3 Downtown Business zone. The analysis of the dimensional standards is provided in the table below:

<i>Standard</i>	<i>Requirement</i>	<i>Proposed</i>	<i>Finding</i>
Street Frontage	15 feet	99.77 feet	Standard Met
Front Setback (Max)	5 feet	0.66 feet	Standard Met
Height	65 feet	58.9 feet	Standard Met
Undifferentiated Wall	30 feet, except 15 feet with PAD Overlay	None	Standard Met

The project is exempt from Section 18.2 Affordable Housing standards as the project is utilizing public financing requiring affordability restrictions.

IX. SITE PLAN REVIEW STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1)

A. Impact on surrounding street systems

The driveway is proposed to remain along Deering Place. The sidewalk and curb along Deering Place are currently flush with the parking lot. The applicant is proposing to reconstruct the sidewalk and curb along their property line of Deering Place to meet City standards. From the Department of Public Work's review, the sidewalk along High Street is found to be in substandard condition. Staff are requesting that the applicant include the reconstruction of the High Street sidewalk along their frontage into their proposed scope of work, per 14.6.1.B.3.

B. Access and circulation

The church currently has access points along each street frontage. There is an entrance called out on the plans to the residential units from the back of the parking lot. Staff are requesting further information on the proposed entrances for residents.

C. Public transit access

Not applicable. The site is not located along an existing public transit route.

D. Parking

The site has an existing surface parking lot with 14 parking spaces. The project is proposing to reduce the number of spaces to five. The lot will consist of two compact parking spaces and one ADA parking space. The applicant is seeking three waivers associated with the proposed first floor parking lot. The

applicant is not proposing to install any EV chargers in the parking lot and requesting a waiver of the EV charging standard. As the parking lot is existing and reducing in number, staff do not feel the EV standard applies or that a waiver is needed. Staff are seeking more information on how the five proposed spaces will be managed.

The applicant is proposing nine bike parking spaces internally for the residents. Per Table 19-A, two bike parking spaces are required for every 5 residential units for multi-family uses. For 33 units, the applicant is required to provide 13 bike parking spaces. Staff have requested that an additional four parking spaces be added for the project, in order to be in compliance with the required standard.

Per Table 19-B, no off-street parking is required for changes of use. For the 21 units proposed in the renovated Parish House, no parking is required. Additionally, no parking is required for first four residential units. For the 12 ‘new units’ in the addition, the first four are exempt from parking. The eight remaining units are served with five parking spaces. The Affordable Housing vehicle exemption in Table 19-B allows “two spaces for every three units, except that the Planning Board may establish a lesser parking requirement regardless of the size of the structure”. The ratio allowed is .666 and the ratio proposed is .625.

WAIVER REQUESTS

The applicant is seeking three waivers for this project.

- I. Compact Spaces: The Technical Manual standard 1.10.2.1 allows up to 20% of parking spaces in a parking area to be sized as compact spaces. The applicant is seeking to make two of the five parking spaces as compact, which equates to 40%. In order to maintain a 44-inch pedestrian egress south of the compact spaces and 22-foot wide drive aisle, the compact parking spaces are proposed to be 9 by 14.07 feet.
- II. Compact Space Dimensions: The Technical Manual standard 1.10.2 dictates compact space dimensions be 8 by 15 feet. The applicant is requesting a waiver of the standard to allow for the two compact parking spaces to be 9 feet by 14.07 feet.
- III. Drive Aisle Width: The Technical Manual Figure I-16A requires a 24-foot-wide drive aisle for right angle parking. The applicant is proposing a 22-foot-wide drive aisle in the covered 5 space parking lot.

Due to the sites urban condition, as well as low volume and low turnover of the lot, staff are supportive of the three waivers.

E. Transportation demand management (TDM)

Not applicable. The applicant is not required to submit a TDM.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

No significant natural features have been identified onsite. The site is located in downtown and the proposed development is located on an existing parking lot.

B. Landscape preservation

The project is proposing to remove two trees on the edge of the parking lot. There are no setback minimums in the B-3 Downtown Business zone, therefore the 30% tree preservation standard within the setbacks does not apply. The vegetation along High Street is proposed to remain.

C. Site landscaping and buffers

The site is subject to the street tree standard, requiring 33 trees for the 33 residential units. As the parking lot is under the building, the parking lot landscaping standard does not apply. Staff are seeking further information on how the applicant proposes to meet the street tree standard. There is a grassed area along High Street that may be a viable location for a few street trees, with the understanding that the applicant can utilize the alternatives laid out in the Technical Manual as the site is approximately 90% impervious.

D. Water quality/storm water management/erosion control

The project is subject to the Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 for stormwater management. The plans show proper erosion and sedimentation control measures, including a stabilized construction entrance. The project is proposing 22 square feet of new impervious. Staff are seeking additional information on drainage flow for review. Staff are requesting the applicant direct stormwater flow into the separated stormwater system in Deering Street and are supportive of the applicant to request and receive a waiver of Technical Manual standard 2.9.7 stating that, “no storm drains or storm drain laterals, with the exception of street underdrains, shall be connected into a catch basin structure”, to allow for a connection into the City’s catch basin at the corner of Deering Place and Deering Street. DPW feels comfortable allowing this waiver due to the existing utility system and site constraints to allow for the project to connect into the separate stormwater system instead of the combined system.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)**A. Consistency with City Master Plans**

The project is consistent with zoning and is therefore, consistent with the City’s Master Plan.

B. Public safety and fire prevention

The site is in proximity to a fire hydrant and is accessible by emergency vehicles. There have been no comments from fire and life safety staff.

C. Availability and capacity of public utilities

The applicant has requested confirmation for ability to serve from relative utilities and is waiting for responses. Staff have requested the applicant submit confirmation once received.

4. Site Design Standards (Section 14.6.4)**A. Massing, ventilation, and wind impact**

The proposed development is located downtown and is not expected to have any massing, ventilation, or wind impact.

B. Shadows

The site is not anticipated to have any shadow impacts on a public open space.

C. Snow and ice loading

As most of the site has building coverage, the snow will accumulate on the building except for the sidewalks which will be cleared during snow events.

D. View corridors

Not applicable. The site is not located within a view corridor.

E. Historic resources

The site is located within the Congress Street Historic District and the Deering Street Historic District, and has had a workshop with the Historic Preservation Board. The project does not have a date scheduled at this time to return to the Historic Preservation Board.

F. Exterior lighting

The site is subject the Technical Manual site lighting standards. A photometric plan and subsequent cut sheet details have not been submitted. Staff are waiting on further information for review.

G. Noise and vibration

Staff have requested further information on the locations of where any proposed heating, ventilation and air conditioning equipment will be stored and how it will be screened.

H. Signage and wayfinding

No signage is proposed.

I. Zoning-related design standards

As the project is being reviewed by the Historic Preservation Board, zoning-related design standards are not applicable.

X. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant is holding a neighborhood meeting on June 27th. No public comments have been submitted to the City for this project as of June 21, 2024.

XI. NEXT STEPS

The applicant has received site plan comments. The next steps are for the applicant to respond to City comments and comments from the Planning Board and submit updated plans as necessary. After which, staff will schedule a Planning Board Public Hearing.

XII. ATTACHMENTS

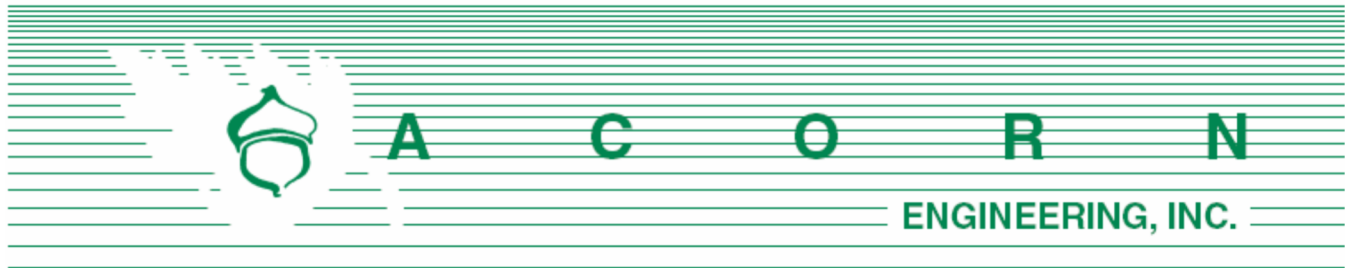
APPLICANT SUBMITTAL

- A. Cover Letter
- B. Major Site Plan Checklist
- C. RTI
- D. Zoning Assessment
- E. Easements
- F. Waivers
- G. Financial Capacity Letter

- H. Technical Capacity
- I. Conformity with Land Use Ordinance
- J. Stormwater Report
- K. Erosion and Sedimentation Control
- L. Fire Department Letter
- M. Wastewater Capacity
- N. Lighting
- O. Arch Design Narrative
- P. Utilities
- Q. Construction Management Plan
- R. Solid Waste Disposal
- S. Parking Analysis

PLANS

- P1. Cover Sheet and Legend
- P2. General Notes
- P3. Topographic Survey
- P4. Construction Management Plan
- P5. Site Plan
- P6. Utility Plan
- P7. Grading and Drainage Plan
- P8. Site Details – 1
- P9. Utility Details – 1
- P10. Utility Details – 2
- P11. Drainage Details -1
- P12. Erosion and Sedimentation Control Details
- P13. Basement Floor Plan
- P14. First Floor Plan
- P15. Second Floor Plan
- P16. Third Floor Plan
- P17. Fourth Floor Plan
- P18. Fifth Floor Plan
- P19. Exterior Elevations
- P20. Exterior Elevations



Planning and Urban Development Department
 Matt Grooms, AICP
 Development Review Services Manager
 City of Portland, Maine
 389 Congress Street, 4th Floor
 Portland, ME 04101

May 2nd, 2024

Subject: Major Site Plan Application
 156 High Street Residential Renovation

Matt:

On behalf of Williston-Immanuel United Church (WIUC) and Avesta Housing, Acorn Engineering is pleased to submit the accompanying package of submission materials related to the proposed residential renovation at 156 High Street, in Portland Maine (Chart 046, Block D, Lots 17, 19, 20, and 37).

The parcel is located within the B-3 Neighborhood Business Zoning District. The project proposes to renovate the existing Parish House into affordable housing in tandem with a small 5-story addition off the Parish House to create a total of 33 affordable housing units.

This application package is intended to meet the City's submission requirements as outlined in the Major Site Plan application procedures. Please see the Table of Contents below for the material submitted as part of this application. The project has been before the Historic Preservation Board and is seeking its Certificate of Appropriateness in the coming months.

As permitted under Section 18.2.2 of Land Use Code, in addition to the reduction in fees for affordable housing projects, we are requesting the review is performed in an expedited manner at both the Staff and Planning Board levels.

WIUC, Avesta Housing, Acorn Engineering, and the rest of the design team look forward to your review of this project. If you have any questions regarding these materials or the completeness of the application materials, please do not hesitate to contact us.

Sincerely,

Sam Lebel, P.E.
 Project Manager
 Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

Documents:

- Section A: Cover Letter
- Section B: Major Site Plan Application & Checklist
- Section C: Right, Title, Interest
- Section D: Zoning Assessment
- Section E: Easements
- Section F: Waiver Table
- Section G: Financial Capacity
- Section H: Technical Capacity
- Section I: Conformity with Land Use Ordinance
- Section J: Stormwater Management Report
- Section K: Erosion & Sedimentation Control Report
- Section L: Public Safety & Fire Prevention Letter
- Section M: Wastewater Capacity Letter
- Section N: Lighting
- Section O: Architectural Design Narrative
- Section P: Utility Cover
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Parking Analysis

Drawings:

- Civil Plan Set
- Architectural Plan Set



CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN GENERAL DOCUMENT AND DRAWINGS CHECKLIST Please submit each document as a separate PDF file. Please confirm by electronically checking the boxes in the left-hand column. ** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ** At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.		
GENERAL APPLICATION DOCUMENTS		
<u>Yes</u>	NA	Project Description Cover letter with detailed project description
<u>Yes</u>	NA	Completed Checklist (this document)
<u>Yes</u>	NA	Evidence of Right, Title, and Interest Deeds, leases, or purchase and sales agreements
Yes	<u>NA</u>	Evidence of State or Federal Approvals Permits or letters of non-jurisdiction, if applicable
<u>Yes</u>	NA	Zoning Assessment (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
<u>Yes</u>	NA	Site Plan Standards Assessment (see Section 14.6 of the land use code) Summary of project compliance with site plan standards of the land use code
<u>Yes</u>	NA	Summary of Existing and/or Proposed Easements or Covenants, applicable. Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
<u>Yes</u>	NA	Waiver Requests (see Waiver Table) Written request for waiver describing request and compliance with applicable waiver standards
<u>Yes</u>	NA	Financial Capability Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
<u>Yes</u>	NA	Technical Capability Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

MAJOR SITE PLAN STANDARDS AND SUBMISSION CHECKLIST

**Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.**

TRANSPORTATION		
<u>Yes</u>	NA	Impact on Surrounding Street Systems (14-14.6.1(A)) Describe incremental volume of traffic impacts and mitigation measures. If needed
<u>Yes</u>	NA	Access and Circulation (14-14.6.1(B)) Identify and describe the following: - Site access and internal circulation, including ADA access - Drive-up features, if applicable - Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable - Sidewalks and condition along street frontages and internal walkways - Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
Yes	<u>NA</u>	Public Transit (14-14.6.1(C)), if applicable Identify and describe the following: Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
<u>Yes</u>	NA	Off-Street Parking (14-14.6.1(D)), if applicable Identify and describe the following: - Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code - Curb cut separation and parking layout (Technical Manual, Section 1) - Construction details for bicycle racks - Management plan for snow storage and removal
Yes	<u>NA</u>	Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL	
Yes <u>NA</u>	Preservation of Significant Natural Features (14-14.6.2(A)), if applicable Identify and describe the following: • High and moderate value waterfowl and wading habitat • Aquifers (for Casco Bay Islands) • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes <u>NA</u>	Landscape Preservation (14-14.6.2(B)) Identify and describe the following: • Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) • Measures to protect existing vegetation during construction
<u>Yes</u> NA	Site Landscaping and Buffers (14-14.6.2(C)) Identify and describe the following: • Overall landscaping approach and consistency with standards • The use of screening and buffering of service areas and between non-residential and residential uses • Existing Heritage or Feature Trees on site and measures to preserve • Compliance with street tree requirements
<u>Yes</u> NA	Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D)) Identify and describe the following: • Erosion and sedimentation control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable • Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY		
<u>Yes</u>	NA	Consistency with City Master Plans (14-14.6.3(A)) Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
<u>Yes</u>	NA	Public Safety and Fire Prevention (14-14.6.3(B)) Identify and describe the following: - Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) - Emergency vehicle access - Consistency with public safety standards (Technical Manual, Section 3)
<u>Yes</u>	NA	Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9) Identify and describe the following: - Electrical services, including providing underground services - Existing and proposed connections for public utilities and required public utility upgrades - Sewer line connections
SITE DESIGN		
Yes	<u>NA</u>	Massing, Ventilations and Wind Impact (14-14.6.4(A)) Identify and describe the following: - Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable - Bulk, location, or height impacts on adjoining structures
Yes	<u>NA</u>	Shadows (14-14.6.4(B)), if applicable Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes	<u>NA</u>	Snow and Ice Loading (14-14.6.4(C)) Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes	<u>NA</u>	View Corridors (14-14.6.4(D)), if applicable Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
<u>Yes</u>	NA	Historic Resources (14-14.6.4(E)), if applicable Identify and describe the following: - The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district - Compliance with standards for preservation and documentation of archaeological resources

<u>Yes</u> NA	Exterior Lighting (14-14.6.4(F)) Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
<u>Yes - TBD</u> NA	Noise and Vibration (14-14.6.4(G)) Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes <u>NA</u>	Signage and Wayfinding (14-14.6.4(H)), if applicable - Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs - Provide drawings of all commercial and directional signage on site
<u>Yes</u> NA	Zone-Related Design Standards (14-14.6.4(I)) Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN DRAWINGS CHECKLIST

Please upload the following **DRAWINGS** with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

SITE PLAN(s) (stamped by a Maine Licensed Professional Engineer) including:

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

• Location of fire hydrants • Location of solid waste management receptacles • Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable • Location of proposed easements and rights-of-way, including dimensions • Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed
UTILITY PLAN including:
• Proposed electrical infrastructure • Location, sizing and directional flows of all proposed sewer and stormwater infrastructure • Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site • Electric utility infrastructure
GRADING AND DRAINAGE PLAN including:
• Proposed grades • Proposed stormwater management measures meeting Technical Manual (Section 5) standards • Any proposed alteration of a watercourse or wetlands • Any groundwater protection measures • Proposed buffers and preservation measures for wetlands or significant natural features
LANDSCAPE PLAN including:
• Existing vegetation to be preserved and preservation measures • Proposed landscaping, screening, and street trees, including caliper widths for trees • Planting schedule, including street trees
ARCHITECTURAL PLANS AND RENDERINGS including:
• Exterior building elevations, color renderings, illustrations of all sides • Axonometric and street-level views for structures greater than three stories in height • Provide context drawings, if applicable (Design Manual, page 1) • Floor plans
CONSTRUCTION MANAGEMENT PLAN including:
• Specifics on traffic control, sidewalk sheds, and pedestrian rerouting • Include a drawing and written narrative
OTHER
• Details and cross-sections, as necessary

C. Right, Title & Interest

See attached quitclaim deed for the project property.

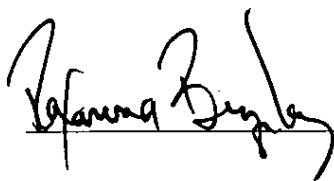


QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS THAT **IMMANUEL BAPTIST CHURCH OF PORTLAND, MAINE a/k/a IMMANUEL BAPTIST CHURCH**, a Maine corporation with a place of business in Portland, County of Cumberland, State of Maine, for consideration paid, grants to **WILLISTON-IMMANUEL UNITED CHURCH**, a Maine non-stock corporation with a place of business in Portland, County of Cumberland, State of Maine, whose mailing address is 156 High Street, Portland, Maine 04101 with **QUITCLAIM COVENANTS**, the land, together with any improvements thereon, situated in the City of Portland, County of Cumberland, and State of Maine more particularly described in **Exhibit A** attached hereto and made a part hereof.

IN WITNESS WHEREOF, the said IMMANUEL BAPTIST CHURCH OF PORTLAND, MAINE has caused this instrument to be signed and sealed this 27 day of Sept., 2012.

WITNESS:



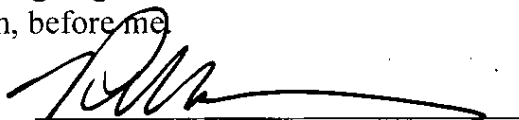
IMMANUEL BAPTIST CHURCH OF
PORTLAND, MAINE a/k/a Immanuel Baptist
Church

By Sandra Cranford
Moderator
Its SANDRA CRANFORD

STATE OF MAINE
COUNTY OF CUMBERLAND

Sept. 27, 2012

Then personally appeared the above named Sandra Cranford, in his/her said capacity, and acknowledged the foregoing instrument to be his/her free act and deed, and the free act and deed of said church, before me


Attorney at Law/Notary Public
Debra L. Murray
Printed Name

**EXHIBIT A
TO
DEED**

The following described real estate with the buildings thereon located in the City of Portland, County of Cumberland and State of Maine and located on the southwesterly corner of High and Deering Streets, to wit:

PARCEL ONE:

First: A certain parcel of land with the buildings thereon bounded as follows: Beginning at the northerly corner of land on the westerly side of High Street sold to E. P. Thompson, April 1, 1851, and recorded in Cumberland County Registry of Deeds, Book 231, Page 82; thence running northwesterly on the westerly side line of said High Street forty-five (45) feet; thence back at right angles with said High Street a distance of one hundred twenty-four and nine tenths (124.9) feet to a point in the easterly side line land now or formerly of the Public Library; thence southeasterly by and along said library lot forty-nine (49) feet, more or less, to the division line with land now or formerly of said Thompson; thence northeasterly by land now or formerly of said Thompson one hundred forty-four and four tenths (144.4) feet to the point of beginning.

Second: A second parcel of land bounded as follows: Beginning on the westerly side line of High Street at the northeasterly corner of the above-described lot; thence running northwesterly along the westerly side line of High Street to the southerly side line of Deering Street a distance of fifty-five (55) feet as per city plans; thence westerly on the southerly side line of Deering Street a distance of sixty (60) feet, as per lot number 3 in Plan Book 2, Page 2, recorded in said Registry, to the corner of lot number 4 on said plan; thence southerly by said lot number 4 a distance of one hundred and ten (110) feet, more or less, as per said plan to the line of land of said first described lot; thence running northeasterly to the point of beginning, being the property devised to Ella M. Clark by Ira F. Clark, less a small piece sold therefrom to enlarge the Public Library lot, which is described in the deed from Ella M. Clark to the Trustees of the Portland Public Library, dated September 25, 1896 and recorded in said Registry of Deeds in Book 639, Page 491.

Meaning and intending to convey and hereby conveying the same premises conveyed to Immanuel Baptist Church of Portland, Maine by Congress Square Hotel Company, dated June 1, 1925 and recorded in said Registry of Deeds in Book 1202, Page 363.

PARCEL TWO:

A certain lot or parcel of land together with the buildings thereon, situated on the southerly side of Deering Street, in the City of Portland, between High Street and Deering Place, County of Cumberland and State of Maine, and bounded and described as follows:

Beginning at a point in the southerly side line of said Deering Street distant about sixty (60) feet westerly from High Street and at the westerly corner of land formerly owned by E. E. Preble; thence westerly by the line of said street sixty-two (62) feet, more or less, to line of land now or formerly occupied by Helen A. L. Driscoll; thence southerly by the line of land now or formerly of said Driscoll sixty-five (65) feet, more or less, to land now or formerly belonging to Harriet O. Haggett, et als.; thence easterly by land now or formerly of said Haggett (8) feet, more or less, to the easterly side line land now or formerly of said Haggett; thence southerly by the line of land now or formerly of said Haggett forty-five (45) feet, more or less, to land now or formerly of Portland Public Library; thence easterly by line of land now or formerly of said Portland Public Library fifty-five (55) feet, more or less, to land now or formerly of said Preble; thence northerly by the line of land now or formerly of said Preble one hundred and eight (108) feet, more or less, to the point of beginning. Together with all and singular the rights and easements which Margaret B. McAllister had and to adjacent lands.

Also a certain other lot or parcel of land situated in said Portland, and bounded and described as follows, viz: Beginning at the most southerly and westerly corner of land conveyed by John T. Fagan, Executor, to Mary H. McIntire by deed dated the twenty-eighth day of May, 1917, and recorded in Cumberland County Registry of Deeds, Book 1142, Page 175; thence southerly in a direction at right angles to Deering Street fifteen (15) feet; thence easterly parallel with said Deering Street thirty-seven and sixty-five hundredths feet to a fence; thence northwesterly with an included angle of seventy-five degrees and thirty minutes by said fence, one and eighty-five hundredths feet to a point; thence northeasterly by a fence and nearly in a direction at right angles to High Street twenty-one and one half feet to the southeasterly corner of lot of Darius White conveyed to Sarah B. Adams by deed recorded in Cumberland County Registry of Deeds, Book 246, Page 569. (Being also the southeasterly corner of the lot conveyed by John T. Fagan, Executor, to said Mary H. McIntire); thence westerly by land now or formerly of said McIntire fifty-four feet to point of beginning; containing six hundred and seventy-one and thirty-six hundredths square feet.

Meaning and intending to convey and hereby conveying the same premises conveyed to Immanuel Baptist Church of Portland, Maine by deed of Bernice S. True, Trustee, dated July 29, 1925 and recorded in said Registry of Deeds in Book 1206, Page 498.

PARCEL THREE:

A certain small piece of rear land situated in the City of Portland, between Congress and Deering Streets, so-called, County of Cumberland and State of Maine and bounded and described as follows, to wit:

Beginning at a point on the southerly line of the lot conveyed by James P. Baxter to Henry F. McAllister by deed recorded in Cumberland County Registry of Deeds in Book 495 at Page 489, said point being distant one hundred twenty-five (125) feet at right angles from the southerly side line of Deering Street as aforesaid, and thirty-seven and sixty-five hundredths (37.65) feet easterly from the southwesterly corner of said lot conveyed by said Baxter to said McAllister as aforesaid; thence southeasterly, parallel to said southerly side line of said Deering Street and keeping a distance of one hundred twenty-five (125) feet therefrom, a distance of nine and five-tenths (9.5) feet, more or less, to land of said Immanuel Baptist Church; thence northerly by said Immanuel Baptist Church land, a distance of eight (8) feet, more or less, to a fence at other land of said Immanuel Baptist Church; thence southwesterly, by said Immanuel Baptist Church land, a distance of nine and fifty-four (9.54) feet to a point; thence southerly, by said Immanuel Baptist Church land, a distance of one and eighty-five hundredths (1.85) feet to the point of beginning, being a portion of the premises conveyed by Ellen M. Clark to the Trustees of the Portland Public Library by deed bearing date of September 25, 1896, and recorded in said Cumberland County Registry of Deeds in Book 639, at Page 491.

Meaning and intending to convey and hereby conveying the same premises conveyed to Immanuel Baptist Church by deed of The Portland Public Library, dated May 27, 1926 and recorded in said Registry of Deeds in Book 1229, Page 127.

PARCEL FOUR:

A certain lot or parcel of land, with the buildings thereon, situated on the easterly side of Deering Place in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning in the line of said place one hundred twenty-five (125) feet from the southeast corner of Deering Street and Deering Place; and running thence easterly on a line parallel with Deering Street fifty-five (55), more or less, to Henry F. McAllister's homestead lot; thence northerly by land now or formerly of said McAllister fifty-nine (59) feet, more or less, to land now or formerly of J. W. Deering; thence westerly by land now or formerly of said Deering eight (8) feet; thence northerly eight (8) inches; thence westerly by land now or formerly of said Deering forty-seven (47) feet, ten (10) inches, more or less, to Deering Place; thence southerly on said Place about sixty (60) feet to the starting point.

Meaning and intending to convey and hereby conveying the same premises conveyed to Immanuel Baptist Church of Portland, Maine by deed of George H. Bartlett, dated January 6, 1966 and recorded in said Registry of Deeds in Book 2941, Page 451.

S:\MMPMC24\Williston West Church\Deed to Williston Immanuel United Church.doc

Received
Recorded Register of Deeds
Sep 28, 2012 01:14:59P
Cumberland County
Pamela E. Lovley

Portland, Maine



Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B3 - Business

All Projects:

	Required	Proposed	
Lot Size	N/A	23,007 SF	
Area Per Dwelling Unit	N/A	697/UNIT	
Minimum Street Frontage	15 FT	99.77 FT	
Front Yard Minimum	N/A	0.66 FT	Existing
Front Yard Maximum	NONE	0.66 FT	Existing
Rear Yard	NONE	0.5 FT	Proposed
Yard Right	NONE	3.31 FT	Existing
Yard Left	NONE	0.03 FT	Existing
Side Street Setback	NONE		
Step Back	NONE		
Maximum Lot Coverage	NONE	75.9%	
Minimum Lot Coverage	NONE	75.9%	
Maximum Height	65 FT	58.9 FT	
Open Space	N/A		
Maximum Impervious Area	NONE		
Pavement Setback	NONE		
Floor Area Ratio	NONE		
Off Street Parking Spaces	*NONE	5	
Loading Bays	N/A		
Other 1			
Other 2			
Other 3			

*To be determined/confirmed by Planning Board as allowed in Table 19-B of the Ordinance

E. Summary of Written Easements

Existing easements:

There is no existing easement information documented on the plan titled “Boundary Survey at 156 High Street, Portland, Maine Made for Avesta Housing 370 Cumberland Avenue, Portland Maine” prepared and identified by Owen Haskell, Inc. dated 4/30/24.

Proposed Easements:

The Developer will likely pursue temporary construction easements to facilitate construction of the addition.

Depending on the final structural design, a license with the City of Portland may be necessary to allow encroachment of the footing and foundation drain within the Deering Street Place ROW.



Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Technical Manual 1. Transportation Systems and Street Design Standards. Section 1.10.2.1 Compact Spaces	Any parking lot with five or more spaces may contain a mix of standard and compact spaces. Up to 20% of parking spaces in a parking area may be compact.	Requesting a waiver to have up to 40% compact parking spaces.	In order to provide a 44" wide external egress route, as well as a functional 22' drive aisle, the parking space length along the southern side of the drive aisle need to be reduced resulting in two parking spaces becoming compact.
Technical Manual 1. Transportation Systems and Street Design Standards. Section 1.10.2.	Compact parking space: 8 feet wide by 15 feet long	Requesting a waiver to have the two compact parking spaces be 9 feet wide by 14.07 feet long.	Similar to Waiver Request #1, to provide an egress that is within the property line, the length of two parking spaces was reduced from 15 feet to 14.07 feet. A permissible vehicle summary has been provided for each parking space.
Technical Manual 1. Transportation Systems and Street Design Standards. Figure I-16A Vehicle Parking Dimensions	The minimum drive aisle width is 24 feet for standard, right-angle parking	Requesting a waiver to have a 22 foot drive aisle width associated with the covered 90 degree parking on-site.	A 22 foot wide drive aisle width is being proposed due to urban site constraints. We are providing a permissible vehicle summary (size) associated with each parking spaces as a result of the limited drive aisle width. These spaces will be low-volume, low-turnover specific to each user who will become familiar with navigating the garage.

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Technical Manual Section 1.14	"New structured and surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces (rounded down to the nearest whole number). An additional 50% of spaces must be made EV-ready,"	There are no proposed EV Parking spaces for the 5 proposed covered parking spaces.	As electric vehicles become more common, knowledge continues to increase about how they react under fire conditions. The concern is if an EV is parked in a parking structure or parking beneath the building overhang even if there is a sprinkler system in place would this being inviting a potential severe fire event where there seems to be no current ability to extinguish an EV fire quickly. One contributing factor is a process called "thermal runaway" which occurs when the heat within a battery is greater than the heat that can dissipate to the ambient surroundings. Batteries can overheat while recharging or occur if a cell fails while the vehicle is being operated, including being parked. This type of failure produces oxygen and gases that are toxic with the potential to be flammable. Vehicle batteries are essentially bundles of these cells inside of a plastic container, the failing of one can trigger the same in neighboring cells. This will lead to an intense fire or if modern plastic is involved, perhaps an explosion. The Applicant is not interested in installing EV chargers given the lack of parking and the life safety concerns noted above.

G. Financial Capacity

A letter from the Applicant's bank confirming financial capacity is attached to this section.





April 25, 2024

City of Portland
Planning Department
389 Congress Street
Portland, ME 04101

RE: 156 High Street

To Whom It May Concern:

On behalf of Bangor Savings Bank, I am pleased to provide this letter in support of Avesta Housing for the development of a 33-unit, affordable housing project to be located at 156 High Street in Portland, Maine. Bangor Savings Bank has worked with Avesta Housing on multiple projects of a similar nature. Based on our prior experience working with the organization, we believe that the applicant has the ability to finance the proposed project costs. In addition, they possess the management skill and development expertise to successfully complete the proposed project.

While this letter of support is not a commitment to lend, Bangor Savings Bank would welcome the opportunity to be a resource for project financing. Please feel free to call me at 541-2707 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn McKenna", written in a cursive style.

Shawn McKenna
Vice President
Commercial Banking

H. Technical Capacity

Avesta Housing is Northern New England's largest affordable housing developer, having completed dozens of affordable projects across Maine and New Hampshire. Most recently, developments include Porter Station (200 Valley Street), Village Commons in Scarborough, and the West End Apartments in South Portland.

Acorn Engineering specializes in providing urban redevelopment, civil/site design, environmental services, municipal consulting, and construction administration. Acorn Engineering, Inc. has successfully designed and permitted more than 20 Major/Minor Site Plan Applications over the past several years. See below for a partial list:

- Munjoy Heights
- 89 Anderson St. – East Bayside Lofts
- 121 Washington Ave
- 667 Congress St – the Hiawatha
- Cumberland Flats
- East End Lofts

Invivid Architecture, a distinguished Portland-based full-service architectural design firm, is wholly dedicated to crafting sophisticated designs and functional spaces. Our primary focus lies in diverse housing projects, spanning from affordable and market-rate rehabilitation and new construction to opulent, multi-million-dollar luxury condominium complexes. Additionally, the firm engages in hospitality and commercial development projects. The genesis of Invivid unfolded 20 years into the career of the founder, Virginie Stanley. Her over two-decade journey in the industry has been marked by a relentless pursuit of design excellence, earning her a distinguished reputation through her expansive and diverse portfolio. Invivid, prides itself on not only envisioning spaces but also on bringing them to life with a level of craftsmanship that defines our legacy of excellence.



I. Conformity with Land Use Ordinance

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14.6.1-4

OVERVIEW

The proposed residential building has been designed to conform to City standards where possible, as well as improve upon existing non-conformities. This project conforms with the majority of the applicable standards of Portland's Land Use Ordinance Section 14-526 as demonstrated in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

- a. The project will not create any significant hazard to safety on the surrounding street network.
- b. This project will not substantially increase congestion on any street.

B. Access and Circulation:

1) In general

- a. The development will provide safe access and internal circulation for both pedestrians, vehicles and emergency vehicles as seen on the Site Plan and in accordance with the Technical Manual.
- b. Continuous internal walkways are provided and will connect to the proposed sidewalk along Deering Place Street and Deering Street.
- c. The proposed driveway will not conflict with turning movements or traffic flow.
- d. The site does not feature drive-up services as mentioned in this requirement.

2) Loading and Servicing:

Not applicable.

3) Curbs and Sidewalks:

- a. The development proposes curbing and sidewalks to be installed in accordance with the City's Technical Manual along the addition's frontage where proposed sitework is. A brick sidewalk does not exist in front of the lot along Deering Place Street, but will be rebuilt as part of the project to connect into the existing brick sidewalk located north along Deering Place



Street.

- b. Sidewalks are proposed to be upgraded along the Deering Street Place frontage.
- c. Not applicable
- d. Not applicable

C. Public Transit Access:

- 1) Not applicable as the Site is within several existing bus stops.
- 2) Not applicable.
- 3) Not applicable.

D. Parking:

1) Vehicular Parking

- a. The proposed project will provide 5 parking spaces.
- b. A TDM is not required.
- c. Not applicable.
- d. The parking space and aisle dimensions are in conformance with the Technical Standards with a few exceptions. Please refer to the Site Plan and Waivers document for more information.

2) Location and Required Number of Bicycle Parking Spaces:

- a. The site plan includes an interior bicycle storage room of approximately 9 bicycles spaces. Additional indoor storage is available within the units themselves if desired by the tenant.
- b. Not applicable

3) Snow Storage:

- a. The Owner will be responsible for managing snow at their discretion and/or coordinating snow removal from the site when necessary. The majority of the site will be structure and the parking lot will be covered therefore snow plowing for this site is generally not required other than some ancillary shoveling.



- b. Snow storage areas will not encroach on parking, walkways, or stormwater management systems.
- 4) Electric Vehicle (EV) charging
 - a. The project will not provide EV charging and is seeking a waiver.

E. Transportation Demand Management (TDM):

- 1) A Transportation Demand Management (TDM) plan is not required as part of this application.

14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

- 1. The site does not consist of any significant natural features. There are no known endangered species or plants existing on the site.
- 2. Not applicable
- 3. Not applicable

B. Landscape Preservation:

- 1) The site will not disturb any significant natural features.
- 2) There is no existing vegetation on site to be disturbed or jeopardized other than small unhealthy trees on the property line that will be removed in coordination with the neighbor.
- 3) Not applicable
- 4) A waiver is not requested.
- 5) Not applicable.

C. Site Landscaping and Buffers

- 1) Not applicable
- 2) Solid waste and storage areas will be screened from public view. There is not evergreen screening existing or proposed.



- 3) There is no available real estate in the sidewalk or on site for planting of trees.
- 4) There is no available real estate in the sidewalk or on site for planting of trees.

D. Water Quality, Stormwater Management and Erosion Control:

- 1.
 - a. The site drainage will not be directed to flow or pond onto adjacent lots. The runoff created from the site will be collected and discharged to the MS4 to the greatest extent possible.
 - b. The impervious area is not changing and therefore the peak rates will remain unchanged.
 - c. Not applicable
- 2. The project has been designed to comply with the technical manual.
- 3. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The project will be serviced by a public wastewater system. The development will provide for adequate and sanitary disposal of sewage in accordance with adequate the Technical Manual.

14.6.3 Public Infrastructure and Community Safety Standards

- 1.
 - A. Consistency with City Master Plans:
 - a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.
 - b. Not applicable.
 - B. Public Safety and Fire Prevention:
 - a. The site has been designed to promote safe access.
 - b. Access will be controlled at the doors.
 - c. The project has been designed to promote sense of ownership and responsibility through environmental design.
- 2. The building is easily accessed from the 3 street frontages.



C. Public Utilities

- 1 . Coordination/ability to serve has begun with utilities. Responses will be forthcoming. The project will not overburden utilities.
- 2 . The electrical service will be wired underground in coordination with CMP.
- 3 . The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual.
- 4 . The project will be served by connection to the public sewer system within Deering Place Street.
- 5 . The project anticipates providing enclosed solid waste storage with private hauling of the waste.

16.4.4 Site Design Standards

A. Massing, Ventilation and Wind Impact:

- a. Please refer to Section O, Architectural Design Narrative. The project will not result in health or safety problems.

B. Shadows:

- a. The shadows created by the building will not influence public open spaces.

C. Snow and Ice Loading:

- a. The structure will not distribute snow and ice onto adjacent properties.

D. View Corridors:

- a. Not applicable

E. Historic Resources:

- a. The development is located in a historic district and is currently going through the HP process.
- b. The development is located in a historic district and is currently going through the HP process.
- c. It is our understanding that there are no known archaeological resources that exist on site.

F. Exterior Lighting:



- a. Site Lighting
 - i. Exterior lighting will be designed to meet the requirements of Section 12 of the Technical Manual.
 - ii. Any lighting that may adversely impact the abutting residential properties will feature house-side shielding.
- b. Architectural and Specialty Lighting
 - i. No architectural or specialty lighting is proposed, at this time.
 - ii. No up-lighting is proposed, at this time.
- c. Street Lighting
 - i. No new street lights are proposed.

G. Noise and Vibration:

- a. All proposed heating, ventilation and air conditioning equipment, and emergency generators are to meet the applicable state and federal emissions requirements as defined by the Architect. They are to be located within the interior of the site or the top of the building and will also be screened when necessary.

H. Signage and Wayfinding:

All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

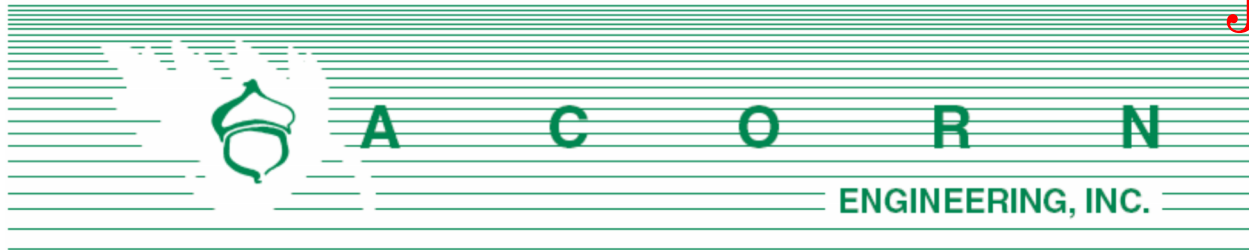
- a) The project is not located in a historic district or subject to Article IX.
- b) Signage will complement the subject building and its immediate context.
- c) No freestanding signs are proposed.
- d) Ant signage lighting will be facing downward to avoid glare and light spillover towards the sky.
- e) No proposed signs will be located along rooftops.
- b. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.



I. Design Standards.

- a. The project has been designed to meet the standards set forth in the B3 zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.





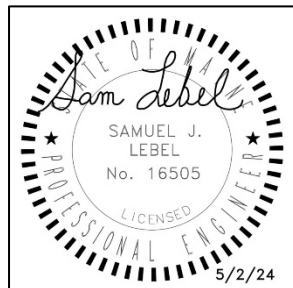
STORMWATER MANAGEMENT **REPORT**

Prepared For:

**Williston-Immanuel United Church
Acorn Engineering, Inc
104 Washington Avenue
Portland, Maine 04101**

Prepared By:

**Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104**



May 2024



INTRODUCTION

Acorn Engineering, Inc. has been retained by Williston-Immanuel United Church, Acorn Engineering, Inc to provide civil engineering services for the proposed redevelopment of 156 High Street. The property consists of approximately 0.53 acres of land containing the Williston-Immanuel United Church front High Street along with the Parish House Fronting Deering Street. The proposed project includes renovating the Parish House into affordable housing in tandem with a small 5-story addition off the Parish House. The project will reside at Chart 046, Block D, Lots 17, 19, 20, and 37)

EXISTING CONDITIONS

The project site has frontage on High Street, Deering Street, and Deering Street Place. A boundary plan has been prepared by Owen Haskell. The site consists of an existing building and parking and is nearly 100% impervious.

The grades are sloped (range from 3%-10%) across the site with the rear of the lot draining away from the Parish House towards Deering Place Street.

PROPOSED DEVELOPMENT

The project features the redevelopment of the existing parking lot into a new parking lot with a small 5-story addition off the Parish House located above the parking lot. No new impervious area is proposed.

The development will be served by the Portland Water District, underground power/cable/communications, natural gas and the municipal sewer system.

The project will seek to route roof runoff and any surface runoff, as well as the foundation drainage, to the MS4 in Deering Street. No new impervious area is proposed, meaning requirements for treatment are not triggered. Furthermore, given the simplicity of the sitework and maintenance of the overall drainage patterns and impervious area, a hydrological analysis has not been conducted because the pre and post peak runoff rates are anticipated to be identical. The project will likely result in slightly cleaner runoff due to the conversion of asphalt surface parking to a metal roof. Any collected drainage from the covered parking will receive pretreatment by an oil water separator before being routed to the sanitary sewer system for further treatment before being discharged back into the environment.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County



➤ United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative “K” scale of values over a range of 0.02 to 0.69. Higher “K” values indicate more erodible soils.

Table 1 - “K” Value		
Soils Type	Subsurface	Substratum
Hinkley Loamy Sand (HIB)	.17	.17

The soil “K” value for the soil, listed above, shows a low susceptibility to erosion. The site’s susceptibility to erosion is sourced from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County.

CONCLUSION

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters’ sites, nor within the right-of-way. Overall, the project will provide an improvement to stormwater runoff quality and overall management due to the increased infrastructure.

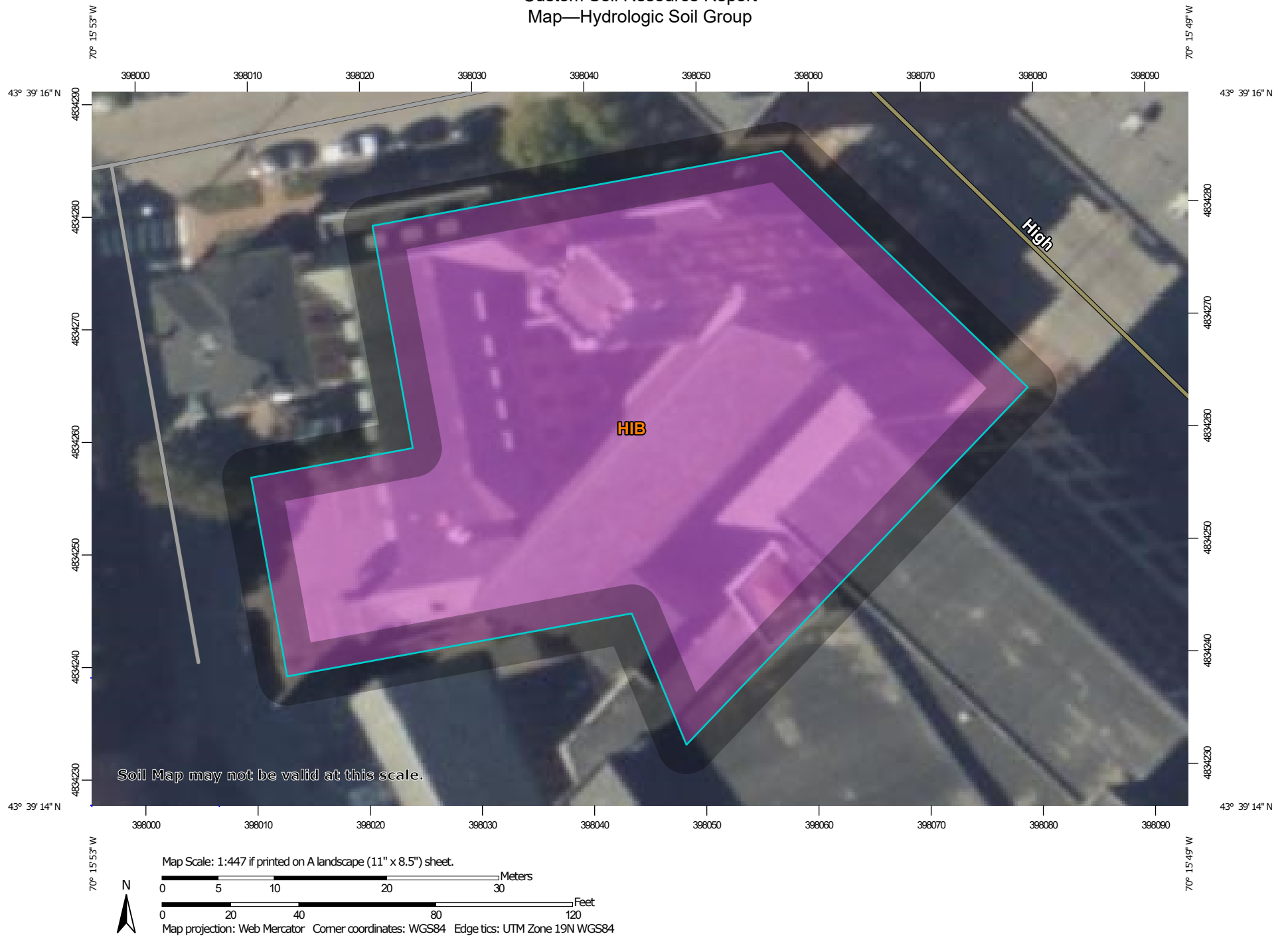
ATTACHMENTS

Attachment A: Medium Intensity Web Soil Survey

Attachment 1: Soils Map



Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
 Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	A	0.5	100.0%
Totals for Area of Interest			0.5	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

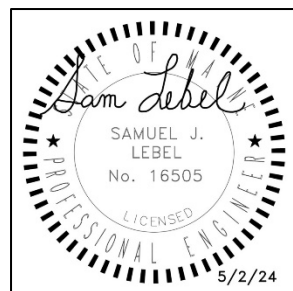
K. EROSION & SEDIMENTATION **CONTROL REPORT**

Prepared For:

**Williston-Immanuel United Church
307 Cumberland Avenue
Portland, Maine 04101**

Prepared By:

**Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104**



May 2024



INTRODUCTION

Acorn Engineering, Inc. has been retained by Avesta Housing to provide civil engineering services for the proposed redevelopment of 156 High Street. The 0.53 acres existing lot contains the Williston-Immanuel United Church front High Street along with the Parish House fronting Deering Street. The proposed project includes renovating the Parish House into affordable housing in tandem with a small 5-story addition off the Parish House. The project will reside at Map 46, Block D, Lots 17, 19, 20, and 37.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP’s Erosion & Sediment Control BMP’s Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The project site is bordered by High Street, Deering Street, and Deering Street Place. A boundary and existing conditions plan has been prepared by Owen Haskell, Inc dated April 30th, 2024. The site is 0.53 acres consisting of the Williston-Immanuel United Church, Parish House, and parking lot.

Abutting Uses:

- North B-2c Zone Business Community
- East B-2c Zone Business Community
- South B-2c Zone Business Community
- West B-2c Zone Business Community

1.1 Existing Soils

Onsite soil information derived from the following resources:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative “K” scale of values over a range of 0.02 to 0.69. Higher “K” values indicate more erodible soils.

Table 1 - “K” Value		
Soils Type	Subsurface	Substratum
Hinckley loamy Sand	0.17	0.17



The soil “K” value for the soil, listed above, shows a low susceptibility to erosion. The site’s susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil “K” value shows a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

There are no signs of critical areas.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.



2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

MDEP requires all projects to provide prior to construction an erosion and sediment control plan as part of the site development. The following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

- 2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas prior to construction. The following specifications shall be followed at a minimum:
 - Stone size shall be 2-3 inches or reclaimed or recycled concrete equivalent.
 - The thickness of the entrance stone layer shall be no less than 6 inches.
 - The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
 - The stabilized construction entrance shall be underlain by a geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
 - The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public roadways.
- 2.1.2 Siltation fence or erosion control berm shall be installed downgradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges or impounding large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. When time for removal, it is recommended that silt fences be removed by cutting the fence material at ground level to avoid additional soil disturbance.
- 2.1.3 Hay mulch, including hydroseeding, is intended to provide cover for denuded or seeded areas until revegetation is established. Temporary mulch should be applied to areas that will not be actively worked for more than 14 days (7 days in sensitive areas). Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch



placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

- 2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.
- 2.1.5 Deering Street Place shall be swept to control mud and dust from the construction site as necessary. Additional stone shall be added to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.
- 2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.
- 2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire, in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.
- 2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached $\frac{1}{2}$ the design height.
- 2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.
- 2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.
- 2.1.11 Stockpiles shall be stabilized and anchored within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.



2.1.12 For disturbance between November 1 and April 15, please refer to the winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 5.2 of this report.

2.2.2 All stormwater devices shall be installed and tributary areas stabilized prior to receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Construction Management & Erosion Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion & Sedimentation Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1st and April 15th. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover, or riprap by November 15th, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on the road shall be considered open.

The contractor shall limit the work area to areas where work will occur within the subsequent 15 days so that it can be mulched one day prior to a snow event. The contractor shall stabilize



work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that the ground surface is not visible through the mulch. Between the dates of November 1st and April 15th, all mulch shall be anchored by either mulch netting, tracking, or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above-freezing temperatures, finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.



All dormant seeding beds shall be covered with overwintering mulch or an anchored erosion control blanket. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for an adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.
- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.
- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st, the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.



- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod for late-season stabilization after October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.
- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 1H:1V or in areas with flowing water. Full contact between the blanket and the soil is critical for an effective erosion control cover.
- Stabilize the soil with stone riprap – Ditches and channels constructed in winter shall be stabilized with riprap. Riprap shall be layered over a nonwoven geotextile fabric blanket on top of a 6-inch layer of clean drainage sand. Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every week, as well as after a “storm event”. A “storm event” shall consist of 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall be inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences, and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances



The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. The entrance/exit pad shall be inspected weekly and before and after each storm event. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on-site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking onto the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control. Frequent reapplication of water may be necessary to mitigate dust occurring on warm sunny days, the distribution of water should not cause turbid runoff. Sweeping of paved road surface should occur during dry conditions and shall be swept from the centerline to the edge of the travel way, and shall not to be swept into a waterbody or wetland. Public roads may also require sweeping when necessary.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:



- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.



7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above-described erosion control measures. Measures should be in accordance with the proper erosion control measures for the season in which construction will be conducted. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence installation of drainage infrastructure.
5. Commence earthwork operations associated with the parking lot construction.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing, and brickwork.
12. Loam, lime, fertilize, seed, and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized and mulching of landscape areas is complete, remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance and inspections of all temporary and permanent erosion control measures throughout the project.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken within the following 30 days.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize any negative development impact caused by erosion and sedimentation. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.



9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan



TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P₂O₅-K₂O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.



PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P₂O₅-K₂O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

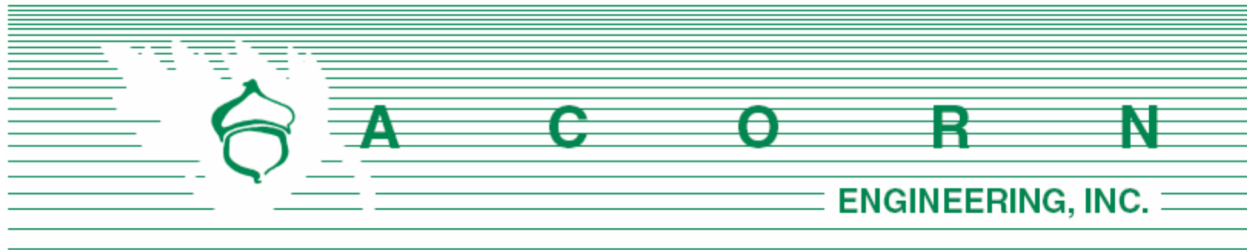
Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.





Chief Keith Gautreau
 City of Portland Fire Department
 380 Congress St.
 Portland, ME 04101

May 2, 2024

Subject: 156 High Street Redevelopment– Fire Department Checklist
 Section L of Application

On behalf of Williston-Immanuel United Church, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

Avesta Housing
 307 Cumberland Avenue
 Portland, Maine 04101
 (207) 553-7777

2. Name, address, telephone number of architect

Invid Architecture
 631 Stevens Avenue, Suite 200
 Portland, ME 04103
 (207) 939-7602

3. Proposed uses of any structures [NFPA and IBC classification]

NFPA: Apartments and Assembly
 IBC: R2 & A3

4. Square footage of all structures, including decks [total and per story]

Existing Building		
Total	34,233	sf

Existing + New Building		
Total	46,022	sf

Proposed Building Addition		
Basement	567	
1 st Floor	658	sf
2 nd Floor	2,641	sf
3 th Floor	2,641	sf
4 th Floor	2,641	sf
5 th Floor	2,641	sf
Total	11,789	sf



5. Elevation of all structures

Based upon the average grade plane defined by the IBC, the proposed building height is just under 59'. This height is below the allowable 65 feet within the B3 zone. Please refer to the building elevations provided by the architect for additional information.

6. Proposed fire protection of all structures

The building will be serviced by a 6" sprinkler service with additional protection per code. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior to the request for a building permit.

7. Hydrant locations

An existing hydrant is located along Deering Street right along the frontage of the church. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

8. Water main size and location

The redevelopment will be serviced by a new 6" sprinkler line and domestic water main within Deering Street. The building is expected to have internal sprinkler risers and a Fire Department pump connection.

9. Access to all structures [min. 2 sides]

Access to the structure is provided directly on the public right-of-way along Deering Street, High Street, and Deering Street Place.

10. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is located in a developed area and is fronted by a public street. The following are pavement street widths currently available:

- Deering Street: 33.14 wide and 15.14 wide between parking stall and edge of pavement.
- Deering Street Place: 25.82 wide and 16.82 wide between parking stall and edge of pavement.



Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: The building is accessible directly from the 3 street frontages.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along a circuitous route through the site for emergency access. Vehicular access is from the street.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: There is no proposed vehicular site access other than the small covered parking garage.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.



Response: The proposed elevators will meet this requirement.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant is currently working with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,



Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.



CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103



Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date: 5/2/24

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 156 High Street, Portland, ME 04101

Chart Block Lot Number: Chart 046, Block D,
Lots 17,19, 20, and 37

Proposed Use: Residential & Church

Previous Use: Shelter/Daycare & Church

Existing Sanitary Flows: 1,652 GPD

Existing Process Flows: 1,652 GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

There is an existing 12" CI sewer

main within Deering Place Street

Site Category	Commercial (<i>see part 4 below</i>)	☐
	Industrial (<i>complete part 5 below</i>)	☐
	Governmental	☐
	Residential	☒
	Other (<i>specify</i>)	☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Jennifer Munson Phone: 207-874-8719

Owner/Developer Name: Avesta Housing

Owner/Developer Address: 307 Cumberland Avenue Portland, Maine 04101

Phone: 207-553-7777

Fax: _____ E-mail: NHowes@AvestaHousing.org

Engineering Consultant Name: Acorn Engineering

Engineering Consultant Address: 500 Washington Avenue Portland, ME 04103

Phone: 207-775-2655

Fax: _____ E-mail: slebel@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 2,834 GPD

Peaking Factor/ Peak Times: Unknown

Specify the source of design guidelines: (*i.e.* "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)
Handbook of Subsurface Wastewater Disposal in Maine & Portland Water District Records

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:

N/A

Size of External Grease Interceptor:

Retention Time:

Peaking Factor/ Peak Times:

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:

N/A

GPD

Do you currently hold Federal or State discharge permits?

Yes	No
-----	----

Is the process wastewater termed categorical under CFR 40?

Yes No

OSHA Standard Industrial Code (SIC):

(<http://www.osha.gov/oshstats/sicser.html>)

Peaking Factor/Peak Process Times:

Note: *On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.*

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

M. Calculation of Wastewater Flowrate

The proposed project will include the redevelopment of a lot currently containing the existing Williston-Immanuel United Church front High Street along with the Parish House Fronting Deering Street. The proposed project includes renovating the Parish House into affordable housing in tandem with a small 5-story addition off the Parish House

Based upon Section 4 of the Maine Subsurface Wastewater Disposal Rules, the project anticipates the following daily flows:

Estimate of Anticipated Daily Flows			
Classification of Water Demand	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow			
Church/ Temp. Emergency Shelter / Daycare	1	PWD Bill (Post July 2023)	1,652
Total Gallons per Day (Existing)			1,652 GPD
Proposed Flow			
Church	1	PWD Bill (Pre Aug 2023)	346
Studio	2	120	240
1-Bedroom	28	120	3,360
2-Bedroom	3	180	540
Total Gallons per Day (Proposed)			4,486 GPD
Net Change			+2,834
*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition			

We have obtained the Portland Water District Bill for the property from the past few years, which is expected to be equivalent to the sewer flows leaving the building. The existing flows are from August 2023 through March 2024, when the Parish House became a temporary emergency shelter and daycare. The Williston-Immanuel United Church flows are included in the existing calculations. The proposed flows are based on 2 years of billing prior to August 2023 when the Parish House was not active, resulting in flows solely from the church operations. The proposed flows also include the church and 33 new units that the site will contain after the renovation. As seen above, the project anticipates an increase in daily flow rate of approximately 2,834 gallons per day.



N. Lighting

Proposed lighting as part of this project will be provided using recessed lighting in the parking garage ceiling. The recessed lighting will be designed so the illumination at the property boundary line does not exceed 1.0 foot-candles, per the Technical Manual.

Please let us know if a photometric or cuts sheets are requested for the recessed covered parking lighting.



O. Architectural Design Narrative

Please find attached the design narrative completed by Invivid Architecture.



Project Overview:

Name: Williston Immanuel United Church
Location: 156 High Street, Portland Maine
Number of Units: 33 Apartments
Use: Residential, Space of Worship

Project Description: Historic Preservation and Affordable Housing Redevelopment

We present a comprehensive proposal for the adaptive reuse of the current parish house, aiming to preserve its historical significance while addressing the critical need for affordable housing in our community. The project involves transforming the existing parish house into 21 Maine State Housing affordable units, with a thoughtful and meticulous approach to maintaining the integrity of the church, chapel, and two meeting spaces.

The adaptive reuse plan entails converting the current office spaces, classrooms, and performance space on the third floor of the parish house into residential units. Simultaneously, we propose a sensitive 5-story addition that includes parking on the ground floor and three residential units per floor, totaling 12 additional units above the parking structure. This strategic design ensures that the new elements seamlessly integrate with the existing structures while enhancing the overall functionality and sustainability of the site. The flat roof, featuring a low parapet, will keep snow and ice from accumulating or falling onto neighboring properties or public areas.

To ensure harmony with the historic neighborhood, our team is committed to creating an exterior design that complements the architectural character of the surroundings. The design will incorporate elements that reflect the historical context while incorporating modern features to meet contemporary living standards. This delicate balance aims to contribute positively to the neighborhood's aesthetic while providing much-needed affordable housing options.

Our project aligns with the preservation principles set by the city, respecting the cultural and architectural heritage of the area. We anticipate that this redevelopment will not only provide affordable housing opportunities but will also contribute to the revitalization and continued vibrancy of our historic neighborhood.

We look forward to collaborating with the city to bring this vision to fruition, creating a harmonious blend of historical preservation and modern community development.

Sincerely,

Virginie Stanley
INVIVID ARCHITECTURE
631 Stevens Avenue, Suite 200
Portland, Maine 04103

P. Utilities

The proposed project will include installation of multiple utility services to the proposed building.

Water:

There is an existing 8" water main within Deering Street and Deering Street Place. It is proposed to tap a new 6" service line off the existing water main within Deering Street. The 6" parent-child connection will serve as the sprinkler service and the 2" line will be for domestic services.

Sewer:

An existing 12" sewer exists in Deering Street Place. It is proposed to connect a 6" sewer lateral into the existing main in Deering Street Place to serve the new plumbing core and the covered parking drainage. A backflow preventer is proposed at the property line before connecting into the existing sewer main.

Stormwater:

It is proposed to route the addition's roof and foundation drains to a separate storm drain. The MS4 would be extended in Deering Street Place to facilitate this connection.

Electric/Communications:

The site is currently served by underground services from the High Street underground circuits. The existing infrastructure is currently being evaluated by a mechanical/electrical team in tandem with CMP and the proposed project loads. Should upgrades be necessary, it's anticipated this work would occur within the existing trench/manhole in High Street as shown on Sheet C-20.

Gas:

Natural gas is not proposed as part of this project.

Ability to serve letters have been sent to the respective utility companies in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use. Responses from the utility companies are forthcoming.



Q. Construction Management Plan

Project Address: 156 High Street, Portland Maine, 04101

Project Description:

The project proposes to renovate the existing Parish House into affordable housing in tandem with a small 5-story addition off the Parish House to create a total of 33 affordable housing units.

Project Team Summary:

Owner:	Williston-Immanuel United Church / Avesta
General Contractor:	TBD
Civil Engineer:	Acorn Engineering, Inc.
Architect:	Invivid Architecture

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize any project impacts.

The GC will remain responsible for enforcement of all compliance with 1) all contract plans and specifications in their scope of work and 2) all site working conditions and safety requirements, day and night, for both persons and property, in each case for the duration of their work. These include OSHA, NIOSH, U.S. EPA, local ordinance and any other applicable governmental regulations. Both the Owner/GC and any subcontractors will remain responsible for safeguarding the general public.

The GC shall review all permits and conditions associated with the project. Refer to the Civil/Site Plan Set, Sheet C-03 Construction Management Plan for visual representation of the measures to be taken during construction.

The following outline has been developed in accordance with the City of Portland Construction Management Plan General Template and shall be referenced by the GC during construction.

A. Construction Management Principles

The control of noise, vibrations, ground movement, truck traffic, and other construction related factors will be of utmost importance. Care shall be taken to minimize these effects in the best interest of neighbors and the general public. GC to ensure that work hours conform to the City of Portland's Ordinance.

B. Development Review of Construction Management Plan

Logistics and safety program shall be submitted at or prior to the preconstruction meeting by the GC with all pertinent information required by the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and



Permits

Guarantees and fees will be paid at the time of the respective application. Sections 14-11 will be complied with all necessary permits will be obtained prior to work.

1. Street Opening and Street Occupancy Permits:

Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code. In addition to the best practices set forth in the Inclusionary Zoning Guidelines for Developers of rental housing.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor and Subcontractor contact information shall be posted somewhere along the project's street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the preconstruction meeting. Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit and City Code Section 25-129, Noise, dust and debris. Between September 1 and May 31, the following year, no person shall engage in construction activities generating noise exceeding 50 decibels, between the hours of 7 pm and 7 am of the following day within 500 feet of any buildings. From June 1 to August 31, construction activity may continue until 8 pm. No construction activity shall begin before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be requested for special circumstances and street utility work if needed. These requests will be subject to approval by the Public Works Authority. Deliveries will be scheduled between 7 am and 5 pm.



The estimated timeframe of the proposed project is outlined below:

<u>Project Start Date:</u>	Spring 2025
<u>Project End Date:</u>	Spring 2026

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security

1. The Construction Management Plan, Sheet C-03, depicts all proposed fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.
2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations.*
3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
 - Good Housekeeping
 - On-site security
 - Installation of new fire protection systems as construction progresses
 - Preservation of existing systems during demolition
 - Organization and training of an on-site fire brigade
 - Development of a pre-fire plan with the local fire department
 - Rapid communication
 - Consideration of special hazards resulting from previous occupancies
 - Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.
4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.
5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity including delivery vehicles to close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.



2. Sewer and Stormwater

Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual.

3. Traffic Control Plans

Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. The contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

The MOT will address the work required for utility connections in Deering Street and Deering Place Street. Traffic will be channelized utilizing drums and cones. Proper signage will be installed prior to the through work zone. Alternating traffic will be controlled with flaggers. Trenches will be patched with pavement daily.

The MOT plan shall provide for the safe passage of the public through or along the construction work zone. It may be permissible to close a portion of the street during utility connections and/or detour a mode of traffic when absolutely necessary for safety. All requests shall be subject to City approval. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

- Construction speed signing may be used as needed to slow traffic.
- Traffic Control signs shall not be placed where they would create any obstructions to bicycles or pedestrians.
- Flaggers will be utilized when necessary.

All existing modes of travel in the work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning and laying out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

- Traffic control bicycle and pedestrian facilities or routes through work zones shall be maintained until the bicycle and pedestrian facilities or



routes are ready for safe operation. Traffic control will not be removed to allow auto travel at the expense of bicycle and pedestrians.

- Barrier systems utilized to separate the construction activity from the public street and /or sidewalk shall not inhibit sight distances, particularly for visibility of pedestrians and bicyclists.
- ADA compliance in all capacities shall be maintained.

Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately, and its removal shall comply with all local, state, and federal regulations.
2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the contractor.
3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.
4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.
5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.
6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:
 - a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
 - b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
 - c. Clear all walks and ramps within the work zone
 - d. Sand or salt as needed
 - e. Clear all basin or drainage to help snow melt
 - f. The above steps shall be carried out Sunday-Saturday including holidays.

I. Erosion & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, and the approved erosion and sedimentation control report, prior to the pre-construction meeting for inspection by the City. The Contractor shall regularly inspect the control measures, no less than weekly and after storm events (0.5" or more in 24 hours). Additionally,



- temporary or permanent stormwater management systems shall be inspected and maintained to ensure working order. The Contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.
2. Due to the existing, sparse landscaping on site, no protection during construction will be necessary.
 3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.
2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.
3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided on site or arrangements for off-street parking at an off-site location shall be provided.
2. Truck Routes and Volumes: The following quantities are estimated as part of the reconstruction:
 - Gravel & Stone – 160 CY. Earthwork subcontractor(s) pit to project site.
 - Hot Mix Asphalt – 55 Tons. Paving subcontractor pit to project site.

L. Dewatering Plans

1. A basic dewatering plan for any construction work is required and shall be submitted by the Contractor. The plan must cover construction sites where



- groundwater is not expected but the impact of rainwater may require dewatering. The plan must include operating procedures, equipment to be used, including filters, erosion and sediment control measures, or other methods of removing sediment from approved discharges.
2. For construction work that will require frequent dewatering of groundwater from site, a dewatering plan must be prepared by the Contractor and approved by the Department of Public Works. Groundwater and/or soil testing may be required to determine course of action if treatment is necessary. Approval for all discharges to City infrastructure is required. The proposed plan must address the following:
- Project duration, discharge location, storage equipment on-site, dewatering schematic, and emergency contact.
 - General requirements include trained staff on-site for all approved discharges and required site log for documentation of all discharges.
 - Storage and/or treatment process should include proper settling time and maintain proper use of filtering medium as required.
 - Contingency/maintenance plan for all dewatering equipment devices and filtration mediums.

Any water that is removed from an excavation must be pumped from a perforated device buried in crush stone prior discharge and/or prior to storage and treatment. There will be no discharge allowed during precipitation events.

M. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.



R. Solid Waste Disposal

The property management company or Owner shall be responsible for locating the solid waste and recyclable material to the spaces allocated for solid waste storage as noted on the Site Plan (C-10).

A private hauler will be contracted for removal. The solid waste containers will be located within the trash enclosure out of public view.



S. Parking Analysis

The project proposes to renovate the existing Parish House into 21 units and build 12 new units for a total of 33 affordable units. The Applicant is seeking that the parking requirement for the project is to be determined by the Planning Board. Per Table 19-B in the Land Use Code, the Board “may establish a parking requirement within that is less than 1 space per workforce or low-income housing unit, regardless of the size of the structure”. We are requesting the Board use this exception to grant a minimum ratio of 0.1.

Given the development’s proximity to goods and services, an existing transit route located along the Congress and High Street intersection directly abutting the site, as well as the availability of on-street parking in the surrounding neighborhood, the project is proposing a limited amount of on-site parking spaces at a total of 5. Providing additional parking would sacrifice residential unit count and amenity space, neither of which is desired by the Applicant or what the City has set forth as guiding principles. We believe the proposal before the Board to be an appropriate use of the categorical exception for affordable housing given the project’s location, the small size and income restrictions of the units, and the overall best practices in unbundling rent from parking.



156 HIGH STREET RESIDENTIAL RENOVATION

AVESTA HOUSING
PORTLAND, MAINE

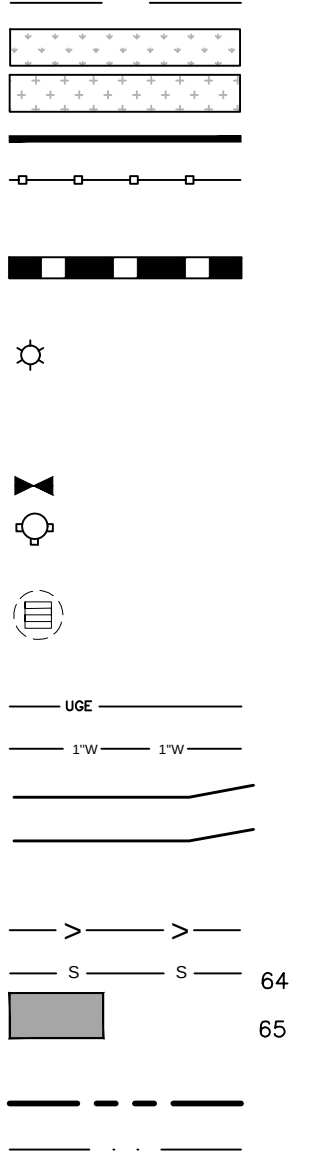
LEGEND

EXISTING

REFER TO THE
EXISTING
CONDITIONS PLAN
FOR ADDITIONAL
INFORMATION



PROPOSED



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CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

UTILITIES

SEWER

DEPARTMENT OF PUBLIC WORKS (DPW)
250 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: BRADLEY ROLAND, P.E.
(207) 874-8834



WATER

PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PO BOX 3553
PORTLAND, MAINE 04104
ATTN: MEANS DIVISION
(207) 774-5961



ELECTRIC

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: KATHERINE DUMOUNT
(207) 242-5744



TELEPHONE

CONSOLIDATED COMMUNICATIONS
(FORMERLY FAIRPOINT)
45 FOREST AVENUE
PORTLAND, MAINE 04101
CONTACT: PAT MORRISON
(207) 745-9363



CABLE

SPECTRUM CABLE
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: STEVEN HOLMES
(207) 631-1618



NATURAL GAS

UNITIL SERVICE CORP
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: SCOTT CARPENTER
(207) 541-2543



PROJECT TEAM

DEVELOPER

AVESTA HOUSING
PORTLAND, MAINE
CONTACT: NATE HOWES
(207) 232-1021

ARCHITECT

INVIVID ARCHITECTURE
PORTLAND, MAINE
CONTACT: VIRGINIE STANELY, R.A.
(207) 939-7602



MEP DESIGNER

ZADE ASSOCIATES, LLC.
QUINCY, MA
CONTACT: MUZAFFER MUCTECHTZADE, P.E.
(617) 9338-4406

ZADE ASSOCIATES LLC.

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
CONTACT: SAM LEBEL, P.E.
(207) 775-2655



SURVEYOR

OWEN HASKELL, INC.
FALMOUTH, MAINE
CONTACT: JAMES W. STEVENS P.L.S.
(207) 774-0424



ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE
CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CAD	COMPUTER AIDED DESIGN
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CL	CENTERLINE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARD
DI	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
HDPE	HIGH DENSITY POLY ETHYLENE
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDEP	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL, ELECTRICAL, PLUMBING DESIGNER
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VIF	VERIFY IN FIELD

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION



VICINITY MAP

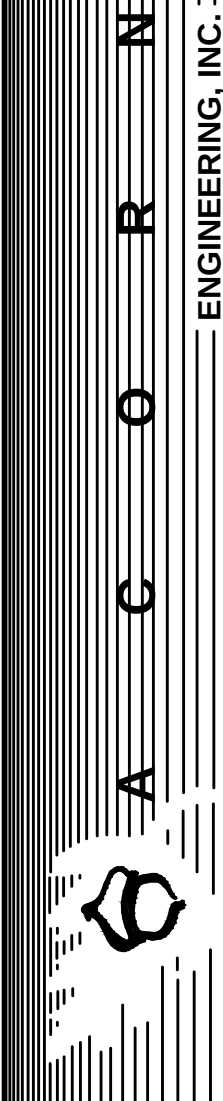
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ISSUED FOR	BY
PRE-APP MEETING	SJL
CSS SUBMISSION	SJL
MAJOR SITE PLAN	SJL

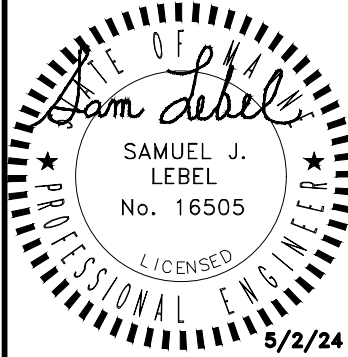
COVER SHEET & LEGEND

156 HIGH STREET

156 HIGH STREET RESIDENTIAL RENOVATION
307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101



FILE: 1229_DETAILS
JN: 1229
SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: BJK
CHECKED BY: WHS



DRAWING NO.

C-01

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.

- CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.
2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.
6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.
8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.
9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILLING, CONCRETE SHALL BE CURED PER STRUCTURAL ENGINEER'S SPECIFICATIONS.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.
12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.
14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAYER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN.
3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.
4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.
5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

- 5.1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
- 5.2. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED

5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

- 5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY OWNER AND COORDINATED BY THE CONTRACTOR.

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A LICENSED PROFESSIONAL LAND SURVEYOR.

2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.
6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF MAJOR SITE PLAN APPLICATION FROM THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.
3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF PORTLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS.
3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.
4. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES WHERE NOT NOTED ON THE GRADING PLAN. SLOPES IDENTIFIED ON THE GRADING PLAN TAKE PRECEDENT. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.
5. CONTRACTOR TO REVIEW EXISTING SOIL CONDITIONS, TEST PITS, AND BORINGS. THERE WILL BE NO ADDITIONAL PAYMENT FOR UNSUITABLE SOILS.
6. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF $N=0.012$ OR LESS.
7. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
8. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.

2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.
3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.
4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.
6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.
7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

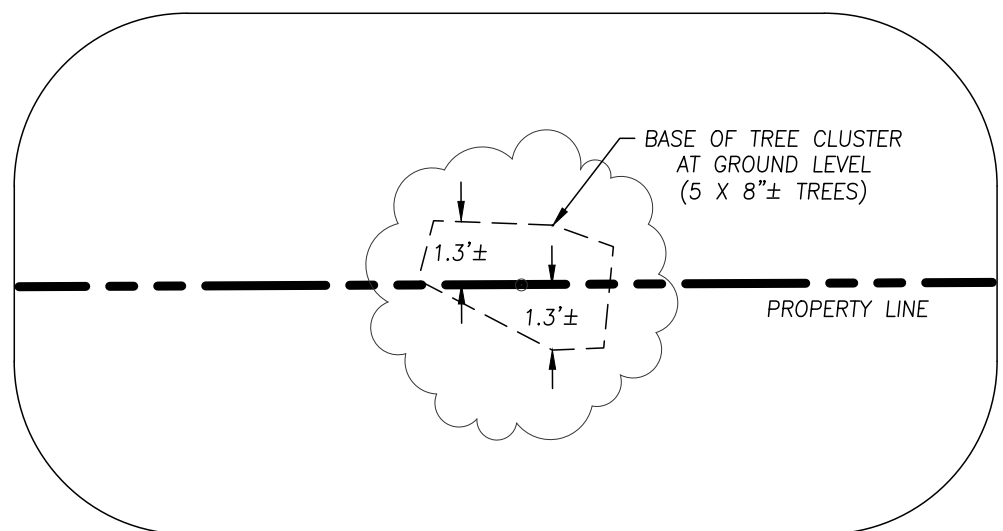
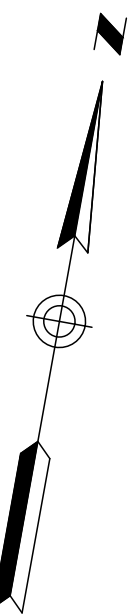
2. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.
3. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED AND SHOWN TO PASS PRIOR TO BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.
5. CONTRACTOR TO PROVIDE 5.5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAINT ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.
7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT "WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE", MOST RECENT REVISION.
8. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH CITY OF PORTLAND, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.
9. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.
10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
12. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
13. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL PRIOR TO ANY WORK.
15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.
16. ALL UTILITY PIPES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SACS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.
17. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.
18. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.
19. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.
20. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.
21. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.
22. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.
23. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:

- ROCK AND CONCRETE FOUNDATIONS
- CONCRETE SLABS
- BITUMINOUS ASPHALT PAVEMENT
- CONCRETE PADS AND BLOCKS
- FENCE POST AND FENCING
- UNDERGROUND UTILITY LINES
- ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
- STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
- OTHER TRASH & MISCELLANEOUS SOLID WASTES

2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.

[illegible]

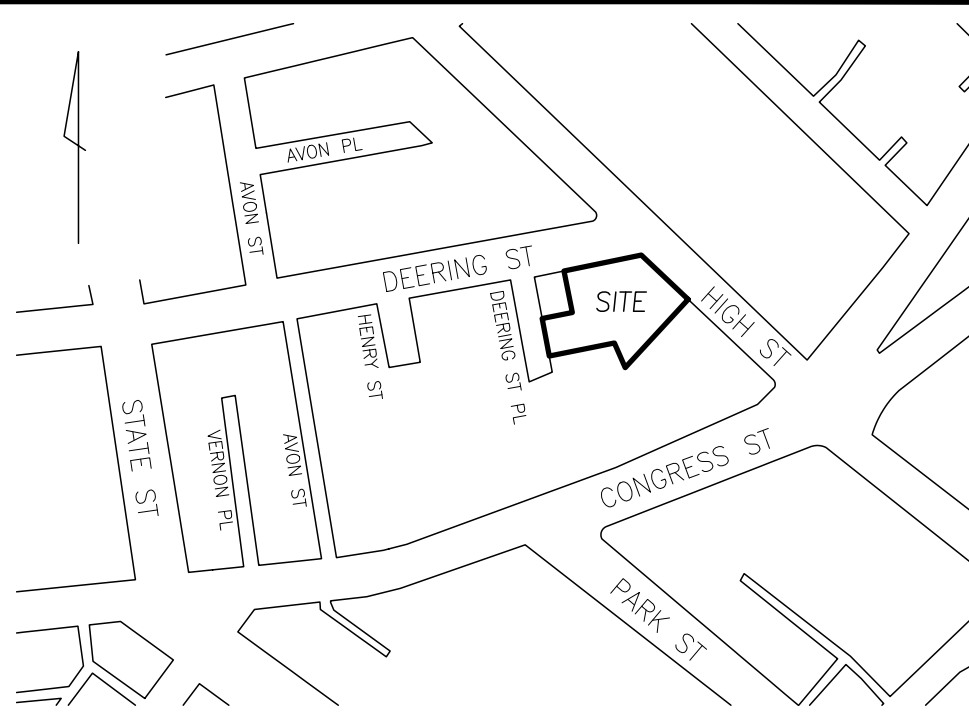


CUMBERLAND AVE.

ON W/ BOLT AND PUNCHMARK (HELD)
8.24' (IE CALCULATED FROM PLAN REFERENCE #5)

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.



LEGEND

●	IRON PIPE OR ROD FOUND	—X—X—	FENCE
■	MONUMENT FOUND	---	EASEMENT LINE
○	MAG NAIL w/ WASHER SET	---	CURB
○	UTILITY POLE	---	WINDOW WELL (TYP.)
○	MANHOLE	---	BOLLARD
⊗	GAS METER	---	PARKING METER
⊗	SIGN	---	CONC.
⊗	CATCH BASIN	---	CONCRETE
⊗	HYDRANT	---	GRANITE MONUMENT FOUND
⊗	WATER VALVE OR SHUTOFF	---	CAPPED IRON ROD FOUND
⊗	GAS VALVE	---	IRON PIPE/ROD FOUND
⊗	LIGHT POLE	---	NOW OR FORMERLY
⊗	DECIDUOUS TREE	---	DEED BOOK / PAGE
⊗	TRACTION PAD	---	L/S
		---	LANDSCAPED AREA
		---	OVERHEAD WIRES
		---	OHW
		---	UNDERGROUND POWER
		---	WATER LINE
		---	GAS LINE
		---	COMMUNICATIONS LINE
		---	SD
		---	STORM DRAIN
		---	SS
		---	SANITARY SEWER
		---	1" CONTOUR

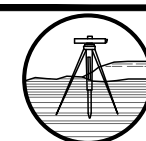
GENERAL NOTES

- OWNER OF RECORD: WILLISTON-IMMANUEL UNITED CHURCH
TAX MAP 046, LOTS D017001 AND D020001
C.C.R.D. BOOK 29974 PAGE 339
- ORIENTATION IS GRID NORTH (MAINE STATE PLANE WEST NAD83) BASED ON CITY CONTROL POINTS S-249-13-13 (MF AT NORTHWEST CORNER HIGH STREET AND CUMBERLAND AVENUE) AND T-124-27-1278 (MF AT CORNER OF HIGH AND PLEASANT STREETS).
- A STRIP OF LAND BEING 8 FEET BY 66 FEET IS SHOWN ON PLAN REFERENCE #2 WITH THE TEXT "RESERVATION OF NO BUILDING ON THIS STRIP". NO RECORD DOCUMENTS WERE FOUND PERTAINING TO THE ORIGIN OF THIS RESERVATION.
- THE GAS LINE SHOWN IN GRAY IS POSSIBLY ABANDONED.
- ELEVATIONS ARE BASED ON NAVD 88 DATUM, PER GPS OBSERVATIONS.

PLAN REFERENCES

- "A PLAN OF DEERING PASTURE", MARCH 2, 1858, RECORDED AT CUMBERLAND COUNTY REGISTRY OF DEEDS (C.C.R.D.) IN PLAN BOOK 2, PAGE 2.
- "PLAN MADE FOR IMMANUEL BAPTIST CHURCH", JUNE 1925, BY E.C. JORDAN & CO., UNRECORDED.
- "PLAN SHOWING LOCATION OF CONGRESS BUILDING, PORTLAND, MAINE", JUNE 25, 1941, BY H.I. JORDAN C.E., UNRECORDED.
- "PLAN OF PROPERTY IN PORTLAND MAINE, MADE FOR PORTLAND SOCIETY OF ART", DECEMBER 18, 1981, BY H.I. & E.C. JORDAN - SURVEYORS, UNRECORDED.
- "STANDARD BOUNDARY SURVEY AND CONDO CONVERSION OF TWELVE DEERING STREET CONDOMINIUM IN CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE", SEPTEMBER 8, 2000, REVISED SEPTEMBER 28, 2000, BY DES LAURIERS & ASSOCIATES, INC., RECORDED AT C.C.R.D. IN PLAN BOOK 200, PAGE 438.
- "BOUNDARY SURVEY/SITE PLAN AT 156 HIGH STREET, PORTLAND, MAINE, FOR: IMMANUEL BAPTIST CHURCH OF PORTLAND", OCTOBER 23, 2007, BY BACK BAY BOUNDARY, INC., UNRECORDED.
- "BOUNDARY AND TOPOGRAPHIC SURVEY FOR 619-623 CONGRESS STREET, PORTLAND, MAINE - MADE FOR OWNER OF RECORD, BAXTER LIBRARY, L.P.", NOVEMBER 18, 2009, BY OWEN HASKELL, INC., RECORDED AT C.C.R.D. IN PLAN BOOK 209, PAGE 465.
- CITY OF PORTLAND'S STREET LINE WORKING PLANS, DATED 1925: DEERING ST, HIGH ST, CUMBERLAND AVE, AND CONGRESS ST.

Boundary & Topographic Survey
At
156 High Street, Portland, Maine
Made for
Avesta Housing
370 Cumberland Avenue, Portland, Maine



OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS

390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL: 207-774-0424
DRAWN BY: JWS DATE: APRIL 30, 2024 JOB NO. 2024-008 P
CHECKED BY: JWS SCALE: 1" = 20' DRWG. NO. 1

CERTIFICATE

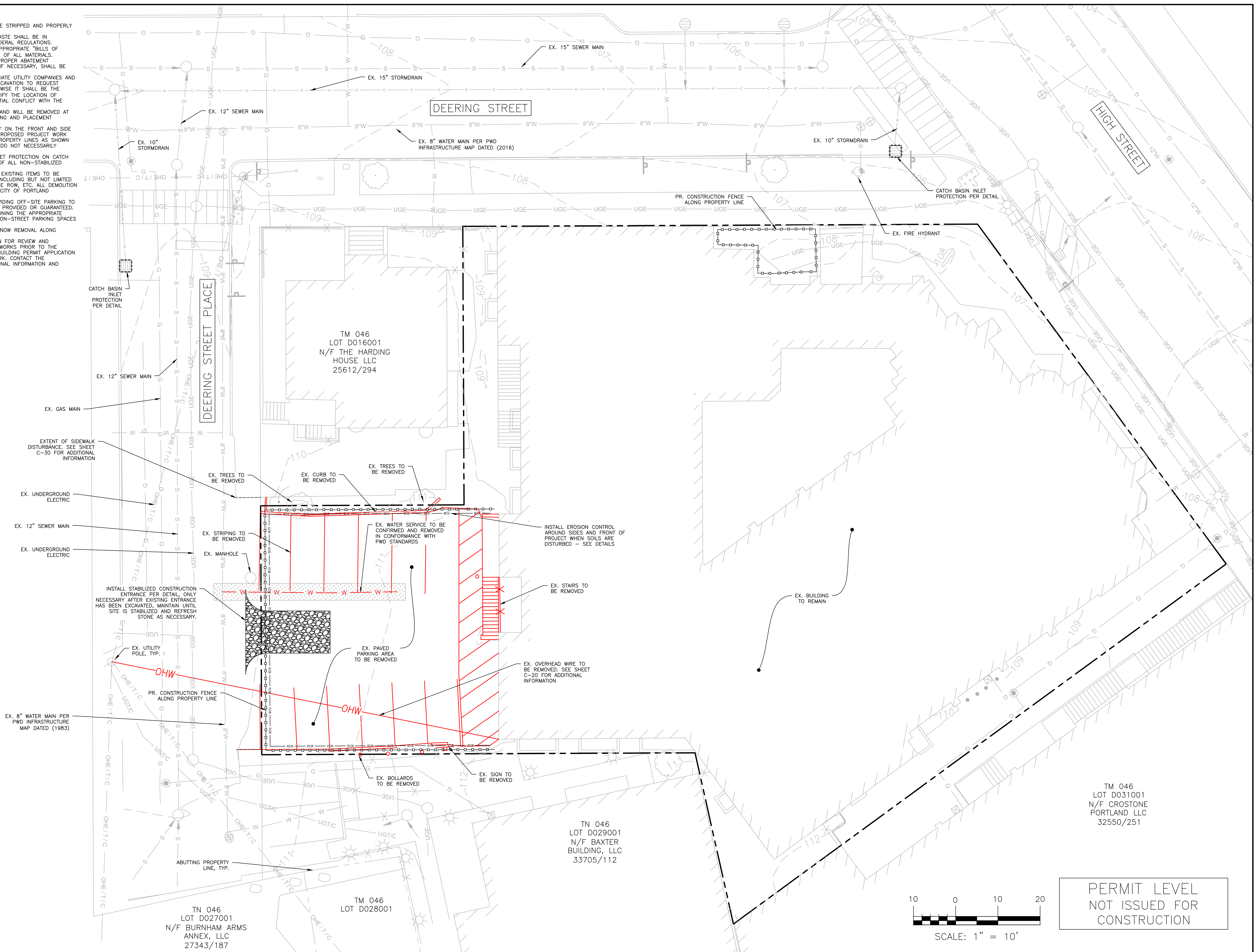
OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

JAMES W. STEVENS, PLS #2489
APRIL 30, 2024
DATE



SCALE: 1" = 20'
0' 10' 20' 40'

- GENERAL NOTES:
1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
 2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
 3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
 5. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
 6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL. FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
 7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
 8. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
 9. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
 10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
 11. CONTRACTOR TO SUBMIT A DEWATERING PLAN FOR REVIEW AND APPROVAL TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE PRE-CONSTRUCTION MEETING. DURING THE BUILDING PERMIT APPLICATION PROCESS, OR PRIOR TO ADVANCED SITE WORK, CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR ADDITIONAL INFORMATION AND CURRENT REGULATIONS.



ISSUED FOR	BY
PRE-APP MEETING	DATE
CSS SUBMISSION	SJL
MAJOR SITE PLAN	2/28/24
	2/2/24

CONSTRUCTION MANAGEMENT PLAN	
156 HIGH STREET	
156 HIGH STREET RESIDENTIAL RENOVATION	
307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101	

DRAWING NAME:	PROJECT NAME:
PROJECT NAME:	156 HIGH STREET

FILE:	1229_CIVIL
JN:	1229
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	BJK
CHECKED BY:	WHS

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

TM 046 LOT D031001 N/F CROSTONE PORTLAND LLC 32550/251
--

TM 046 LOT D027001 N/F BURNHAM ARMS ANNEX, LLC 27343/187
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TM 046 LOT D028001

TM 046 LOT D029001 N/F BAXTER BUILDING, LLC 33705/112

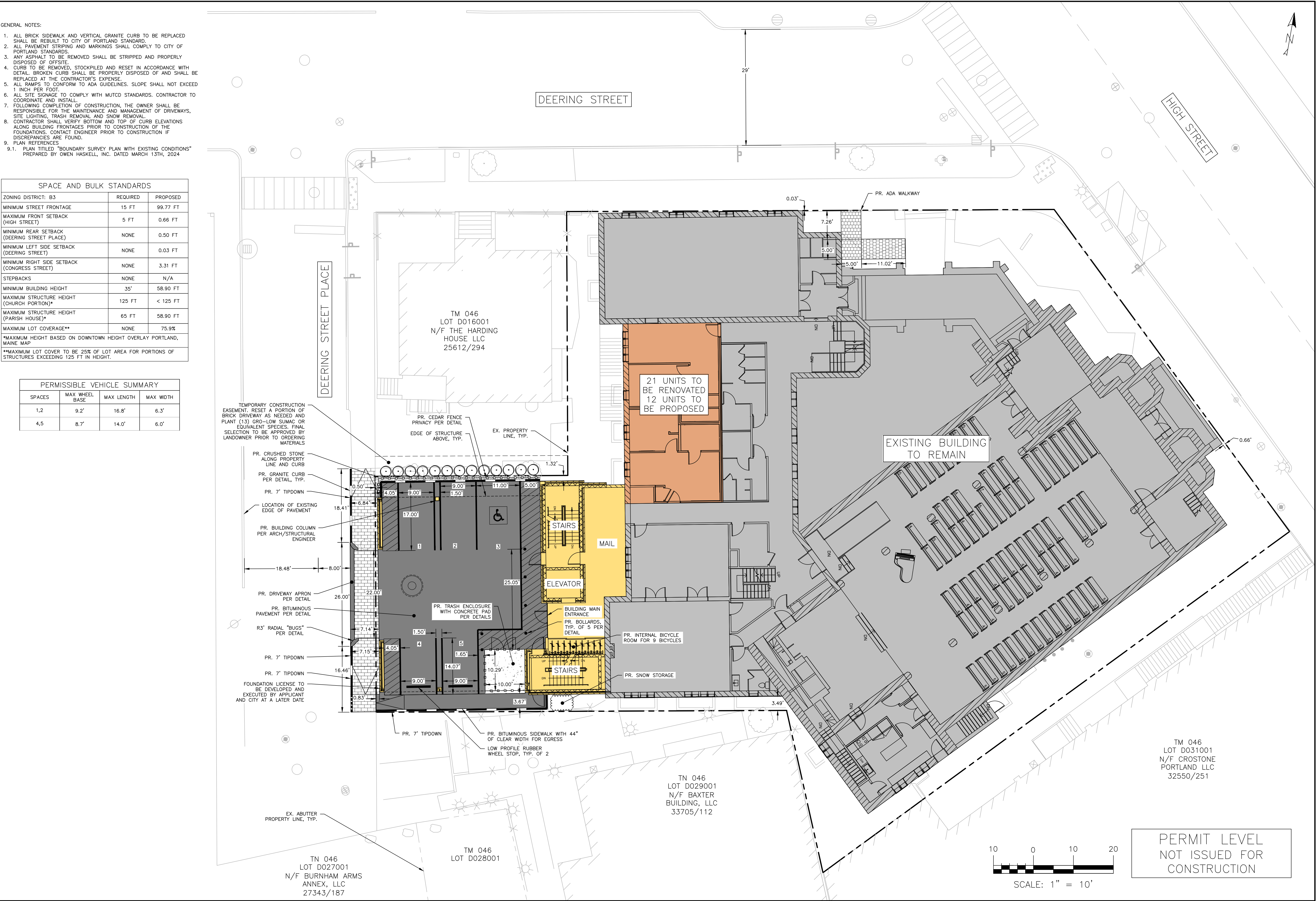
PERMIT LEVEL NOT ISSUED FOR CONSTRUCTION
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DRAWING NO.
C-03

- GENERAL NOTES:
1. ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
 2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
 3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
 4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 5. ALL RAMP TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1" INCH PER FOOT.
 6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
 7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
 8. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.
 9. PLAN REFERENCES
 - 9.1. PLAN TITLED "BOUNDARY SURVEY PLAN WITH EXISTING CONDITIONS" PREPARED BY OWEN HASKELL, INC. DATED MARCH 13TH, 2024

SPACE AND BULK STANDARDS		
ZONING DISTRICT: B3	REQUIRED	PROPOSED
MINIMUM STREET FRONTAGE	15 FT	99.77 FT
MAXIMUM FRONT SETBACK (HIGH STREET)	5 FT	0.66 FT
MINIMUM REAR SETBACK (DEERING STREET PLACE)	NONE	0.50 FT
MINIMUM LEFT SIDE SETBACK (DEERING STREET)	NONE	0.03 FT
MINIMUM RIGHT SIDE SETBACK (CONGRESS STREET)	NONE	3.31 FT
STEPBACKS	NONE	N/A
MINIMUM BUILDING HEIGHT	35'	58.90 FT
MAXIMUM STRUCTURE HEIGHT (CHURCH PORTION)*	125 FT	< 125 FT
MAXIMUM STRUCTURE HEIGHT (PARISH HOUSE)*	65 FT	58.90 FT
MAXIMUM LOT COVERAGE**	NONE	75.9%
*MAXIMUM HEIGHT BASED ON DOWNTOWN HEIGHT OVERLAY PORTLAND, MAINE MAP		
**MAXIMUM LOT COVER TO BE 25% OF LOT AREA FOR PORTIONS OF STRUCTURES EXCEEDING 125 FT IN HEIGHT.		

PERMISSIBLE VEHICLE SUMMARY			
SPACES	MAX WHEEL BASE	MAX LENGTH	MAX WIDTH
1,2	9.2'	16.8'	6.3'
4,5	8.7'	14.0'	6.0'



ISSUED FOR	BY
PRE-APP MEETING	DATE
CSS SUBMISSION	SJL
MAJOR SITE PLAN	5/2/24

SITE PLAN	156 HIGH STREET
PROJECT NAME:	156 HIGH STREET RESIDENTIAL RENOVATION
DRAWING NAME:	307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101

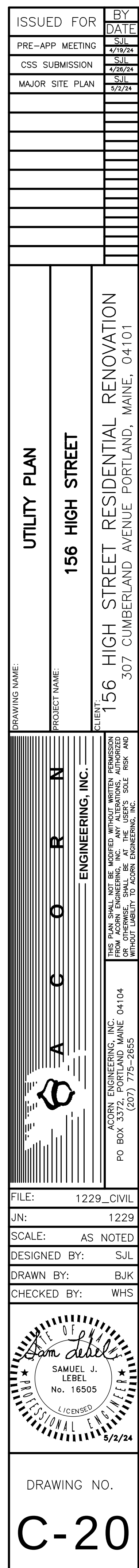
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JN:	1229
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	BJK
CHECKED BY:	WHS

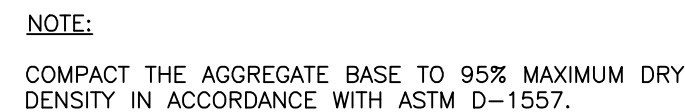
ACORN ENGINEERING, INC.	ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104	
(207) 775-2655	

PROFESSIONAL ENGINEER	5/2/24
SAMUEL J. LEBEL	No. 16505

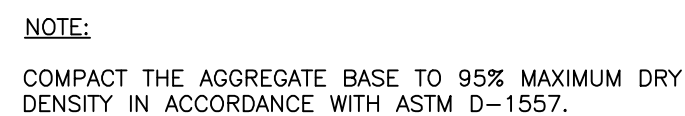
DRAWING NO.	C-10
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1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLAN.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH FIELD COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND CORRELATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING UTILITIES. CONTRACTOR TO BE RESPONSIBLE FOR ALL IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ABOVE ENGINEERING DESIGN LINES END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL DESIGN AND CONSTRUCTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE PROPERTY LINES FOR ALL SEWER UTILITIES. SEWER CONNECTIONS TO CONTRACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE DETERMINED BY M.E.P. ENGINEER. FINAL WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. WATER MAY BE SMALLER THAN PROPOSED WATER MAIN, WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH CITY OF PORTLAND AND PORTLAND FIRE DEPARTMENT. FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE CONNECTION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNTIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. MASTER LOCATION FOR ELECTRICAL SERVICE SHALL BE DETERMINED BY M.E.P. ENGINEER. FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CPM GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. CONTRACTOR TO OBTAIN FINAL APPROVAL FROM CPM.
9. CABLE AND TELEPHONE SHELLOWS AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND CONSOLIDATED COMMUNICATIONS PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES





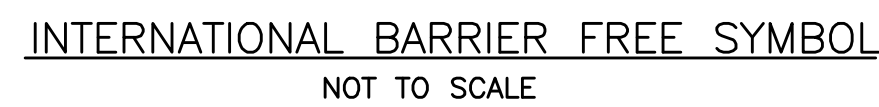
COVERED PARKING PAVEMENT PROFILE
NOT TO SCALE



DEERING PLACE STREET PAVEMENT PROFILE
NOT TO SCALE

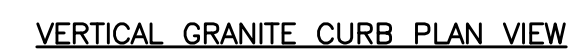


TRASH ENCLOSURE DETAIL
NOT TO SCALE



- NOTES:

1. PROOFROLL AND COMPACT SUBGRADE
2. COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
3. FINISH WITH A STIFF, COARSE, FIBER BROOM.
4. REFER TO PLANS FOR DIMENSIONS.



- NOTES:

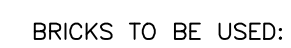
1. CURB SHALL BE RESET IN ACCORDANCE WITH MDOT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.
2. INDIVIDUAL PIECES OF CURB SHORTER THAN 4' L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
3. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10 INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF THE CURB.
4. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
5. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION
IN EXISTING STREETS DETAIL
NOT TO SCALE



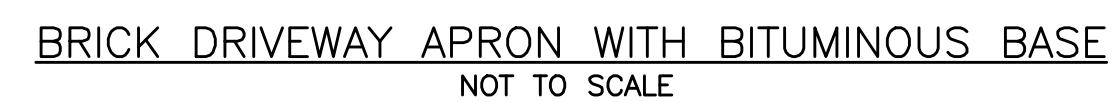
- NOTES:

1. BRICKS TO BE USED:
NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM #193623. PINE HALL PATHWAY PAVER BRICK.
REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
VERMONT BACKER SUPPLIED BY GAGNE AND SONS
SPECIFICATION NUMBER: "VERMONT PAVER BRICK", ITEM NUMBER #VBBB
2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.



NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAV
BRICK; MFG. BY PINE HALL BRICK
CO., MADISON, NORTH CAROLINA,
OR APPROVED EQUAL.
LACHANCE ITEM #193623, PINE
HALL PATHWAY PAVER BRICK.

REPAIR/MAINTENANCE TO EXISTING
BRICK SIDEWALKS:
VERMONT PAVER; SUPPLIED BY
GAGNE AND SONS. SPECIFICATION
NUMBER: "VERMONT BACKER
BRICK," ITEM NUMBER # VBBB.



- NOTES:

1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. CREATE UNIFORM AND RIGID BUTT JOINT AND APPLY BITUMINOUS TACK COAT AT AN APPLICATION RATE OF 0.10 TO 0.14 GALLONS PER SQUARE YARD PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF LOCAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

PROJECT NAME:

156 HIGH STREET

CLIENT:

156 HIGH STREET RESIDENTIAL RENOVATION

307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101

SITE DETAILS



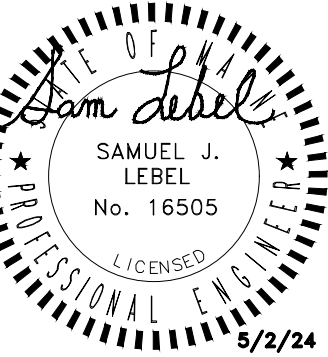
A C O R N

ENGINEERING, INC.

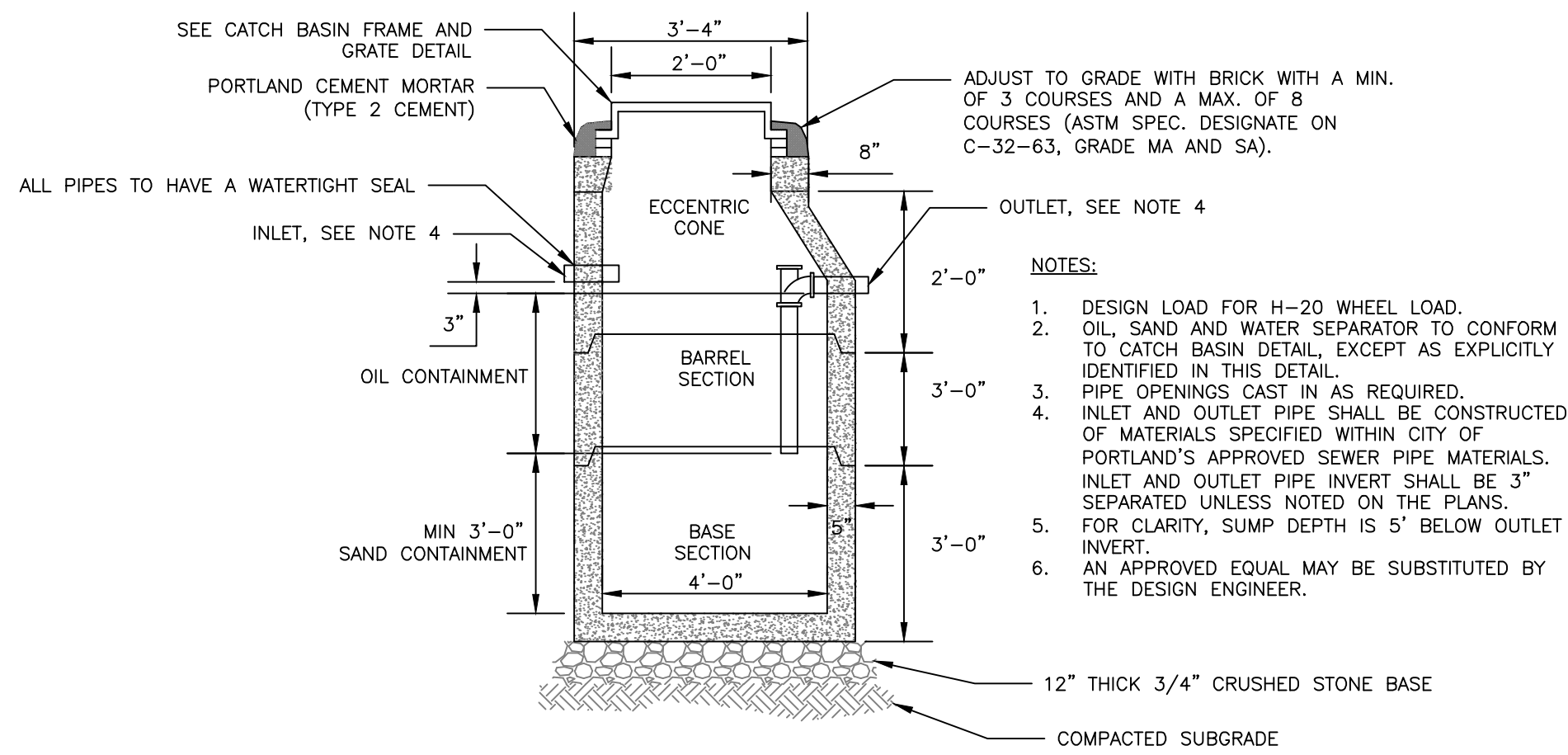
ACORN ENGINEERING, INC.
 100 BIGHAM AVE., SUITE 100
 BOSTON, MA 02116
 (617) 775-2855

FOUR ACORN ENGINEERING, INC. PROJECTS HAVE BEEN AUTHORIZED TO PARTICIPATE IN THE FEDERAL ACQUISITION PROGRAM FOR THE ACQUISITION OF THE U.S. SOLE RISK AND THE ACQUISITION OF THE U.S. SOLE RISK AND THE ACQUISITION OF THE U.S. SOLE RISK.

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IN:	1229
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	BJK
CHECKED BY:	WHS



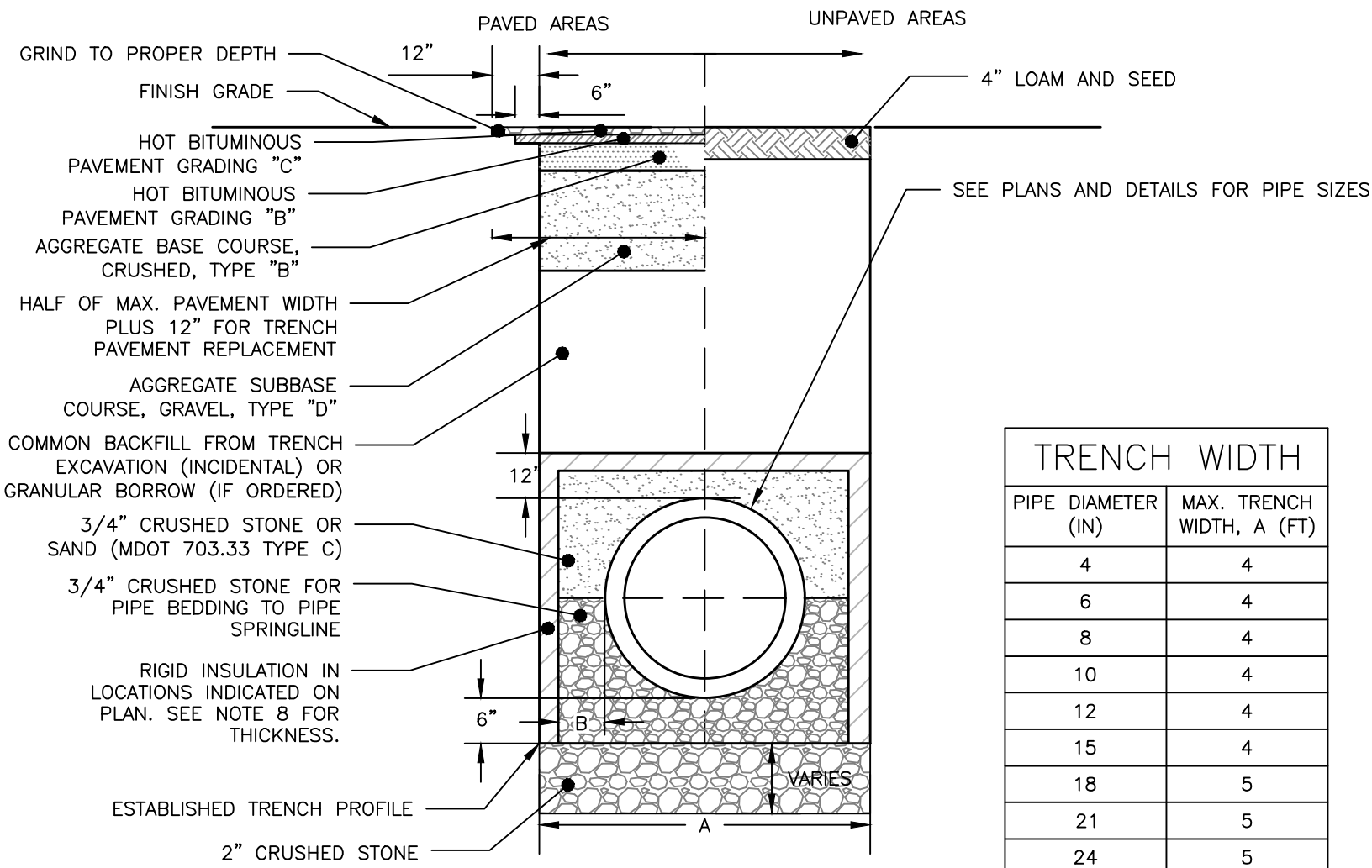
DRAWING NO.
C-40



4'-0" DIAMETER PRECAST OIL WATER SEPARATOR
NOT TO SCALE

- NOTES:
- DESIGN LOAD FOR H-20 WHEEL LOAD.
 - OIL, SAND AND WATER SEPARATOR TO CONFORM TO CATCH BASIN DETAIL, EXCEPT AS EXPLICITLY IDENTIFIED IN THIS DETAIL.
 - PIPE OPENINGS CAST IN AS REQUIRED.
 - INLET AND OUTLET PIPE SHALL BE CONSTRUCTED OF MATERIALS SPECIFIED WITHIN CITY OF PORTLAND'S APPROVED SEWER PIPE MATERIALS. INLET AND OUTLET PIPE INVERT SHALL BE 3" SEPARATED UNLESS NOTED ON THE PLANS. FOR CLARITY, SUMP DEPTH IS 5' BELOW OUTLET INVERT. AN APPROVED EQUAL MAY BE SUBSTITUTED BY THE DESIGN ENGINEER.
 - 12" THICK 3/4" CRUSHED STONE BASE
 - COMPACTED SUBGRADE

- DESIGN NOTES:
- ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
 - ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II-2.
 - BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF. SD) SHALL BE ORIENTED UP.
 - ALL STORM DRAINS SHALL BE PVC SDR 35 MIN PS-46 RATING OR IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 - SANITARY SEWER AND STORM DRAIN - PART 2.5.2
 - IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
 - THIS DETAIL SHALL BE APPLIED ONLY TO PIPE TRENCHES WITHIN THE CITY OF PORTLAND R.O.W.
 - STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION, COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION, OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
 - DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.
 - DIMENSION B SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION B SHALL BE AT LEAST 9".
 - DIMENSION A IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION A SHALL BE BASED ON PIPE DIAMETER D, AS SET FORTH IN THE TABLE BELOW.

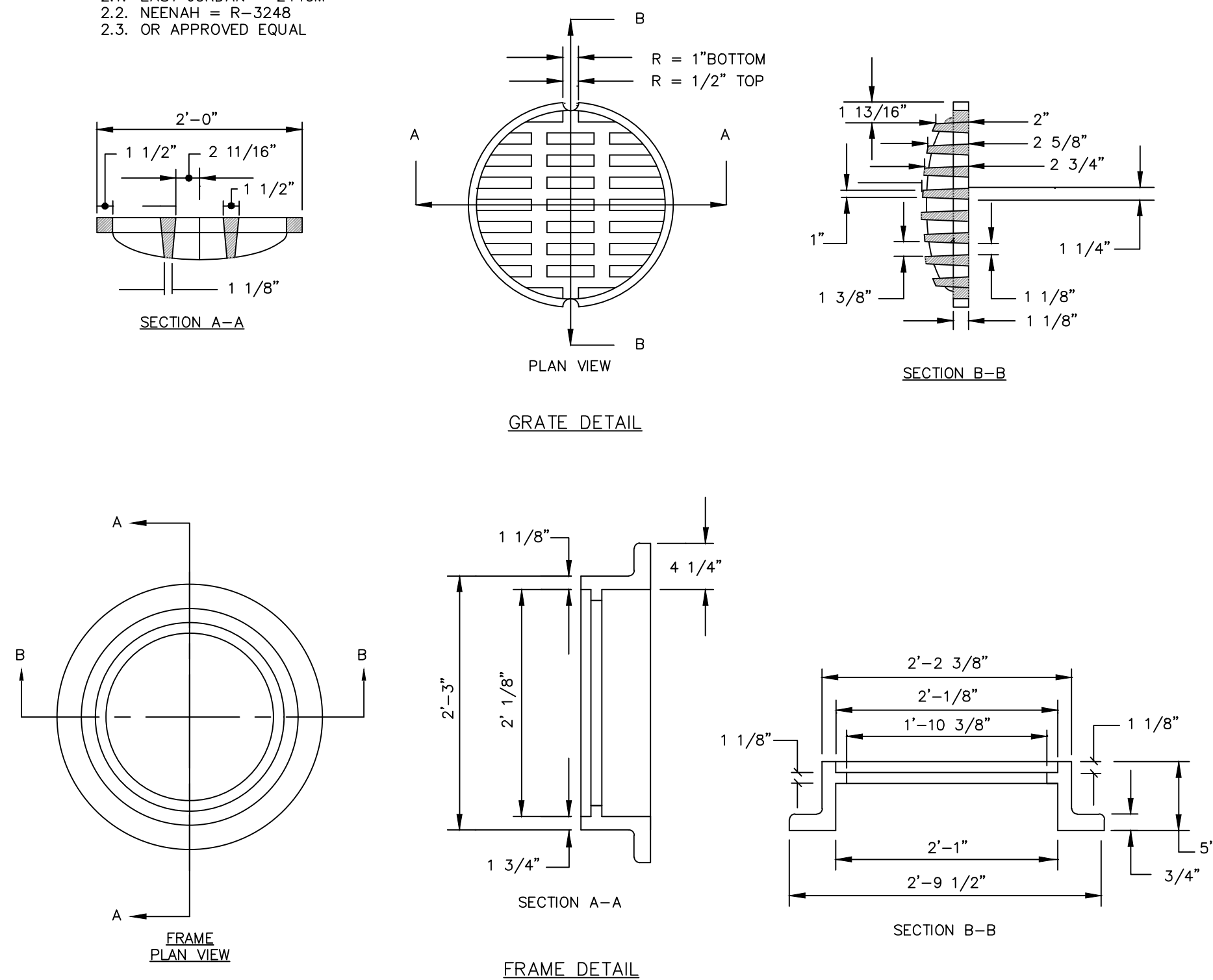


PIPE DIAMETER (IN)	MAX. TRENCH WIDTH, A (FT)
4	4
6	4
8	4
10	4
12	4
15	4
18	5
21	5
24	5
36	7
48	8
54	8
60	9

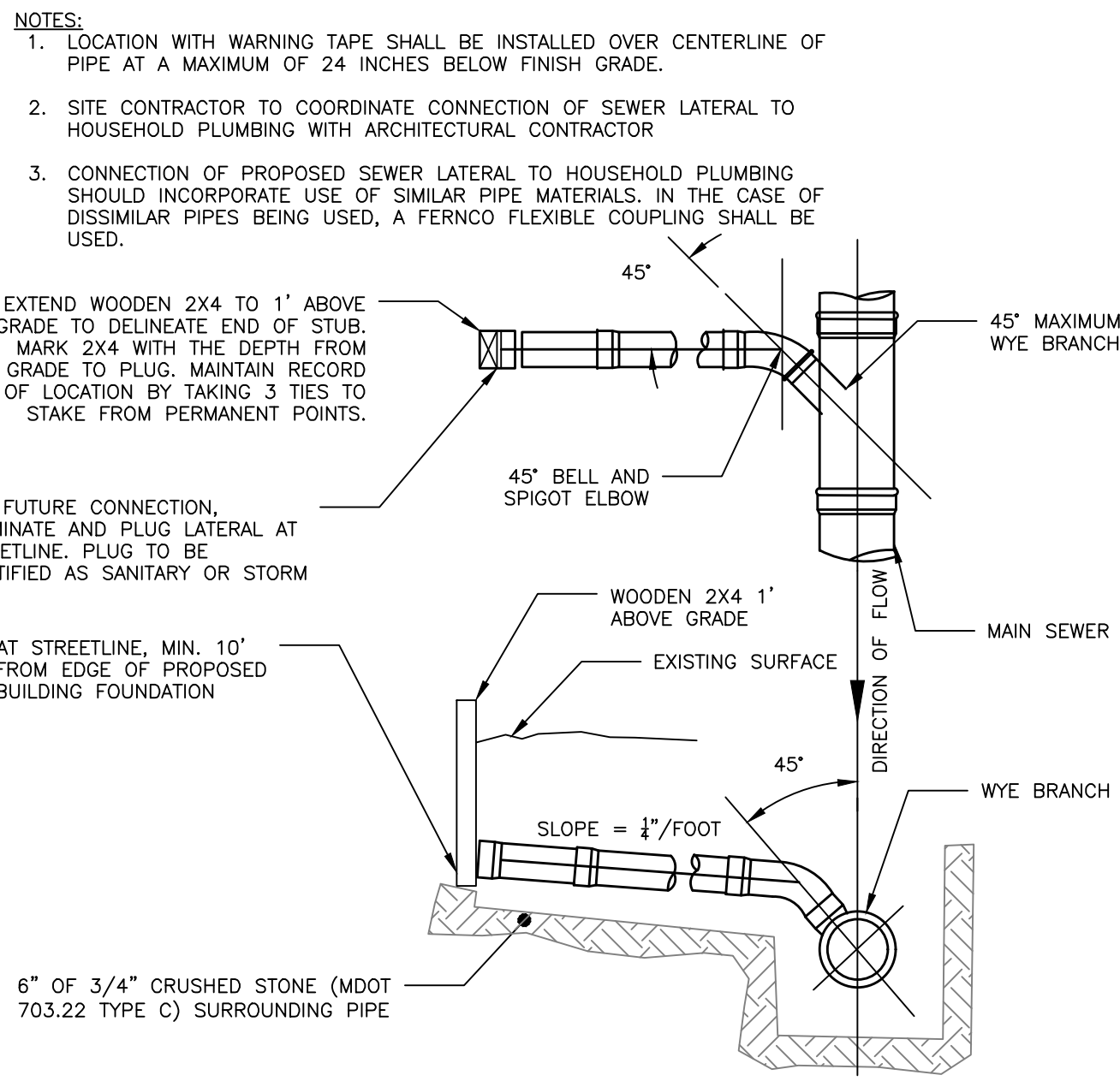
- ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
 - PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
 - PVC RING TYPE SEWER PIPE MEETING ASTM F 789
 - DUCTILE IRON PIPE (DIP)
 - ADS SANITTE HP MIN. PS-46

CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL
NOT TO SCALE

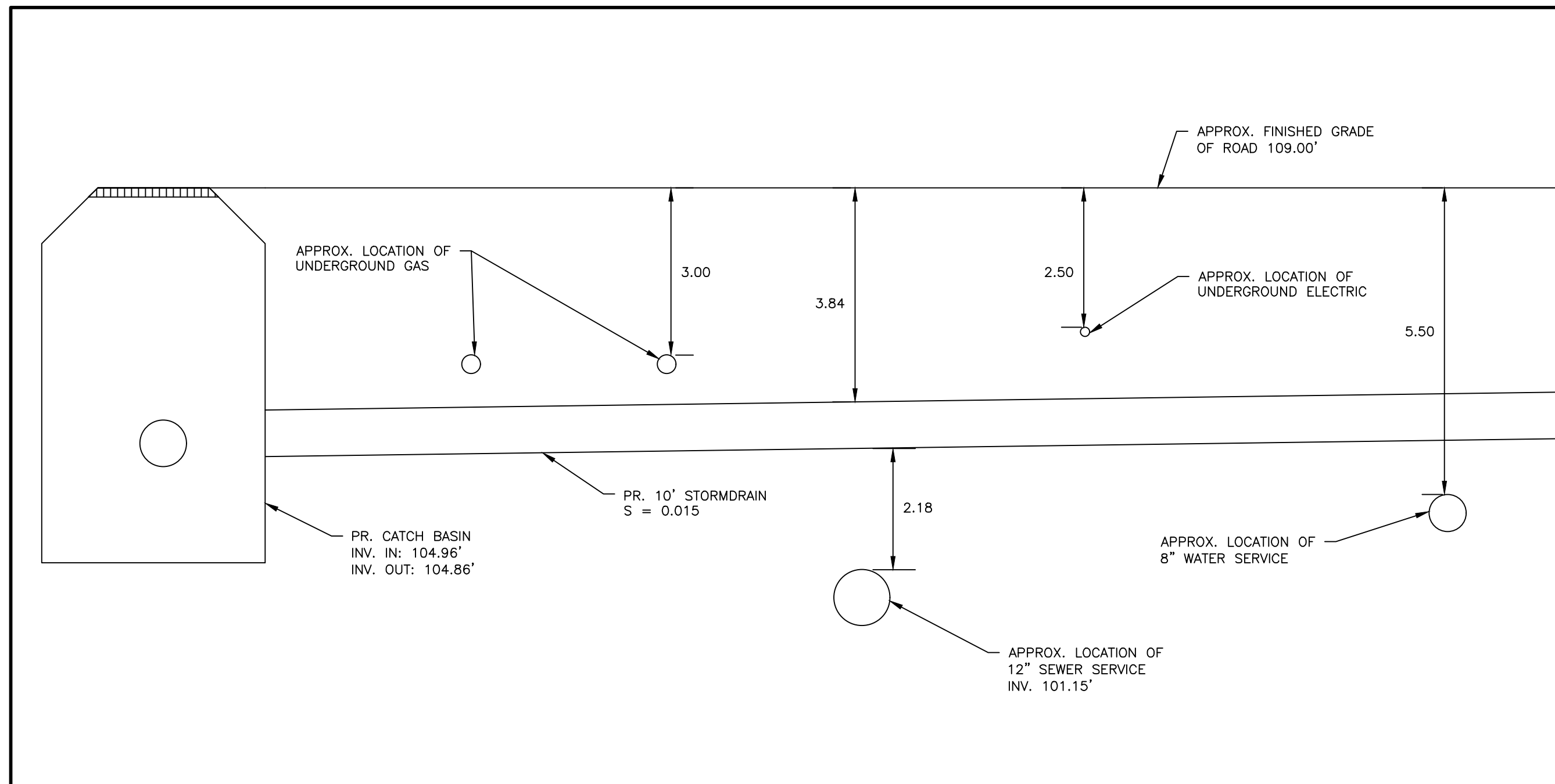
- NOTES:
- APPROVED CATCH BASIN FRAMES:
 - EAST JORDAN = 7375Z
 - NEENAH = R-3248
 - OR APPROVED EQUAL
 - APPROVED CATCH BASIN GRATES
 - EAST JORDAN = 2440M
 - NEENAH = R-3248
 - OR APPROVED EQUAL



OIL WATER SEPARATOR FRAME & GRATE
NOT TO SCALE



SEWER AND STORM DRAIN TEE/WYE CONNECTION DETAIL
NOT TO SCALE



SECTION A-A
NOT TO SCALE

- NOTES:
- BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
 - VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
 - VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
 - CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

BACKFLOW VALVE ASSEMBLY
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY
PRE-APP MEETING	DATE
CSS SUBMISSION	SJL
MAJOR SITE PLAN	5/2/24
UTILITY DETAILS - 1	
156 HIGH STREET	
156 HIGH STREET RESIDENTIAL RENOVATION	
307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101	
DRAWING NO. C-41	

ACORN ENGINEERING, INC. ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED BY THE CITY OF PORTLAND, SHALL BE THE RESPONSIBILITY OF THE ENGINEER, WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

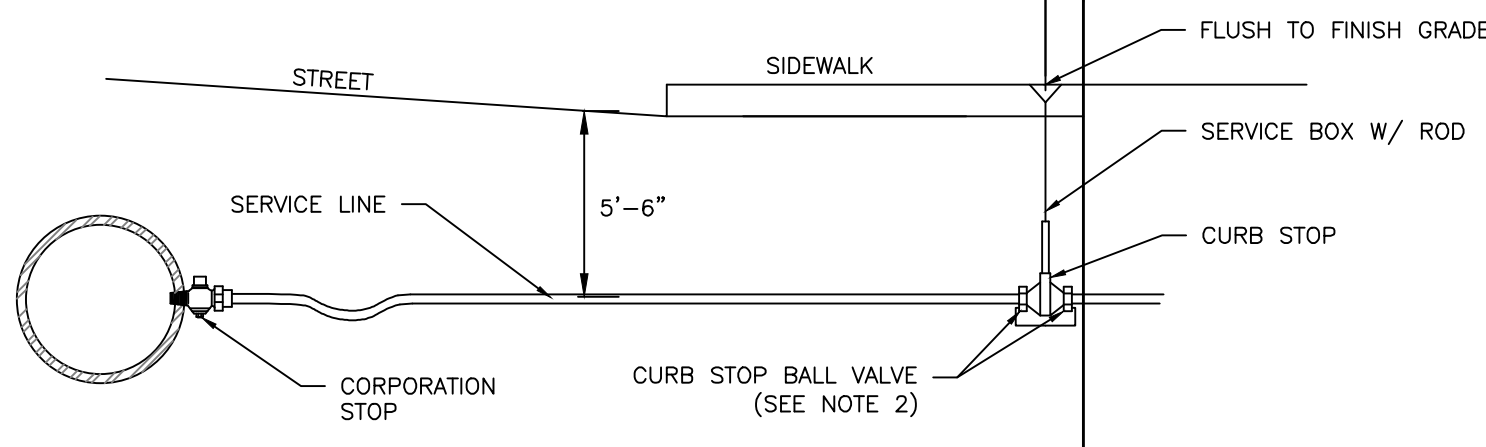
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

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SCALE: AS NOTED
DESIGNED BY: SJL
DRAWN BY: BJL
CHECKED BY: WHS

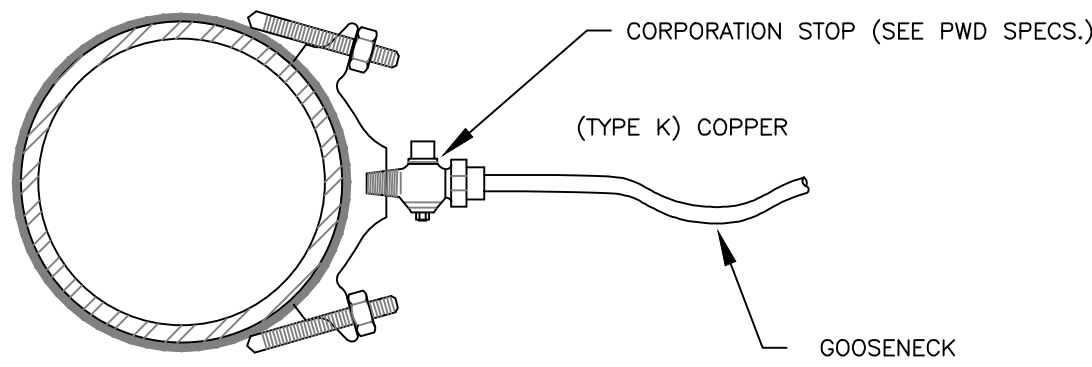
SAMUEL J. LEBEL
No. 16505
LICENSED PROFESSIONAL ENGINEER
5/2/24

NOTES:

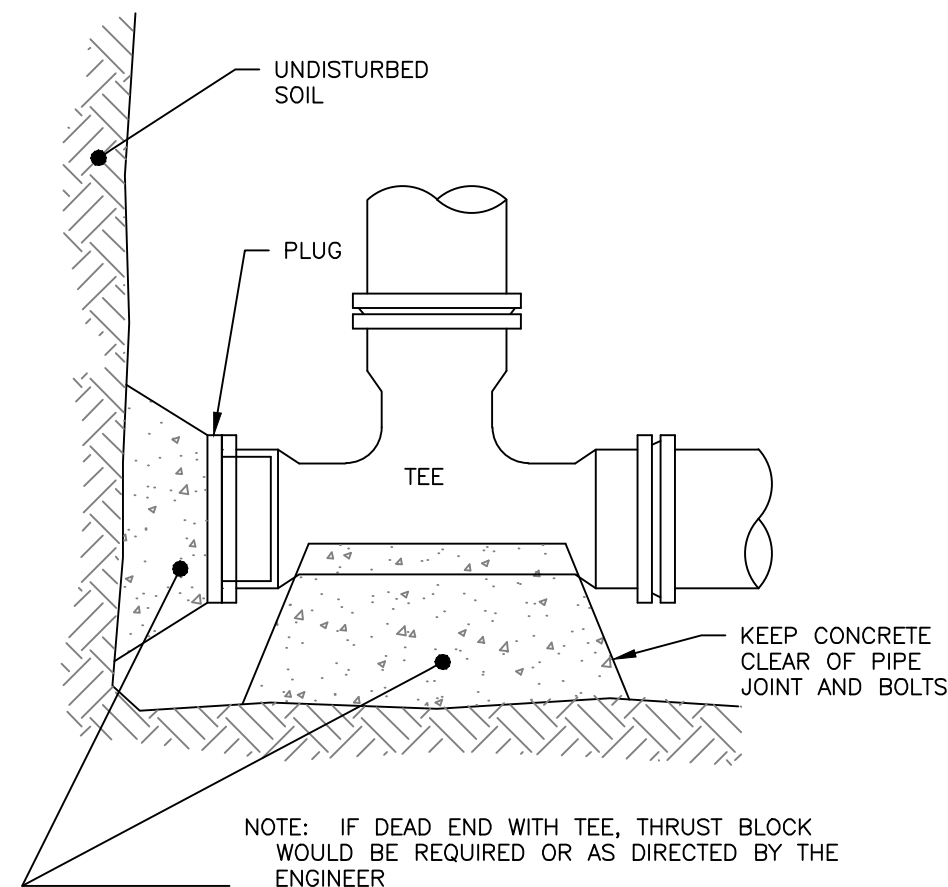
1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE CITY OF PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.



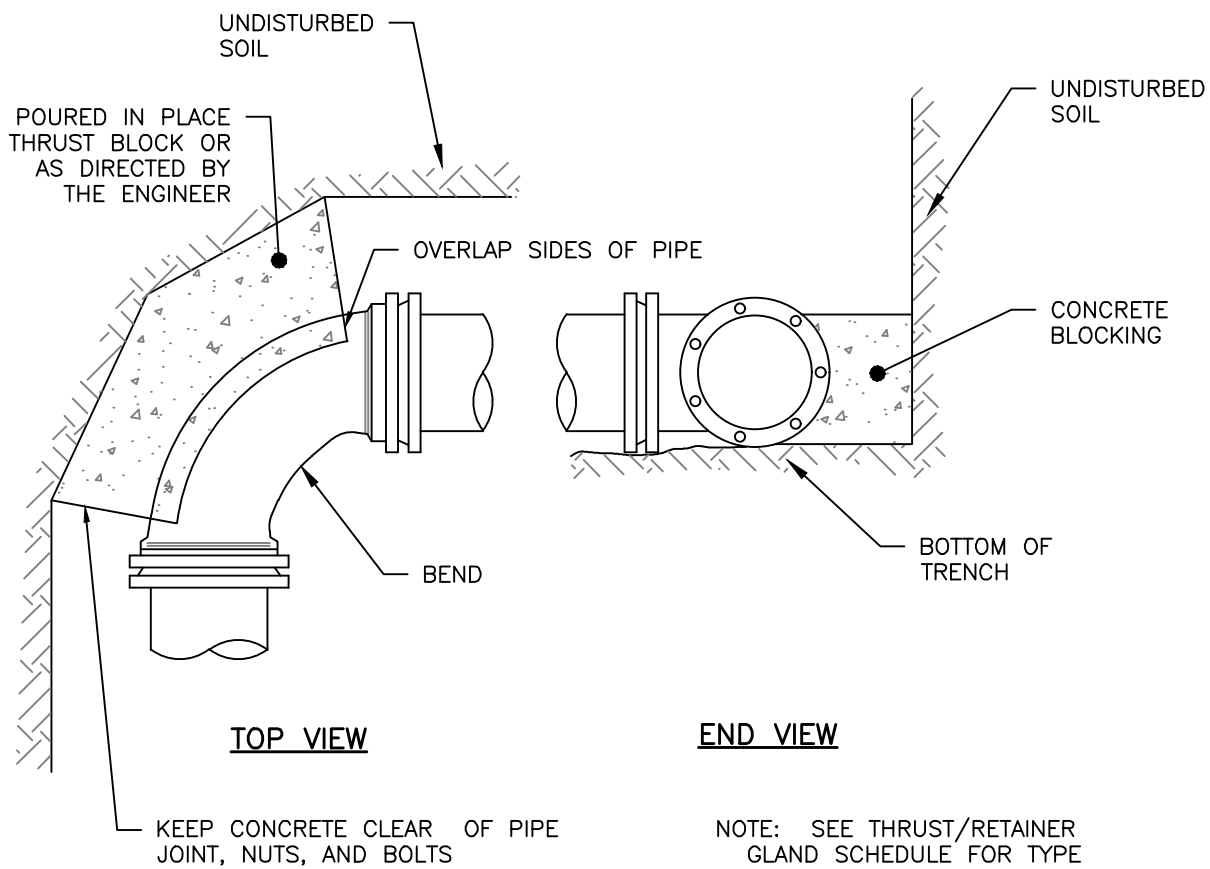
TYPICAL SERVICE CONNECTION
NOT TO SCALE



SERVICE SADDLE: 1-1/2" AND 2" C.C. THREAD
NOT TO SCALE



END SECTION

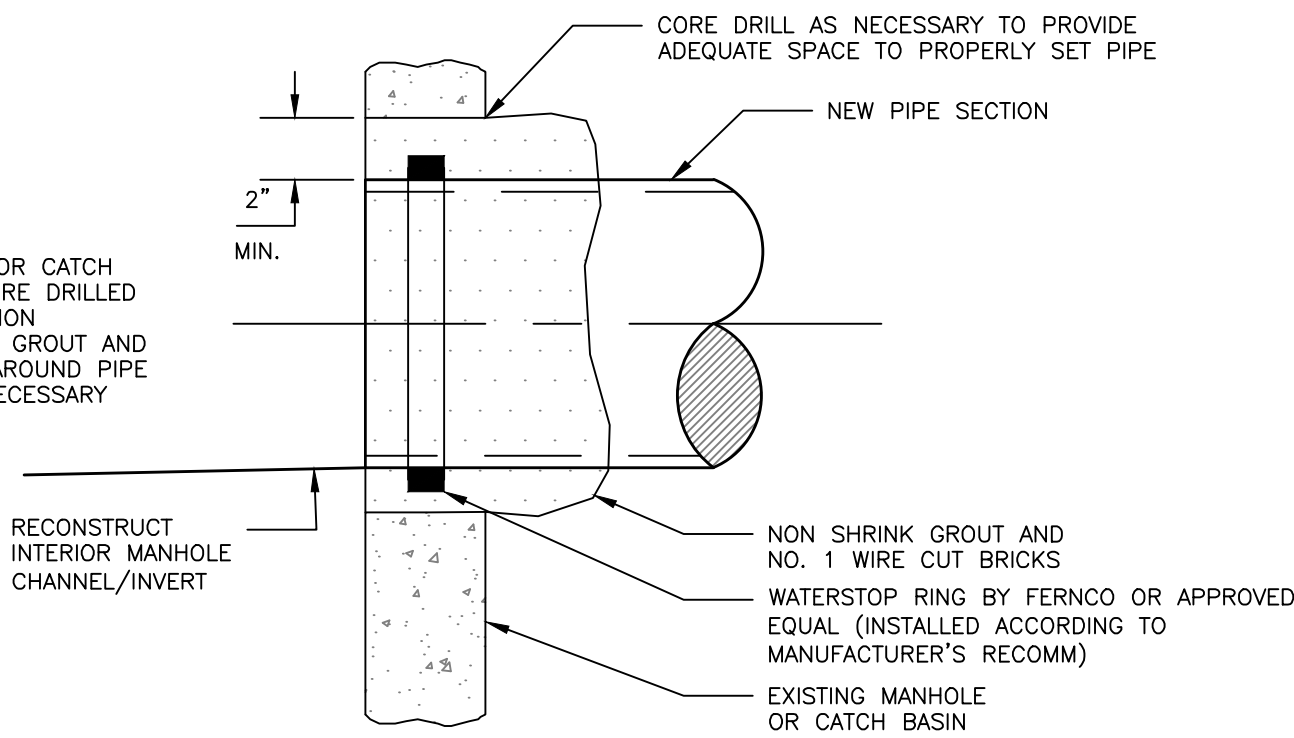


REGULAR BEND

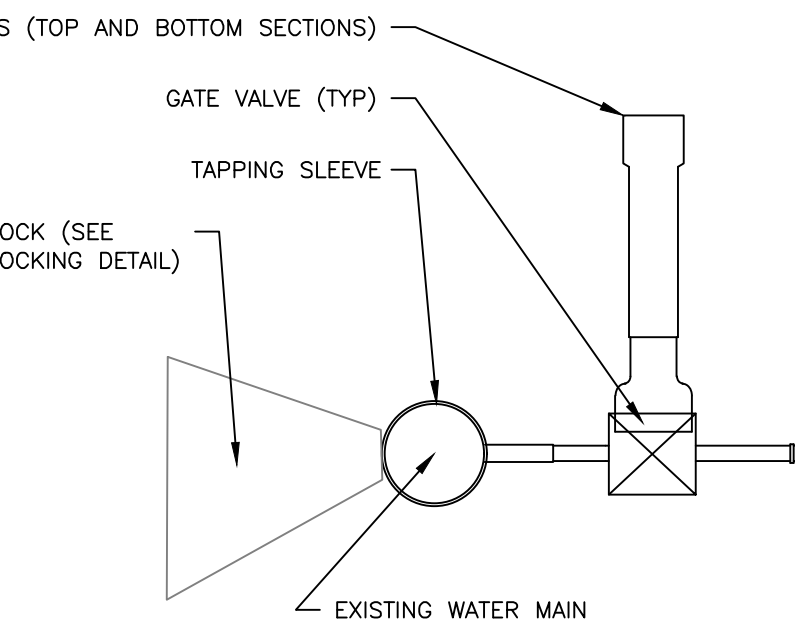
THRUST BLOCKING
NOT TO SCALE

NOTE:

1. EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION.
2. PLACE NON-SHRINK GROUT AND WIRE-CUT BRICKS AROUND PIPE CONNECTIONS AS NECESSARY.



NEW PIPE TO EXISTING STRUCTURE CONNECTION DETAIL
NOT TO SCALE

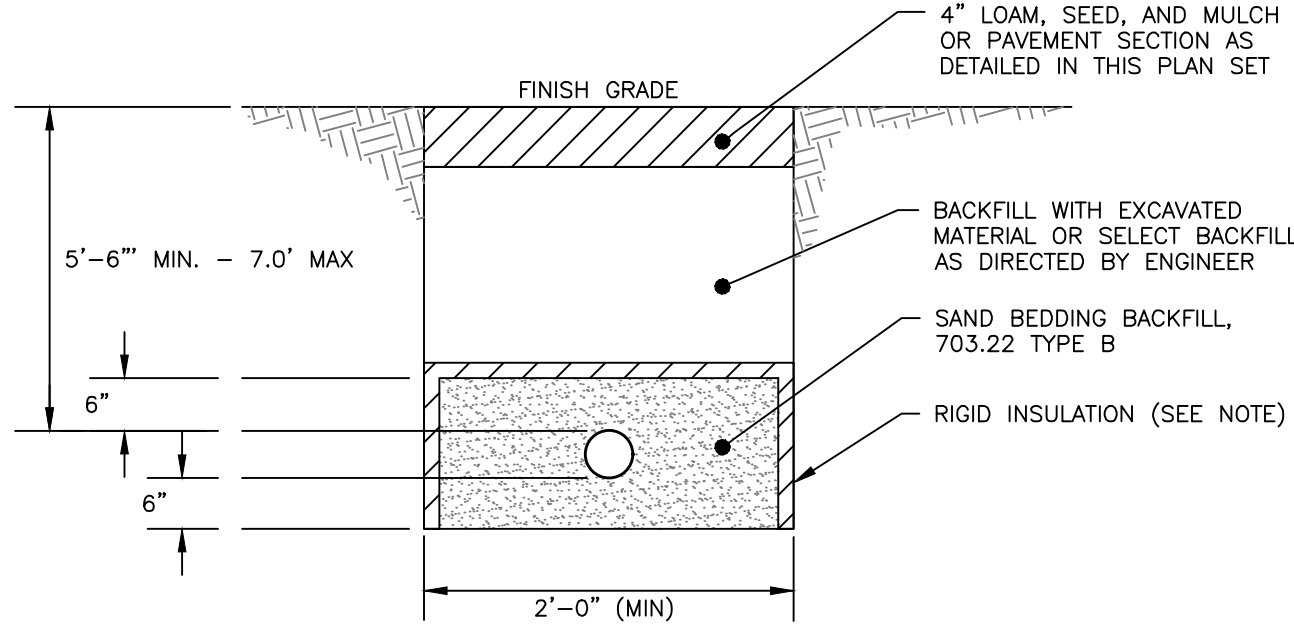


SIDE VIEW

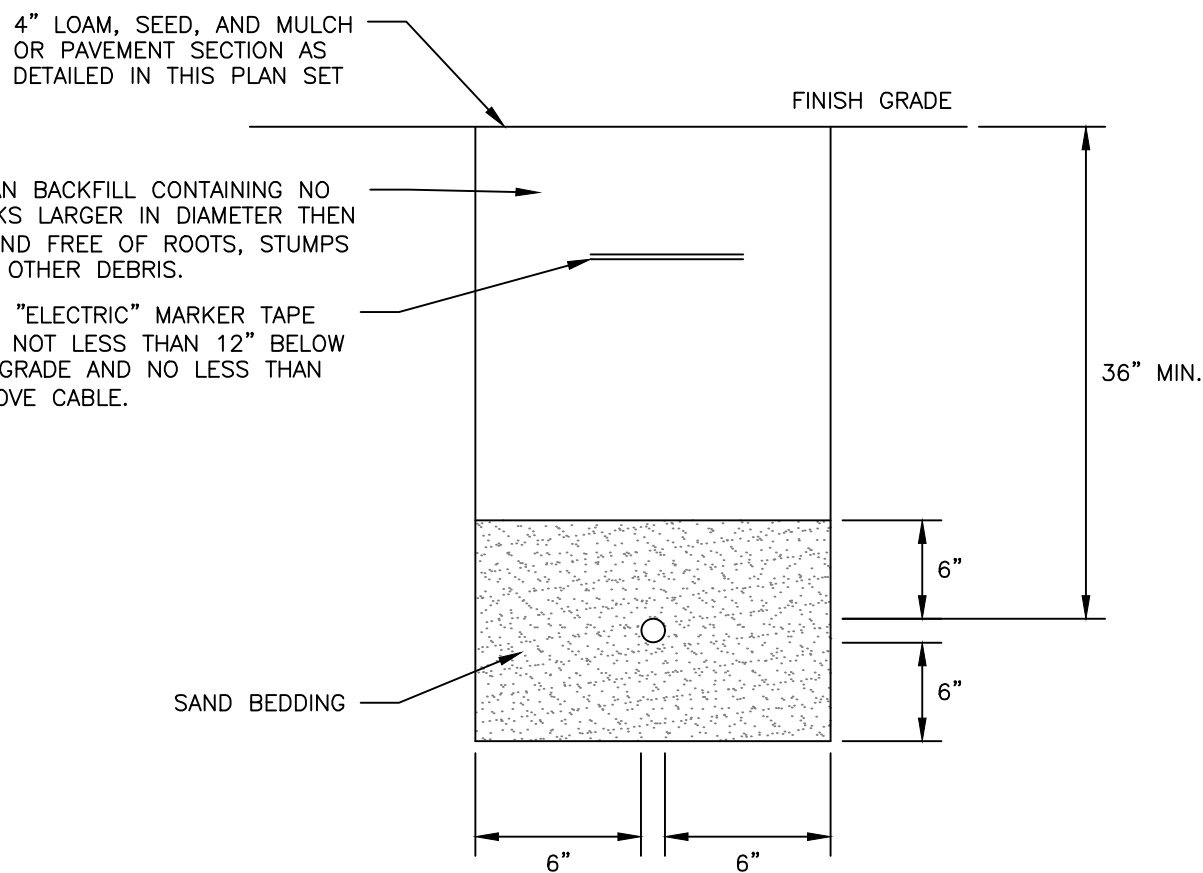
TAPPING SLEEVE AND VALVE
NOT TO SCALE

NOTES:

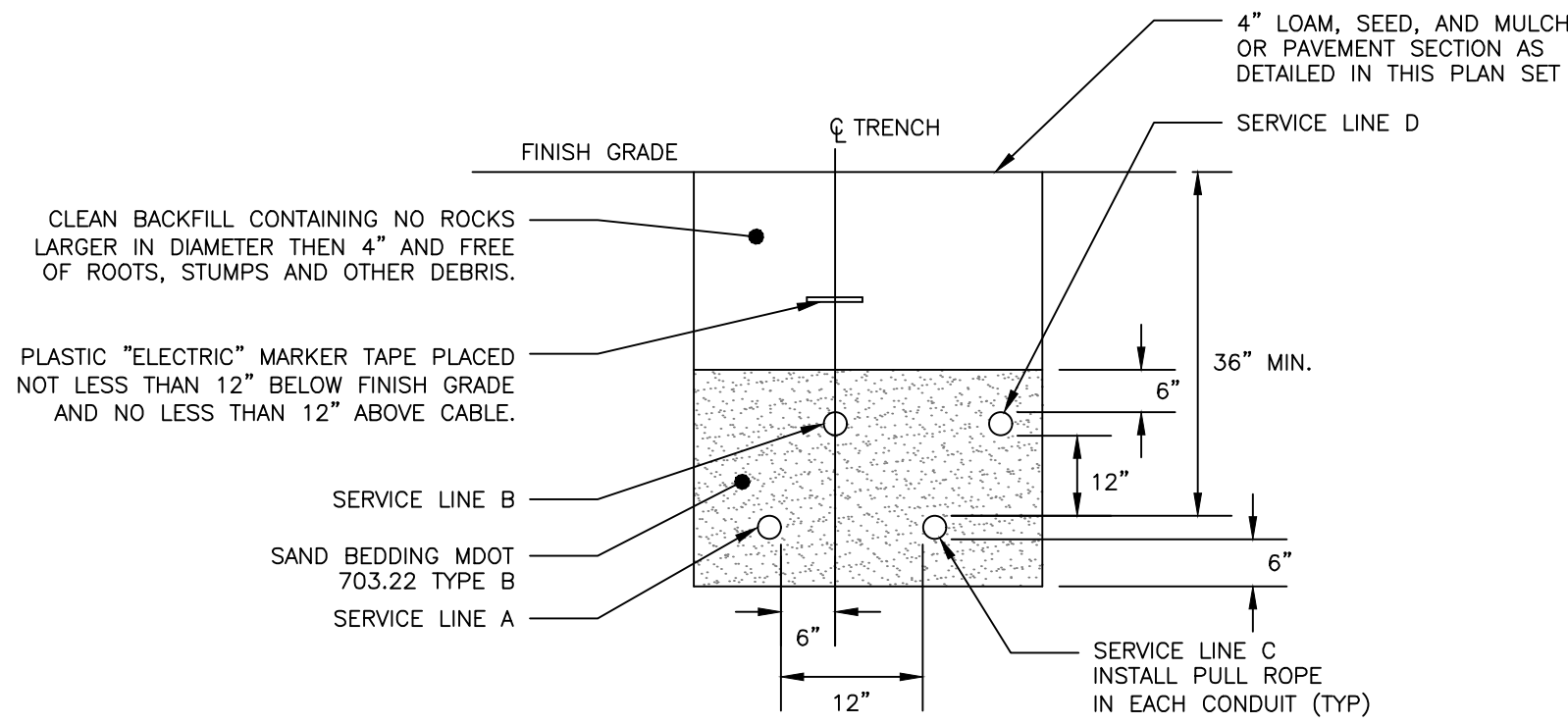
1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SANFORD WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS POSSIBLE ADD 1 INCH OF "BLUE DOW" RIGID INSULATION FOR EVERY 12" LESS COVER.
3. 12" MIN. HORIZONTAL CLEARANCE BETWEEN PIPES IN JOINT TRENCH.



WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE



SECONDARY ELECTRICAL TRENCH
NOT TO SCALE

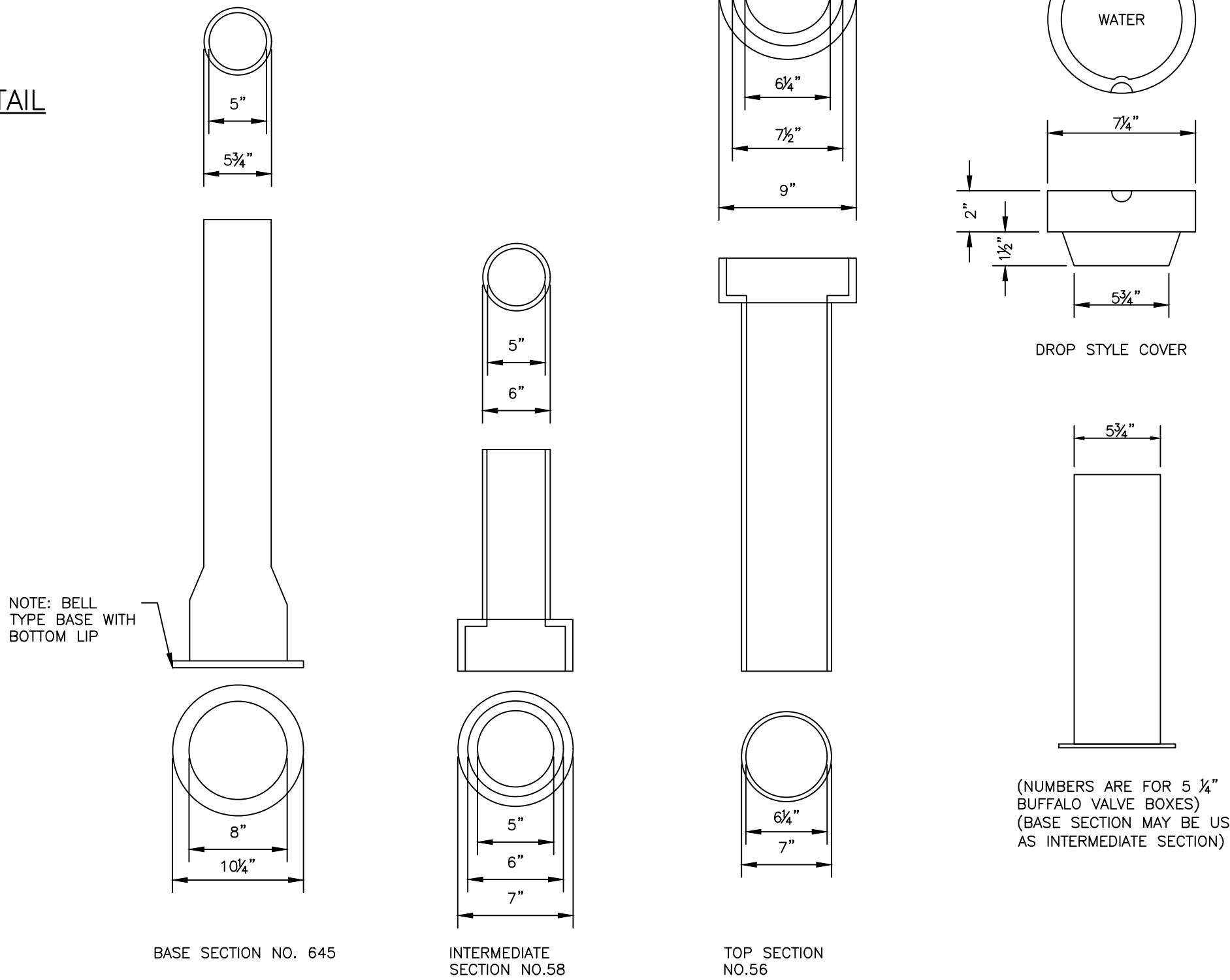


CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2-5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2-4"	SCHEDULE 40 PVC	COMMUNICATION	-
C	2-4"	SCHEDULE 40 PVC	SPARE	IF REQUIRED
D	2-4"	SCHEDULE 40 PVC	CABLE	-

NOTES:

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.

UTILITY TRENCH - PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE



VALVE BOX & COVER
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY
PRE-APP MEETING	SJL
CSS SUBMISSION	SJL
MAJOR SITE PLAN	SJL

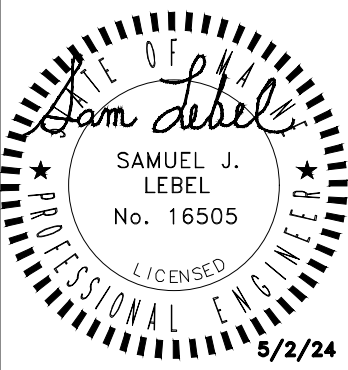
UTILITY DETAILS - 2	156 HIGH STREET
PROJECT NAME:	156 HIGH STREET RESIDENTIAL RENOVATION
DRAWING NAME:	307 CUMBERLAND AVENUE PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC. ENGINEERING, INC.

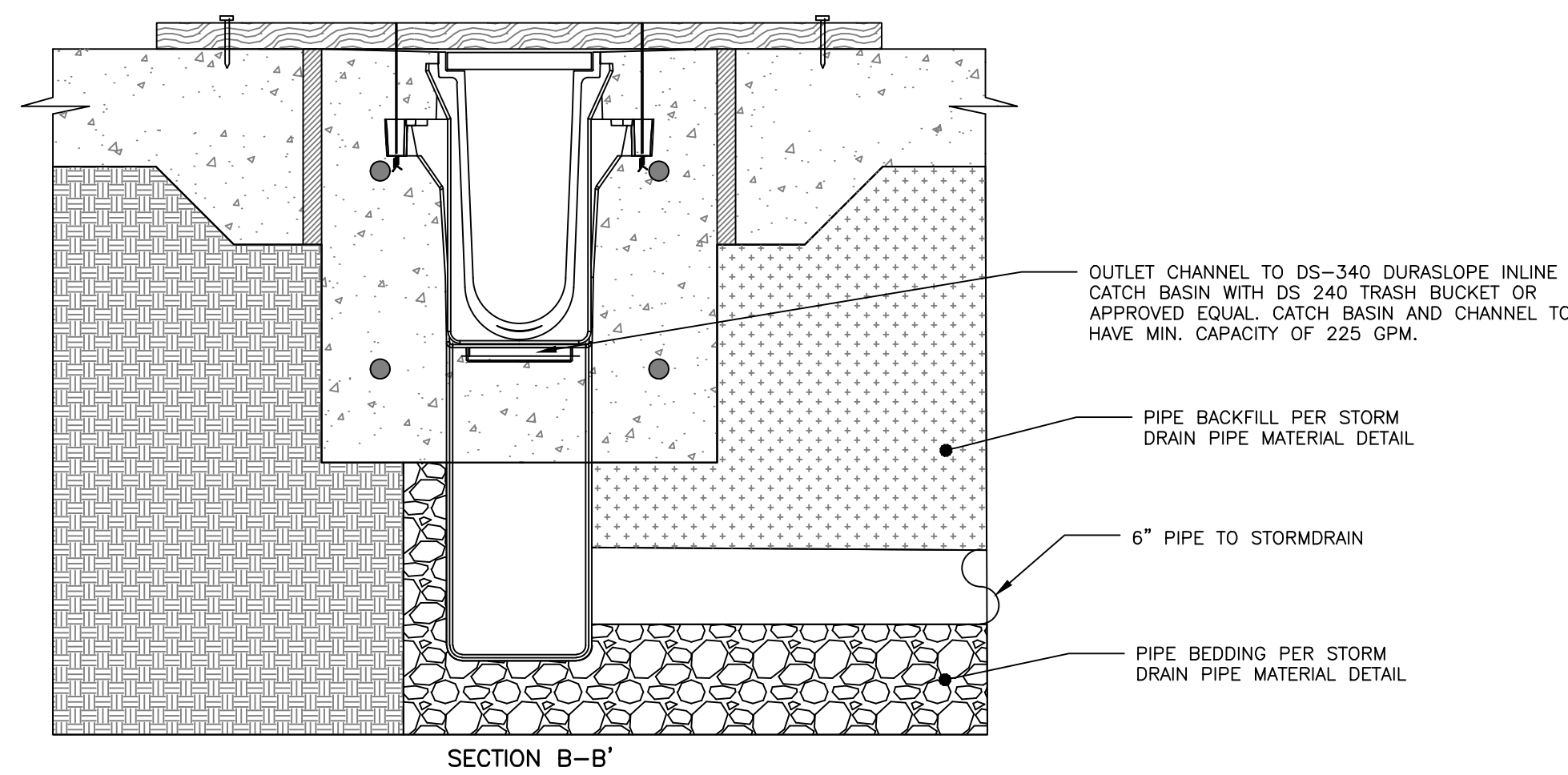
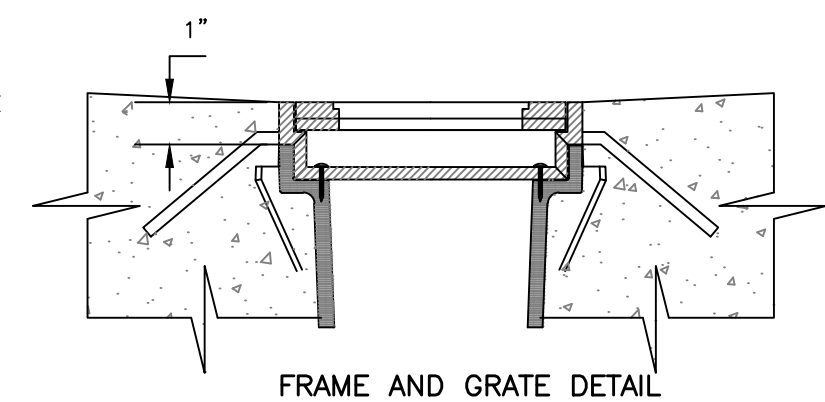
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ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

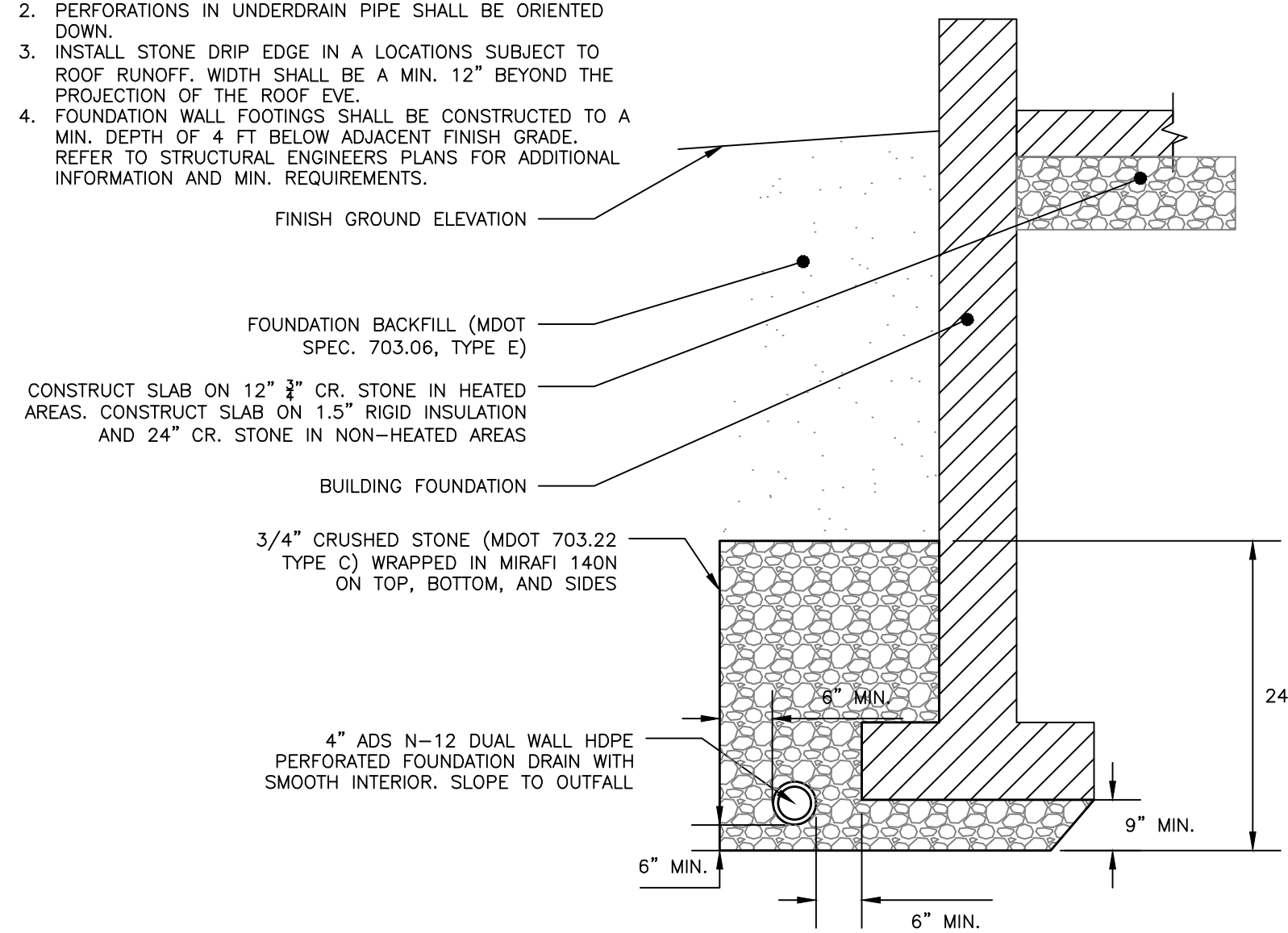
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JN:	1229
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	BJK
CHECKED BY:	WHS



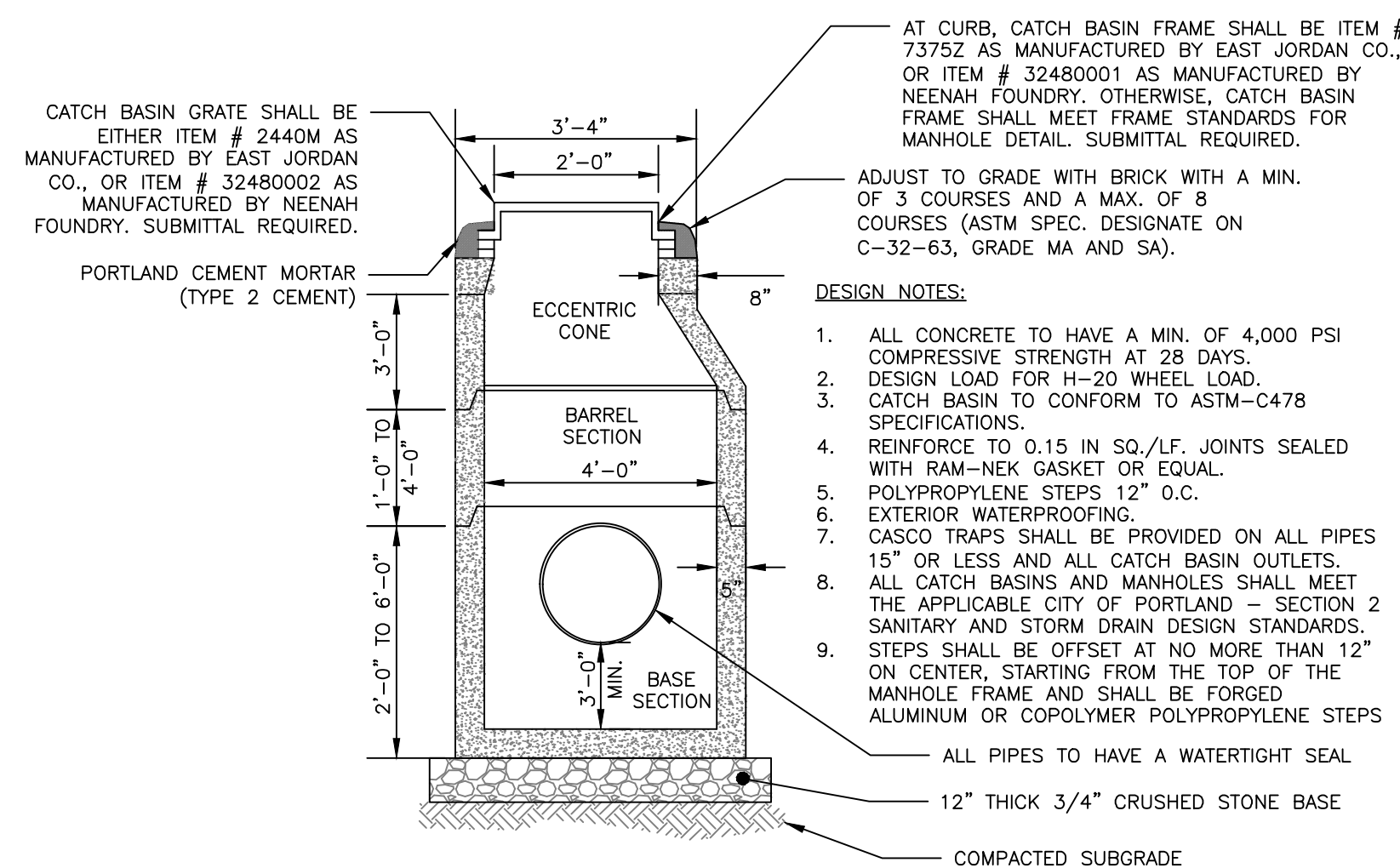
DRAWING NO.
C-42



1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. INSTALL STONE DRIP EDGE IN A LOCATIONS SUBJECT TO ROOF RUNOFF. WIDTH SHALL BE A MIN. 12" BEYOND THE PROJECTION OF THE ROOF EYE.
4. FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.

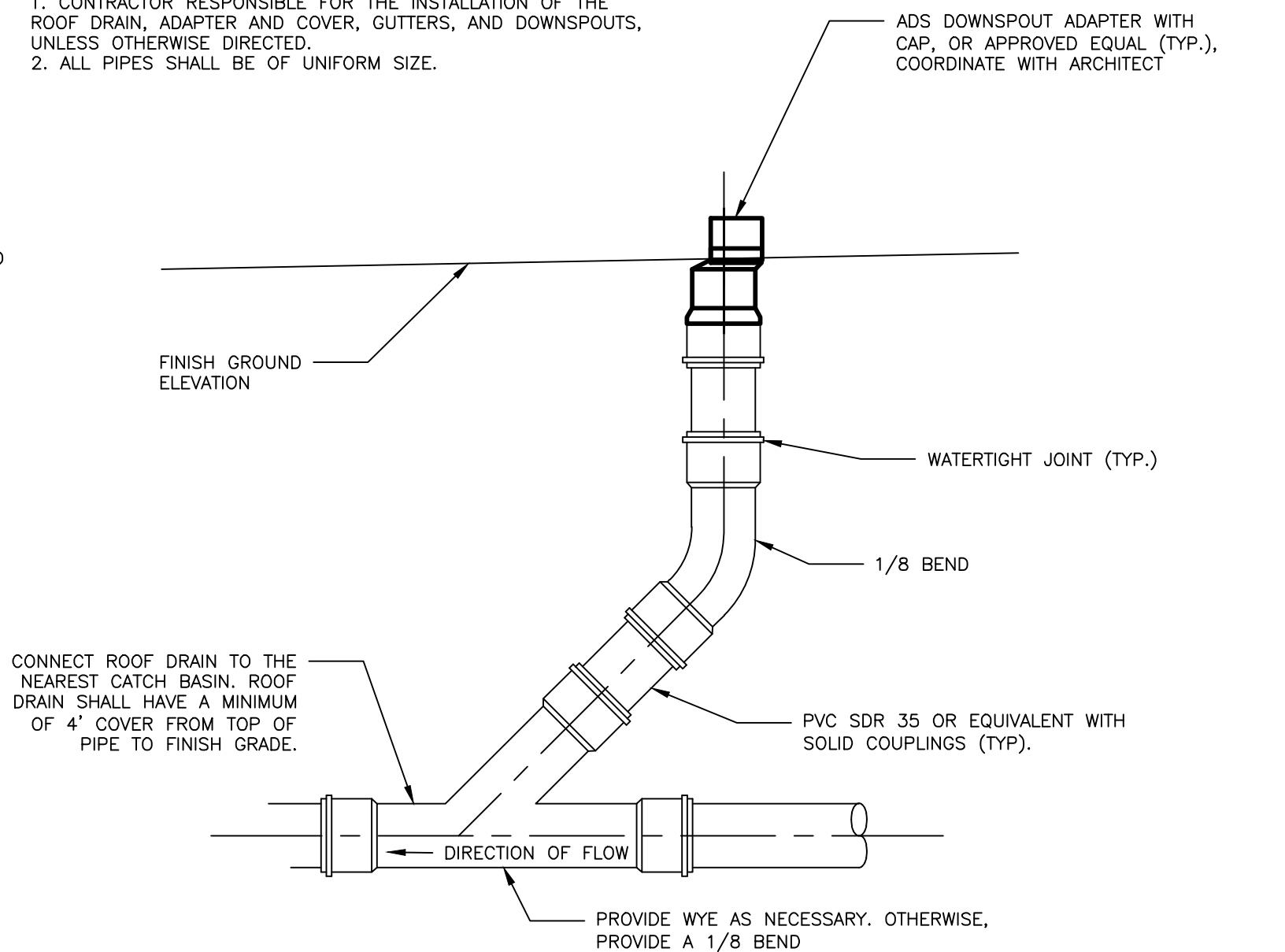


NOT TO SCALE

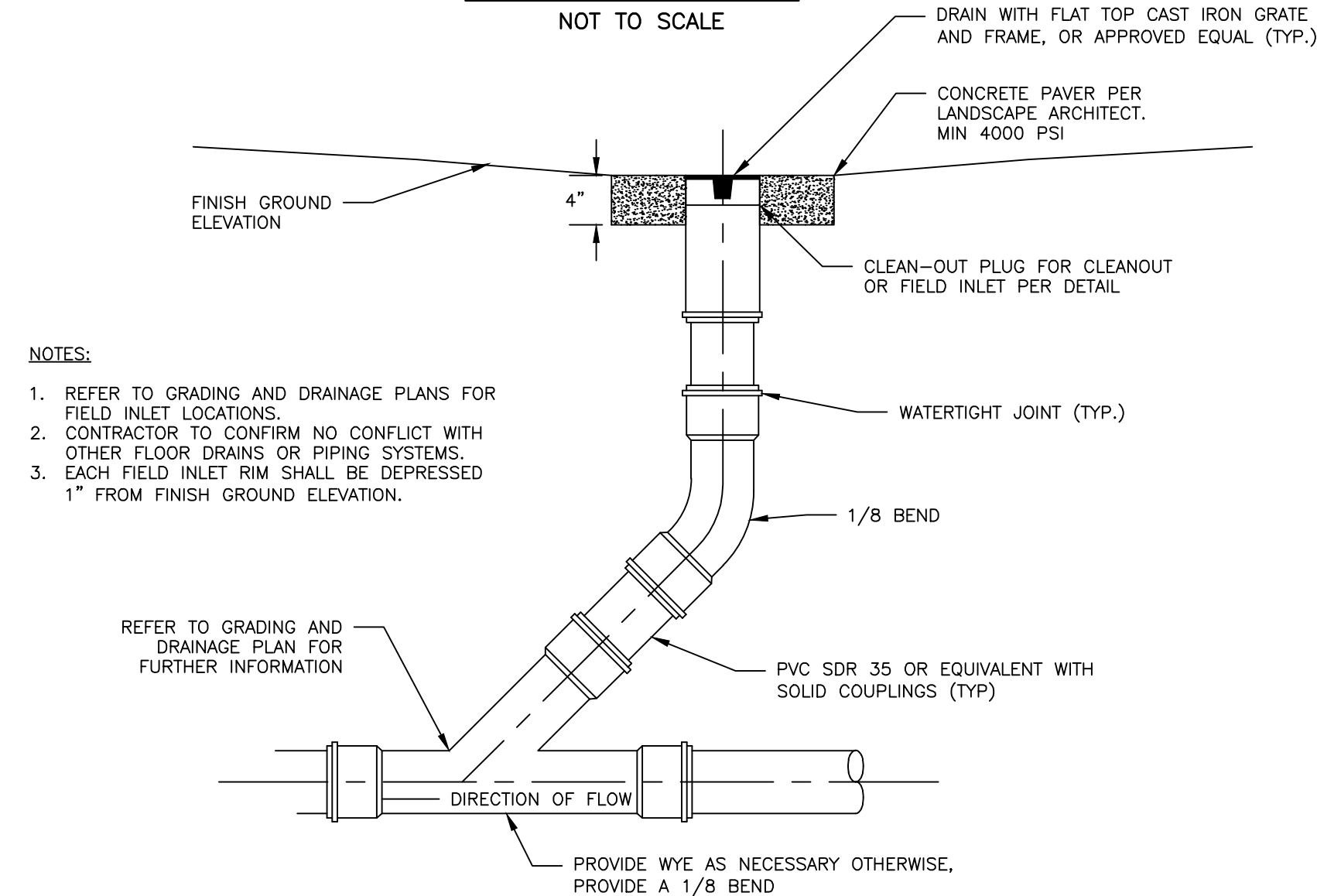


NOT TO SCALE

1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER, GUTTERS, AND DOWNSPOUTS UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



NOT TO SCALE



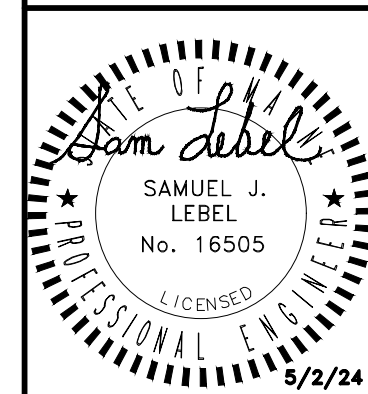
NOT TO SCALE

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLD AND SHALL HAVE ONE 1/8" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE EITHERIDGE 24" OR APPROVAL EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE EITHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48--CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP PER DETAIL.

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

DRAINAGE DETAILS
PROJECT NAME: 156 HIGH STREET
CLIENT: 156 HIGH STREET RESIDENTIAL RENOVATION 307 CUMBERLAND AVENUE, PORTLAND, MAINE, 04101

FILE:	1229_DETAILS
JN:	1229
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	BJK
CHECKED BY:	WHS

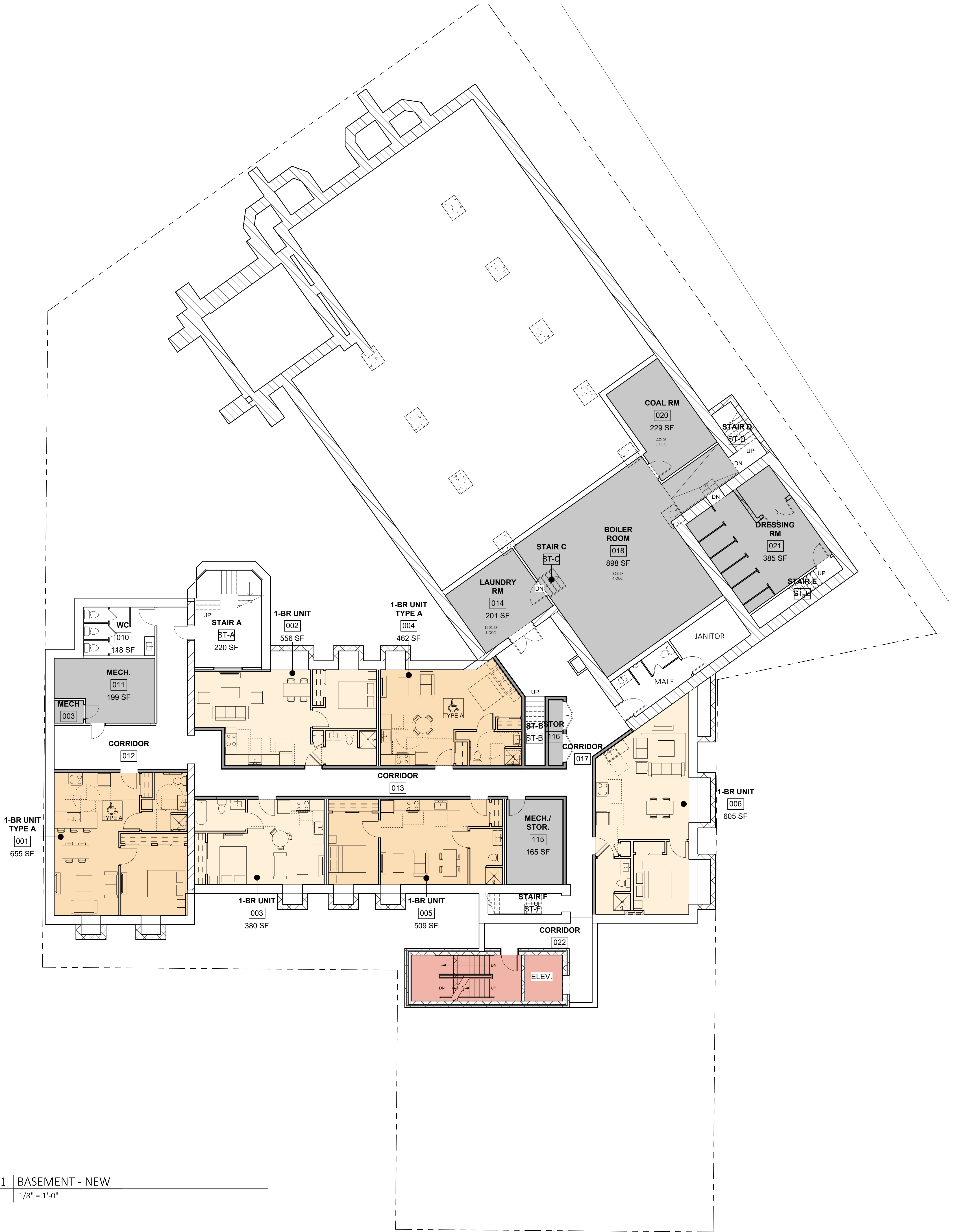


DRAWING NO.

C-43

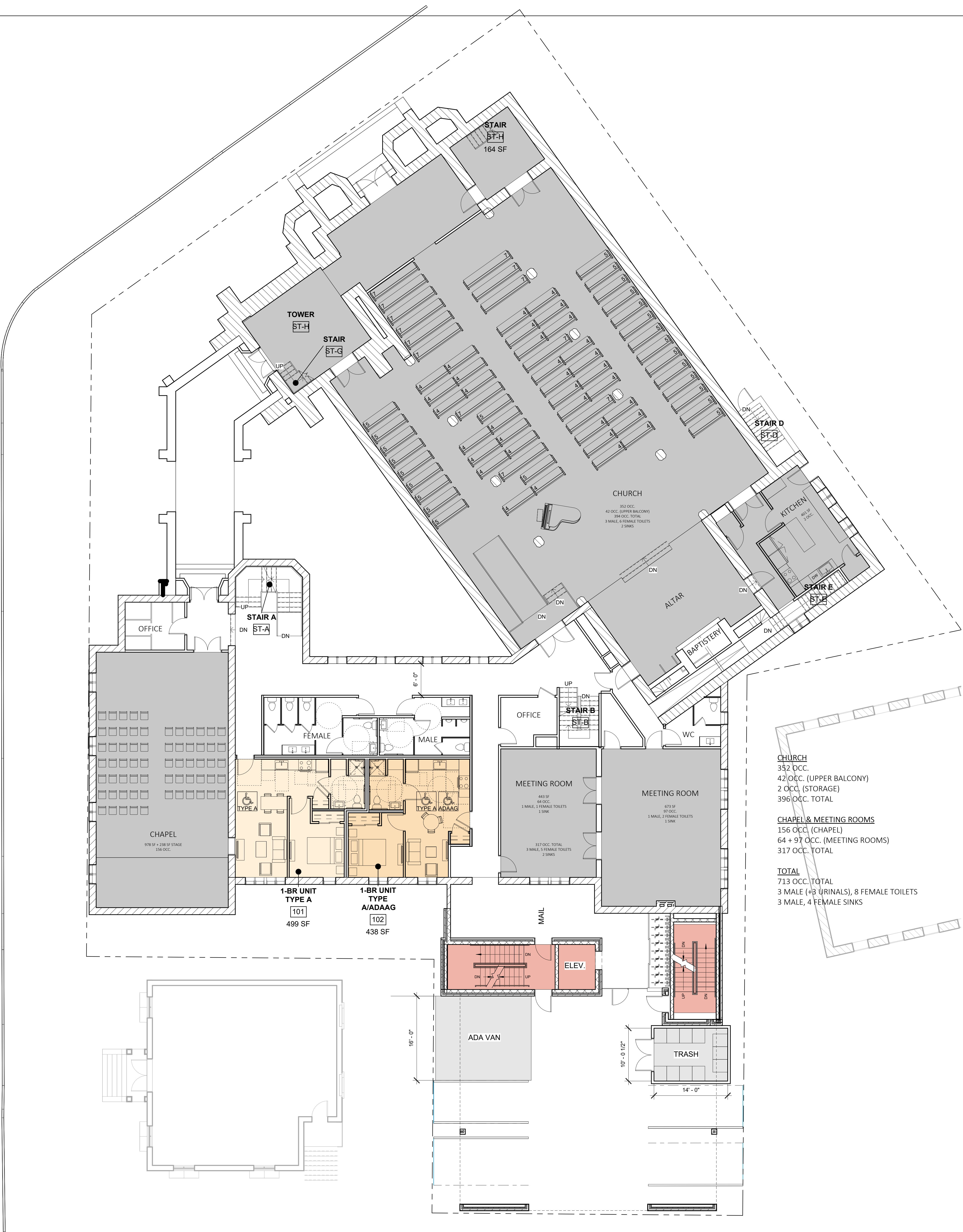
EXISTING BUILDING AREAS		
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)
SECOND FLOOR.....	7,386 GSF	(6,081 GSF REHAB)
THIRD FLOOR.....	4,857 GSF	(4,857 GSF REHAB)
TOTAL.....	34,233 GSF	(23,140 GSF REHAB)
NEW BUILDING AREAS		
BASEMENT.....	567 GSF	
FIRST FLOOR.....	658 GSF	
SECOND FLOOR.....	2,641 GSF	
THIRD FLOOR.....	2,641 GSF	
FOURTH FLOOR.....	2,641 GSF	
FIFTH FLOOR.....	2,641 GSF	
TOTAL.....	11,789 GSF	
EXISTING AND NEW TOTAL.....	46,363 GSF	(34,929 GSF)

EXISTING BUILDING UNITS	EXISTING BUILDING BED COUNTS
BASEMENT.....06 UNITS	STUDIO.....02 UNITS
FIRST FLOOR.....02 UNITS	ONE BEDROOM.....16 UNITS
SECOND FLOOR.....07 UNITS	TWO BEDROOM.....03 UNITS
THIRD FLOOR.....06 UNITS	
TOTAL.....21 UNITS	
NEW BUILDING UNITS	NEW BUILDING BED COUNTS
SECOND FLOOR.....03 UNITS	STUDIO.....00 UNITS
THIRD FLOOR.....03 UNITS	ONE BEDROOM.....12 UNITS
FOURTH FLOOR.....03 UNITS	TWO BEDROOM.....00 UNITS
FIFTH FLOOR.....03 UNITS	
TOTAL.....12 UNITS	
SITE TOTAL.....33 UNITS	



EXISTING BUILDING AREAS			
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)	
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)	
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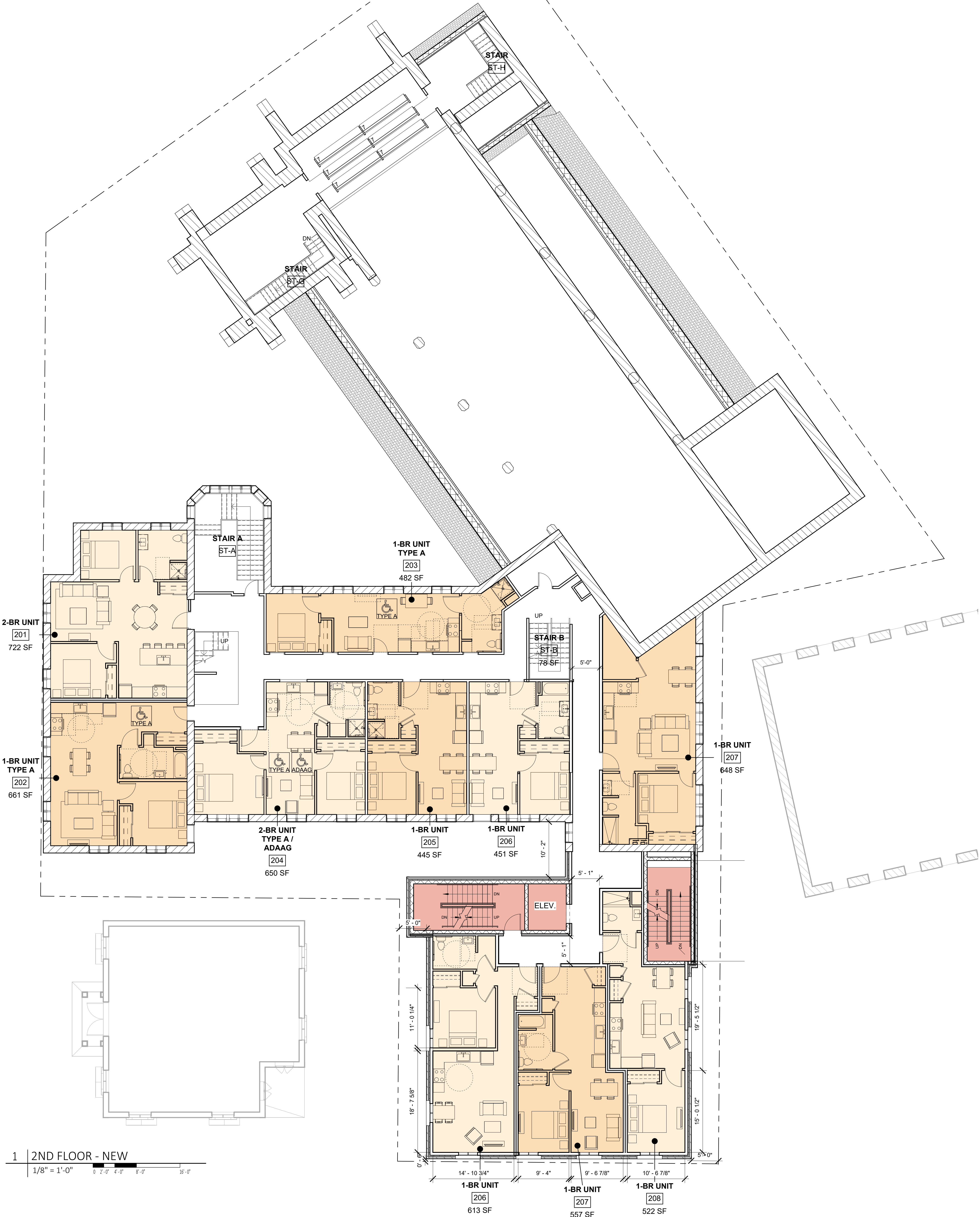
EXISTING BUILDING UNITS	EXISTING BUILDING BED COUNTS
BASEMENT.....06 UNITS	STUDIO.....02 UNITS
FIRST FLOOR.....02 UNITS	ONE BEDROOM.....16 UNITS
SECOND FLOOR.....07 UNITS	TWO BEDROOM.....03 UNITS
THIRD FLOOR.....06 UNITS	
TOTAL.....21 UNITS	
NEW BUILDING UNITS	NEW BUILDING BED COUNTS
SECOND FLOOR.....03 UNITS	STUDIO.....00 UNITS
THIRD FLOOR.....03 UNITS	ONE BEDROOM.....12 UNITS
FOURTH FLOOR.....03 UNITS	TWO BEDROOM.....00 UNITS
FIFTH FLOOR.....03 UNITS	
TOTAL.....12 UNITS	
SITE TOTAL.....33 UNITS	



1 | 1ST FLOOR - NEW
1/8" = 1'-0"

EXISTING BUILDING AREAS			
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)	
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)	
SECOND FLOOR.....	7,386 GSF	(6,081 GSF REHAB)	
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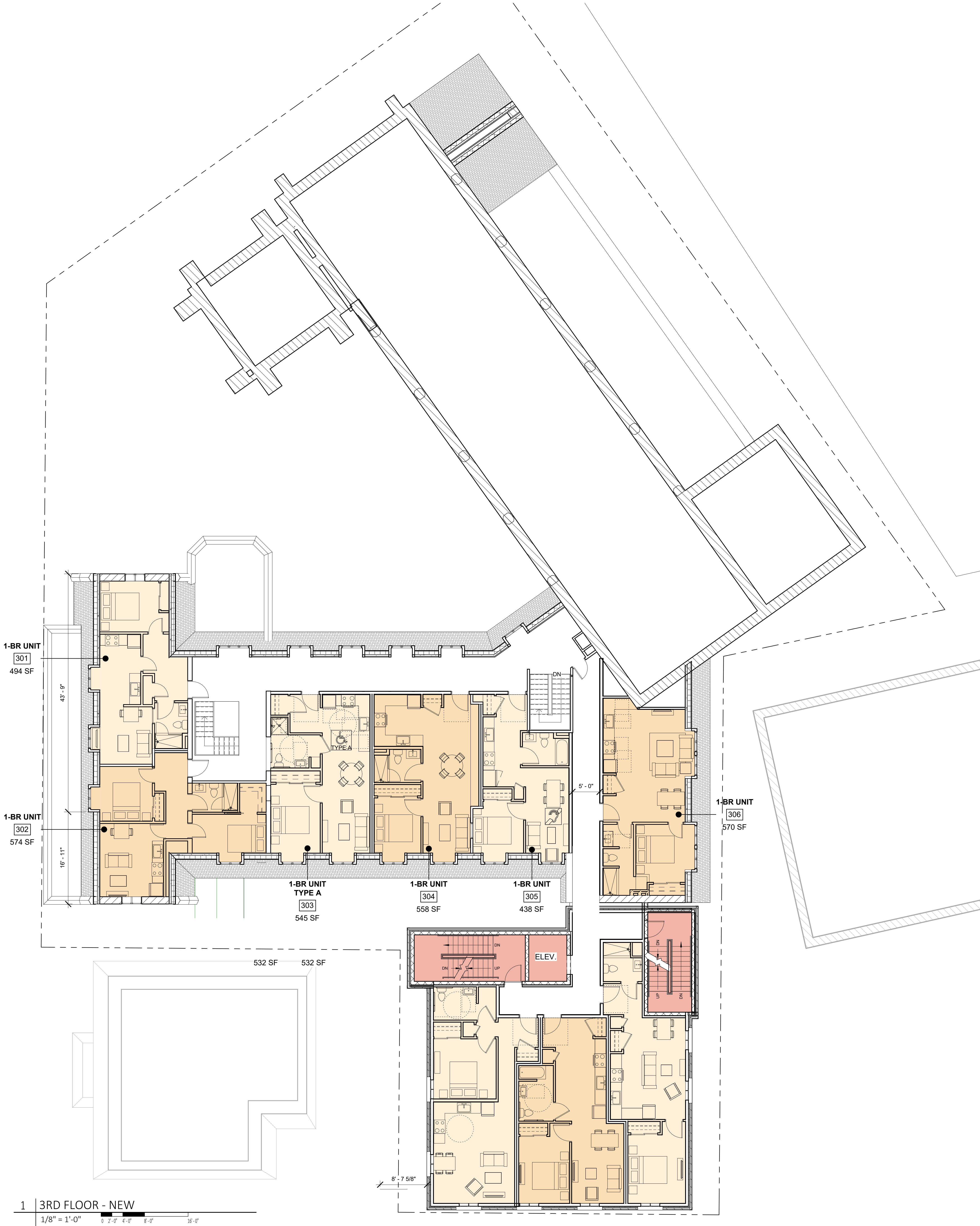
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BASEMENT.....06 UNITS	STUDIO.....02 UNITS
FIRST FLOOR.....02 UNITS	ONE BEDROOM.....16 UNITS
SECOND FLOOR.....07 UNITS	TWO BEDROOM.....03 UNITS
THIRD FLOOR.....06 UNITS	
TOTAL.....21 UNITS	
 <u>NEW BUILDING UNITS</u>	 <u>NEW BUILDING BED COUNTS</u>
SECOND FLOOR.....03 UNITS	STUDIO.....00 UNITS
THIRD FLOOR.....03 UNITS	ONE BEDROOM.....12 UNITS
FOURTH FLOOR.....03 UNITS	TWO BEDROOM.....00 UNITS
FIFTH FLOOR.....03 UNITS	
TOTAL.....12 UNITS	
 SITE TOTAL.....33 UNITS	



1 | 2ND FLOOR - NEW
1/8" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"

EXISTING BUILDING AREAS			
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)	
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)	
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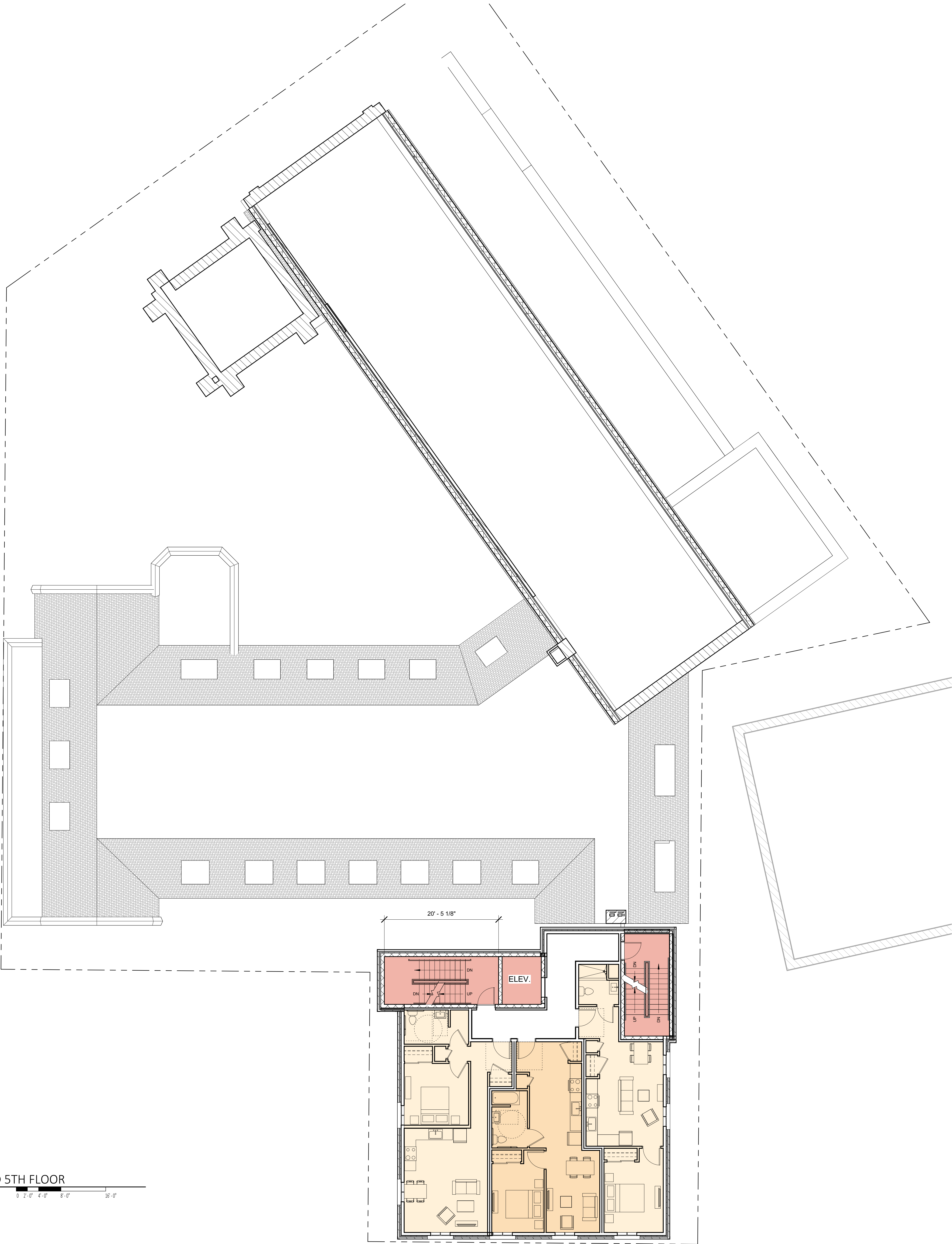
EXISTING BUILDING UNITS	EXISTING BUILDING BED COUNTS
BASEMENT.....06 UNITS	STUDIO.....02 UNITS
FIRST FLOOR.....02 UNITS	ONE BEDROOM.....16 UNITS
SECOND FLOOR.....07 UNITS	TWO BEDROOM.....03 UNITS
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TOTAL.....21 UNITS	
NEW BUILDING UNITS	NEW BUILDING BED COUNTS
SECOND FLOOR.....03 UNITS	STUDIO.....00 UNITS
THIRD FLOOR.....03 UNITS	ONE BEDROOM.....12 UNITS
FOURTH FLOOR.....03 UNITS	TWO BEDROOM.....00 UNITS
FIFTH FLOOR.....03 UNITS	
TOTAL.....12 UNITS	
SITE TOTAL.....33 UNITS	



1 | 3RD FLOOR - NEW
1/8" = 1'-0"

EXISTING BUILDING AREAS			
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)	
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)	
SECOND FLOOR.....	7,386 GSF	(6,081 GSF REHAB)	
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FIFTH FLOOR.....	2,641 GSF		
TOTAL.....	11,789 GSF		
EXISTING AND NEW TOTAL.....	46,363 GSF	(34,929 GSF)	

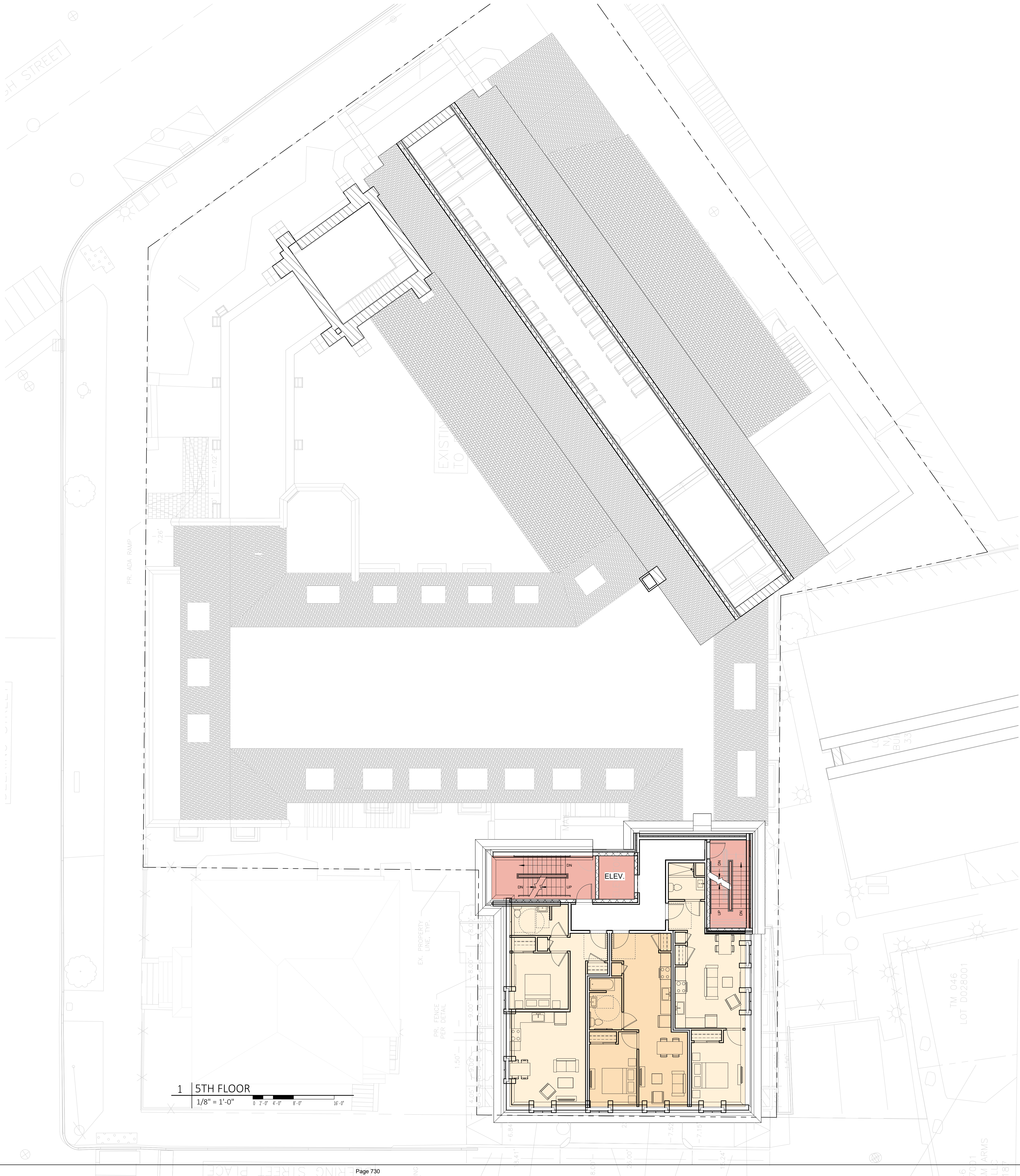
EXISTING BUILDING UNITS		EXISTING BUILDING BED COUNTS	
BASEMENT.....	06 UNITS	STUDIO.....	02 UNITS
FIRST FLOOR.....	02 UNITS	ONE BEDROOM.....	16 UNITS
SECOND FLOOR.....	07 UNITS	TWO BEDROOM.....	03 UNITS
THIRD FLOOR.....	06 UNITS		
TOTAL.....	21 UNITS		
NEW BUILDING UNITS		NEW BUILDING BED COUNTS	
SECOND FLOOR.....	03 UNITS	STUDIO.....	00 UNITS
THIRD FLOOR.....	03 UNITS	ONE BEDROOM.....	12 UNITS
FOURTH FLOOR.....	03 UNITS	TWO BEDROOM.....	00 UNITS
FIFTH FLOOR.....	03 UNITS		
TOTAL.....	12 UNITS		
SITE TOTAL.....	33 UNITS		



1 | 4TH AND 5TH FLOOR
1/8" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"

EXISTING BUILDING AREAS			
BASEMENT.....	8,635 GSF	(8,331 GSF REHAB)	
FIRST FLOOR.....	13,355 GSF	(3,871 GSF REHAB)	
SECOND FLOOR.....	7,386 GSF	(6,081 GSF REHAB)	
THIRD FLOOR.....	4,857 GSF	(4,857 GSF REHAB)	
TOTAL.....	34,233 GSF	(23,140 GSF REHAB)	
NEW BUILDING AREAS			
BASEMENT.....	567 GSF		
FIRST FLOOR.....	658 GSF		
SECOND FLOOR.....	2,641 GSF		
THIRD FLOOR.....	2,641 GSF		
FOURTH FLOOR.....	2,641 GSF		
FIFTH FLOOR.....	2,641 GSF		
TOTAL.....	11,789 GSF		
EXISTING AND NEW TOTAL.....	46,363 GSF	(34,929 GSF)	

EXISTING BUILDING UNITS		EXISTING BUILDING BED COUNTS	
BASEMENT.....	06 UNITS	STUDIO.....	02 UNITS
FIRST FLOOR.....	02 UNITS	ONE BEDROOM.....	16 UNITS
SECOND FLOOR.....	07 UNITS	TWO BEDROOM.....	03 UNITS
THIRD FLOOR.....	06 UNITS		
TOTAL.....	21 UNITS		
NEW BUILDING UNITS		NEW BUILDING BED COUNTS	
SECOND FLOOR.....	03 UNITS	STUDIO.....	00 UNITS
THIRD FLOOR.....	03 UNITS	ONE BEDROOM.....	12 UNITS
FOURTH FLOOR.....	03 UNITS	TWO BEDROOM.....	00 UNITS
FIFTH FLOOR.....	03 UNITS		
TOTAL.....	12 UNITS		
SITE TOTAL.....	33 UNITS		



Project:

**WILLISTON-IMMANUEL
UNITED CHURCH**

156 HIGH STREET
PORTLAND, ME

Owner/Client:

AVESTA HOUSING

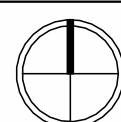
Consultant:

Revisions:

Key Plan:

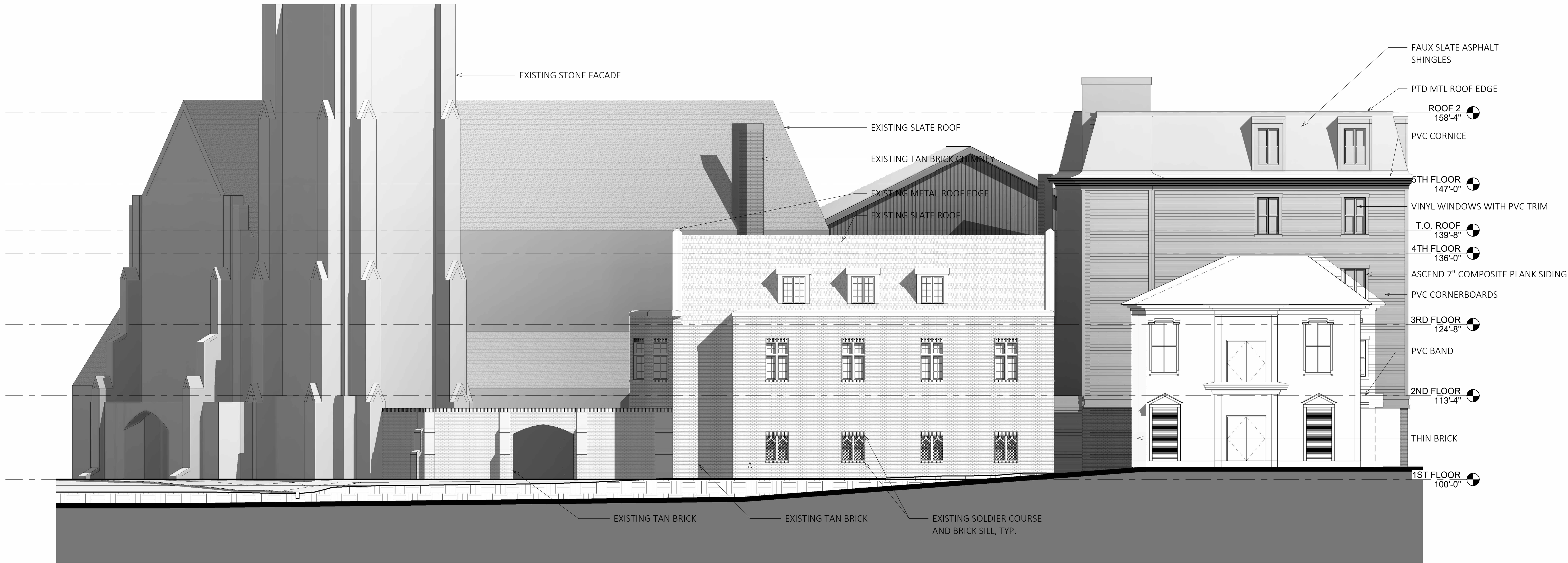
EXTERIOR ELEVATIONS

Scale:
1/8" = 1'-0"



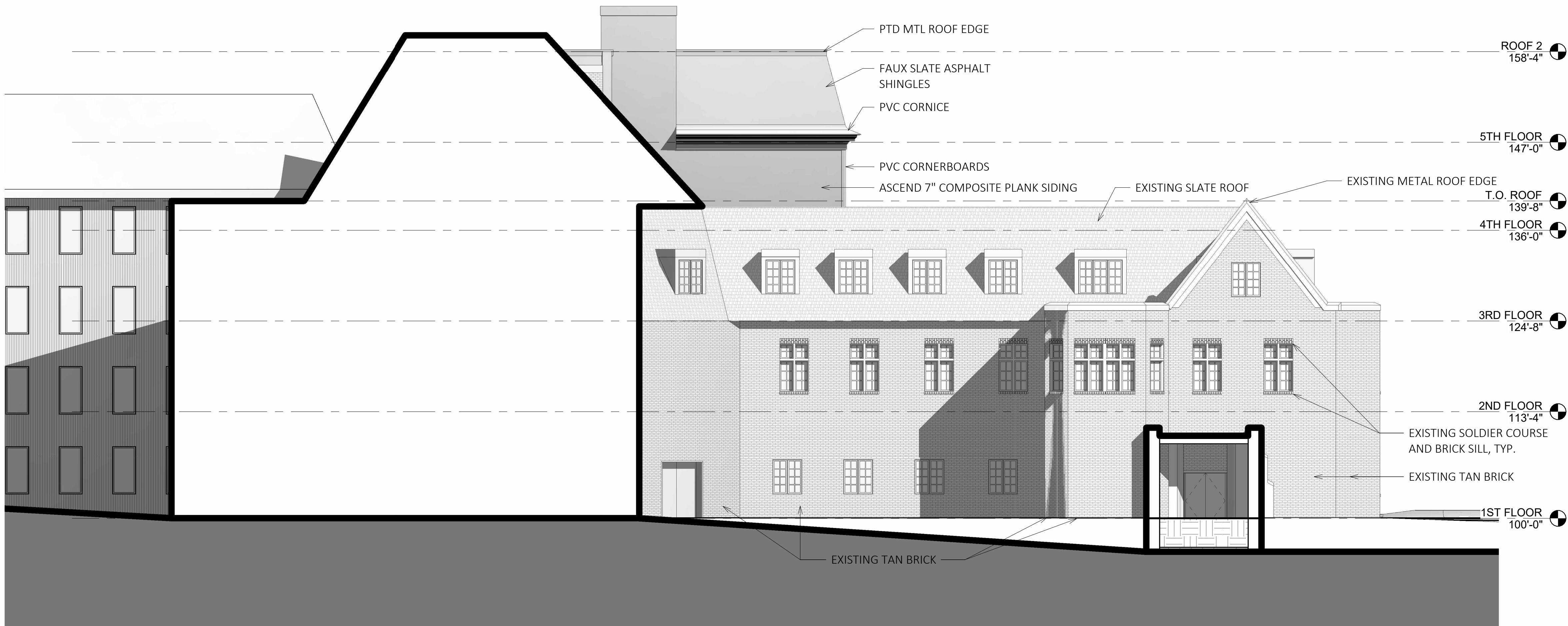
29 JANUARY 2024

A4.01



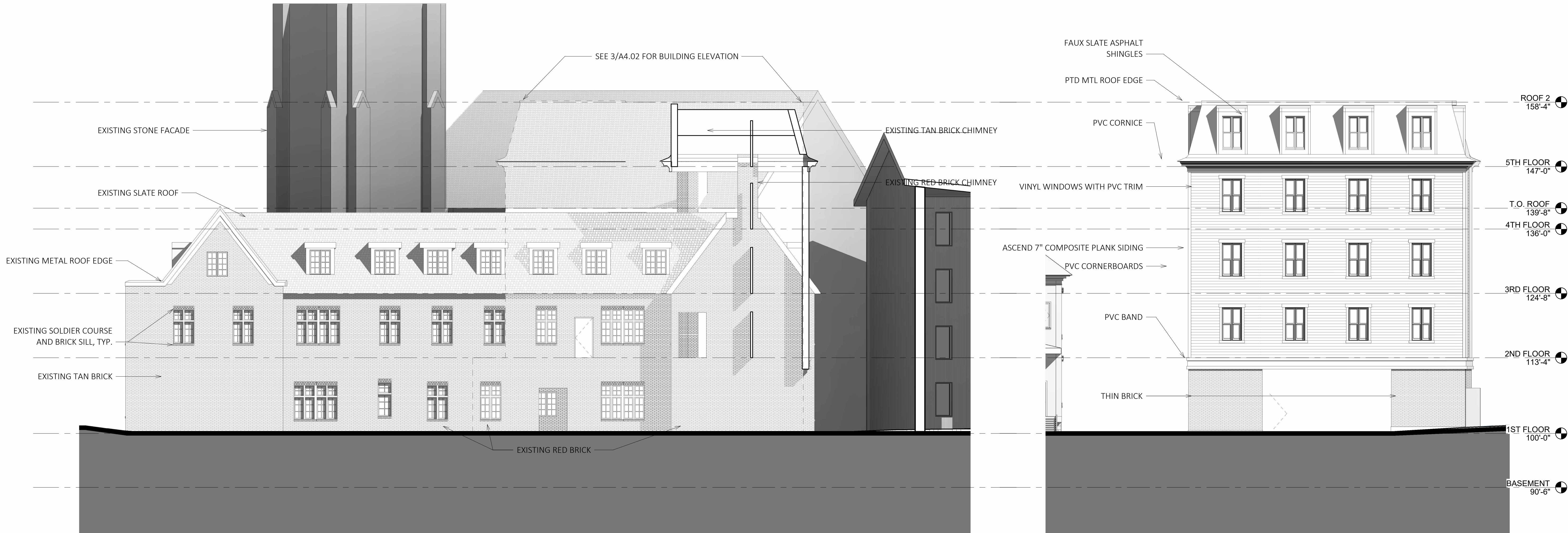
1 | NORTH ELEVATION - PARISH HOUSE

1/8" = 1'-0"



2 | EAST ELEVATION - PARISH HOUSE

1/8" = 1'-0"



1 | WEST ELEVATION- PARISH HOUSE
1/8" = 1'-0"

3 | WEST ELEVATION - ADDITION
1/8" = 1'-0"



2 | SOUTH ELEVATION - PARISH HOUSE
1/8" = 1'-0"

Revisions:

Key Plan:

EXTERIOR ELEVATIONS
Scale:
1/8" = 1'-0"
29 JANUARY 2024

A4.02

Technical Manual Amendment
Section 6. Erosion and Sedimentation Control Standards
City of Portland, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Benjamin Pearson, PE
Public Hearing Date:	June 25, 2024	Date:	June 21, 2024

The proposed Technical Manual updates to Section 6, Erosion and Sediment Control Standards, were presented to the Planning Board on May 14th, prior to the accompanying changes of the related Code of Ordinances Chapter 32 – Stormwater. On June 17th, the proposed Chapter 32 updates, including Article IV – Erosion and Sediment Control, were passed by the City Council. The new Article is attached to this memo for reference. Since the May 14th workshop, where the updated Section 6 was presented, minor changes to the previously provided Section have been made to reference Chapter 14 – City of Portland Land Use Code, and to clarify some requirements. Besides those changes, which can be found in the red-lined document, the language remains as presented in May. Below is the information as previously provided to the Planning Board for good measure with minor updates to reflect that the addition of Article IV Erosion and Sediment Control to Chapter 32 – Stormwater has passed.

I. INTRODUCTION

The Water Resources Division Compliance Section, utilizing a model ordinance created by the Interlocal Stormwater Working Group comprised of several southern Maine communities, has prepared a comprehensive revision of the City of Portland’s Technical Manual, Section 6, pertaining to erosion and sediment control. Many components of the model ordinance are based on the standards specified in the most recent Maine Erosion and Sediment Control Best Management Practices. The edits include substantive amendments, such as new or revised review standards and technical details. Per Section 2.1.10 of the Land Use Code, revisions to the *Technical Manual* fall under the jurisdiction of the Planning Board.

II. GENERAL EDITS TO TECHNICAL MANUAL

Section 6 of the Technical Manual is being renamed from “Erosion and Sedimentation Control Standards for Single and Two-Family Homes” to “Erosion and Control Standards.” This renamed section has been updated to detail the minimum standards for Construction Activity subject to the now accepted Chapter 32, Article IV of the City of Portland Code of Ordinances.

III. PROPOSED UPDATES TO SECTION 6

The existing Section 6 of the Technical Manual has been comprehensively rewritten. The revised section has a total of seven components compared to just one in the original. The components and a basic description are as follows:

6.1 Basic Erosion and Sedimentation Control Plan – This section outlines the plan, inspection, and maintenance requirements for Basic Erosion and Sedimentation Control Plans which apply to any project that requires a minor site plan approval, or those projects that do not require site plan approval which result in less than 1 acre or more of Disturbed Area.

6.2 Comprehensive Erosion and Sedimentation Control Plan – This section outlines the plan, inspection, and maintenance requirements for Comprehensive Erosion and Sedimentation Control Plans which apply for any sites that require a major site plan approval, or those projects that do not require site plan approval which result in 1 acre or more of Disturbed Area. Section 6.2 also details what is expected at Pre-Construction Meetings.

6.3 Erosion and Sediment Control BMPs – This section dictates that Erosion and Sedimentation Control (ESC) best management practices (BMPs) shall be designed using performance standards specified in the most recent Maine Erosion and Sediment Control BMPs Manual for Designers and Engineers, developed by the Maine Department of Environmental Protection, unless otherwise dictated in the Section. Section 6.3 also outlines several components including minimizing disturbed areas, sediment barriers, construction entrances, stormwater channels, and sedimentation basins.

6.4 Timing of Erosion and Sediment Control Installation and Removal – This section outlines the overall timing requirements for the installation of erosion and sedimentation control measures, which detail requirements that are applicable prior to any earth disturbance, requirements for the installation and removal of temporary stabilization measures, requirements for permanent site stabilization, and requirements for winter construction.

6.5 Erosion and Sediment Control Phasing Plan – This section details when and how a phased plan should be implemented.

6.6 Dewatering Plan – This section references the City's existing Dewatering Program which is found in the *Rules and Regulations for Use of the Sewer System*. The Dewatering Program is meant to ensure that Contractors provide a plan to remove or properly disperse collected water on a construction site in a manner that prevents sediment from entering the City's collection system or surface waters.

6.7 Good Housekeeping and Pollution Prevention Plan – describes good housekeeping and pollution prevention strategies such as spill prevention, groundwater protection, dust control, debris/other materials, excavation dewatering, concrete/construction material washout, and non-stormwater discharges.

IV. STAFF ANALYSIS

Section 2.1.10 of the City's Land Use Code requires that in order for the Planning Board to approve technical standards, that the Board must find that such standards are necessary and reasonable, and "in accordance with sound engineering...practice." The standards proposed in the updated Section 6 are meant to provide additional guidance/specifications for Erosion and Sediment Control Plans that are already required for minor and major site plans. The proposed revisions are being made in conjunction with updates to Chapter 32 – Stormwater Ordinance in order for the City to be compliant with the 2023 Municipal Separated Stormwater System permit issued by the Maine Department of Environmental Protection. The permit requires a regulatory mechanism for Erosion and Sediment Controls to be in place by July 1, 2024. The revised Section will dovetail with a revised Chapter 32 – Stormwater Ordinance, which has been updated to include a fourth article detailing the City's Erosion and Sediment Control regulatory requirements. Section 6 is referenced in this Article.

Both the Ordinance and Technical Manual are based on a model ordinance that was prepared and reviewed by the Interlocal Stormwater Working Group (ISWG). ISWG consists of Biddeford, Cape Elizabeth, Cumberland, Cumberland County Soil & Water Conservation District, Falmouth, Freeport, Gorham, Old

Orchard Beach, Portland, Saco, Scarborough, South Portland, Southern Maine Community College, University of Southern Maine, Westbrook, Windham, and Yarmouth. These communities work collaboratively to implement the Clean Water Act Municipal Separate Storm Sewer System (MS4) permit. These communities are utilizing the same Model Ordinance to meet the permit requirements.

V. STAFF RECOMMENDATION

Subject to the proposed motion listed below, staff are recommending that the Planning Board adopt the proposed amendments to Section 6 of the Technical Manual, as the proposed changes are intended to provide a framework for erosion and sedimentation control for construction activity, that is more clearly detailed than current requirements, and easier to both administer and enforce.

VI. PROPOSED MOTION

On the basis of material provided in this report, public testimony, and other information provided during the Planning Board's review at the June 25, 2024 public hearing, the Planning Board finds that the proposed revisions to the City of Portland Technical Manual **[are / are not]** consistent with the requirements of Section 2.1.10(P) of the land use code and **[approves / does not approve]** such revisions.

VII. ATTACHMENTS

1. Section 6 – Erosion and Sediment Control
2. Chapter 32 – Stormwater – As passed at the June 17th 2024 Council meeting.

6. EROSION AND SEDIMENTATION CONTROL STANDARDS

The following are the mandatory minimum standards for Construction Activity subject to Chapter 32, Article IV of the City of Portland Code of Ordinances. [Minor and Major Site Plans are defined by Chapter 14 of the City of Portland Code of Ordinances.](#)

For projects that require a **major site plan approval, or those projects that do not require site plan approval which result in 1 acre or more of Disturbed Area**, a Comprehensive Erosion and Sedimentation Control Plan as detailed in section 6.2 below is required for all Construction Activity.

For projects that require a **minor site plan approval, or those projects that do not require site plan approval which result in less than 1 acre or more of Disturbed Area**, a Basic Erosion Control Plan as detailed in section 6.1 below is required of all Construction Activity.

Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity, but are not required to submit an Erosion and Sedimentation Control Plan.

In all circumstances, the City reserves the right to require a Comprehensive Erosion and Sedimentation Control Plan, or any component thereof, when site conditions dictate (e.g. proximity to sensitive natural resources, steep grades).

	Plan Submission Required	Inspector Requirements	Inspection Report Submittal
Major Site Plan >1 acre disturbance	Comprehensive	Third-party inspector	Weekly to Water Resources & Planning
Major Site Plan <1 acre disturbance	Comprehensive	Qualified professional	Weekly to Water Resources & Planning (may be waived)
Minor Site Plan	Basic	Self-inspection	None
Minor Residential	None	Self-inspection	None

6.1 Basic Erosion and Sedimentation Control Plan

Erosion Control BMPs must meet the requirements of sections 6.3 and 6.4 below. The Basic Erosion and Sedimentation Control Plan (Basic ESC Plan) shall consist of a graphic representation of the site at a scale no smaller than 1 inch = 100. The Basic ESC Plan must include the following:

- Name(s) of and contract information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
- Parcel boundaries;
- Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
- Locations of all Erosion and Sedimentation Control BMPs to be used; and

- e. Details for all Erosion and Sedimentation Control BMPs, meeting the requirements of section 6.3, to be used.

6.1.1 Basic Inspection and Maintenance Requirements

- 1) All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected:
 - a. Once before any disturbance begins and after all Erosion and Sedimentation Control BMPs specified in the Erosion and Sedimentation Control Plan are in place;
 - b. At least once a week as well as before and within 24 hours after a storm event (rainfall); and
 - c. Once at project completion to ensure the Site has reached permanent stabilization and all temporary erosion and sedimentation controls have been removed.
- 2) The applicant is responsible for inspecting the site and maintaining erosion and sedimentation controls in good working order.
- 3) In general, sites [that require a basic ESC plan and have](#) less than 1 acre of disturbance are not required to submit an inspection report, however the City reserves the right to require and review reports for any project.
- 4) If ESC BMPs need to be maintained, repaired, [or enhanced](#), the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.

6.2 Comprehensive Erosion and Sedimentation Control Plan

A Comprehensive Erosion and Sedimentation Control Plan (Comprehensive ESC Plan) shall be prepared by a Qualified Professional as defined in City of Portland Code of Ordinances Chapter 32, Article IV.

The Comprehensive ESC Plan shall consist of a graphic representation of the Site at a scale no smaller than 1 inch = 100. The Comprehensive ESC Plan must include the following:

- a. Name(s) of and contract information for the person(s) responsible for installation, inspection, and maintenance of ESC BMPs;
- b. Parcel boundaries;
- c. Topography for site pre-and post-construction conditions as 2-foot elevation contours;
- d. Limits of clearing and site work;
- e. Locations of coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams or brooks;
- f. Locations of areas not to be disturbed by Construction Activity including trees, vegetation, and areas intended for infiltration;
- g. Locations of all Erosion and Sedimentation Control BMPs to be used;
- h. Details for all Erosion and Sedimentation Control BMPs to be used;
- i. Example **inspection form** meeting the requirements of section 6.2.2;
- j. **ESC Phasing Plan** for Construction as detailed in section 6.5;
- k. **Dewatering Plan** as detailed in section 6.6 and application for review and approval if necessary; and
- l. **Good Housekeeping and Pollution Prevention Plan** as detailed in section 6.7.

6.2.1 Pre-Construction Meeting

For sites with a Comprehensive Erosion Control Plan, a pre-construction meeting is required. Once an approved Performance Guarantee, if required, is in hand and at least five (5) days prior to commencing Construction Activity, the applicant shall request a pre-construction meeting with the Enforcement Authority. At a minimum, attendance at the meeting is required by the Enforcement Authority and the applicant or their representative in charge of construction. If the representative in charge of construction is not the primary earthwork contractor, a representative of the earth work contractor must also attend the pre-construction meeting. Erosion and sediment controls should be installed for inspection during the pre-construction meeting and must be installed and inspected prior to the start of construction.

6.2.2 Comprehensive Inspection and Maintenance Requirements

Erosion and Sedimentation Controls must be inspected, as detailed below, to confirm that BMPs are in place and functioning. Corrective actions must be taken if erosion is occurring or there is a discharge of sediment or turbid water from the construction Site.

- 1) For all sites with one acre or greater of disturbance, the applicant shall retain the services of a qualified professional third-party inspector to inspect the site weekly, for the duration of construction until final site stabilization is in place. For sites less than one acre of disturbance that are required to have a comprehensive erosion and sediment control plan, the applicant shall retain the services of a qualified professional.
- 2) The inspection is required in order to ensure that all construction and stabilization activities comply with the approved drawings and specifications; that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations; and that any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan is communicated to the City of Portland for additional review and approval.
- 3) All areas of disturbance, impervious areas, ESC BMPs, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected at least once a week as well as before and within 24 hours after a storm event (rainfall) and prior to completing permanent stabilization measures.
- 4) [For all sites with one acre or greater of disturbance, the](#) inspector will submit weekly written reports to the Stormwater Coordinator(s) in the Water Resources Division of Public Works and the Development Review Coordinator(s) in Planning. Reports must include: project ID, project address, the date(s) and time(s) of inspection(s), site photographs of areas under construction, and the date(s) and approximate duration(s) of any rainfall events in the prior week. The report will identify and describe any erosion problems or discharge of pollutants and what actions will be taken to address these issues and repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area. [Sites with less than 1 acre of disturbance may request a waiver to be reviewed and approved by Water Resources, for weekly inspection report submission, as allowed by Chapter 32- 48 of the Code of Ordinances.](#)
- 5) If ESC BMPs need to be maintained, repaired, [or enhanced](#), the work shall be initiated upon discovery of the problem but no later than the end of the next workday or prior to a precipitation event, whichever comes first. Immediate corrective actions are required to address active discharges of sediment to municipal streets or storm drains or to surface waters. If additional ESC BMPs or significant repair of ESC BMPs are necessary, implementation must be completed prior to any storm event (rainfall) and within 7 calendar

days of identification. All measures must be maintained in effective operating condition until areas are permanently stabilized.

- 6) An inspection log summarizing the inspections and any corrective actions must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of ESC BMPs, materials storage areas, and vehicle access points to the parcel. Inspection documentation must include maintenance needed, ESC BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional ESC BMPs are needed. The inspection log must also document what corrective actions are needed and when corrective actions were completed. The inspection log shall be maintained for at least three years from the completion of permanent stabilization.

6.3 Erosion and Sedimentation Control BMPs

Where not otherwise specified in this section, the Erosion and Sedimentation Control (ESC) best management practices (BMPs) shall be designed using performance standards specified in the most recent Maine Erosion and Sediment Control BMPs Manual for Designers and Engineers developed by the Maine Department of Environmental Protection.

6.3.1 Minimizing Disturbed Areas

Minimize Disturbed Area and protect natural downgradient buffer areas, and any areas where stormwater may flow off-Site to the extent practicable. Control stormwater volume and velocity within the Site to minimize soil erosion. Minimize the disturbance of steep slopes. Control stormwater Discharges, including both peak flow rates and volume, to minimize erosion at outlets. The Discharge shall not result in erosion of any open drainage channels, swales, stream channels or stream banks, upland, or coastal or freshwater wetlands off the project Site.

- 1) Whenever practicable, no disturbance activities shall take place within 50 feet of any Protected Natural Resource.
- 2) If it is not practicable to maintain the 50-foot buffer of no disturbance, the Erosion and Sedimentation Control Plan must include redundant (at least two) perimeter control measures that are appropriate for the soil and slope.

6.3.2 Sediment Barriers

Prior to construction, properly install sediment barriers at the downgradient edge of any area to be disturbed and adjacent to any drainage channels within the Disturbed Area. Sediment barriers shall be installed downgradient of soil and sediment stockpiles and stormwater must be prevented from running onto the stockpile. Maintain the sediment barriers by removing accumulated sediment, or removing and replacing the barrier, until the Disturbed Area is permanently stabilized. Where a Discharge to a storm drain inlet occurs, you must install and maintain protection measures that remove sediment from the Discharge. Storm drain inlet protection must include effective curb inlet or "back throat" protection, where applicable.

6.3.3 Stabilized Construction Entrance

Prior to construction, properly install a stabilized construction entrance (SCE) at all points of egress from the Site. The SCE is typically a stabilized pad of aggregate, underlain by a geotextile filter fabric, or an engineered track out control mat which has been approved by Maine DEP which is used to prevent traffic from tracking material away from the Site onto public ROWs. Maintain the SCE until all Disturbed Areas are stabilized. If an alternate SCE has been approved by Maine DEP, provide proof of this with the Plan or application.

6.3.4 Stormwater Channels

Each channel shall be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring.

6.3.5 Sediment Basins

Sediment basins that will be used to control sediment during construction activities must be designed to provide storage for either the calculated runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Outlet structures must discharge water from the surface of the basin whenever possible. Erosion controls and velocity dissipation devices must be used if the discharging waters are likely to create erosion. Accumulated sediment must be removed as needed from the basin to maintain at least half of the design capacity of the basin. Clearly visible staking must be installed with marks showing the elevation of half design capacity for easier inspection. The use of cationic treatment chemicals in Sediment Basins, such as polymers, flocculants, or other chemicals that contain an overall positive charge designed to reduce turbidity in stormwater may only be used if the basin does not directly discharge to surface waters and if proof of approval by Maine DEP is provided.

6.4 Timing of ESC Installation and Removal

6.4.1 ESC BMPs Required Prior to Earth Disturbance

Erosion and Sedimentation Control BMPs must be in place prior to earth disturbance. For sites with 1 acre or more of disturbance which require a Comprehensive ESC Plan, ESC BMPs should be installed prior to the required pre-construction meeting.

6.4.2 Temporary Stabilization

Within 7 days of the cessation of Construction Activities in an area that will not be worked for more than 7 days, stabilize any exposed soil with mulch, or other non-erodible cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

6.4.3 Permanent Stabilization

If the Site or a portion of the Site will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend the Disturbed Area subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. Permanent Stabilization Definitions are as follows:

- 1) Seeded Areas: For seeded areas, permanent stabilization means a 90% cover of the Disturbed Area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

- 2) Sodded Areas: For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.
- 3) Permanent Mulch: For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.
- 4) Riprap: For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.
- 5) Paved Areas: For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event.
- 6) Ditches, Channels, and Swales: For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

6.4.4 Removal of Temporary Measures

Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

6.4.5 Winter Construction

Winter construction is Construction Activity performed during the period from November 1 through April 15. If Disturbed Areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by the following additional winter construction measures and restrictions:

- 1) Site Stabilization: Hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.
- 2) Sediment Barriers: All areas within 75 feet of a Protected Natural Resource must be protected with a double row of sediment barriers.
- 3) Ditch Lines: Ditch lines must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Maine DEP. If release from Maine DEP has been granted, provide proof of this with the Plan or application.
- 4) Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes. Unvegetated slopes less than 8% must be protected with an erosion control blanket, erosion control mix, or riprap.
- 5) Maintenance: Winter stabilization BMPs must be inspected and maintained as any other erosion and sedimentation control BMP.

6.5 ESC Phasing Plan

Erosion and Sedimentation Control BMPs must be in place before construction begins; additional Erosion and Sedimentation Control BMPs shall be installed as needed and shall be phased in if phasing is used; and ESC BMPs shall be maintained until permanent stabilization is achieved.

Phasing Plan Requirements: No phasing plan is required if the contractor will limit the Disturbed Area to a maximum of 5 acres of disturbance across the Site at any time. If the Construction Activity will result in more than 5 acres of Disturbed Area at any one time, the Contractor shall provide a phasing plan showing:

1. the initial 5-acre area to be disturbed;
2. which portions of the initial disturbance will be stabilized, and what temporary or permanent stabilization methods will be used;
3. which areas will be subsequently disturbed and what temporary or permanent stabilization methods will be used; and
4. each phase of disturbance and stabilization must clearly show the total areas in square feet or acres such that the 5-acre Disturbed Area limit at any one time is met throughout the entire project.

6.6 Dewatering Plan

The Erosion and Sedimentation Control Plan must include provisions to remove or properly disperse the collected water in a manner that prevents sediment from entering stormwater. The City of Portland requires a Dewatering Plan and Application for any construction dewatering discharging to City infrastructure, as detailed in the *Rules and Regulations for Use of the Sewer System*.

6.7 Good Housekeeping and Pollution Prevention Plan

A Good Housekeeping and Pollution Prevention Plan is required as part of a Comprehensive ESC Plan. The Good Housekeeping and Pollution Prevention Plan must be site specific and address the following:

6.7.1 Spill Prevention: Controls must be used to prevent pollutants from construction and waste materials stored on-Site from entering stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The Site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

6.7.2 Groundwater Protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the Site draining to an infiltration area. An infiltration area is any area of the Site that by design or as a result of soils, topography, and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the Site for the purposes of storage and handling of these materials.

6.7.3 Fugitive Sediment and Dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance shall be included to minimize tracking of mud and sediment. If off-Site tracking occurs, public roads shall be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, shall wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

6.7.4 Debris and Other Materials: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other

materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source. Sediment generated by concrete or mortar mixing, brick cutting & saw cutting activities must be contained (e.g., sausage boom, straw bales, etc.) and cleaned up using dry methods (i.e., sweeping or vacuuming) to prevent it from entering drainage structures or water resources. These activities shall be done on vegetated areas whenever possible and away from drainage structures and water resources.

6.7.5 Excavation Dewatering: Excavation dewatering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or otherwise treated to collect the maximum amount of sediment possible, like a coffer dam sedimentation or sediment filter bag. Avoid allowing the water to flow over Disturbed Areas of the Site. If the Maine DEP has approved equivalent measures, provide proof of approval. Note that discharge of excavation dewater fluids from the Site must be visually clear (no visible suspended or settleable solids). Any dewatering discharges from a site to the City right-of-way or infrastructure are prohibited unless the City has provided approval of a Dewatering Plan and Application submitted by the Contractor. Discharges from the Site into the City's storm drain or sewer system must first obtain City approval through the Dewatering Program, as detailed in the *Rules and Regulations for Use of the Sewer System*.

6.7.6 Washout from Concrete, Stucco, Paint, Curing Compounds, or Other Construction Materials: If washout/cleanout is to be completed on the Site, a designated area(s) shall be established and marked on the Erosion and Sedimentation Control Plan. This area shall be a minimum of 50 feet from all drainage structures, ditches, waterbodies, and resource areas, as well as property boundaries if possible. The area shall not have an outlet to discharge wastes or flows. No detergents shall be used or vehicles washed in this location. A leak-proof pit or container shall be established in the washout area(s), to which washings shall be directed. This area shall be used for washout containment and dewatering by evaporation only. The pit shall not allow infiltration to occur. To prevent clean water from entering the pit, the washout area shall be covered during precipitation events. Inspections of the pit shall be conducted daily to ensure no leaks are present and no discharge is occurring.

6.7.7 Non-stormwater Discharges

Except as allowed or exempted herein, no person shall create, initiate, originate or maintain a non-storm water discharge to the storm drainage system. Such non-storm water discharges are prohibited, notwithstanding the fact that the City may have approved the connections, drains or conveyances by which a person discharges un-allowed non-storm water discharges to the storm drainage system.

6.7.7.1 Authorized Non-stormwater Discharges

Where allowed non-stormwater discharges exist, they must be identified, and steps shall be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

- 1) Discharges from firefighting activity
- 2) Hydrant flushing if dechlorinated to 0.05 mg/l or less
- 3) Vehicle wash water if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage, and transmission washing is prohibited)
- 4) Dust control runoff if it does not cause erosion

- 5) Routine external building washdown, not including surface paint removal, that does not involve detergents
- 6) Pavement wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used
- 7) Uncontaminated air conditioning or compressor condensate
- 8) Uncontaminated groundwater or spring water
- 9) Foundation or footer drain-water where flows are not contaminated
- 10) Uncontaminated excavation dewatering per item 5 Excavation Dewatering
- 11) Potable water including waterline flushings
- 12) Landscape irrigation

6.7.7.2 Unauthorized Non-stormwater Discharges

The following discharges are prohibited:

- 1) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds, or other construction materials;
- 2) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- 3) Soaps, solvents, or detergents used in vehicle and equipment washing;
- 4) Sediment laden discharges; and
- 5) Toxic or hazardous substances from a spill or other release.

ARTICLE IV. EROSION & SEDIMENTATION CONTROL

Sec. 32-41 Definitions.

Adverse Impact. Adverse impact means any undue deleterious effect due to erosion or sedimentation from Construction Activity on Waters of the State, Protected Natural Resources, the infrastructure of the Regulated Small MS4, or off-Site. Such undue deleterious effect is or may be potentially harmful or injurious to human health, welfare, safety, or property to biological productivity, diversity, or stability, or may unreasonably interfere with the enjoyment of life or property, including outdoor recreation.

Common Plan of Development or Sale. Common Plan of Development or Sale means a “subdivision” as defined in Title 30-A M.R.S. §§ 4401 et seq. (the Maine Subdivision statute) and in Chapter 14 Land Use Code.

Construction Activity. Construction Activity means any activity on a Parcel that results in Disturbed Area.

Construction Dewatering. Construction Dewatering means the removal of water from trenches, excavations, foundations, elevator pits, utility vaults, coffer dams, ponds, and other areas within a construction area that retains water after excavation. The collected water removed from a ponded area(s) may be rainfall collected in the excavation or groundwater associated with the water table or a seasonal perched water table. In many cases ponded water in excavations does not infiltrate or evaporate quickly enough and hinders correct and safe construction practices, and therefore must be removed for construction to proceed.

Dewatering Plan. Dewatering Plan means a written plan detailing the operating procedures, equipment, and devices to be used for removing sediment, and if required, petroleum or hazardous substances, from approved discharges to the City Right of Way or water resources infrastructure. A basic written plan for any construction work is required and must be approved by the City prior to start of construction for any off-site discharges. The plan should be submitted as part of the Construction Management Plan when applicable. Additional requirements can be found in Section 8 of the City of Portland’s Rules and Regulations for Use of the Sewer System.

Disturbed Area. Disturbed Area means all land areas that are stripped, graded, grubbed, filled, or excavated at any time during the Site preparation or removing vegetation for, or construction of, a project. Cutting of trees, without grubbing, stump removal, disturbance, or exposure of soil is not considered Disturbed Area. Disturbed Area does not include routine maintenance but does include redevelopment and new Impervious Areas. “Routine maintenance” for the purpose of this definition is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Paving impervious gravel surfaces is considered routine maintenance provided that an applicant or permittee can prove the original line and grade and hydraulic capacity shall be maintained and original purpose of the gravel surface remains the same. Replacement of a building is not considered routine maintenance of the building and is therefore considered Disturbed Area.

Impervious Area. Impervious Area means the total area of a Parcel covered with a low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce

their permeability. Common Impervious Areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater. Areas of pervious pavement, pervious pavers, pervious concrete, and under-drained artificial turf fields are all considered impervious.

Permitting Authority. Permitting Authority means the Code Enforcement Officer, Building Inspector, Planning Board, or other official or body authorized by State law or the Municipality's ordinances to approve development or redevelopment projects.

Site. Site means the portion(s) of a Parcel(s) upon which Construction Activity subject to this Ordinance is located.

Waters of the State. Waters of the State means Waters of the State as defined in 38 M.R.S. §361-A (7).

Sec. 32-42 Applicability.

This article shall apply to any Construction Activity commencing after the effective date of this Ordinance that results in a disturbed area of 10,000 square feet or more or where sediment is being discharged to the City right-of-way.

Sec. 32-43 Responsibility for administration

The Department of Public Works and/or the Planning Department is the Enforcement Authority who shall administer, implement, and enforce the provisions of this article.

(Ord. No. 85-08/09, 10-20-08; Ord. No. 35-09/10; 8-17-09; Ord. 108-15/16, 11/16/2015)

Sec. 32-44 Erosion and Sediment Control Plan Submission & Review

(a) *Erosion and Sedimentation Control Plan Required.* No Person shall commence Construction Activity subject to the Applicability Section of this Ordinance without first preparing and obtaining approval for an Erosion and Sedimentation Control Plan in accordance with this Ordinance. The requirements of the Erosion and Sedimentation Control Plan are detailed in any/all of the following:

- 1) *The Rules and Regulations for Use of the Collection System*
- 2) *City of Portland Technical Manual*

(b) *Concurrent Review.* When Construction Activity is subject to Subdivision, Site Plan, or other review under the City's Land Use Code which includes a review for erosion and sedimentation control, an Erosion and Sedimentation Control Plan meeting these requirements shall be submitted to the Permitting Authority concurrently with that review. When a concurrent review is not otherwise required, an Erosion and Sedimentation Control Plan shall be submitted to the Enforcement Authority.

(c) *Erosion and Sedimentation Control Plan Requirements.* The Enforcement Authority or Permitting Authority, as appropriate, will review the Erosion and Sedimentation Control Plan for compliance with the regulations and specifications detailed in any/all of the following:

- 1) *The Rules and Regulations for Use of the Collection System*

2) *City of Portland Technical Manual*

(d) *Approval, Denial, and Appeals.* The Enforcement Authority or Permitting Authority may approve the Erosion and Sedimentation Control Plan, approve it with conditions, or deny the Erosion and Sedimentation Control Plan, and that decision shall be in writing and supported by findings of fact and conclusions of law. Any person receiving a denial may appeal the determination of the Enforcement Authority to the City Manager or their designee. The notice of appeal must be received within 30 days from the date of receipt of the decision. The City Manager shall hold a hearing on the appeal within 30 days from the date of receipt of the notice of appeal, except that such hearing may be delayed by agreement of the City Manager and the appellant. The City Manager may affirm, reverse, or modify the decision of the Enforcement Authority. A party aggrieved by the decision of the City Manager may appeal that decision to the Maine superior court within forty-five (45) days of the date of the city manager's decision pursuant to Rule 80B of the Maine Rules of Civil Procedure.

(e) *Compliance with Approved Plans and Plan Changes.* The applicant shall implement and comply with the Erosion and Sedimentation Control Plan as approved throughout all phases of Construction Activity.

(f) *Project Completion.* The applicant shall provide notice to the enforcement authority when permanent stabilization of the Site has been achieved to allow for final inspection.

Sec. 32-45 Erosion and Sediment Control Inspections

(a) Inspections are required in order to ensure that all erosion and sediment control practices are installed and maintained to prevent the discharge of sediment from disturbed areas.

(b) Sites with 1 acre or More of Disturbance or Major Site Plan

- 1) For Major Site Plans that have less than one acre of disturbance the applicant shall retain the services of a qualified professional.
- 2) For all sites with one acre or greater of disturbance, the applicant shall retain the services of a Third-Party Qualified Professional for Erosion & Sedimentation Control Inspections during construction (as defined by section 32-1 of this Ordinance) to inspect the site weekly, for the duration of construction until final site stabilization is in place.
- 3) The inspection is required in order to ensure that all construction and stabilization activities comply with the approved drawings and specifications; that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations; and that any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan is communicated to the City of Portland for additional review and approval.
- 4) The inspector will submit weekly written reports to the Stormwater Coordinator(s) in the Water Resources Division of Public Works and the Development Review Coordinator(s) in Planning. Reports must include: project ID, project address, the date(s) and time(s) of inspection(s), site photographs of areas under construction, and the date(s) and approximate duration(s) of any rainfall events in the prior week. The report will identify and describe any erosion problems or discharge of pollutants

and what actions will be taken to address these issues and repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area.

(c) Minor Site Plans. The applicant is responsible for inspecting the site and maintaining erosion and sedimentation controls in good working order. In general, sites with less than 1 acre of disturbance are not required to submit an inspection report, however the City reserves the right to require reports of any project. The applicant should inspect the site as follows:

- 1) All areas of disturbance, impervious areas, erosion and sediment control best management practices, materials storage areas exposed to precipitation, and locations where vehicles enter or exit the Site shall be inspected:
 - a. Once before any disturbance begins and after all Erosion and Sedimentation Control BMPs specified in the Erosion and Sedimentation Control Plan are in place;
 - b. At least once a week as well as before and within 24 hours after a storm event (rainfall); and
 - c. Once at project completion to ensure the Site has reached permanent stabilization and all temporary erosion and sedimentation controls have been removed.

(d) Minor residential projects must use effective erosion and sedimentation controls for the duration of the Construction Activity.

(e) The Enforcement Authority, bearing proper credentials and identification, shall have the right of entry to any site with soil disturbance for the purpose of inspecting the site to determine that all construction and stabilization activities comply with the provisions of this article and applicable standards.

Ord. No. 263-96, 5-20-96; Ord. 129-14/15, 1-21-2015, Effective 1-1-2016; Ord. No. 31-18/19, 8-13-2018)

Sec. 32-46 Enforcement of Erosion and Sediment Control Plans

It shall be unlawful for any person to violate any provision of or to fail to comply with any of the requirements of this article. Whenever the Enforcement Authority believes that a person has violated this article, the Enforcement Authority may enforce this article in accordance with 30-A M.R.S.A. § 4452 and Chapter 1, Section 15 of the City Code.

(a) *Notice of violation.* Whenever the Enforcement Authority believes that a person has violated this article, the Enforcement Authority may order compliance with this article by written notice of violation to that person indicating the nature of the violation and ordering the action necessary to correct it, including, without limitation:

- 1) The elimination of sediment-laden discharges off-site or to the collection system, including, but not limited to, disconnection of the premises from the collection system, whether it is a separated system or combined system.

- 2) The cessation of discharges, practices, or operations in violation of this article.
- 3) At the Person's expense, the abatement or remediation (in accordance with best management practices in DEP rules and regulations) of sediment-laden discharges off-site or to the storm drainage system and the restoration of any affected property; and/or
- 4) The payment of fines, of the City's remediation costs and of the City's reasonable administrative costs and attorneys' fees and costs. If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such abatement or restoration must be completed.

(b) *Stop Work Order.* The enforcement authority or Permitting Authority may issue a Stop Work Notice whenever:

- 1) A Person has not corrected a notice of violation issued pursuant to this Ordinance within the time set forth in the notice, or
- 2) A Person subject to the applicability section of this Ordinance undertakes Construction Activity without first submitting an application for and obtaining approval of an Erosion and Sedimentation Control Plan.

The enforcement authority or Permitting Authority will attempt to deliver the Stop Work Notice to the applicant, the Person performing the Construction Activity, or the owner or occupant of the Parcel, as appropriate, by any means reasonably calculated to effectuate delivery.

Once the Stop Work Notice has been delivered, no further Construction Activity at the Site may proceed other than as is necessary to correct the non-compliance. Construction Activity may resume only when the enforcement authority or Permitting Authority provides written notice that the Person may resume that Construction Activity.

(c) *Penalties/fines/injunctive relief.* In addition to the imposition of any other costs or penalties provided for herein, any person who violates this section shall be subject to fines, penalties and orders for injunctive relief and shall be responsible for the City's attorney's fees and costs, all in accordance with Chapter 1, Section 15 of the City Code and 30-A M.R.S.A. § 4452. Each day such violation continues shall constitute a separate violation. Moreover, any person who violates this section also shall be responsible for any and all fines, penalties, damages and costs, including, but not limited to attorneys' fees and costs, incurred by the City for violation of federal and State environmental laws and regulations caused by or related to that person's violation of this article; this responsibility shall be in addition to any penalties, fines or injunctive relief imposed under this section.

(d) *Consent agreement.* The Enforcement Authority may, with the approval of the City Manager, enter into a written consent agreement with the violator to address timely abatement of the violation(s) of this article for the purposes of eliminating violations of this article and of recovering fines, costs and fees without court action.

(e) *Appeal of notice of violation.* Any person receiving a notice of violation or suspension notice may appeal the determination of the enforcement authority to the City Manager or their designee. The notice of appeal must be received within 30 days from the date of receipt of the notice of violation. The

City Manager shall hold a hearing on the appeal within 30 days from the date of receipt of the notice of appeal, except that such hearing may be delayed by agreement of the City Manager and the appellant. The City Manager may affirm, reverse or modify the decision of the enforcement authority. Extenuating circumstances such as long duration rain events and high intensity rain events will be considered. A suspension under Section 32-5 of this article remains in place unless or until lifted by the City Manager or by a reviewing court. A party aggrieved by the decision of the City Manager may appeal that decision to the Maine Superior Court within 45 days of the date of the City Manager's decision pursuant to Rule 80B of the Maine Rules of Civil Procedure.

(f) *Enforcement measures.* If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal to the City Manager, within 45 days of a decision of the City Manager affirming the enforcement authority's decision, then the enforcement authority may recommend that the Corporation Counsel's office file an enforcement action in a Maine court of competent jurisdiction under Rule 80K of the Maine Rules of Civil Procedure.

(g) *Ultimate responsibility of discharger.* The standards set forth herein are minimum standards; therefore this article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into waters of the U.S. caused by said person. This article shall not create liability on the part of the City, or any officer agent or employee thereof for any damages that result from any person's reliance on this article or any administrative decision lawfully made hereunder.

Sec. 32 - 47 Severability

The provisions of this article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions, clauses, sentences, or paragraphs or application of this article.

Sec. 32 - 48 Waivers

Where the enforcement authority finds that there are special circumstances of a particular Erosion and Sedimentation Control Plan that make a particular submission requirement or standard inapplicable, a waiver may be granted, provided that such waiver will not have the effect of voiding the intent and purpose of this Ordinance. The applicant shall submit, in writing, the reason for the requested waiver. In granting waivers or modifications, the enforcement authority may require such conditions that will substantially secure the objectives of the standards so waived or modified.

Sec. 32 - 49 Authority

The Municipality enacts this Erosion and Sedimentation Control Ordinance pursuant to 30-A M.R.S. §§3001 et seq. (municipal home rule ordinance authority), 38 M.R.S. §413 (the Wastewater Discharge Law), 33 USC §§1251 et seq. (the Clean Water Act), and 40 CFR Part 122 (US Environmental Protection Agency's regulations governing the National Pollution Discharge Elimination System (NPDES)). The Maine Department of Environmental Protection, through its promulgation of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems has listed the

Municipality as having a Regulated Small MS4; under this General Permit, listing as a Regulated Small MS4 necessitates enactment of elements of this Ordinance as part of the Municipality's stormwater management program in order to satisfy the minimum control measures for Construction Site Stormwater Runoff Control.