HARTFORD PLANNING COMMISSION
June 24, 2024
Meeting Notice and Agenda

The Hartford Planning Commission will meet on Monday, June 24, 2024, beginning at 6:00 p.m. to consider the following Administrative Matters and Applications.

This meeting will be conducted in person at Hartford Town Hall, 171 Bridge Street, White River Junction, Vermont. In addition, you may join the meeting remotely as follows:

Microsoft Teams
Join the meeting now
Meeting ID: 294 243 385 384
Passcode: NUkXvt
Dial in by phone
+1 802-377-3677,,173132971#
1 802 377 3677
Phone conference ID: 173 132 971#

If you have problems accessing this meeting, please email Jo-Ann Ells at jells@hartford-vt.org

A. Administrative Matters beginning at **6:00 p.m.**

1. Public Comment. 2. Minutes. 3. Administrative Permits. 4. Act 250 Applications. 5. Town Plan Steering Committee update. 6. Regional Planning Commission update. 7. Climate Action Plan update. 8. Availability for the next Public Hearing.

B. Public Hearing, beginning at **6:30 p.m.**

1. Application #24-05 by the Bettis Family Trust and Sean and Nadine Bettis (owners/applicants) for approval of a lot line adjustment between lots 03-0067-000 and 03-0067-004, 349 and 406 Rays Way, West Hartford, in RL-3 and Rl-10 zoning districts.

2. Application #24-06 by Nelson Fogg Sr. (owner/applicant) for approval of the subdivision of lot 20-0031-000 into two lots, 429 Norwich Avenue, Hartford, in a R-1 zoning district.

3. Application #24-07 by the State of Vermont (owner/applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of additions and improvements to the Windsor District Court, lot 46-0024-001, 82 Railroad Row, White River Junction, in CB and Design Reivew zoning districts.

4. Application #24-01 by Guernsey Ruth Hall Revocable Trust (owner) and Summit Distributing (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of a car wash, lot 44-0041-000, Sykes Mountain Avenue, White River Junction, in an IC zoning district. (Continued from May 20, 2024)

5. Application #24-08 by Craftstudies Inc. (owner) and The Upper Valley Haven (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for an Emergency Shelter, lot 45-0003-000, 608 North Main Street, White River Junction, in the HCR Zoning District.

Please call the Department of Planning and Development (802) 295-3075 to request copies of the application materials. Persons wishing to be heard regarding these applications may do so by participating in the meeting, having another party participate in the meeting on their behalf, and/or by submitting written testimony.

An interested person who has **participated** in a municipal regulatory proceeding may appeal a decision rendered in that proceeding to the Vermont Environmental Court. Participation in a local regulatory proceeding shall consist of offering, through oral or written testimony, evidence or a statement of concern related to the subject of the proceeding.

John Reid, Chair

Planning Commission
Administrative Agenda
June 24, 2024

1. Public Comment

2. Minutes

   May 20, 2024

3. Administrative Permits

   - U.V. Haven 55 sq. ft. addition to food shelf
   - U.V. Haven shed
   - White River Urology, fence & walkway

4. Act 250 Applications

   - 1403 Quechee West Hartford Road

     "Construction of an unheated garage attached to the main house; restoration of the outdoor riding arena from tennis court to riding arena; and the construction of a new on-site wastewater disposal system to serve the equestrian center and the two outbuildings that will be renovated into living spaces."

5. Town Plan Steering Committee update (Bruce)

6. Regional Planning Commission update (Bruce)

7. Climate Action Plan update (John R.)

8. Availability for the next Public Hearing

DRAFT
Minutes
Hartford Planning Commission
May 20, 2024

THIS MEETING WAS CONDUCTED IN COMPLIANCE WITH THE VERMONT OPEN MEETING LAW IN PERSON WITH ELECTRONIC PARTICIPATION AVAILABLE

Present: John Reid, Bruce Riddle, Toby Dayman, Dillon Bianchi, John Heath, Colin Butler, Dylan Kreis, Kim Souza, Selectboard Liaison, and Jo-Ann Ells, Zoning Administrator

Absent: None

John Reid read the hybrid meeting script, and took a roll call.

Administrative Matters

1. Public Comment

None

2. Minutes

Bruce Riddle moved to approve the minutes of April 15, 2024. Dillon Bianchi seconded, and the motion passed unanimously.

3. Administrative Permits

Jo-Ann Ells reviewed the following projects that recede administrative permits:

- 657 Hartford Ave. Convert apartment of office
- Snow Village condominiums. Replace & enlarge deck
- Landscaping change, Prospect /Maple St.

4. Act 250 Applications

Jo-Ann Ells noted the following project was under review by Act 250:

- Attached garage and interior renovations, Quechee West Hartford Road

5. Town Plan Steering Committee update

No Update

6. Regional Planning Commission update

Bruce Riddle reported that the RPC has released the first draft of an energy plan. He noted he sent a copy to Hartford's Environmental Sustainability Coordinator, Dana Clawson. John Reid asked Bruce to share the report with the Chair of the Energy Commission, Jesse Pollard. Bruce Riddle added that the RPC has also shared revisions to the transportation chapter of the Town Plan.

7. Climate Action Plan update

John Reid noted that the Climate Action Committee is getting ready to review the Hazard Mitigation Plan with consultants.

8. Availability for the next Public Hearing.

John Heath and Bruce Riddle stated that they were not available for the June 24th Hearing. Dillon Bianchi stated that he might not be available.

Public Hearing

John Reid opened the Public Hearing, asked people to sign in, noted that the Hearing will not continue past 9:30PM unless agreed upon by the Commission, explained the Hearing process, asked that comments from the public be limited to 2 minutes given the length of the agenda, and administered the oath.

1. Application #24-03 by Matt P. Bucy III (owner/applicant) for approval of a lot line adjustment between lots 32-0085-000 and 32-0085-001, 434 and 436 Woodstock Road, Hartford, in a R-3 zoning district.

Matt Bucy was present.

Jo-Ann Ells gave a brief overview of the application including one correction.

Toby Dayman asked if access easements needed to be recorded. Jo-Ann Ells explained that this would occur if either lot is sold.

John Reid noted a typographical error.

There was no public comment.

Bruce Riddle moved to close the Public Hearing. Dillon Bianchi seconded, and the was closed.

Bruce Riddle moved to approve the application with the noted changes. Colin Butler seconded, and the motion passed unanimously.

2. Application #24-02 by Josh Jasmin, Sean Jasmin and Raymond Jasmin (owners/applicants) for Site Development Plan Approval under sections 260-45 of the Hartford Zoning Regulations for approval of a parking facility, lot 14-0015-000, 344 North Hartland Road, White River Junction, in a GCR zoning district.

Josh Jasmin, Sean Jasmin, and Skip Nalette were present.

Skip Nalette gave an overview of the project.

John Reid asked for confirmation that vehicles would be repaired and leave the lot so that it would not become a junkyard. Skip Nalette confirmed.

Toby Dayman requested that the proposed fir trees be 8'-10' high.

There was no public comment.

Bruce Riddle moved to close the Public Hearing. Dillon Bianchi seconded, and the was Hearing closed.

Bruce Riddle moved to approve the application with the noted changes. Colin Butler seconded, and the motion passed unanimously.

3. Application #24-04 by 12 Tremont Street, LLC (owner/applicant) for Preliminary Approval of a Planned Development under the Subdivision Regulations and section 260-47 of the Hartford Zoning Regulations for a Multi-Unit Dwelling, lot 09-0072-000, 1200 Christian Street, Hartford, in a R-3 zoning district.

Tim Sidore, Mike Davison, Jim Wasser, and Adam Morse were present.

Jo-Ann Ells noted that the application was for preliminary approval of a Planned Development. She added explained that the project also requires final approval of a Planned Development and Site Plan approval from the Planning Commission. In addition, Conditional Use Approval is required from the Zoning Board of Adjustment.

Tim Sidore introduced himself and stated that this company specializes in redevelopment and can quickly turn the building into dwelling units. He added that the traffic and density will be less than when the building was a nursing home.

Adam Morse reviewed the proposed parking along Brookside Drive. Colin Butler expressed concern with 90 degree parking spaces in this area. Jim Wasser explained that this is the accessible entrance to the building and accessible parking spaces should be available, noting parallel accessible units are not preferred.

Tim Sidore noted that there is an accessible parking space proposed near the entrance to on the lower level.

There was a discussion about accessible access to the building and parking.

Bruce Riddle asked if the applicant would be testing for radon. Tim Sidore stated that they would consider it.

Bruce Riddle asked what the applicant meant by “lifestyle community” as noted in the application.

Tim Sidore stated that this refers to a living environment with a slower pace, opposed to a downtown apartment.

Bruce Riddle stated that he was not convinced that the applicant had submitted adequate justification for a density bonus. He expressed concern with the lack of sidewalks and public transportation in the area. He noted that while he found the offer of a shared vehicle generous, people who do not drive may be stuck there. He noted that he read the letters from the public.

Tim Sidore stated that housing is needed in the area and the project is an opportunity to provide housing without needing to build a new building. He agreed that while the location might not work for everyone, it will work for many.

Jim Wasser explained that the building lends itself to small units, and with the high cost of construction, it would be hard to build an affordable project with a new building. He added that the financing that non-profit housing groups receive is not available to the applicant.

There was a brief discussion regarding how car sharing would work.

It was noted that legislation that becomes effective in December restricts the Planning Commission from requiring more than one parking space per unit in zoning districts served by municipal sewer and water that allows residential uses.

Dylan Kreis asked if parking spaces would be assigned. Tim Sidore stated that they would. There was a discussion regarding parking enforcement. Tim Sidore offered that there would be a number that residents can call 24/7 for assistance, e.g., a vehicle is parked in a resident’s assigned parking space.

There was a discussion about maximum occupancy of a unit and State law governing the topic.

Dillon Bianchi stated that he shared Bruce Riddle’s concerns regarding the density bonus.

Toby Dayman commented that he did not support 90 degree standard parking spaces along Brookside Drive, but thought accessible parking spaces could work. He added that he questioned if the proposed number of parking spaces was adequate.

John Heath asked about usable outdoor recreation/natural areas, noting the presence of wetlands on the property. Jim Wasser noted that there is a gazebo on the lot and that the applicant is working on the design of amenities including an area for picnic tables and a BBQ. He noted that a dog run area is proposed.

John Heath asked if a landscaping plan would be provided later. Jim Wasser confirmed it would.

There was a discussion regarding the State's definition of Affordable Housing. Tim Sidore confirmed that the affordable units would be permanent.

John Heath asked how the existing garage would be used. Tim Sidore stated that it will be used as a maintenance garage.

It was noted that a parking spaces for delivery vehicles needed to be provided.

Colin Butler asked if the car provided in the car share program would be rented. Tim Sidore stated that a nominal fee will be charged.

Colin Butler commented that there were not enough amenities proposed to support the requested density bonus. He added that he would prefer to see larger units and wants to see more amenities. He requested that the applicant contact Advance Transit to determine if they could add a bus stop. He concluded by stating that he wants to see the project move forward, but additional work needs to be done.

John Reid questioned the applicant's comment in the application materials and Finding #13 that the project is … "conveniently located in proximity to neighboring Upper Valley communities and amenities" noting that the location seems isolated. He added that he would like to see a management plan for the natural areas.

John Reid asked for public comment.

Frank Klymn expressed concern that the project would change the character of the neighborhood. He noted that the nursing home was rarely full, and the project would result in a big increase in occupancy and traffic. He stated that he did not see how this helps the town, there is no room for people who have a second car, and cars might be parked on the road. He expressed concern with the impact on the deer nesting areas and access to the stream and pond. John Reid noted that there would be an open space management plan. Frank Klymn stated that the project was too big.

Dan Loskutoff expressed concern with access to the building, parking, circulation, flow of the project, and impact on the neighborhood.

Tim Sidore explained that experience with other similar developments is that typically only one person occupies the unit.

Tim Sidore offered that a call box to “buzz” people in to the building could be installed.

Colin Butler moved to continue the Hearing to the Commission’s June meeting. He withdrew his motion after some discussion.

Mark Detzer stated that he shared the concerns expressed regarding density and Jen Horn stated that she agreed.

Bruce Riddle apologized for needing to leave the meeting.

Jeff Arnold expressed concern with the lack of landscaping, and stated that he supported the proposed use for affordable housing.

Colin Butler moved to close the Public Hearing. Dillon Bianchi seconded, and the was closed.

Jo-Ann Ells reviewed changes to the Findings of Fact.

Colin Butler moved to approve the application with the noted changes. John Heath seconded, and the motion passed 5-1 with Dillon Bianchi opposed. Dillon stated that he did not find that the application met the requirements of sections 260-2 E or 260-2 G of the Subdivision Regulations.

4. Application #23-22 by Black Rock Investment LLC (owner/applicant) for Final Approval of a Subdivision involving a boundary line adjustment between lots 45-0243-000 and 45-0162-000, Sykes Mountain Avenue and Hickory Ridge, White River Junction, in R-2 and R1-M zoning districts.

Earle Simpson, Dennis Marquise, Kevin Worden, Paul Simon, Adam Wagnor, Irwin Perret Jr., and Irwin Perret Sr. were present.

Jo-Ann Ells noted that preliminary approval was granted in December of 2023.

Kevin Worden explained that the proposed boundary line has shifted since preliminary approval to allow the proposed building for the 48-unit dwelling to move away from the road.

John Reid noted one correction to the Findings of Fact.

There was no public comment.

Dillon Bianchi moved to close the Public Hearing. Colin Butler seconded, and the was closed.

Dillon Bianchi moved to approve the application with the noted change. Colin Butler seconded, and the motion passed unanimously.

5. Application #23-23 by Black Rock Investment LLC (owner/applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for 48 dwelling units in a Multi-Unit Building, proposed lot 45-0243-000, Sykes Mountain Avenue and Hickory Ridge, White River Junction, in a R1-M zoning district. (Continued from April 15, 2024)

Earle Simpson, Dennis Marquise, Kevin Worden, Paul Simon, Adam Wagnor, Irwin Perret Jr., and Irwin Perret Sr. were present.

Jo-Ann Ells noted a correction to the Findings of Fact and stated that the Commission had reviewed the application in December of 2023 and February of 2024.

Dennis Marquise noted that while the applicant is finishing some items with staff, they will need to talk to the Selectboard, and obtain State permits, the application is ready for the Planning Commission to act on.

John Reid asked if the Planning Commission needed to approve the height of the building. Jo-Ann Ells noted that the applicant is seeking an increase in height of the building based on the project meeting the requirements of an Affordable Housing Project as allowed by State Statute (24 V.SA. 4412 (13) and that the Planning Commission does not need to approve the request.

John Reid noted that he was concerned with safety surrounding the proposed fire pits. Paul Simon explained that they would be gas not wood and are located the required distance to structures per State Regulations. It was noted that timers could be added to the units so they would automatically turn off.

John Reid complimented the applicant on the landscape plan.

There was a discussion regarding the addition of landscaping at the bottom of the drainage swale.

Paul Simon reviewed the lighting plan.

Dylan Kreis asked if the leasing office in the building was limited to the units in the building. Adam Wagner confirmed.

There was no public comment.

Dillon Bianchi moved to close the Public Hearing. Colin Butler seconded, and the was closed.

Dillon Bianchi moved to approve the application with the noted changes. Toby Dayman seconded, and the motion passed unanimously.

6. Application #23-24 by Black Rock Investment LLC (owner/applicant) for Final Approval of a Planned Development under the Subdivision Regulations and section 260-47 of the Hartford Zoning Regulations for 192 dwelling units in four Multi-Unit Buildings, proposed lot 45-0162-000, Sykes Mountain Avenue and Hickory Ridge, White River Junction, in R-2 and R1-M zoning districts.

Earle Simpson, Dennis Marquise, Kevin Worden, Paul Simon, Adam Wagnor, Irwin Perret Jr., and Irwin Perret Sr. were present.

John Reid commented that the Master Plan does not include a lot of detail Jo-Ann Ells explained that it was an overall guide for development of the lot.

Colin Butler asked if the applicant expected that the general public would use the trail system. Dennis Marquise explained that the intent is to provide an amenity for the immediate neighborhood.

There was no public comment.

Dillon Bianchi moved to close the Public Hearing. Colin Butler seconded, and the was closed.

Dillon Bianchi moved to approve the application. Dylan Kreis seconded, and the motion passed unanimously.

7. Application #23-25 by Black Rock Investment LLC (owner/applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for 192 dwelling units in four Multi-Unit Buildings, proposed lot 45-0162-000, Sykes Mountain Avenue and Hickory Ridge, White River Junction, in a proposed Planned Development. (Continued from April 15, 2023)

Earle Simpson, Dennis Marquise, Kevin Worden, Paul Simon, Adam Wagnor, Irwin Perret Jr., and Irwin Perret Sr. were present.

Jo-Ann Ells noted several changes to the Findings of Fact.

Colin Butler noted a correction to Finding #27.

Paul Simon reviewed the lighting plan.

Dylan Kreis asked about including a stop sign near the project on the lower lot. Kevin Worden stated that there is a stop bar as you exit the 48-unit project and noted that the DPW approved the signage/markings.

Dylan Kreis asked if the entire project would be cleared in phase #1. Dennis Marquise stated that it would.

At 9:30PM Colin Butler moved to continue the Hearing to 10PM. Dillon Bianchi seconded, and the motion passed unanimously.

There was no public comment.

Dillon Bianchi moved to close the Public Hearing. Colin Butler seconded, and the Hearing was closed.

Dillon Bianchi moved to approve the application with the noted changes. Colin Butler seconded, and the motion passed unanimously.

Adjournment

The Commission adjourned at 9:33 p.m.

Respectively Submitted,

_____
Toby Dayman, Clerk

Planning Commission Terms

Toby Dayman 06-28-24
Colin Butler 07-12-24
Bruce Riddle 02-07-25
Dillon Bianchi 09-05-25
Dylan Kreis 6-26-26
John Reid 02-05-27
John Heath 03-11-27

Town of Hartford

Planning Commission App # _____
Zoning Board of Adjustment App # _____

APPLICATION TO
PLANNING COMMISSION &/OR ZONING BOARD OF ADJUSTMENT

PLEASE COMPLETE ALL ITEMS APPLICABLE AND PROVIDE THE CORRECT NUMBER OF COPIES OF THIS APPLICATION AND THE SITE PLAN OR SUBDIVISION PLAT. ABUTTING LANDOWNERS WILL BE NOTIFIED BY THE PLANNING/ZONING OFFICE.

1. **NAME & ADDRESS OF RECORD OWNER(S)** Sean & Nadine Bettis (Tax Map 3, Lot 67-4)
   P.O. Box 602, Hartford, VT 05047-0602
   Deed Recorded Book 318 Page 194 (Available at Town Clerk's Office)
   Telephone: Work _____ Cell 603-359-9425 Email Address: slider173@gmail.com
2. **NAME & ADDRESS OF APPLICANTS(S)** Bettis Family Trust (Tax Map 3, Lot 67)
   P.O. Box 310, Hartford, VT 05047 Book 310, Page 524
   Telephone: Work _____ Cell 603-359-9425 Email Address: slider173@gmail.com
3. **NAME & ADDRESS OF APPLICANTS' CONSULTANT** Pathways Consulting, LLC (Skip Nalette)
   240 Mechanic Street Suite #100, Lebanon, New Hampshire 03766
   Telephone: Work 603-448-2200 Cell _____ Email Address: skip.nalette@pathwaysconsult.com
4. **PROJECT LOCATION** 349 &406 Rays Way, Hartford, Vermont 05001
5. **PRESENT USE OF PROPERTY** Existing single family residences
6. **BRIEFLY DESCRIBE PROJECT** (in addition, a detailed narrative must be submitted)
   A boundary line adjustment to annex 19.4 acres from Lot 3-67 to Lot 3-67-4
7. **PROJECT SIZE IN SQ. FT OR ACREAGE** See attached plan
   Lot Width See attached plan Lot Depth See attached plan
8. **IS PROJECT ON TOWN WATER/SEWER?** Yes _____ No _____ If Yes, estimated
   Water Consumption/day _____ Amount of Sewer Flow Projected _____
   Size of Closest Lines Above (water) _____ (sewer) _____
9. **DESCRIBE LANDSCAPING PLAN** _____
10. **IF A BUSINESS** - Present # of Employees _____
    Proposed Days & Hours of Operation _____
    Will you use the landfill & recycling center? Yes _____ No _____
    The main waste by-product of your business is: _____

11. **IF A RESTAURANT** - Present seating _____ Proposed _____

12. **PARKING SPACES** - Number to be provided _____

13. **SIGNAGE** - Free Standing _____ Attached _____

14. **FENCING** – Location _____ Height _____

15. **NEAREST WATER SUPPLY FOR FIRE PROTECTION** _____

16. **ESTIMATED VALUE OF PROPOSED WORK** _____

17. **IS THERE AN EXISTING DRIVEWAY?** _____

18. **IF A SUBDIVISION** - Number of New Lots to be Created _____

Do you request that the Town consider taking over maintenance of – Roads _____

Or Park/Open Space _____

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED ON THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. (This certification must be signed by lot owners and applicants).

Sean Bett P.O.A 5/20/24
Applicant's Signature Date

Sean Bett 5/20/24
Lot Owner's Signature Date

_____
Co-Applicant's Signature Date

Madison Bett 5/20/24
Co-Owner's Signature Date

The applicant retains the obligation to identify, apply for, and obtain any relevant local or state permits before any construction may commence. Please call 802-282-6488 to speak with the State Permit Specialist.

For Office Use Only		
Map/Lot #		
Fee Paid $:		Receipt #:
PC: Site Plan	Min. Sub.	Maj. Sub.
PD	PD Amend.	Other
ZBA: Conditional Use	Variance	Appeal
Other		
Zoning District (s)		Date Filed:
Official Submittal Date:		

PHYLLIS A BETTIS
PH. 802-295-7362
PO BOX 602
HARTFORD, VT 05047

54-7021/2117

3677

DATE 5/20/24

PAY TO THE ORDER OF Town of Hartford $ 155.00

one hundred fifty five and no/100 DOLLARS

Heat Reactive Ink

Mascoma Bank

Relationship Gold Checking

MEMO

Sean Bet P.O.A

⑆211770213⑆ 931 08 194 7⑈ 3677

LOOK FOR FRAUD-DETERRING FEATURES INCLUDING THE SECURITY SQUARE AND HEAT-REACTIVE INK. DETAILS ON BACK.

SPECIALTY LEXON HIGH SECURITY

1. 24-05

DRAFT
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND
DECISION

HARTFORD PLANNING COMMISSION

Application #24-05 by the Bettis Family Trust and Sean and Nadine Bettis for approval of a lot line adjustment between lots 03-0067-000 and 03-0067-004, 349 and 406 Rays Way, West Hartford, in RL-3 and Rl-10 zoning districts

This decision pertains to application #24-05 by the Bettis Family Trust and Sean and Nadine Bettis (owners/applicants) for approval of a lot line adjustment between lots 03-0067-000 and 03-0067-004, 349 and 406 Rays Way, West Hartford, in RL-3 and Rl-10 zoning districts.

FINDINGS OF FACT

Based upon the information contained in the exhibits for this application (see attached list) and the evidence adduced at the Planning Commission meeting of June 24, 2024, the Hartford Planning Commission makes the following Findings of Fact:

1. The owner of record of lot 03-0067-000 is the Bettis Family Trust who acquired the lot on 08-20-01. The deed is recorded in volume 310, page 524 of the Hartford Land Records.

   The owners of record of lot 03-0067-004 are Sean and Nadine Bettis who acquired the lot on 12-18-01. The deed is recorded in volume 318, page 194 of the Hartford Land Records.

2. The lots are located at 349 and 406 Rays Way in West Hartford.

3. Lot 03-0067-000 is 176.3 acres.

   Lot 03-0067-004 is 16.1 acres.

4. Lot 03-0067-000 is developed with a dwelling, garage, barn, accessory structure and solar array.

   Lot 03-0067-004 is developed with a dwelling, garage, shed, and sugar house.

5. The lots are class three (3), on-site water and sewer.

6. Lot 03-0067-000 is in RL-3 & RL-10 zoning districts and lot 03-0067-004 is in a RL-10 zoning district.

This Application

7. The applicants propose to annex 19.4 acres from lot 03-0067-000 to lot 03-0067-004.

   After the adjustment, lot 03-0067-000 will be 156.9 acres and lot 03-0067-004 will be 35.5 acres.

8. Minimum Area and Dimensional Standards in the RL-3 zoning district are:

	Area (acres)			Lot Dimensions (feet)		Setbacks (feet from property lines)		
Class	**Per Dwelling Unit**	**Per Lot**	**Lot Size**	**Width****	**Depth****	**Front****	**Side****	**Rear****
Any	3 acres	3 acres	1 acre	250	250	35	35	35

   Minimum Area and Dimensional Standards in the RL-10 zoning district are:

	Area (acres)			Lot Dimensions (feet)		Setbacks (feet from property lines)		
Class	**Per Dwelling Unit**	**Per Lot**	**Lot Size**	**Width****	**Depth****	**Front****	**Side****	**Rear****
Any	10 acres	10 acres	1 acre	400	300	50	50	50

9. After the annexation, the lots will continue to meet the minimum area, width, and depth requirements for the district.

10. When lot 03-0067-004 was created a buildable area was designated on the survey. (See exhibit #3)

    An expanded "building envelope" is proposed (See exhibit #2)

11. A portion of an existing right-of way over lot 03-0067-000 benefitting lot 03-0067-004 will be eliminated. (See exhibit #2)

12. Given that a full boundary survey for both lots was prepared in 2001, the remaining acreage of lot 03-0067-000 is large, and the size of lot 03-0067-004 is increasing, the applicants have requested a waiver from a full boundary survey. (See exhibit #2 and #3)

13. The application is a "One-step" application under section 203-C 2 of the Subdivision Regulations.

14. The applicant understands that they retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

15. The applicant understands that a Mylar must be properly endorsed and recorded within 180 days of this decision and that a zoning permit must be obtained, or the decision will be void.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Hartford Planning Commission concludes that the proposed subdivision meets the requirements of the Town of Hartford Subdivision Regulations including:

Section 200-2 Hartford Subdivision Regulations:

A. To guide future development in accordance with the Hartford Master Plan (the Plan), Zoning Regulations, Flood Hazard Area Regulations, Capital Budget and Program, and all other Town adopted bylaws, ordinances, regulations, plans, policies, and procedures.

B. To promote a desirable relationship to the landform, its topography and geology, natural drainage and surface water runoff, surface water, and groundwater.

C. To conserve natural resources and fragile features such as prime agricultural soils, wetlands, streams, ponds, steep slopes, ridgelines, important wildlife habitat and connectivity, and scenic views.

D. To minimize the fragmentation of productive resource lands, including farm and forest land, and to promote their continued use and availability for agriculture, forestry, and wildlife.

E. To maintain Hartford's historic settlement pattern, defined by compact villages surrounded by rural countryside.

F. To encourage variety, innovation, flexibility, and greater efficiency in residential development including clustering of lots, in accordance with the provisions of 24 V.S.A. §4417 (Planned Unit Development).

G. To establish standards of subdivision design including, but not limited to provisions for pedestrian and vehicular traffic, surface water runoff, surface water, and suitable building sites for the land use contemplated.

H. To ensure development does not exceed the ability of the Town to provide public services and facilities, and that these facilities and services are available and will have sufficient capacity to serve any proposed subdivision. Such facilities and services include, but are not limited to: parks, recreation areas, schools, police and fire protection, libraries, water and wastewater facilities, roads, and public parking.

I. To provide adequate utilities such as water, wastewater, electricity, telephone, and

broadband.

J. To provide the most efficient relationship between land use and the circulation of traffic throughout the Town, encourage access management, and avoid undue traffic congestion and overburdening of roads, highways, and intersections.

K. To promote the conservation of energy and use of renewable energy resources.

L. To encourage variety in the type, size, and cost of housing to meet the needs of Hartford's diverse population.

DECISION

The Hartford Planning Commission, based upon the forgoing Findings of Fact and Conclusions of Law hereby approves application #24-05 by the Bettis Family Trust and Sean and Nadine Bettis (owners/applicants) for approval of a lot line adjustment between lots 03-0067-000 and 03-0067-004, 349 and 406 Rays Way, West Hartford, in RL-3 and Rl-10 zoning districts **on the condition that before a zoning permit is issued to finalize this Decision:**

- **A Zoning Permit is obtained for the shed adjacent to the house on lot 03-0067-004.**
- **The applicants submit a letter from their surveyor verifying that the monuments have been set according to the locations identified on the approved survey plat.**

This decision is also subject to the condition that no modification or expansion shall be made to the project as described and limited in the above Findings of Fact and Conclusions of Law without the written approval of the Hartford Zoning Board of Adjustment and/or the Hartford Planning Commission. This decision may be revoked, and a new application or permit required if conditions and findings are violated or modified without written approval.

The applicant is responsible for insuring compliance with all applicable State and Federal regulations pertaining to this application.

Those in favor:

Those in opposition:

Those not participating:

Dated at Hartford, Vermont this ____ day of June 2024.

HARTFORD PLANNING COMMISSION

By _____

5. 24-05

Chairperson/Vice-Chairperson

Appeal Rights: An interested person who has participated in the proceeding related to this decision has the right to appeal this decision to the Vermont Environmental Court, pursuant to 24 V.S.A. s. 4471 and V.R.E.C.P.5, in writing, within 30 days of the date of this decision. If you fail to appeal this decision, your right to challenge this decision at some future time may be lost because you waited too long. You will be bound by this decision, pursuant to 24 V.S.A. s. 4472 (d) (exclusivity of remedy; finality).

EXHIBIT LIST

1. Application #24-5

2. Survey entitled "Boundary Line Adjustment Plan for Sean and Nadine Bettis, and Bettis Family Trust, Tax Map 3. Lots 67 & 67-4"

3. Subdivision of property of Michael and Phyllis Bettis approved in 2001, application #01-43

4. Memo from Joseph "Skip" Nalette dated May 30, 2024

5. Memo from Jo-Ann Ells dated May 23, 2004

PATHWAYS CONSULTING, LLC
Planning • Civil & Environmental Engineering • Surveying • Construction Assistance
240 Mechanic Street • Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 • Fax: (603) 448-1221

MEMORANDUM

TO: JO-ANN ELLS, ZONING ADMINISTRATOR

FROM: JOSEPH "SKIP" NALETTE, L.L.S.

RE: RESPONSE TO STAFF COMMENTS, BOUNDARY LINE ADJUSTMENT, 349 & 406 RAYS WAY, HARTFORD, VERMONT (PROJECT NO. 11452-01)

DATE: MAY 30, 2024

Our responses to the Department Heads' and Staff preliminary comments, dated May 23, 2024, are provided in *italics* below each comment.

1. Please confirm that you understand that you retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

   To determine what State Environmental Permits may be required for your project, The Vermont Agency of Natural Resources (ANR) recommends that you use ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website Welcome to DEC | Department of Environmental Conservation (vermont.gov) and going to the "Permit Navigator Tool" Permit Navigator (force.com)

   If further assistance is needed, please contact the Community Assistance Specialist for our area:

   Jeff McMahon, Community Assistance Specialist

   Jeff.McMahon@Vermont.gov

   802-477-2241

   We will make contact with Jeff McMahon for his review of the project.

2. Please amend the survey as follows:

   - Include a note that lot 03-0067-000 is in two zoning districts (RL-3 & RL-10)
   - Include a proposed building envelope for lot 03-0067-004 (remove the existing building envelope)
   - Include the setbacks for both lots
   - Clarify/label the small "box" on the right side of the house on lot 03-0067-004

   See revised plan.

3. To support a waiver from a full boundary survey for lot 03-0067-000, please include the plan of reference from 2001.

A copy of a plan entitled "Subdivision Of Property Owned By Michael A. & Phyllis A. Bettis," dated 09/25/2001, is attached. The plan is also referenced on the Boundary Line Adjustment plan under Plans of Reference.

4. Please confirm that you understand that before the subdivision plat is recorded, your surveyor will need to submit a letter to me certifying that the monuments have been set according to the locations identified on the approved survey plat.

   The applicant understands this condition.

5. Please email me all application materials, including your response to this memo.

   Application materials will be emailed to you with this response.

6. Please submit 8 copies of all application materials, including your response to this memo. Please fold the copies of the survey.

   8 copies of all application materials are submitted with this response.

Memorandum

To: Sean and Nadine Bettis

Cc: Skip Nalette, Pathways Consulting

From: Jo-Ann Ells

Date: May 23, 2024

Re: Boundary Line Adjustment

Please submit a response to the following comments/questions on your application for a Boundary Line Adjustment before **9:00 a.m., Thursday, May 30, 2024.** If you are unable to meet this deadline, please contact me as soon as possible to discuss the deadline to have your application heard at the next round of Public Hearings.

Prior to the Planning Commission Hearing, you will receive an agenda, draft Findings of Fact, and additional staff comments if there are any. Please feel free to contact me at any time during this process.

1. Please confirm that you understand that you retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

   To determine what State Environmental Permits may be required for your project, The Vermont Agency of Natural Resources (ANR) recommends that you use ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website Welcome to DEC | Department of Environmental Conservation (vermont.gov) and going to the "Permit Navigator Tool" Permit Navigator (force.com)

   If further assistance is needed, please contact the Community Assistance Specialist for our area:

   Jeff McMahon, Community Assistance Specialist

   Jeff.McMahon@Vermont.gov

   802-477-2241

2. Please amend the survey as follows:

    - Include a note that lot 03-0067-000 is in two zoning districts (RL-3 & RL-10)
    - Include a proposed building envelope for lot 03-0067-004 (remove the existing building envelope)
    - Include the setbacks for both lots
    - Clarify/label the small "box" on the right side of the house on lot 03-0067-004

3. To support a waiver from a full boundary survey for lot 03-0067-000, please include the plan of reference from 2001.

4. Please confirm that you understand that before the subdivision plat is recorded, your surveyor will need to submit a letter to me certifying that the monuments have been set according to the locations identified on the approved survey plat.

5. Please email me all application materials, including your response to this memo.

6. Please submit 8 copies of all application materials, including your response to this memo. Please fold the copies of the survey.

ALL BEARINGS REFERENCED TO MAGNETIC NORTH 2001

APPROXIMATELY TRUE

MAGNETIC NORTH

RTE. 14

NEW ENGLAND CENTRAL RAILROAD

LOT 03-0067-002
JOHN & LISA
VOSE

LOT 03-0067-000
176.4 +/- ACRES
REMAINING LANDS OF
BETTIS

HOUSE

BARN

PORTION OF ROAD TO BE IMPROVED

792' +/- ALONG R.O.W.

PROPOSED 50' R.O.W.

FOLLOWS 780' +/- ALONG R.O.W.

106' +/- ALONG P/L

PROPERTY LINE

SETBACK LINE

BUILDING

BUILDABLE AREA
LESS THAN 15%

3/4" REBAR

BUILDING SETBACK LINE

S 43°36'01" E
269.30'
(CLOSURE LINE)

595.18'
S 29°47'53" W
(CLOSURE LINE)

1'340 +/- ALONG R.O.W.

PROPERTY LINE FOLLOWS 497' +/- ALONG R.O.W.

PROPERTY LINE IS 25' PARALELL TO CENTER LINE OF EXISTING ROAD

APPROXIMATE DRIVE

LOT 03-0067-004
16.14 ACRES

EXISTING REBAR LOCATED 1.5 FEET SOUTHWESTERLY OF PROPERTY LINE

03-0068-000
WILLIAM J.
KENNEDY

EXISTING 50' R.O.W.

ZONE RL-3

ZONE RL-1

355' +/- ALONG R.O.W.

202' +/- ALONG R.O.W.

1,070' +/- ALONG R.O.W.

PROPOSED 50' R.O.W.

RAYS WAY

PROPERTY LINE IS 25' PARALELL TO CENTER LINE OF EXISTING ROAD

END OF EXISTING R.O.W.

ZONE: RL-5

LOT 03-0067-003
WILLIAM W.
WALIMA

N 95°55'55" E
207.59'

LOT 03-0067-001
BETTIS

382' +/- ALONG R.O.W.

POND

10%

280' +/- ALONG R.O.W.

ZONE RL-3

S 24°49'12" W
76.83'

120.50'
N 24°49'12" E

EXISTING 50' R.O.W

S 64°28'47" E
50.02'

70' RTE. 14

JERICHO STREET
TO ROUTE 5

500'

ZONE RL-3

ZONE: RL-5

3/4" REBAR

388.95'
S 44°57'12" W
(CLOSURE LINE)

3/4" REBAR

3/4" REBAR

3/4" REBAR

388.95'
S 28°17'26" W
(CLOSURE LINE)

03-0069-000
WILLIAM P.
STEBBINS

03-0085-000
WILLIAM D. & AUDREY A.
CONNERS

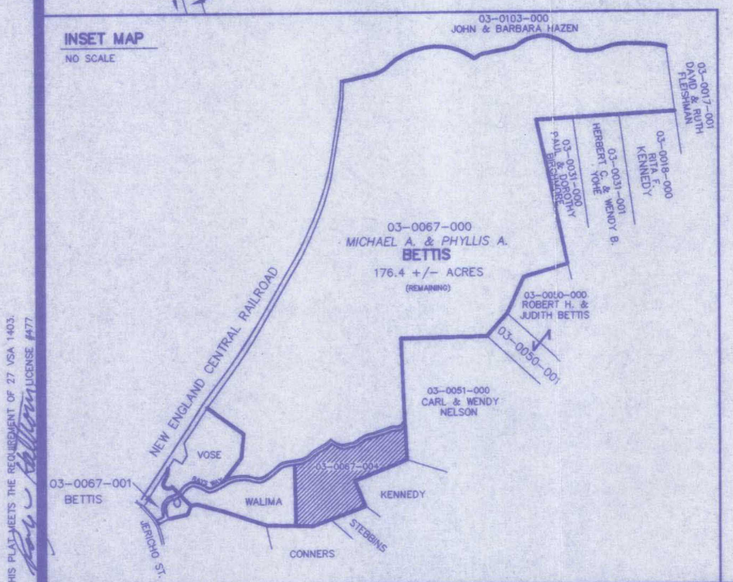
GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

INSET MAP

NO SCALE



A – B	N 08°51'44" W	282.41'
B – C	N 38°38'21" E	244.92'
C – D	N 37°26'27" E	1011.90'
D – E	N 22°48'35" E	487.82'
E – F	N 40°59'59" E	731.19'
F – G	N 30°37'20" E	100.00'
F – H	N 34°34'32" W	50.00'
H – J	S 42°18'44" W	734.76'
J – K	S 30°27'49" W	1279.77'
K – L	S 37°31'22" W	188.81'
L – M	S 40°28'28" W	308.16'
M – N	S 05°49'26" E	303.70'

SYMBOL LEGEND

- IRON PIPE OR REBAR LOCATED
- 5/8" CAPPED REBAR TO BE SET
- GROUND POINT (NOT MARKED)
- UTILITY POLE
- STONE WALL
- BROOK
- BARBED WIRE FENCE
- APPROXIMATE PROPERTY LINE
- ZONING BOUNDARY

THIS PLAT IS APPROVED SUBJECT TO THE FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION FOR THIS SUBDIVISION, A COPY OF WHICH IS ON FILE IN THE TOWN CLERK'S OFFICE.

APPROVAL NO. 01-43 HARTFORD PLANNING COMMISION

DATED: 11/19/01 BY: John E. Valente CHAIRPERSON/VICECHAIRPERSON

PLANS OF REFERENCE

(A) SURVEY PLAN FOR SUSAN BAKER, MARGARET FOLLETT, WILSON FOLLETT AND DIANA FOLLETT
PROJ. NO. 29888, DATED: NOV., 1989
BY: T&M ASSOCIATES, INC.

(B) RIGHT OF PLAN FOR MICHAEL & PHYLLIS BETTIS
PROJ. NO. 89894, DATED: JUNE 8, 1994
BY: HATHORN SURVEYS

(C) SUBDIVISION FOR MICHAEL & PHYLLIS BETTIS
PROJ. NO. 97795, LAST REVISED: 8/31/95
BY: HATHORN SURVEYS

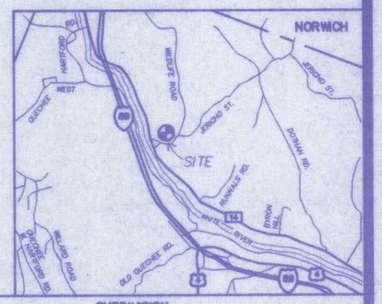
(D) SUBDIVISION FOR MICHAEL & PHYLLIS BETTIS, SUSAN BAKER AND WILLIAN WALIMA
PROJ. NO. 104596, LAST REVISED: 8/16/96
BY: HATHORN SURVEYS

I HEREBY CERTIFY THAT A CLOSED OFFSET EDM SURVEY HAS BEEN CONDUCTED OF LOT 03-0047-004 AND THE PROPOSED RIGHT OF WAY SHOWN HEREIN. FURTHERMORE; THE BOUNDARIES WERE DETERMINED BY THE USE OF THE FIELDNOTES OF SAID SURVEY, LOCATION OF EXISTING FIELD MONUMENTATION, PLANS OF REFERENCE AND TO THE BEST OF MY KNOWLEDGE AND ABILITY.

OWNERS OF RECORD

LOT 03-0067-000
MICHAEL A. & PHYLLIS A. BETTIS
P.O. BOX 331
HARTFORD, VT. 05047

DEED REFERENCE:
VOL. 207, PG. 501



REVISED 11/7/01 J.E.N.
ROAD IMPROVEMENTS – DRIVE LOCATION

HATHORN SURVEYS, INC.
P.O. BOX 333
WILDER, VERMONT 05088
PHONE: (802) 295-5101
FAX: (802) 295-5339
EMAIL: RGHL5477@AOL.COM

STATE OF VERMONT
ROY G. HATHORN
No. 477
LICENSED LAND SURVEYOR

THIS PLAT MEETS THE REQUIREMENT OF 27 VSA 1403.
Roy G. Hathorn LICENSE #477

SUBDIVISION
OF
PROPERTY OWNED BY

MICHAEL A. & PHYLLIS A. BETTIS

RAYS WAY
TOWN OF HARTFORD
WINDSOR COUNTY, VERMONT
SCALE: 1" = 100'
DATED: 09/25/01 PREPARED BY: J.E. NALETTE
PROJ. NO. 160801 HATHORN SURVEYS, INC.

Recd and recorded 11.19.2001 at 4:10 PM Attest: Mary E. Shiel Town Clerk

426 B

LEGEND

EXISTING IRON PIPE OR REBAR	◉ AS NOTED
CAPPED REBAR TO BE SET	○
COMPUTED POINT	●
BOUNDARY LINE	———
RIGHT–OF–WAY	— — —
STONE WALL	·o·o·o·o·
WIRE FENCE	——x——
EDGE GRAVEL	— — —
UTILITY POLE	⌀
DEED REFERENCE	(BOOK/PAGE)
TAX MAP/LOT NO.	12–122

GENERAL SURVEY NOTES:

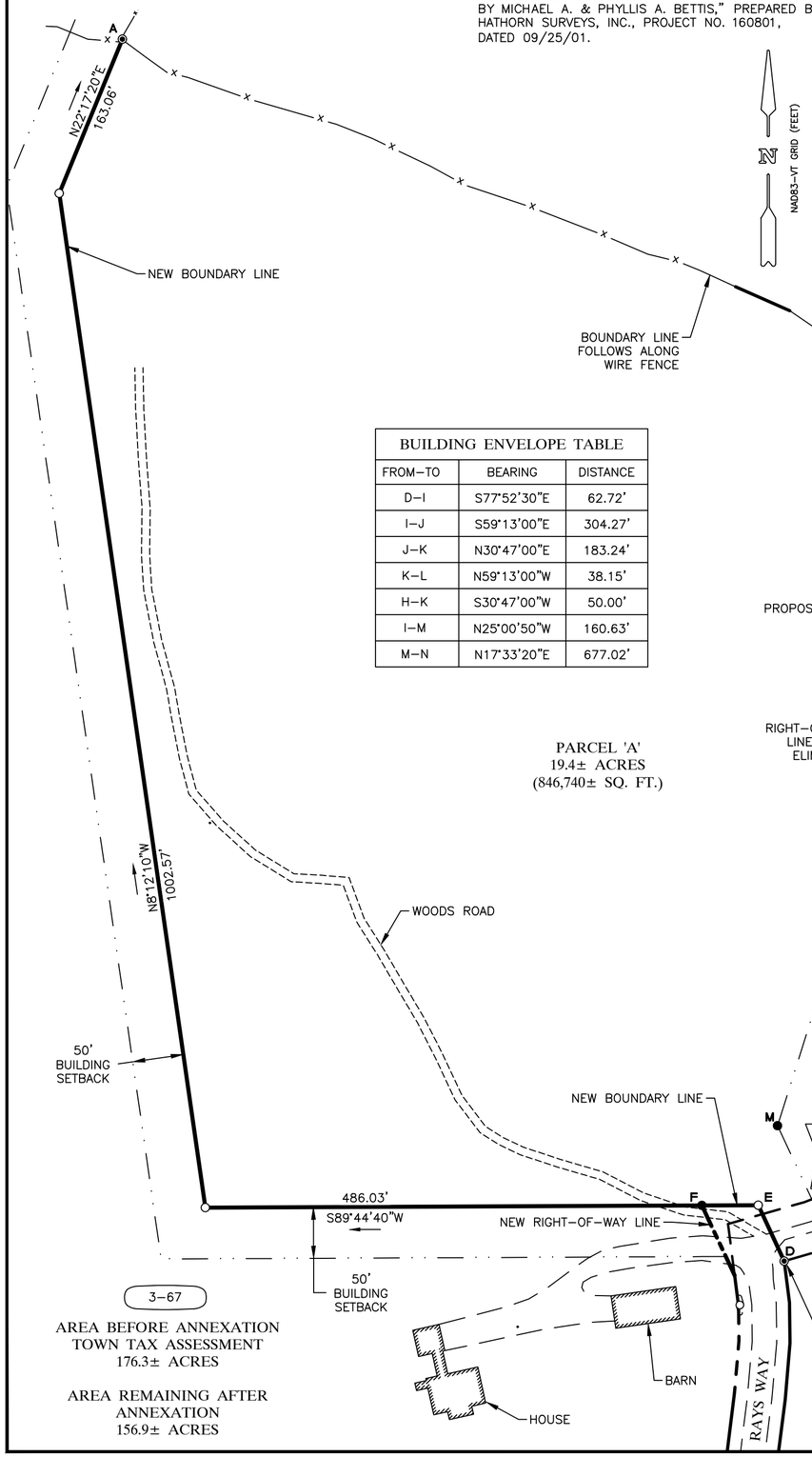
1. HORIZONTAL DATUM: VT STATE PLANE GRID NAD83 (SURVEY FEET) FROM GPS OBSERVATION.
2. UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT WARRANTED TO BE EXACT OR COMPLETE AND ARE TO BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR SITE MODIFICATIONS.
3. PARCEL "A" TO BE ANNEXED TO TAX MAP 3, LOT 67–4 FROM TAX MAP 3, LOT 67.
4. LOT 03–0067–000 IS IN TWO ZONING DISTRICTS (RL–3 AND RL–10)

PLANS OF REFERENCE:

1. REFERENCE IS MADE TO THE FOLLOWING PLANS RECORDED AT THE TOWN OF HARTFORD LAND RECORDS:
   A. PLAN ENTITLED "SUBDIVISION OF PROPERTY OWNED BY MICHAEL A. & PHYLLIS A. BETTIS," PREPARED BY HATHORN SURVEYS, INC., PROJECT NO. 160801, DATED 09/25/01.

ABUTTER TABLE

TAX MAP NUMBER	OWNER	MAILING ADDRESS	DEED REFERENCE
2–104	ALICE B. HAZEN	P.O. BOX 43 WEST HARTFORD, VT 05084–0043	450/875
2–104–1	THOMAS N. & CHRISTINA HAZEN	P.O. BOX 314 WEST HARTFORD, VT 05084–0314	223/530
3–103	ALICE B. HAZEN	P.O. BOX 43 WEST HARTFORD, VT 05084–0043	450/875
3–17–1	DAVID & RUTH FLEISHMAN	1400 WILDLIFE ROAD WHITE RIVER JCT, VT 05001	95/419
3–18	STEPHEN T. RIXFORD TRUSTEE BARBARA J. TRUSTEE RIXFORD	1216 WILDLIFE ROAD WHITE RIVER JCT, VT 05001	612/525
3–18–1	GERARD F. MILLER & ANH TUYET T. NGUYEN	1200 WILDLIFE ROAD WHITE RIVER JCT, VT 05001	331/555
3–31–1	YOHE FAMILY TRUST	1118 WILDLIFE ROAD WHITE RIVER JCT, VT 05001–9232	549/430
3–31	DOROTHY POULIN	P.O. BOX 32 WEST HARTFORD, VT 05084–0032	450/887
3–50	MARTHA H. DICKINSON TRUSTEE ALEXANDRA J. KEATS TRUSTEE	P.O. BOX 4115 WHITE RIVER JCT, VT 05001	599/657
3–67–3	JASON R. & ERIN H. NOTT	183 RAYS WAY WHITE RIVER JCT, VT 05001	527/40
3–67–2	LISA A. VOSE	P.O. BOX 274 HARTFORD, VT 05047–0274	501/319
3–67–1	BETTIS FAMILY TRUST	P.O. BOX 602 HARTFORD, VT 05047–0331	
42–122	NEW ENGLAND CENTRAL RAILROAD INC – C/O CANADIAN NATIONAL RAILWAY	P O BOX 8100 DOWNTOWN STA. MONTREAL, CANADA, QC H3C 3N4	219/140



3–51
CARL & WENDY A B NELSON
542 WILDLIFE ROAD
WHITE RIVER JCT, VT 05001
(245/120)

PARCEL 'A'
19.4± ACRES
(846,740± SQ. FT.)

3–67
AREA BEFORE ANNEXATION
TOWN TAX ASSESSMENT
176.3± ACRES

AREA REMAINING AFTER ANNEXATION
156.9± ACRES

3–67–4
AREA BEFORE ANNEXATION
16.1± ACRES
AREA REMAINING AFTER ANNEXATION
35.5± ACRES
(1,549,810 SQ. FT.)

3–68
WILLIAM J. & SUSAN M. KENNEDY
504 WILDLIFE ROAD
WHITE RIVER JCT, VT 05001-2223
(84/116)

BUILDING ENVELOPE TABLE

FROM–TO	BEARING	DISTANCE
D–I	S77°52'30"E	62.72'
I–J	S59°13'00"E	304.27'
J–K	N30°47'00"E	183.24'
K–L	N59°13'00"W	38.15'
H–K	S30°47'00"W	50.00'
I–M	N25°00'50"W	160.63'
M–N	N17°33'20"E	677.02'

CLOSURE LINE TABLE

FROM–TO	BEARING	DISTANCE
A–B	S66°03'40"E	1081.14'
B–C	S15°05'10"W	100.00'
C–D	S25°27'50"W	731.19'
D–E	N25°00'50"W	60.28'
E–F	S89°44'40"W	55.06'
B–G	S59°08'10"E	289.30'
G–H	S14°15'40"W	595.18'

ZONING INFORMATION:

SUBJECT PROPERTY CONTAINED WITHIN TOWN OF HARTFORD, VERMONT RURAL LANDS TEN (RL–10) AND RURAL LANDS THREE (RL–3) ZONING DISTRICTS (SEE TAX MAP INSET MAP) AND IS SUBJECT TO ALL APPLICABLE TOWN ZONING CODES, REGULATIONS, AND ORDINANCES.

TOWN OF HARTFORD ZONING REGULATIONS*
RURAL LANDS TEN (RL–10) ZONING DISTRICT

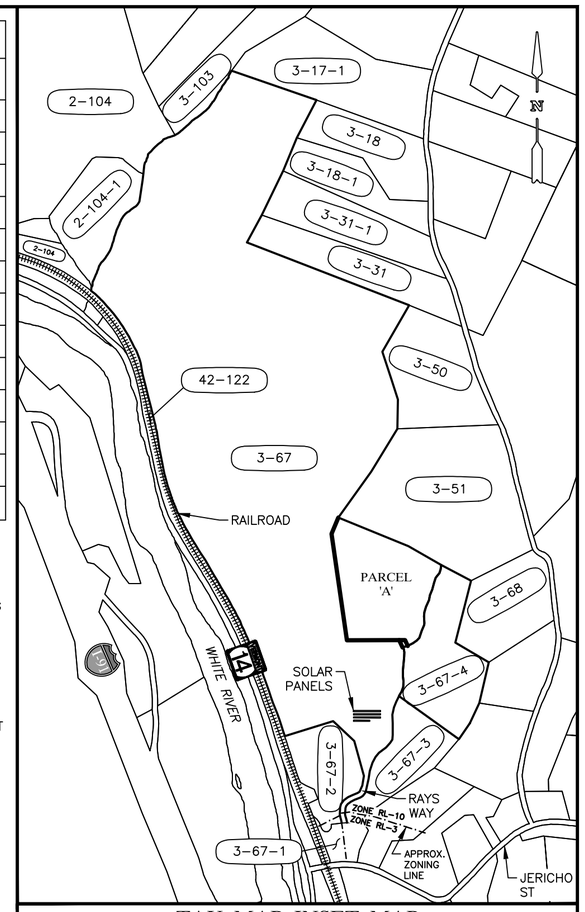
LOT SIZE: MIN. 1 ACRE

LOT DIMENSIONS: WIDTH = MIN. 400 FEET, DEPTH = MIN. 300 FEET

SETBACKS:

FRONT	SIDE	REAR
50 FEET	50 FEET	50 FEET

* TOWN HARTFORD SIGN ORIDANCE DATED 10–04–2022



TAX MAP INSET MAP
N.T.S.

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND ABILITY THAT A VERMONT RURAL CLASS SURVEY WAS PERFORMED ON PARCEL A SHOWN HEREIN. THIS SURVEY IS BASED ON THE FIELD NOTES OF SAID SURVEY AND THE BOUNDARY LINES ARE CONSISTENT WITH EXISTING MONUMENTATION AND THE REFERENCED DEEDS AND PLANS EXCEPT AS NOTED. I FURTHER CERTIFY THIS PLAT CONFORMS TO 27 VSA 1403 (a) AND (b).

05–29–24
DATE

JOSEPH E. NALETTE, LLS 63501

THIS PLAT IS APPROVED SUBJECT TO THE FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION FOR THIS SUBDIVISION, A COPY OF WHICH IS ON FILE IN THE HARTFORD DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES.

APPROVAL NO._____HARTFORD PLANNING COMMISSION

DATE:_____BY:_____
CHAIRPERSON/VICE CHAIRPERSON

RECORD OWNER: SEAN & NADINE BETTIS
TAX MAP 3, LOT 67–4
PO BOX 602
HARTFORD, VT 05047–0602
DEED REFERENCE: BOOK 318, PAGE 194

RECORD OWNER: BETTIS FAMILY TRUST
TAX MAP 3, LOT 67
PO BOX 331
HARTFORD, VT 05047
DEED REFERENCE: BOOK 310, PAGE 524

Date	Revision	By
05/29/24	TOWN COMMENTS	DPM

STATE OF VERMONT
JOSEPH E. NALETTE NO. 63501
LICENSED LAND SURVEYOR

JOSEPH E. NALETTE, LLS 63501

BOUNDARY LINE ADJUSTMENT PLAN FOR
SEAN & NADINE BETTIS AND BETTIS FAMILY TRUST TAX MAP 3. LOTS 67 & 67-4

349 & 406 RAYS WAY, HARTFORD, WINDSOR COUNTY, VERMONT

0 100 200 300 400 500
IN FEET

MAY 20, 2024 SCALE: 1"= 100' PROJ. NO. 11452

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766

1. 24-06

DRAFT
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND
DECISION

HARTFORD PLANNING COMMISSION

Application #24-06 by Nelson Fogg Sr.
for approval of the subdivision of lot 20-0031-000 into two lots
429 Norwich Avenue, Hartford, in a R-1 zoning district

This decision pertains to application #24-06 by Nelson Fogg Sr. (owner/applicant) for approval of the subdivision of lot 20-0031-000 into two lots, 429 Norwich Avenue, Hartford, in a R-1 zoning district.

FINDINGS OF FACT

Based upon the information contained in the exhibits for this application (see attached list) and the evidence adduced at the Planning Commission meeting of June 24, 2024, the Hartford Planning Commission makes the following Findings of Fact:

1. The owner of record of lot 20-0031-000 is Nelson Fogg, Sr. who acquired the lot on 05-14-21. The deed is recorded in volume 586, page 300 of the Hartford Land Records.

2. The lot is developed with a single family dwelling.

3. The lot is approximately 0.53 acres.

4. The lot is class one (municipal water and sewer).

This Application

5. The applicant proposes to subdivide the lot into two lots.

6. Minimum Area and Dimensional Standards in the R-1 zoning district are

	Area (square feet)		Lot Dimensions (feet)		Setbacks (feet from property lines)		
Class	**Per Dwelling Unit**	**Per Lot**	**Width**	**Depth**	**Front**	**Side**	**Rear**
1	4,000	8,000	60	80	10/20**	10	20

** Ten feet for principal structure and 20 feet for attached or detached garages and other structures.

7. After the subdivision,

   Lot 20-0031-000 will be approximately 0.22 acres/9,645 sq. ft.

   Lot 20-0031-001 will be approximately 0.31 acres/13,925 sq. ft.

8. The applicant understands that a Water Supply and Wastewater Disposal Permit from the State of Vermont and that a Driveway Permit from the Town of Hartford are required.

9. An existing satellite dish in the rear of proposed lot 20-0031-001 is proposed to be removed.

10. The application is a "One-step" application under section 203-C 2 of the Subdivision Regulations.

11. The applicant understands that they retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

12. The applicant understands that a Mylar must be properly endorsed and recorded within 180 days of this decision and that a zoning permit must be obtained, or the decision will be void.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Hartford Planning Commission concludes that the proposed subdivision meets the requirements of the Town of Hartford Subdivision Regulations including:

Section 200-2 Hartford Subdivision Regulations:

A. To guide future development in accordance with the Hartford Master Plan (the Plan), Zoning Regulations, Flood Hazard Area Regulations, Capital Budget and Program, and all other Town adopted bylaws, ordinances, regulations, plans, policies, and procedures.

B. To promote a desirable relationship to the landform, its topography and geology, natural drainage and surface water runoff, surface water, and groundwater.

C. To conserve natural resources and fragile features such as prime agricultural soils, wetlands, streams, ponds, steep slopes, ridgelines, important wildlife habitat and connectivity, and scenic views.

D. To minimize the fragmentation of productive resource lands, including farm and forest land, and to promote their continued use and availability for agriculture, forestry, and wildlife.

E. To maintain Hartford's historic settlement pattern, defined by compact villages surrounded by rural countryside.

F. To encourage variety, innovation, flexibility, and greater efficiency in residential development including clustering of lots, in accordance with the provisions of 24 V.S.A. §4417 (Planned Unit Development).

G. To establish standards of subdivision design including, but not limited, to provisions for pedestrian and vehicular traffic, surface water runoff, surface water, and suitable building sites for the land use contemplated.

H. To ensure development does not exceed the ability of the Town to provide public services and facilities, and that these facilities and services are available and will have sufficient capacity to serve any proposed subdivision. Such facilities and services include, but are not limited to: parks, recreation areas, schools, police and fire protection, libraries, water and wastewater facilities, roads, and public parking.

I. To provide adequate utilities such as water, wastewater, electricity, telephone, and broadband.

J. To provide the most efficient relationship between land use and the circulation of traffic throughout the Town, encourage access management, and avoid undue traffic congestion and overburdening of roads, highways, and intersections.

K. To promote the conservation of energy and use of renewable energy resources.

L. To encourage variety in the type, size, and cost of housing to meet the needs of Hartford's diverse population.

Complies with the Quechee Lakes Master Plan

DECISION

The Hartford Planning Commission, based upon the forgoing Findings of Fact and Conclusions of Law hereby approves application #24-06 by Nelson Fogg Sr. (owner/applicant) for approval of the subdivision of lot 20-0031-000 into two lots, 429 Norwich Avenue, Hartford, in a R-1 zoning district **on the condition that before a zoning permit is issued to finalize this Decision:**

- **The applicant confirms that the satellite dish was removed.**
- **The applicant's surveyor submits a letter to the Zoning Administrator certifying that the monuments have been set according to the locations identified on the approved survey plat. The Zoning Administrator may grant an extension provided the applicants can justify that extenuating circumstances exist.**

4. 24-06

This decision is also subject to the condition that no modification or expansion shall be made to the project as described and limited in the above Findings of Fact and Conclusions of Law without the written approval of the Hartford Zoning Board of Adjustment and/or the Hartford Planning Commission. This decision may be revoked, and a new application or permit required if conditions and findings are violated or modified without written approval.

The applicant is responsible for insuring compliance with all applicable State and Federal regulations pertaining to this application.

Those in favor:

Those in opposition:

Those not participating:

Dated at Hartford, Vermont this ____ day of June 2024.

HARTFORD PLANNING COMMISSION

By _____
Chairperson/Vice-Chairperson

Appeal Rights: An interested person who has participated in the proceeding related to this decision has the right to appeal this decision to the Vermont Environmental Court, pursuant to 24 V.S.A. s. 4471 and V.R.E.C.P.5, in writing, within 30 days of the date of this decision. If you fail to appeal this decision, your right to challenge this decision at some future time may be lost because you waited too long. You will be bound by this decision, pursuant to 24 V.S.A. s. 4472 (d) (exclusivity of remedy; finality).

EXHIBIT LIST

1. Application #24-06

2. Survey entitled "Subdivision Plan for Nelson Fogg Sr., Tax Map 20 Lot 31, 429 Norwich Avenue, Hartford, Windsor County, Vermont," prepared by Pathways Consulting, LLC

3. Orthophoto Figure

4. Memo from Skip Nalette dated May 30, 2024

5. Memo from Jo-Ann Ells dated May 23, 2024

6. Memo from Skip Nalette dated May 20, 2024

Town of Hartford

Planning Commission App # _____
Zoning Board of Adjustment App # _____

APPLICATION TO
PLANNING COMMISSION &/OR ZONING BOARD OF ADJUSTMENT

PLEASE COMPLETE ALL ITEMS APPLICABLE AND PROVIDE THE CORRECT NUMBER OF COPIES OF THIS APPLICATION AND THE SITE PLAN OR SUBDIVISION PLAT. ABUTTING LANDOWNERS WILL BE NOTIFIED BY THE PLANNING/ZONING OFFICE.

1. **NAME & ADDRESS OF RECORD OWNER(S)** Nelson Fogg Sr
   429 Norwich Avenue, Hartford, Vermont 05001 (P.O. Box 179, Wilder, VT 05088)
   Deed Recorded Book 586 Page 300 (Available at Town Clerk's Office)
   Telephone: Work _____ Cell 802-295-2795 Email Address: _____
2. **NAME & ADDRESS OF APPLICANTS(S)** Nelson Fogg Sr
   429 Norwich Avenue, Hartford, Vermont 05001 (P.O. Box 179, Wilder, VT 05088)
   Telephone: Work _____ Cell 802-295-2795 Email Address: _____
3. **NAME & ADDRESS OF APPLICANTS' CONSULTANT** Pathways Consulting, LLC (Skip Nalette)
   240 Mechanic Street Suite #100, Lebanon, New Hampshire 03766
   Telephone: Work 603-448-2200 Cell _____ Email Address: skip.nalette@pathwaysconsult.com
4. **PROJECT LOCATION** 429 Norwich Avenue, Hartford, Vermont 05001
5. **PRESENT USE OF PROPERTY** Existing single family residence
6. **BRIEFLY DESCRIBE PROJECT** (in addition, a detailed narrative must be submitted)
   Subdivision of existing parcel into 2 separate parcels. New lot to be added to Town water and sewer
7. **PROJECT SIZE IN SQ. FT OR ACREAGE** See attached plan
   Lot Width See attached plan Lot Depth See attached plan
8. **IS PROJECT ON TOWN WATER/SEWER?** Yes X No _____ If Yes, estimated
   Water Consumption/day _____ Amount of Sewer Flow Projected _____
   Size of Closest Lines Above (water) _____ (sewer) _____
9. **DESCRIBE LANDSCAPING PLAN** _____
10. **IF A BUSINESS** - Present # of Employees _____
    Proposed Days & Hours of Operation _____
    Will you use the landfill & recycling center? Yes _____ No _____
    The main waste by-product of your business is: _____

11. **IF A RESTAURANT** - Present seating _____ Proposed _____

12. **PARKING SPACES** - Number to be provided _____

13. **SIGNAGE** - Free Standing _____ Attached _____

14. **FENCING** – Location _____ Height _____

15. **NEAREST WATER SUPPLY FOR FIRE PROTECTION** hydrant to west side of Norwich Ave

16. **ESTIMATED VALUE OF PROPOSED WORK** _____

17. **IS THERE AN EXISTING DRIVEWAY?** No

18. **IF A SUBDIVISION** - Number of New Lots to be Created 1

    Do you request that the Town consider taking over maintenance of – Roads N/A

    Or Park/Open Space N/A

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED ON THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. (This certification must be signed by lot owners and applicants)

Applicant's Signature	Date	x [signature] Lot Owner's Signature	5-16-24 Date
Co-Applicant's Signature	Date	Co-Owner's Signature	Date

The applicant retains the obligation to identify, apply for, and obtain any relevant local or state permits before any construction may commence. Please call 802-282-6488 to speak with the State Permit Specialist.

For Office Use Only		
Map/Lot #		
Fee Paid $:		Receipt #:
PC: Site Plan	Min. Sub.	Maj. Sub.
PD	PD Amend.	Other
ZBA: Conditional Use	Variance	Appeal
Other		
Zoning District (s)		Date Filed:
Official Submittal Date:		

NELSON D FOGG, SR.
MARY B FOGG
PO BOX 179
WILDER, VT 05001

52-175/112

3007

DATE 5-15-24

PAY TO THE ORDER OF Town of Hartford $ 205.00

Two hundred and Five NO/100 DOLLARS

Heat Reactive Ink

BAR HARBOR BANK & TRUST
BAR HARBOR, MAINE 04609

MEMO 739 Warwick Rd.

Nelson Fogg MP

⑆011201759⑆ 8239921260⑈ 3007

LOOK FOR FRAUD-DETERRING FEATURES INCLUDING THE SECURITY SQUARE AND HEAT-REACTIVE INK. DETAILS ON BACK.

SPECIALTY BLUE HIGH SECURITY

PATHWAYS CONSULTING, LLC
Planning • Civil & Environmental Engineering • Surveying • Construction Assistance
240 Mechanic Street • Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 • Fax: (603) 448-1221

P:\13200 FOGG - NORWICH AVE\13200-towncoverletter.docx

May 20, 2024

Jo-Ann Ells, Zoning Administrative Officer
Town of Hartford
Hartford Municipal Building, 2nd Floor, Room 201
171 Bridge Street,
White River Junction, Vermont 05001

RE: APPLICATION MATERIALS FOR A 2-LOT SUBDIVISION, NORWICH AVENUE, HARTFORD, VERMONT (Project No. 13200)

Dear Jo-Ann:

Please find attached an application for a one step review of a subdivision, two sets of plans, and a check in the amount of $205.00 for the referenced property. Nelson Fogg, Sr. is seeking to subdivide one-lot from 20-0031-000 that is currently developed with a single-family dwelling.

The proposed lot will be served by municipal water and sewer services in the right of way for Norwich Ave. Additional permits will be needed for the proposed driveway and a Potable Water Supply and Wastewater Disposal Permit from the State of Vermont to connect to the Town's water and sewer services.

We request that waivers are granted for streets, sidewalks, street signs, street lighting, water and sewer mains, stormwater infrastructure, and fire hydrants from Section 200-11, Infrastructure Improvements from the Towns Subdivision Regulations.

Please let us know if you have any questions related to these application materials. We look forward to addressing staff review comments for the project and meeting with the Planning Commission for review.

Sincerely,

PATHWAYS CONSULTING, LLC

PATHWAYS CONSULTING, LLC
Planning • Civil & Environmental Engineering • Surveying • Construction Assistance
240 Mechanic Street • Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 • Fax: (603) 448-1221

MEMORANDUM

TO: JO-ANN ELLS, ZONING ADMINISTRATOR

FROM: JOSEPH "SKIP" NALETTE, L.L.S.

RE: RESPONSE TO STAFF COMMENTS, SUBDIVISION SERVICES, 429 NORWICH AVENUE, HARTFORD, VERMONT (PROJECT NO. 13200)

DATE: MAY 30, 2024

Our responses to the Department Heads' and Staff preliminary comments, dated May 23, 2024, are provided in *italics* below each comment.

1. Please confirm that you understand that you retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

   To determine what State Environmental Permits may be required for your project, The Vermont Agency of Natural Resources (ANR) recommends that you use ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website Welcome to DEC | Department of Environmental Conservation (vermont.gov) and going to the "Permit Navigator Tool" Permit Navigator (force.com)

   If further assistance is needed, please contact the Community Assistance Specialist for our area:

   Jeff McMahon, Community Assistance Specialist

   Jeff.McMahon@Vermont.gov

   802-477-2241

   We will make contact with Jeff McMahon for his review of the project.

2. Please confirm that you understand that a State wastewater permit, and a driveway permit from the DPW are required for development of the new lot.

   The applicant understands that a Water Supply And Wastewater Disposal Permit from the State of Vermont and that a Driveway Permit from the Town of Hartford is required.

3. Please confirm the proposed lot number is acceptable to the Assessor's Office

   Cristina Tardie ctardie@hartford-vt.org

   Christina has approved the proposed lot number.

4. Please confirm that you understand that before the subdivision plat is recorded, your surveyor will need to submit a letter to me certifying that the monuments have been set according to the locations identified on the approved survey plat.

   The applicant understands this condition.

5. When was the satellite dish installed?

   Prior to the applicant acquiring the property. It will be removed.

6. Please email me all application materials, including your response to this memo.

   Application materials will be emailed to you with this response.

7. Please submit 8 copies of all application materials, including your response to this memo. Please fold the copies of the survey.

   8 copies of all application materials are submitted with this response.

20–16

20–28

10' SIDE SETBACK

20' SETBACK

20' REAR SETBACK

20–31–001

21–350

PROPOSED DRIVEWAY

FORCEMAIN

FM

10' SIDE SETBACK

6" CMP

NEW BOUNDARY LINE

20–31

HOUSE

NORWICH AVENUE

22–12

N

NAD83–VT GRID (FEET)

0 40 80

IN FEET

Pathways Consulting, LLC

240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448–2200 FAX: (603) 448–1221

ORTHOPHOTO FIGURE FOR

NELSON FOGG SR

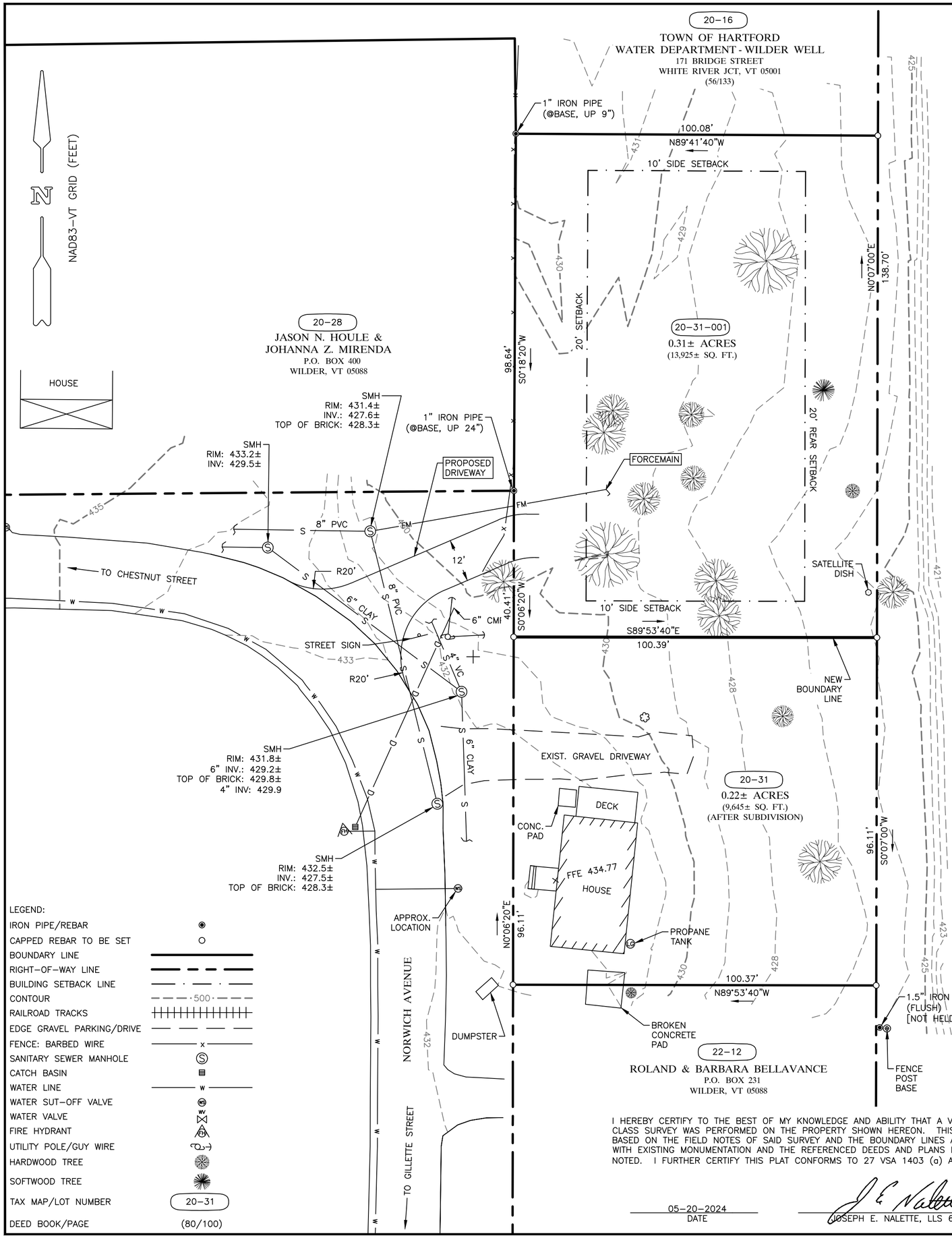
TAX MAP 20, LOT 31

429 NORWICH AVENUE, HARTFORD, WINDSOR COUNTY, VERMONT

SCALE: AS SHOWN
DESIGNED BY:
DRAWN BY: DPM
CHECKED BY: JEN
DATE: 05/20/24
PROJ. NO. 13200

EXHIBIT

A

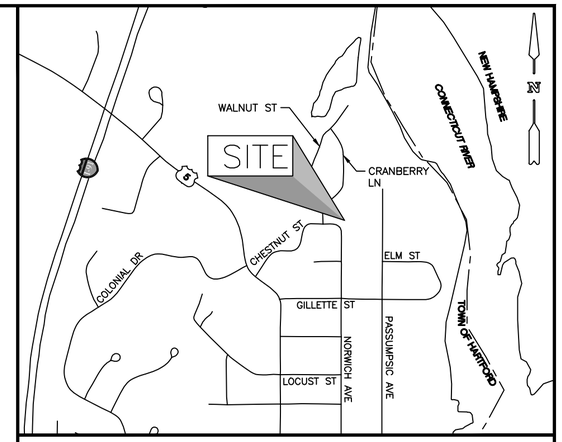


I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND ABILITY THAT A VERMONT RURAL CLASS SURVEY WAS PERFORMED ON THE PROPERTY SHOWN HEREON. THIS SURVEY IS BASED ON THE FIELD NOTES OF SAID SURVEY AND THE BOUNDARY LINES ARE CONSISTENT WITH EXISTING MONUMENTATION AND THE REFERENCED DEEDS AND PLANS EXCEPT AS NOTED. I FURTHER CERTIFY THIS PLAT CONFORMS TO 27 VSA 1403 (a) AND (b).

05-20-2024
DATE

J. E. Nalette
JOSEPH E. NALETTE, LLS 63501

21-350
STATE OF VERMONT
AGENCY OF TRANSPORTATION
NATIONAL LIFE BLDG
DRAWER 33
MONTPELIER, VT 05633
(281/502)



SITE LOCATION PLAN

ZONING:

RESIDENTIAL ONE (R-1) ZONING DISTRICT (CLASS 1)

PER TOWN OF HARTFORD ZONING REGULATIONS DATED 11-01-2009:

MINIMUM REQUIRED SETBACKS
FRONT: 10/20 FEET**
REAR: 20 FEET
SIDE: 10 FEET

**10 FEET FOR PRINCIPAL STRUCTURE AND 20 FEET FOR ATTACHED OR DETACHED GARAGES AND OTHER STRUCTURES

MINIMUM LOT DIMENSIONS
WIDTH: 60 FEET
DEPTH: 80 FEET

THIS PLAT IS APPROVED SUBJECT TO THE FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION FOR THIS SUBDIVISION. A COPY OF WHICH IS ON FILE IN THE HARTFORD DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES.

APPROVAL NO._____HARTFORD PLANNING COMMISSION

DATE:_____BY:_____
CHAIRPERSON/VICE CHAIRPERSON

GENERAL SURVEY NOTES:

1. HORIZONTAL DATUM: VT STATE PLANE GRID NAD83 (SURVEY FEET) FROM GPS OBSERVATION.
2. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) FROM GPS OBSERVATION.
3. UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT WARRANTED TO BE EXACT OR COMPLETE AND ARE TO BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR SITE MODIFICATIONS.

RECORD OWNER: NELSON FOGG SR
MAP 20, LOT 31 PO BOX 179
WILDER, VT 05088

DEED REFERENCE: BOOK 586, PAGE 300

Date	Revision	By

SUBDIVISION PLAN FOR

NELSON FOGG SR
TAX MAP 20, LOT 31

429 NORWICH AVENUE, HARTFORD, WINDSOR COUNTY, VERMONT

0 20 40 60 80 100

MAY 20, 2024 SCALE: 1"= 20' PROJ. NO. 13200

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766

STATE OF VERMONT
JOSEPH E. NALETTE NO. 63501
LICENSED LAND SURVEYOR

JOSEPH E. NALETTE, LLS 63501

DRAFT
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND
DECISION

HARTFORD PLANNING COMMISSION

Application #24-07 by the State of Vermont
for Site Development Plan Approval
for approval of additions and improvements to the Windsor District Court
lot 46-0024-001, 82 Railroad Row, White River Junction
in CB and Design Reivew zoning districts

This decision pertains to application #24-07 by the State of Vermont (owner/applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of additions and improvements to the Windsor District Court, lot 46-0024-001, 82 Railroad Row, White River Junction, in CB and Design Reivew zoning districts.

FINDINGS OF FACT

Based upon the information contained in the exhibits for this application (see attached list) and the evidence adduced at the Planning Commission meeting of June 24, 2024, the Hartford Planning Commission makes the following Findings of Fact:

General Information

1. The owner of record of lot 46-0024-001 is the State of Vermont who acquired the lot on 08-08-88. The deed is recorded in volume 144, page 111 of the Hartford Land Records.

2. The lot is approximately 2.89 acres.

3. The lot is located at 82 Railroad Row in Write River Junction.

4. The lot is developed with the Windsor District Court.

5. The lot is a class 1 lot, municipal water and sewer.

6. The lot is in CB and Design Review Districts.

This Application

7. The applicant provided the following description of the project:

- Energy improvements to comply with present day energy code: new roofs, windows, doors and replace the existing brick siding, with terracotta tile, to correct the water infiltration issues and increase the insulation value.
- Replace the heating, ventilation and air conditioning systems: replace the oil-fired boilers with wood pellet boilers, with an exterior silo on the rear of the building, replacement of the rooftop chiller and air handlers in the building.
- Construct two new entrances: The front entrance is being increased for additional security screening of the public. The side entrance creates a secure vestibule and additional office space.
- Site work: replace the existing sidewalks to improve accessibility, heated walks at the new entrances to limit the use of salt. The addition of three electric vehicle parking spaces. Correct stormwater issues for better draining of the parking lot.

8. 24 V.S.A. § 4413 limits municipal regulation of certain uses, including Emergency Shelters as follows:

LIMITATIONS ON MUNICIPAL BYLAWS

Section 4413 (a)(1) restricts regulation of Emergency Shelters only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements, and only to the extent that regulations do not have the effect of interfering with the intended functional use.

9. The application meets the criteria of §4413 (a)(1) as follows:

Location

The Court is a Public Facility which is a Conditional Use in the CB zoning district.

Size, Height, Building Bulk, Density of Buildings, & Setbacks

The proposed additions to the building result in minor changes to the existing building's overall size, bulk, and density.

The proposed additions do not exceed the allowed height of 50' in the CB zoning district.

There are no setbacks in the CB zoning district.

Yards & Courts

The proposed additions have an insignificant effect on the developed portion of the property.

Off-street Parking

Changes to parking are limited to the addition of three electric vehicle parking spaces and correcting stormwater issues for better draining of the parking lot.

Loading Facilities

No changes are proposed.

Traffic

Traffic will not increase as a result of the project.

Noise

The project will not create additional noise.

During construction, earth moving and hauling, rock drilling or crushing, jack hammer and similar excessively loud equipment will not be operated on Sundays or between the hours of 5:30 p.m. and 7:00 a.m. except in emergency situations.

Lighting

Changes to lighting are limited to the relocation of two existing light poles.

The applicant understands that lighting must not create excessive off-site or sky glow and if the Zoning Administrator determines that lighting does not meet this condition, they will be required to comply.

Landscaping & Screening

Changes to landscaping are limited to the removal and replacement of an existing tree.

10. The Hartford Design Review Committee reviewed the project on May 30, 2024 and voted to recommend that the Planning Commission approve the project based on the Design Review Criteria (as limited by 24 V.S.A. § 4413).

11. Portions of the property are in the Special Flood Hazard Area.

    24 VSA 4413 (2) prohibits the Town from regulating the Court for compliance with Hartford's Special Flood Hazard Area Regulations.

    24 VSA 4413 (2) states:

> Except for State-owned and -operated institutions and facilities, a municipality

may regulate each of the land uses listed in subdivision (1) of this subsection for compliance with the National Flood Insurance Program and for compliance with a municipal ordinance or bylaw regulating development in a flood hazard area or river corridor, consistent with the requirements of subdivision 2291(25) and section 4424 of this title. These regulations shall not have the effect of interfering with the intended functional use.

12. The applicant will schedule a preconstruction meeting with the DPW to review project schedule, design, and construction issues at least two weeks before actual site work commences.

13. According to the applicant, "two existing catch basins are not functioning as they should, so the basins and associated piping are being demolished. New catch basins and piping are being installed in the southern (employee) parking lot to improve drainage in that parking lot. The project proposes 1,550 sf of new impervious surface. This increase falls well below the 5,000-sf expansion threshold in the state stormwater regulations that would require a state stormwater application."

14. Snow will be stored on site and will be removed as needed. Snow will not be stored in such a manner as to create a hazard.

15. The applicant understands that any stockpiling of materials related to the construction of the project must be located twice the distance of the height of the stockpiled materials from any public or private right-of-way or property boundary.

16. During construction of the project, erosion and sediment control measures as specified in the most current edition of the *Low Risk Site Handbook for Erosion Prevention and Sediment Control* published by the Vermont Department of Environmental Conservation will be followed.

17. The applicant understands that no structure, including construction/office trailers, signage, parking spaces or plantings may be placed in such a way that obstructs sight distance along the traveled way, at any intersection or driveway. Any signs, parking spaces or plantings found to obstruct sight distance will be required to be relocated.

18. The applicant retains the obligation to identify, apply for, and obtain relevant local and state permits for this project.

19. The applicant understands that all activities authorized by the issuance of the zoning permit shall be started within six (6) months and completed within two (2) years of its date of issue, or the zoning permit shall become null and void and reapplication to complete any activities shall be required. Any activities not completed within the above permit period shall be subject to any ordinance in effect at the time of reapplication. One six (6) month extension to both time periods may be granted by the Planning Commission.

20. The applicant understands that they must obtain a Certificate of Occupancy from the Zoning Administrative Officer upon completion of the project and before the site may be occupied. The applicant understands that a Certificate of Occupancy will not be issued if the project is not in compliance with these Findings, Plans and any conditions placed on the decision.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Hartford Planning Commission concludes that the application meets the criteria of §4413 (a)(1) including location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening.

DECISION

The Hartford Planning Commission, based upon the forgoing Findings of Fact and Conclusions of Law, hereby approves application #24-07 by the State of Vermont (owner/applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of additions and improvements to the Windsor District Court, lot 46-0024-001, 82 Railroad Row, White River Junction, in CB and Design Reivew zoning districts **on the condition that before a Certificate of Occupancy is issued, the applicant submits to the Zoning Administrator:**

- **Written verification from their Engineer and Architect certifying that the project was constructed in compliance with the approved plans and Findings of Fact.**
- **A PDF of the record drawings.**
- **A copy of an Energy Code Certificate as recorded in Hartford's Land Records.**

This decision is also subject to the condition that no modification or expansion shall be made to the project as described and limited in the above Findings of Fact and Conclusions of Law without the written approval of the Hartford Zoning Board of Adjustment and/or the Hartford Planning Commission. This decision may be revoked, and a new application or permit required if conditions and findings are violated or modified without written approval.

The applicants are responsible for insuring compliance with all applicable State and Federal regulations pertaining to this application.

Those in favor:

Those in opposition:

Those not participating:

Dated at Hartford, Vermont this ____ day of June 2024.

HARTFORD PLANNING COMMISSION

By:_____
Chairperson/Vice-Chairperson

Appeal Rights: An interested person who has participated in the proceeding related to this decision has the right to appeal this decision to the Vermont Environmental Court, pursuant to 24 V.S.A. s. 4471 and V.R.E.C.P.5, in writing, within 30 days of the date of this decision. The fee is $250.00. If you fail to appeal this decision, your right to challenge this decision at some future time may be lost because you waited too long. You will be bound by this decision, pursuant to 24 V.S.A. s. 4472 (d) (exclusivity of remedy; finality).

EXHIBIT LIST

1. Application #24-07
2. Civil plan set prepared by Engineering Ventures received May 30, 2024
3. Architectural plan set prepared by Wiemann Lamphere received May 30, 2024
4. Elevations set prepared by Wiemann Lamphere received May 30, 2024
5. Draft minutes from the May 30, 2024 Design Revie Committee Meeting
6. Letter from Sherilyn Lafley dated May 28, 2024
7. Memo from Jo-Ann Ells dated May 23, 2024
8. Letter from Sherilyn Lafley dated May 21, 2024
9. Letter from Sherilyn Lafley dated May 20, 2024

DocuSign Envelope ID: A1CD23E5-BCB7-44F1-87E9-08A644B86FA1

Town of Hartford

Planning Commission App # _____
Zoning Board of Adjustment App # _____

APPLICATION TO
PLANNING COMMISSION &/OR ZONING BOARD OF ADJUSTMENT

PLEASE COMPLETE ALL ITEMS APPLICABLE AND PROVIDE THE CORRECT NUMBER OF COPIES OF THIS APPLICATION AND THE SITE PLAN OR SUBDIVISION PLAT. ABUTTING LANDOWNERS WILL BE NOTIFIED BY THE PLANNING/ZONING OFFICE.

1. **NAME & ADDRESS OF RECORD OWNER(S)** Buildings and General Services, State of Vermont
   133 State Street, 5th Floor, Montpelier, VT 05633-5801
   Deed Recorded Book 144 Page 111-114 (Available at Town Clerk's Office)
   Telephone: Work _____ Cell 802-505-0681 Email Address: sherilyn.lafley@vermont.gov
2. **NAME & ADDRESS OF APPLICANTS(S)** Sherilyn Lafley, Buildings and General Services, State of Vermont
   133 State Street, 5th Floor, Montpelier, VT 05633-5801
   Telephone: Work _____ Cell 802-505-0681 Email Address: sherilyn.lafley@vermont.gov
3. **NAME & ADDRESS OF APPLICANTS' CONSULTANT** Wiemann Lamphere Architects / Engineering Ventures PC
   38 Eastwood Drive, Suite 301, South Burlington, VT 05403 / 208 Flynn Ave., Burlington, VT 05401
   Telephone: Work 802-655-5020 / 802-863-6225 Cell _____ Email Address: droy@wiemannlamphere.com / paulb@engineering
4. **PROJECT LOCATION** 82 Railroad Row
5. **PRESENT USE OF PROPERTY** Public Facility
6. **BRIEFLY DESCRIBE PROJECT** (in addition, a detailed narrative must be submitted)
   HVAC Replacement, two small additions, site work, and energy upgrades.
7. **PROJECT SIZE IN SQ. FT OR ACREAGE** 35,000
   Lot Width 360' Lot Depth 214
8. **IS PROJECT ON TOWN WATER/SEWER**? Yes X No X If Yes, estimated
   Water Consumption/day 1,215 Amount of Sewer Flow Projected 1,215
   Size of Closest Lines Above (water) 6" (sewer) 6"
9. **DESCRIBE LANDSCAPING PLAN** N/A
10. **IF A BUSINESS** - Present # of Employees _____
    Proposed Days & Hours of Operation _____
    Will you use the landfill & recycling center? Yes _____ No _____
    The main waste by-product of your business is: _____

DocuSign Envelope ID: A1CD23E5-BCB7-44F1-87E9-08A644B86FA1

11. **IF A RESTAURANT** - Present seating _____ Proposed _____
12. **PARKING SPACES** - Number to be provided _____
13. **SIGNAGE** - Free Standing N/A Attached N/A
14. **FENCING** – Location N/A Height _____
15. **NEAREST WATER SUPPLY FOR FIRE PROTECTION** Existing fire hydrant located NW of the building
16. **ESTIMATED VALUE OF PROPOSED WORK** 7,500,000.00
17. **IS THERE AN EXISTING DRIVEWAY?** Yes
18. **IF A SUBDIVISION** - Number of New Lots to be Created _____

    Do you request that the Town consider taking over maintenance of – Roads _____

    Or Park/Open Space _____

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED ON THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. (This certification must be signed by lot owners and applicants).

DocuSigned by: Sherilyn Lafley 5/17/2024
9A0474C03670463...
Applicant's Signature Date

DocuSigned by: Jennifer M. V. Fitch 5/17/2024
EC8F68F55FBC42C...
Lot Owner's Signature Date

_____ _____
Co-Applicant's Signature Date Co-Owner's Signature Date

The applicant retains the obligation to identify, apply for, and obtain any relevant local or state permits before any construction may commence. Please call 802-282-6488 to speak with the State Permit Specialist.

For Office Use Only		
Map/Lot #		
Fee Paid $:		Receipt #:
PC: Site Plan	Min. Sub.	Maj. Sub.
PD	PD Amend.	Other
ZBA: Conditional Use	Variance	Appeal
Other		
Zoning District (s)		Date Filed:
Official Submittal Date:		

PLOTTED: 5/10/2024 4:34 PM

SURVEY NOTES

1. EXISTING PHYSICAL FEATURES AND TOPOGRAPHY SHOWN HERE ARE BASED ON A SURVEY PERFORMED BY LATITUDES LAND SURVEYING IN AUGUST 2023.
2. SITE FEATURES SHOWN SOUTH OF RAILROAD ROW EXTEND BEYOND TOPOGRAPHIC SURVEY.
3. PROPERTY LINES ARE APPROXIMATE AND BASED ON A PLAN TITLED "BOSTON AND MAINE CORPORATION TO BYRON HATHORN" BY BRUNO ASSOCIATES DATED 10/25/94.
4. NORTH ORIENTATION IS REFERENCED TO APPROXIMATE VERMONT GRID NORTH.

GENERAL NOTES

1. UTILITIES SHOWN MAY NOT FULLY REPRESENT ALL UTILITES OR THEIR LOCATIONS WITHIN THE WORK AREA. CONTRACTOR TO OBTAIN A VALID DIG-SAFE TICKET PRIOR TO BEGINNING EXCAVATION WORK AND ENGAGE A PRIVATE UTILITY LOCATOR TO MARK ANY UNDERGROUND UTILITIES NOT COVERED BY DIG-SAFE. REPORT ANY DISCREPANCIES PROMPTLY TO THE ENGINEER.
2. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATION UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. SITE CONTRACTOR SHALL CALL UTILITY LOCATOR SERVICE AND UTILITY OWNERS 72 HOURS, EXCLUSIVE OF WEEKENDS AND HOLIDAYS, PRIOR TO ANY DIGGING, DRILLING, OR BLASTING.
   A. DIG SAFE (TEL: #811)
   B. NON DIG SAFE MEMBER FACILITIY OPERATORS IF KNOWN. A LIST OF DIG SAFE MEMBERS BY STATE CAN BE FOUND ON THE DIG SAFE WEB SITE WWW.DIGSAFE.COM
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
4. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
5. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
7. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.
8. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A VERMONT STATE LICENSED LAND SURVEYOR.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
11. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS FOR CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
13. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
14. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
15. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.
18. ALL EXCAVATION WORK AND SOIL HANDLING MUST COMPLY WITH THE SOILS MANAGEMENT PLAN.

DEMOLITION NOTES

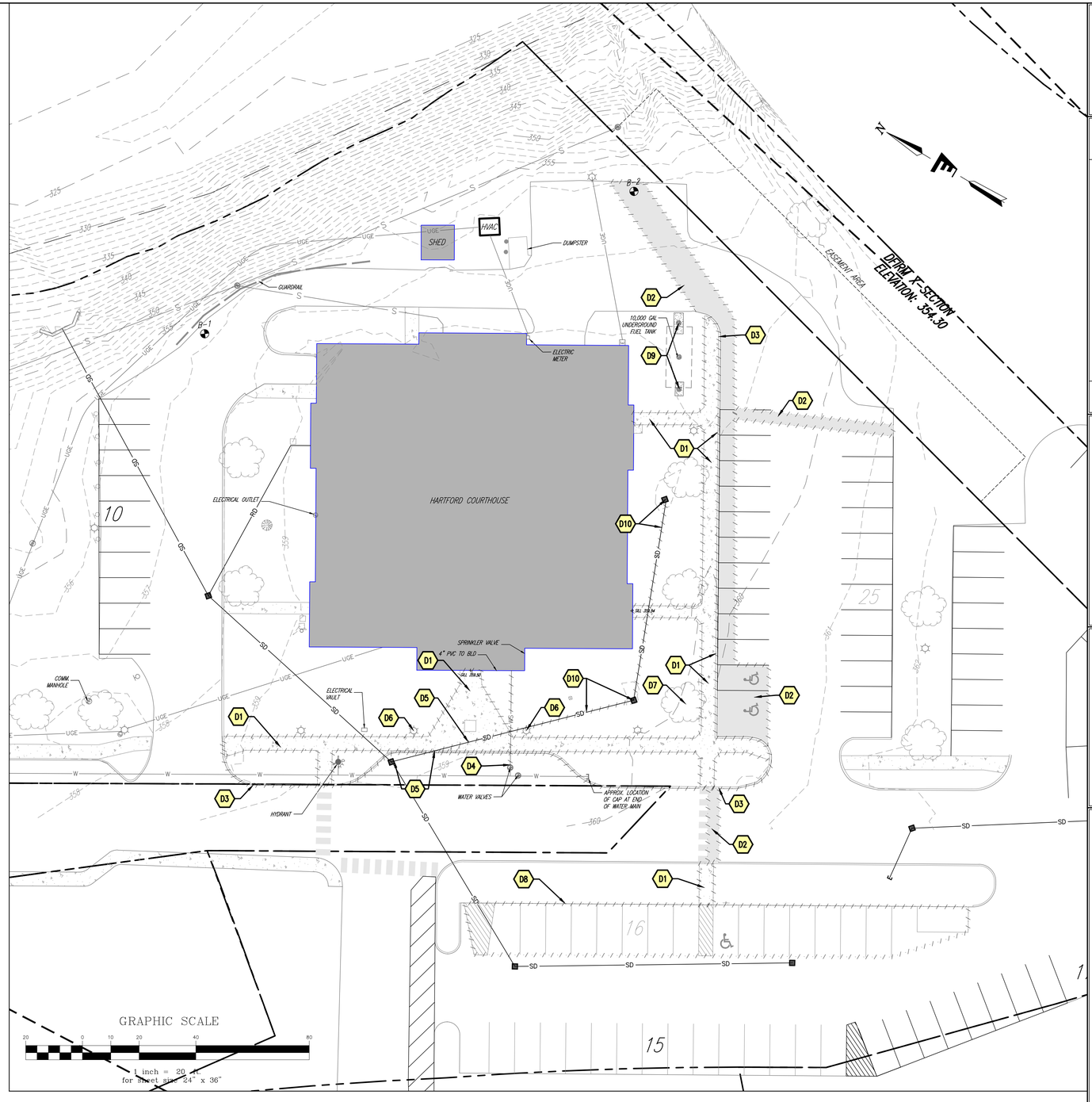
1. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL CONVENE A MEETING WITH THE PROJECT OWNER, PROJECT ENGINEER, OWNER AND LESSEES, CONTRACTOR AND REPRESENTATIVES TO REVIEW LIMITS AND SCHEDULE OF DEMOLITION AND CONSTRUCTION AND TO ENSURE CONTINUED ACCESS AND UTILITY SERVICE TO ADJACENT RESIDENTS.
2. ALL DEMOLITION ITEMS FROM THE DEMOLITION, UNLESS NOTED BY THE OWNER TO BE STORED OR REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE. EXCESS OR UNSUITABLE SOIL SHALL BE REMOVED FROM THE SITE. PROJECT CONTRACTOR TO PROVIDE LIST FOR OWNER'S REVIEW FOR SALVAGED EQUIPMENT ETC. FOR OWNER TO RECLAIM.
3. ALL ADJACENT FACILITIES AND STRUCTURES NOT INDICATED AS INCLUDED IN THE SCOPE OF WORK SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ALL ADJACENT FACILITIES OR STRUCTURES DAMAGED DURING CONSTRUCTION TO PRE-CONSTRUCTION CONDITION OR BETTER.
4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK AREA NOT ONLY DURING DEMOLITION PROCEDURES, BUT FOR THE DURATION OF CONSTRUCTION.
5. PRIOR TO DEMOLITION, HAND EXCAVATE ANY UNDERGROUND UTILITIES. NOTIFY THE OWNER IF ANY OTHER UTILITIES NOT NOTED ON THE DRAWINGS ARE FOUND.
6. CARE SHALL BE TAKEN NOT TO DAMAGE OR DISTURB ANY TREES AND SITE LIGHTING NOT INDICATED FOR REMOVAL DURING CONSTRUCTION.
7. ALL EXISTING UTILITIES, FENCING AND SITE FEATURES SHOWN WITH CROSS HATCHING (– / / / / /–) ARE TO BE REMOVED (MH, CB, PIPE, ETC).
8. SEED AND MULCH ALL RESULTING DISTURBED AREAS IN ACCORDANCE WITH THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN WHERE NO WORK IS ANTICIPATED WITHIN 48 HOURS.
9. REFER TO DEMOLITION SPECIFICATIONS AND BID INSTRUCTIONS FOR SALVAGE AND ADDITIONAL WORK ITEMS. CONTRACTOR SHALL COORDINATE PHASING AND DEMOLITION OF THOSE ITEMS WITH OTHER TRADES.
10. CONTRACTOR TO CONFIRM WATER VALVE FUNCTION WITH PUBLIC WORKS PRIOR TO BEGINNING EXCAVATION WORK.

DEMOLITION SCHEDULE

- D1 REMOVE EXISTING CONCRETE SIDEWALK AND ADJACENT CURBING WHERE PRESENT
- D2 SAWCUT ASPHALT PAVEMENT, REMOVE GRAVEL BASE MATERIAL
- D3 REMOVE EXISTING CONCRETE CURBING
- D4 REMOVE EXISTING 6" D.I. WATER LINE AT EXISTING GATE VALVE. NEW WATER LINE TO UTILIZE EXISTING GATE VALVE AT MAIN CONNECTION. SEE SHEET C2.1 FOR MORE DETAIL
- D5 CAP EXISTING STORMWATER PIPE WITHIN EXCAVATION AREA FOR NEW CURBING. FILL PIPE PENETRATIONS INSIDE CATCH BASIN WITH NON-SHRINK GROUT
- D6 REMOVE EXISTING LAMP POST AND SALVAGE FOR REINSTALLATION PER SHEET C2.1
- D7 REMOVE EXISTING TREE AND STUMP
- D8 EXISTING PARKING MARKINGS TO BE REMOVED AND REMARKED
- D9 FUEL TANK TO BE REMOVED – SEE NOTES BELOW
- D10 REMOVE EXISTING CATCH BASIN AND STORMWATER PIPE

FUEL TANK REMOVAL NOTES

1. FUEL TANK REMOVAL TO COMPLY WITH VERMONT UNDERGROUND STORAGE TANK RULES.
2. CONTRACTOR TO COORDINATE PLACEMENT OF TEMPORARY TANK AND TRANSFER OF REMAINING FUEL FROM EXISTING UNDERGROUND TANK TO TEMPORARY TANK WITH BGS STAFF.
3. CONTRACTOR TO HIRE ENVIRONMENTAL CONSULTANT TO OVERSEE REMOVAL OF EXISTING TANK AND PROVIDE TANK CLOSURE REPORT ACCEPTABLE TO THE VT ANR.
4. RELEASE OF HAZARDOUS MATERIALS, INCLUDING FROM SPILLS OR TANK OVERFLOWS, INTO SURFACE OR GROUNDWATER, OR ONTO LAND OF THE STATE IS PROHIBITED.
5. ANY RELEASE OF FUEL OR EVIDENCE OF PRIOR RELEASE IS TO BE REPORTED TO THE WASTE MANAGEMENT & PREVENTION DIVISION AT (802) 828-1138 (M-F 4:45 AM TO 4:30 PM) OR THE DEPARTMENT OF PUBLIC SAFETY EMERGENCY MANAGEMENT DIVISION (800) 641-5005, AND AS REQUIRED BY FEDERAL LAW.



LEGEND

EXISTING FEATURES		EXISTING FEATURES		EXISTING FEATURES		EXISTING FEATURES	
C/O	CLEAN OUT		WATER SHUT OFF	WATERCOURSE		W	WATER LINE
S	MANHOLE		LIGHT POLE	TREELINE		E	UNDERGROUND ELECTRIC
CB	CATCH BASIN		UTILITY POWER POLE	FENCE	X	OHW	OVERHEAD ELECTRIC
D	STORM MANHOLE		SIGN	CONTOUR	100	UT	UNDERGROUND TELEPHONE
WV	TAPPING SLEEVE AND VALVE	100.00	SPOT ELEVATION	PROPERTY LINE		RD	ROOF DRAIN
GV	GATE VALVE		TREE	EDGE OF PAVEMENT		FD	FOUNDATION DRAIN
	HYDRANT		SURVEY POINT	SANITARY SEWER LINE	S		RIGHT-OF-WAY LINE
			HANDICAP SYMBOL	STORM LINE	SD		SETBACK

STATE OF VERMONT
PAUL M. BOISVERT
NO. 9016
CIVIL
LICENSED
PROFESSIONAL ENGINEER
Stamp

No.	Description	Date

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85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Windsor District Court
82 Railroad Row
White River Junction, VT
802-295-8865

Sheet Title: Existing Conditions and Demolition Plan

Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
Date:	5/10/24

C1.1

S:\PROJECTS\A-2022\2248 WINDSOR DISTRICT COURT ADDITION CIVIL\DWG\SHEET FILES\C1.1 EXISTING CONDITIONS PLAN.DWG

PLOTTED: 5/17/2024 10:27 AM

SITE SCHEDULE

- C1 — PROPOSED ADDITION – SEE ARCHITECTURAL DRAWINGS
- C2 — NEW CONCRETE SIDEWALK – SEE DETAIL 3 SHEET C3.1
  SIDEWALK TO BE 6' WIDE ALONG SECTION WITH ADA PARKING AND EV CHARGERS
- C3 — PAVEMENT TRENCH PATCH – SEE DETAIL 2 SHEET C3.1
- C4 — RELOCATED LAMP POSTS
- C5 — LEVEL 2 EV CHARGER TO BE INSTALLED IN SIDEWALK
- C6 — RELOCATED AND NEW ADA PARKING AND EV PARKING SIGNS (TYP)
- C7 — RESTORE CROSSWALK PATTERN AFTER CONSTRUCTION COMPLETION
- C8 — CONCRETE BASE FOR SALLYPORT CARD READER
- C9 — 3' X 3' CONCRETE PAD FOR MAILBOX INSTALLATION
- C10 — 11'x11' CONCRETE PAD FOR PELLET SILO, SEE STRUCTURAL PLANS FOR DETAILS,
  INSTALL BOLLARDS IN LOCATIONS SHOWN ON THIS SHEET
- C11 — CONCRETE CURBING
  SEE DETAIL 5 SHEET C3.2
- C12 — CONCRETE CURBING ALONG SIDEWALK TO BE INTEGRAL CURB AND WALK
  SEE DETAIL 6 SHEET C3.2
- C13 — MAPLE TREE SAPLING

STORMWATER SCHEDULE

- ST1 — 3' I.D. CATCH BASIN
  358.8612" INV OUT (ST6): 356.51
- ST2 — 31 LF OF 12" HDPE STORM PIPE
- ST3 — 4' I.D. CATCH BASIN
  RIM: 360.19
  12" INV IN (ST2): 355.90
  12" INV OUT (ST4): 355.80
- ST4 — 74 LF OF 12" HDPE STORM PIPE
- ST5 — 3' I.D. CATCH BASIN
  RIM: 358.82
  12" INV OUT (ST6): 355.98
- ST6 — 20 LF OF 12" HDPE STORM PIPE
- ST7 — 4' I.D. CATCH BASIN
  RIM: 359.60
  12" INV IN (ST4): 355.88
  12" INV IN (ST6): 355.88
  12" INV OUT (ST8): 355.78
- ST8 — 62 LF OF 12" HDPE STORM PIPE
- ST9 — 4' I.D. CATCH BASIN
  RIM: 358.47
  12" INV IN (ST8): 355.47
  12" INV OUT (ST10): 355.37
- ST10 — 83 LF OF 12" HDPE STORM PIPE
- ST11 — FLARED END SECTION AT DISCHARGE OF PIPE WITH STABILIZE OUTFALL
  APPROX. DISCHARGE ELEV: 354.51
  SEE DETAIL 3 SHEET C3.2

WATER SCHEDULE

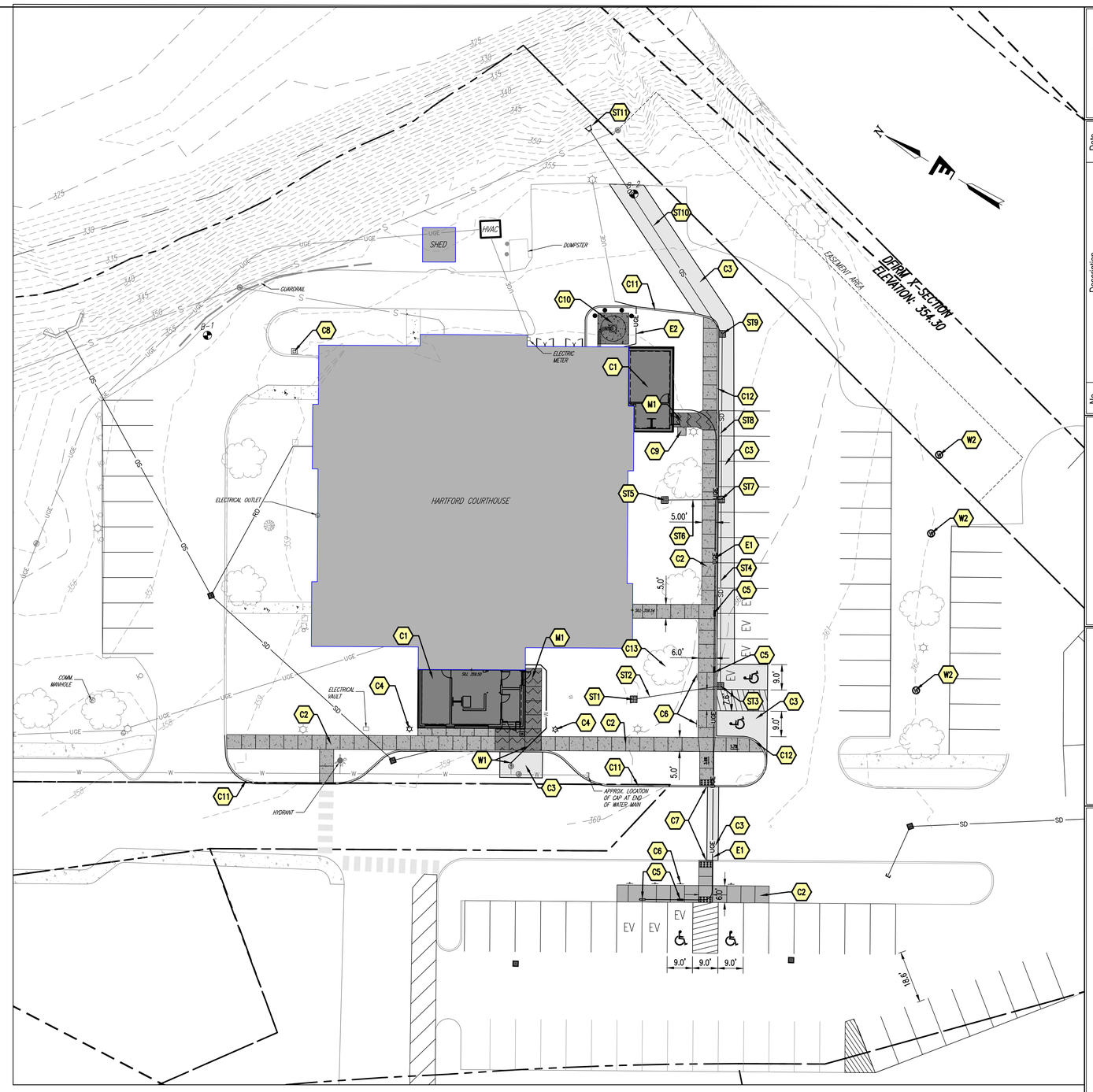
- W1 — 6" D.I. WATER LINE. CONNECT TO EXISTING GATE VALVE.
- W2 — GEOTHERMAL TEST WELLS, LOCATIONS APPROXIMATE

ELECTRIC SCHEDULE

- E1 — CONDUIT FOR 240V SERVICE TO EV CHARGERS
- E2 — REROUTE POWER SUPPLY AROUND SILO AND BOLLARDS

MECHANICAL SCHEDULE

- M1 — CONCRETE SNOWMELT SYSTEM TO BE INSTALLED IN CONCRETE SIDEWALK
  SEE MEP PLANS FOR DETAIL



GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

LEGEND

EXISTING FEATURES	PROPOSED FEATURES	EXISTING FEATURES	PROPOSED FEATURES	EXISTING FEATURES	PROPOSED FEATURES	EXISTING FEATURES	PROPOSED FEATURES
C/O CLEAN OUT	C/O	WATER SHUT OFF		WATERCOURSE		W WATER LINE	W
MANHOLE		LIGHT POLE		TREELINE		E UNDERGROUND ELECTRIC	E
CATCH BASIN		UTILITY POWER POLE		FENCE	X	OHW OVERHEAD ELECTRIC	OHE
STORM MANHOLE		SIGN		CONTOUR	100	UT UNDERGROUND TELEPHONE	UT
WV TAPPING SLEEVE AND VALVE	WV	SPOT ELEVATION	+100.5	PROPERTY LINE		RD ROOF DRAIN	RD
GV GATE VALVE	GV	TREE		EDGE OF PAVEMENT		FD FOUNDATION DRAIN	UD
HYDRANT		SURVEY POINT		SANITARY SEWER LINE	S	RIGHT-OF-WAY LINE	
		HANDICAP SYMBOL		STORM LINE	SD	SETBACK	

STATE OF VERMONT
PAUL M. BOISVERT
NO. 9016
Civil
5/10/24
PROFESSIONAL ENGINEER
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No.	Description	Date

ENGINEERING VENTURES PC
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414 Union Street, Schenectady, NY 12305 • 518-630-9614
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Windsor District Court
82 Railroad Row
White River Junction, VT
802-295-8865

Sheet Title: Site Utility and Layout Plan

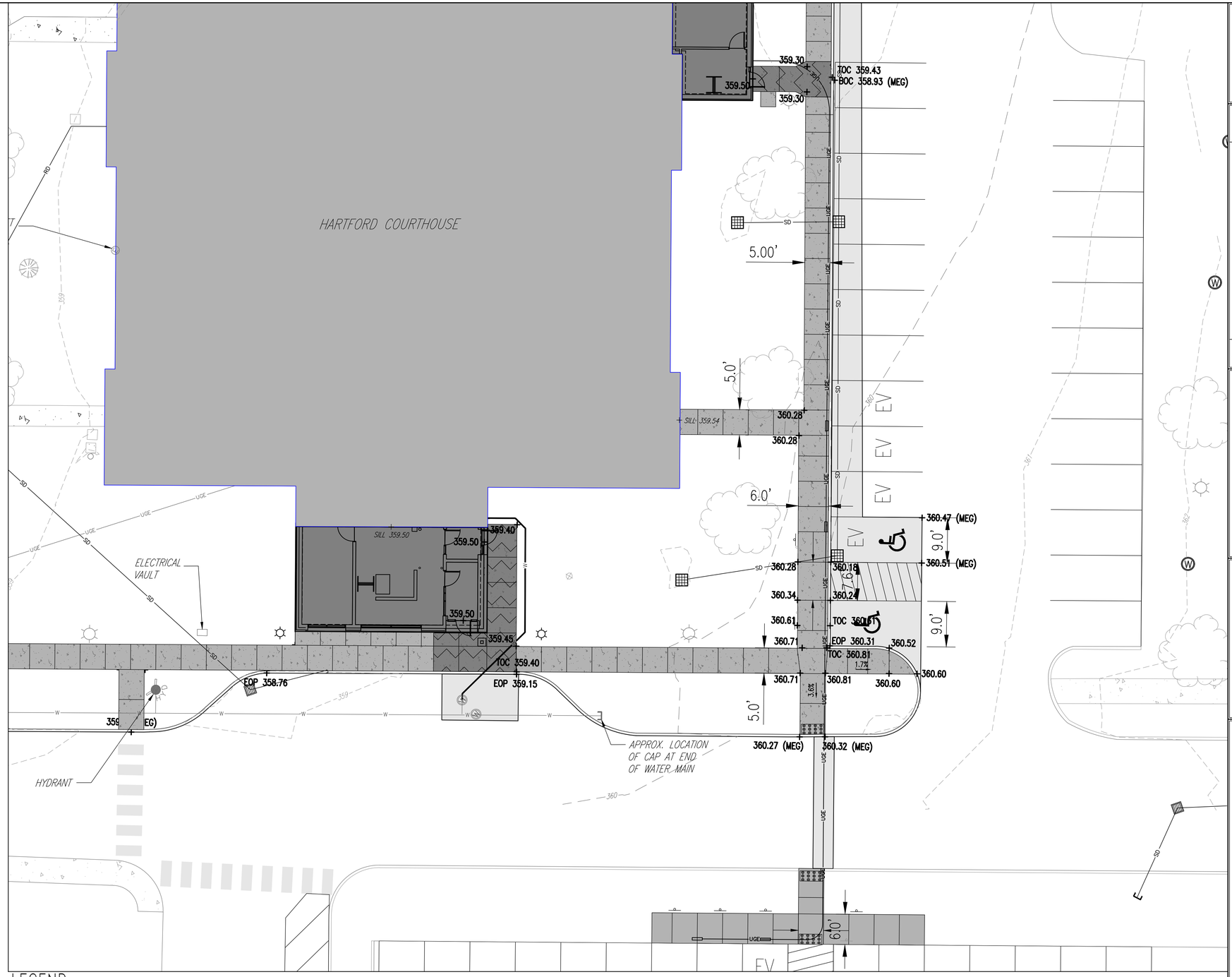
Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
Date:	5/10/24

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S:\PROJECTS\V-2022\22548 WINDSOR DISTRICT COURT ADDITION_DV\WIP\SHEET FILES\X2-1 SITE PLAN2.DWG

PLOTTED: 5/17/2024 10:21 AM



GRAPHIC SCALE

10 0 5 10 20 40

1 inch = 10 ft.
for sheet size 24" x 36"

LEGEND

EXISTING FEATURES		PROPOSED FEATURES	EXISTING FEATURES		PROPOSED FEATURES	EXISTING FEATURES		PROPOSED FEATURES	EXISTING FEATURES		PROPOSED FEATURES
C/O	CLEAN OUT	C/O		WATER SHUT OFF			WATERCOURSE		W	WATER LINE	W
S	MANHOLE	S		LIGHT POLE			TREELINE		E	UNDERGROUND ELECTRIC	E
	CATCH BASIN			UTILITY POWER POLE		X	FENCE	X	OHW	OVERHEAD ELECTRIC	OHE
D	STORM MANHOLE	D		SIGN		100	CONTOUR	100	UT	UNDERGROUND TELEPHONE	UT
WV	TAPPING SLEEVE AND VALVE	WV	+ 100.00	SPOT ELEVATION	+100.5		PROPERTY LINE		RD	ROOF DRAIN	RD
GV	GATE VALVE	GV		TREE			EDGE OF PAVEMENT		FD	FOUNDATION DRAIN	UD
	HYDRANT			SURVEY POINT		S	SANITARY SEWER LINE	S		RIGHT-OF-WAY LINE	
				HANDICAP SYMBOL		SD	STORM LINE	SD		SETBACK	

STATE OF VERMONT
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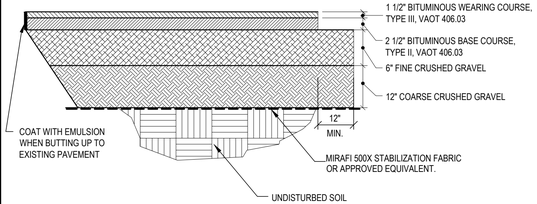
Sheet Title: Grading Plan

Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
Date:	5/10/24

C2.2

S:\PROJECTS\5-2022\2548 WINDSOR DISTRICT COURT ADDITION\ DVD\WG\SHEET FILES\C2.X SITE PLANS.DWG

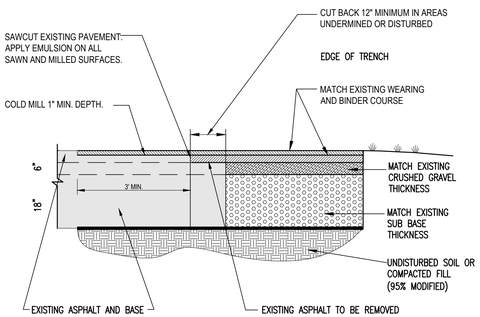


PAVEMENT PATCHING NOTES:

1. IN ALL PAVEMENT AREAS TO BE PATCHED, SAW CUT AND REMOVE EXISTING PAVEMENT.
2. EXCAVATE BASE MATERIAL AND SUB-BASE MATERIAL IF INADEQUATE.
3. COMPACT ALL FILL MATERIAL TO 95% MODIFIED PROCTOR

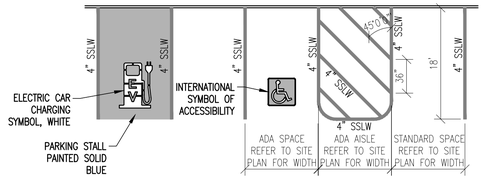
TYPICAL PAVEMENT DETAIL

SCALE: NONE (1)



ASPHALT PAVEMENT TRENCH PATCH DETAIL

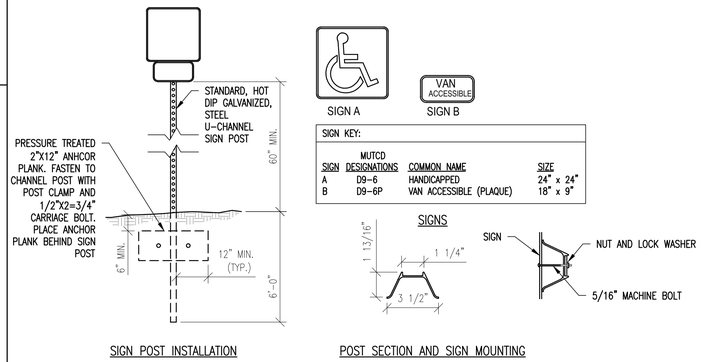
SCALE: NONE (2)



PARKING LOT STRIPING

PAVEMENT MARKINGS DETAIL

SCALE: NONE (3)

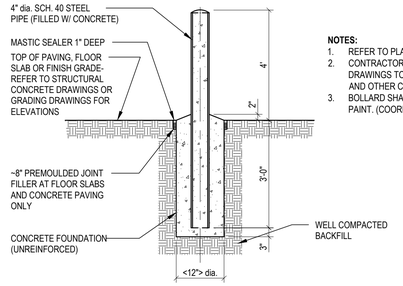


SIGN POST INSTALLATION

POST SECTION AND SIGN MOUNTING

SIGN AND POST DETAILS

SCALE: NONE (4)



NOTES:

1. REFER TO PLAN FOR LOCATIONS.
2. CONTRACTOR TO COORDINATE PLANS WITH CONCRETE DRAWINGS TO INSURE NO CONFLICT BETWEEN BOLLARDS AND OTHER CONCRETE WORK.
3. BOLLARD SHALL BE PAINTED WITH AN EXTERIOR GRADE PAINT. (COORDINATE COLOR WITH ARCHITECT/OWNER)

BOLLARD DETAIL

SCALE: NONE (5)

EARTHWORK NOTES

1. PRIOR TO THE START OF WORK, A PRE-CONSTRUCTION MEETING WILL BE HELD WITH THE CONTRACTOR, OWNER, PROJECT ENGINEER AND TOWN DPW TO REVIEW PROCEDURES AND IDENTIFY RESPONSIBILITIES. 4 WEEKS NOTICE SHALL BE GIVEN TO THE TOWN PRIOR TO START OF CONSTRUCTION. UNLESS STATED OTHERWISE STATED, ALL MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE VTRANS SPECIFICATIONS.

2. CLEARING AND GRUBBING- SITE TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, INCLUDING DRIVEWAYS, STONE WALLS, AND GRASS AREAS. THE DRIVEWAY SUB-GRADE MATERIAL SHALL EXTEND ONE FOOT BEYOND THE EDGE OF PAVING.

3. COMPACTION OF ALL MATERIALS SHALL BE PERFORMED USING VIBRATORY ROLLERS AND WATER IN LIFTS OF NO GREATER THAN TWELVE INCHES. COMPACTION SHALL BE PERFORMED UNTIL THE REQUIRED DENSITY IS ACHIEVED. DENSITY SHALL BE DETERMINED BY ASTM D2922 AND SHALL NOT BE LESS THAN THE REQUIRED AMOUNT AS DETERMINED IN ACCORDANCE WITH ASTM D1557.

4. COMPACTION TESTING SHALL BE PERFORMED FOR EVERY LAYER OF MATERIAL PLACED AND FOR EVERY 2500 SQUARE FEET OF AREA.

5. PAVEMENT SHALL MEET THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS PUBLISHED BY VTRANS.

6. PAVEMENT SHALL NOT BE INSTALLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT, NOR WHEN THE ROAD BASE TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT. PAVEMENT SHALL NOT FALL BELOW 185 DEGREES FAHRENHEIT PRIOR TO THE COMPLETION OF ROLLING. PAVEMENT SHALL NOT BE INSTALLED WHEN THE SUBGRADE IS FROZEN OR THE GRADES ARE INCORRECT.

7. ALL REMAINING DISTURBED AREAS SHALL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH APPLICABLE STATE SPECIFICATIONS FOR EROSION CONTROL.

8. THE SEEDING OF 10% OR GREATER SLOPES SHALL REQUIRE THE USE OF EROSION CONTROL MATTING.

9. ALL EARTHWORK MATERIALS SHALL BE OBTAINED FROM APPROVED SOURCES. THEY SHALL CONSIST OF SATISFACTORILY GRADED, FREE DRAINING MATERIAL, REASONABLY FREE FROM LOAM, SILT, CLAY AND ORGANIC MATERIAL. EARTHWORK MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING TABLES:

A. SAND BLANKET/BEDDING:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
2 INCHES	100
1-1/2 INCHES	90 - 100
1/2 INCH	70 - 100
NO. 4	60 - 100
NO. 100	0 - 20
NO. 200	0 - 8

B. 3/4" CRUSHED STONE:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
3/4 INCHES	90 - 100
3/8 INCH	20 - 55
NO. 4	0 - 10
NO. 8	0 - 5

C. 1 1/2" CRUSHED STONE:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 3/4 INCH	100
1 1/2 INCH	90 - 100
1 INCH	20 - 55
3/4 INCH	0 - 15
3/8 INCH	0 - 5

D. COARSE CRUSHED GRAVEL:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
4 INCHES	95 - 100
NO. 4	25 - 50
NO. 100	0 - 12
NO. 200	0 - 6

E. FINE CRUSHED GRAVEL:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
2 INCHES	100
1~8 INCHES	90 - 100
NO. 4	30 - 60
NO. 100	0 - 12
NO. 200	0 - 6

F. GRANULAR BACKFILL:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
3 INCHES	100
2 1/2 INCHES	90 - 100
NO. 4	45 - 75
NO. 100	0 - 12
NO. 200	0 - 6

G. TYPE I STONE FOR STONE FILL

THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 1 INCH TO 12 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF FOUR INCHES.

H. TYPE II STONE FOR STONE FILL

THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM TWO INCHES TO 36 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 12 INCHES.

I. TOPSOIL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE SPECIFICALLY STATED IN THE CONTRACT DOCUMENTS:

1. THE pH OF THE MATERIAL SHALL BE BETWEEN 5.5 AND 7.6.
2. THE ORGANIC CONTENT SHALL BE NOT LESS THAN 2% NOR MORE THAN 20%.
3. GRADATION:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
2 INCHES	100
1 INCH	85 - 100
1/4 INCH	65 - 100
NO. 200	20 - 80

THE CONTRACTOR MAY AMEND NATURAL TOPSOIL WITH APPROVED MATERIALS AND BY APPROVED METHODS TO MEET THE ABOVE SPECIFICATIONS.

J. DRAINAGE AGGREGATE:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
1 INCH	100
3/4 INCH	90 - 100
3/8 INCH	20 - 55
NO. 4	60 - 100
NO. 100	0 - 10
NO. 200	0 -5

K. AGGREGATE FOR EROSION PREVENTION AND SEDIMENT CONTROL

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
4 INCH	80 - 100
3 INCH	40 - 60
2 INCH	0 - 20

L. DENSE GRADED CRUSHED STONE FOR SUBBASE

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
3 1/2 INCH	100
3 INCH	90 - 100
2 INCH	75 - 100
1 INCH	50 - 80
1/2" INCH	30 - 60
NO. 4	15 - 40
NO. 200	0 - 6

M. 2" CRUSHED STONE

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
3 INCH	100
2 INCH	75 - 100
1 INCH	0 - 10
1/4" INCH	0 - 5

STATE OF VERMONT — PAUL M. BOISVERT — NO. 9016 — CIVIL — LICENSED PROFESSIONAL ENGINEER

Stamp

No.	Description	Date

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82 Railroad Row
White River Junction, VT
802-295-8865

Sheet Title: Site Details

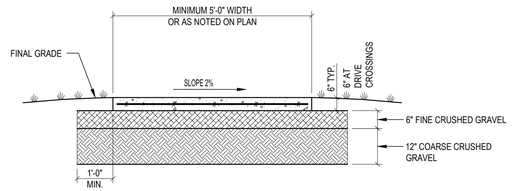
Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
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C3.1

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SIDEWALK DETAIL

CONCRETE SIDEWALK NOTES:

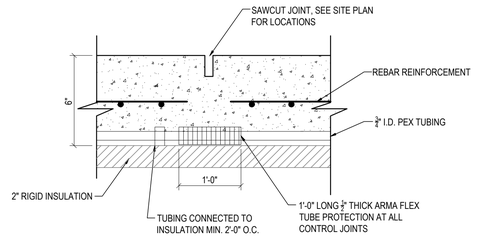
1. PLACE A TOOLED JOINT 1/8" WIDE AND AT LEAST 1/3 OF THE DEPTH, TYPICALLY AT INTERVALS MATCHING THE SIDEWALK WIDTH, OR AS NOTED ON PLANS (NOT TO EXCEED 10'-0").
2. PLACE EXPANSION JOINT AS INDICATED ON PLANS, NOT TO EXCEED 20'-0" MAX. ALL EXPANSION JOINTS SHALL BE DOWELED WITH A ½" DIAMETER SMOOTH DOWEL AT 12" O.C. DOWEL SHALL BE 15" IN LENGTH AND SHALL HAVE AN EXPANSION CAP INSTALLED AT THE END. SEE DETAIL ON THIS SHEET.
3. BROOM FINISH WITH SMOOTH TROWELED EDGES. TREAT WITH SILANE-SILOXANE OR EQUAL.
4. CAST-IN-PLACE CONCRETE TO BE 5000 psi CONCRETE, 5%-7% AIR ENTRAINMENT WITH #4 DEFORMED REBAR AT MINIMUM 12" O.C. IN EACH DIRECTION IN SIDEWALK.
5. WHERE SIDEWALK IS ADJACENT TO ENTRY/EXIT DOOR PADS WITH FROST WALL FOUNDATIONS, SIDEWALK SHALL BE DOWELED TO PAD WITH 24" LONG #4 DOWELS (CENTERED) AT 1'-6" oc (PORTION OF DOWEL IN SIDEWALK TO BE GREASED).
6. WHERE SIDEWALK IS ADJACENT TO CURB, BOLLARD OR OTHER HARD FEATURE, INSTALL 1/4" EXPANSION MATERIAL (FULL DEPTH OF SIDEWALK), BETWEEN FEATURE AND SIDEWALK.
7. COMPACT ALL FILL MATERIAL TO 95% MODIFIED PROCTOR.

SIDEWALK DETAIL

SCALE: NONE 1

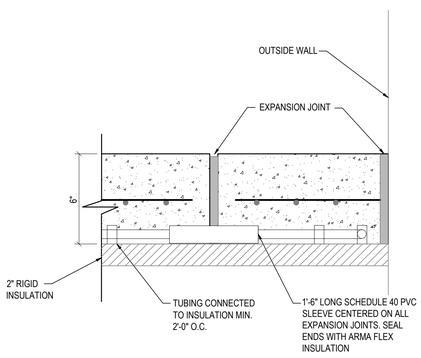
BUILDING/SIDEWALK DOWEL DETAIL

SCALE: NONE 2



SNOWMELT TUBING CONTROL JOINT DETAIL

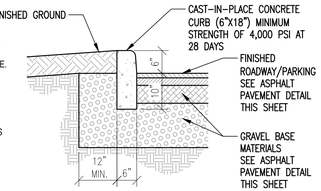
SCALE: NONE 3



SNOWMELT TUBING EXPANSION JOINT DETAIL

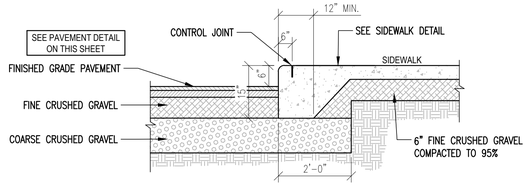
SCALE: NONE 4

NOTES:
1. CLASS B CONCRETE SHALL HAVE:
   - A. MIN. COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS
   - B. AIR ENTRAINMENT OF 5% TO 7% BY VOLUME.
   - C. MAXIMUM WATER:CEMENT RATIO= 0.60.
   - D. SLUMP: 2-4 INCHES BEFORE ADDITION OF WATER REDUCER, 6-8 INCHES AFTER THE ADDITION OF WATER REDUCER.
2. PROVIDE EQUALLY SPACED CONTROL JOINTS AT SPACING AND PATTERN INDICATED ON PLANS (NOT TO EXCEED 5'-0").
3. PROVIDE EXPANSION JOINT EVERY 20'-0" MAX.



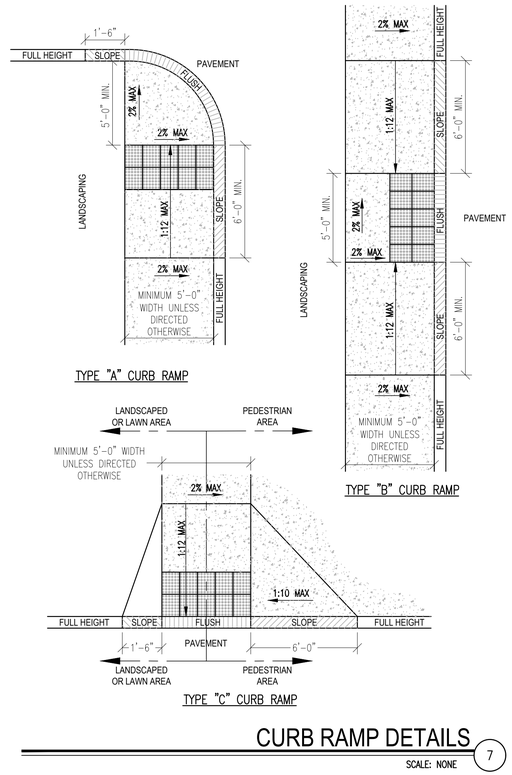
CONCRETE CURB DETAIL

SCALE: NONE 5



INTEGRAL CURB AND WALK DETAIL

SCALE: NONE 6



CURB RAMP DETAILS

SCALE: NONE 7

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PAUL M. BOISVERT
NO. 9016
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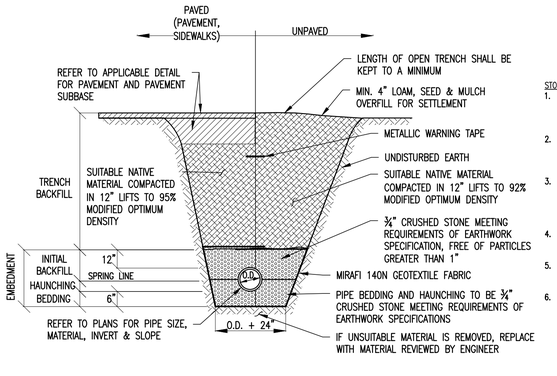
Sheet Title: Sidewalk and Curb Details

Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
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STORM TRENCH NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM , STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
4. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
5. REFER TO INSULATION DETAIL FOR AREAS WHERE PROPER COVER CAN NOT BE ACHIEVED.
6. BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER OR OTHER UNSTABLE MATERIAL SHALL NOT BE USED FOR BACKFILL.

TYPICAL STORM DRAIN TRENCH

SCALE: NONE — 1

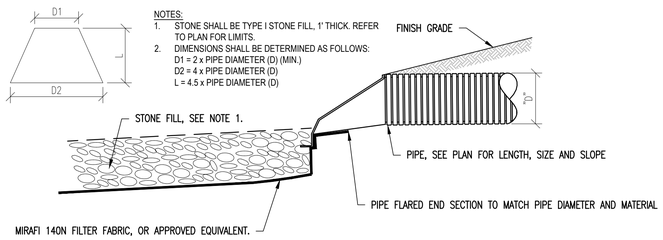
INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	LOWER DRAIN	
3'–4'	6'–0"	4"
4'–6'	NO INSUL. REQUIRED	

INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	LOWER DRAIN	
3'–4'	4'–0"	2"
> 4'	NO INSUL. REQUIRED	

STORM DRAIN INSULATION NOTES:
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. RIGID EXTRUDED POLYSTYRENE INSULATION SHALL CONFORM WITH ASTM C578 – STANDARD SPECIFICATION FOR RIGID CELLULAR POLYSTYRENE THERMAL INSULATION AND SHALL BE DOW STYROFOAM HIGH LOAD 40 OR EQUIVALENT.

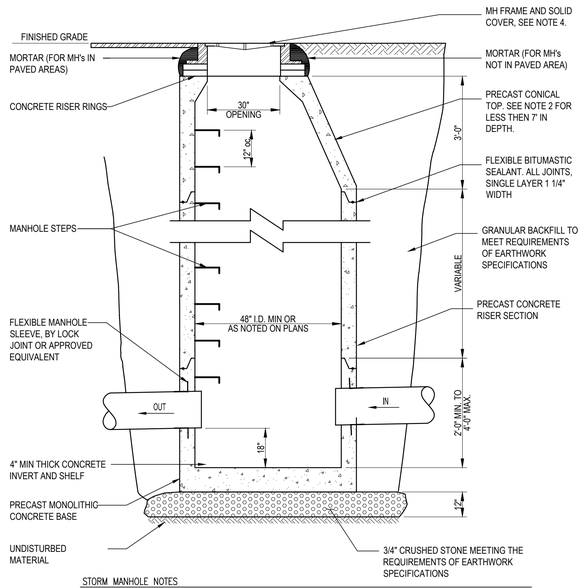
INSULATION OVER SHALLOW DRAIN DETAIL

SCALE: NONE — 2



FLARED END SECTION W/ STONE APRON

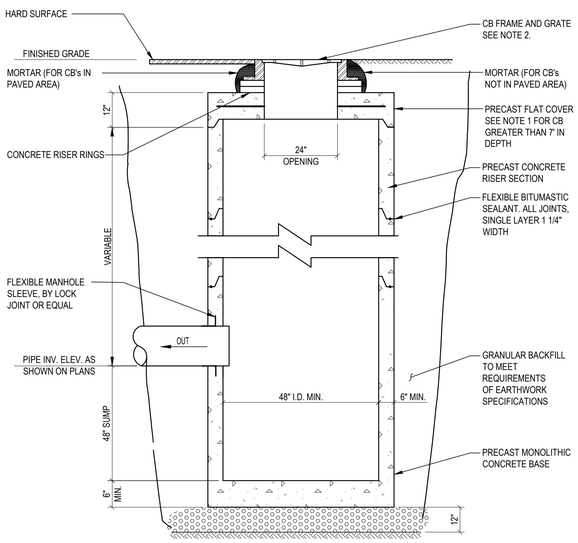
SCALE: NONE — 3



STORM MANHOLE NOTES
1. IF DEPTH OF MANHOLE IS 7 ft. OR LESS FROM RIM TO CENTERLINE INVERT, THEN A FLAT TOP WILL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO CENTERLINE INVERT IS MORE THAN 7 ft., THEN A CONICAL TOP WILL BE INSTALLED.
2. MANHOLE AND COVER SHALL BE DESIGNED FOR H20 LOADING.
3. PROVIDE A NEENAH FOUNDRY R-1564 OR APPROVED EQUIVALENT, CAST THE WORD "STORM" IN TOP COVER
4. MANHOLE SHALL BE PRECAST CONCRETE SUPPLIED BY AN APPROVED MANUFACTURER.

STORM MANHOLE DETAIL

SCALE: NONE — 4



CATCH BASIN NOTES
1. IF DEPTH OF CATCH BASIN IS 7 FEET OR LESS FROM RIM TO CENTERLINE INVERT THEN A FLAT TOP WILL BE INSTALLED. IF DEPTH OF CATCH BASIN FROM RIM TO CENTERLINE INVERT IS MORE THAN 7 FEET THEN A CONICAL TOP WILL BE INSTALLED.
2. PROVIDE A LEBARON 24"x24" TYPE E OR APPROVED EQUIVALENT, 3 FLANGE GRATE AND FRAME NEXT TO CURBS AND 4 FLANGE GRATE AND FRAME AT ALL OTHER LOCATIONS.
3. CATCH BASIN AND GRATE SHALL BE DESIGNED FOR H20 LOADING.
4. CATCH BASIN SHALL BE PRECAST CONCRETE AS MANUFACTURED BY S.T. GRISWOLD & CO., INC. OR APPROVED EQUIVALENT.

STORM CATCH BASIN DETAIL

SCALE: NONE — 5

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Sheet Title: Stormwater Details

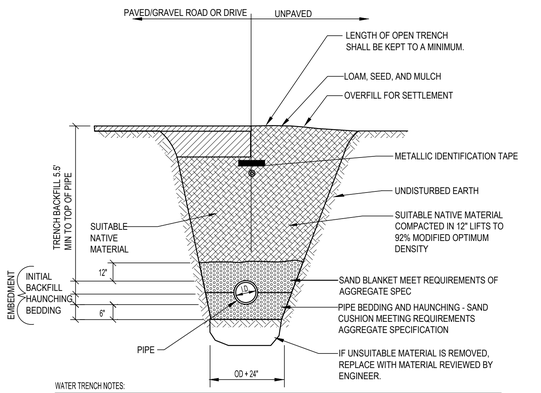
Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
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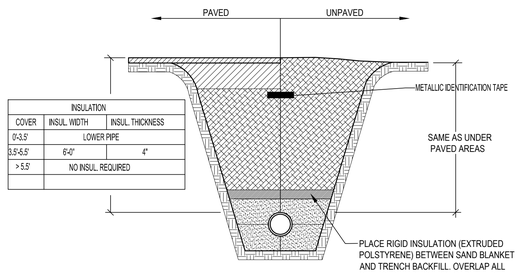
WATER TRENCH NOTES:

1. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
2. PROVIDE 6' MINIMUM COVER OVER WATER PIPE.
3. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.
4. COMPACT SOILS IN ACCORDANCE WITH SPECIFICATION
5. BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER OR OTHER UNSTABLE MATERIAL SHALL NOT BE USED FOR BACKFILL.

TYPICAL WATER TRENCH DETAIL

1

SCALE: NONE



INSULATION		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3.5'	LOWER PIPE	
3.5'-5.5'	6'-0"	4"
> 5.5'	NO INSUL. REQUIRED	

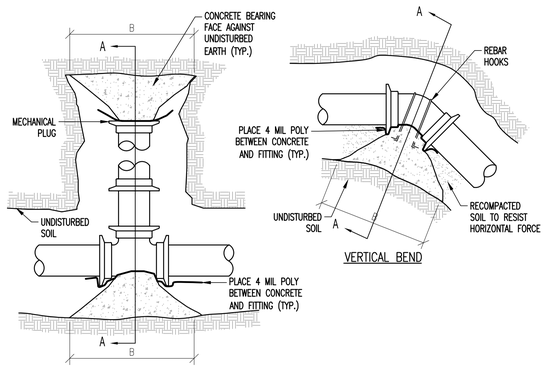
TRENCH NOTES:

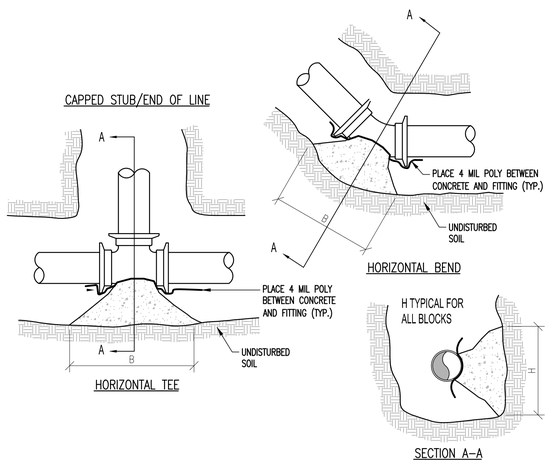
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW WATER LINE DETAIL

2

SCALE: NONE

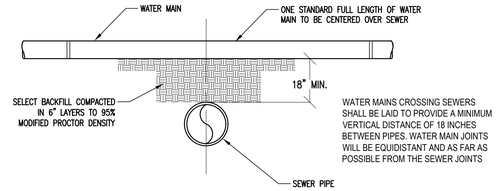




TYPICAL BEARING THRUST BLOCK

6

SCALE: NONE



WATER MAIN ABOVE SEWER

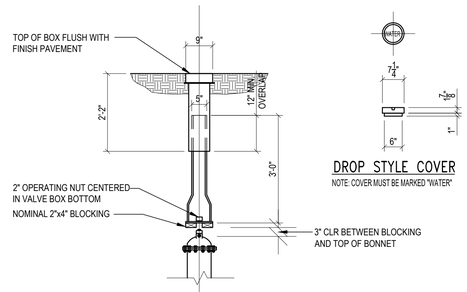
SEPARATION NOTES:

1. WATER MAIN RELATIONS TO SEWER SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" SO-CALLED TEN STATE STANDARDS.
2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPARATE TRENCH AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
3. WHEN IT IS IMPOSSIBLE TO MAINTAIN 18" VERTICAL SEPARATION OR WHERE THE SEWER MUST BE LAID ABOVE THE WATER MAIN; 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS; 2) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICH EVER IS GREATER; 3) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 psi FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS.

SANITARY SEWER/WATER LINE CROSSING

4

SCALE: NONE



VALVE BOX NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. ALL PIPES SHOULD HAVE A MINIMUM DEPTH OF 5.5' FROM TOP OF PIPE TO FINISH GRADE.
3. ALL GATE VALVES SHALL BE OPEN RIGHT.

TYPICAL VALVE BOX DETAIL

5

SCALE: NONE

WATER NOTES

WATER MAINS
1. PERFORM A HYDROSTATIC AND LEAKAGE TEST ACCORDING TO AWWA C600(LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS A MINIMUM OF 200 PSI OR 1.5X THE WORKING PRESSURE, WHICHEVER IS GREATER, AND PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI. SEE THE CURRENT EDITION OF AWWA C600 FOR ALLOWABLE LEAKAGE.

EXISTING UTILITIES
1. LOCATION OF UTILITY INSTALLATIONS AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS SOME UTILITIES MAY NOT BE SHOWN.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER, PRIOR TO COMMENCING DEMOLITION.

PIPE BEDDING
1. SAND BLANKET/BEDDING SHALL MEET REQUIREMENTS OF EARTHWORK SPECIFICATIONS
2. TRENCH FINAL BACKFILL MATERIAL - MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS(GREATER THAN 12" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

PIPE TRENCH BACKFILL
1. MEET EARTHWORK SPECIFICATIONS FOR PLACEMENT AND COMPACTION.

DUCTILE IRON PIPE (WATER)
1. D.I. PIPE CONFORM TO AWWA/ANSI C151.
2. LININGS AND LINING REPAIR TO AWWA/ANSI C104.
3. JOINTS CONFORM TO AWWA/ANSI C 111 AND C115.
4. FITTINGS CONFORM TO AWWA/ANSI C110, C153, C105.
5. KEEP INSIDE OF PIPE CLEAN AND FREE OF DEBRIS.
6. REJECT ANY PIPE WHICH IS DROPPED DURING HANDLING.
7. MECHANICAL JOINT GLANDS SHALL BE "MEGA-LUG" RETAINER GLANDS.
8. DUCTILE IRON FITTINGS: ANSI A21.10, 350 PSI PRESSURE RATING.
9. JOINTS: MECHANICAL, PUSH-ON, AND FLANGED:
   A. RUBBER GASKET JOINT, ANSI A21.11
10. GASKETS:
   A: MECHANICAL AND PUSH-ON JOINTS: ANSI A21.11
   B. FLANGED JOINT: ⅛" THICK RING OR FULL FACED RUBBER, ANSI A21.15.
11. BOLTS/NUTS
   A. MECHANICAL JOINT: ANSI A21.11
   B. FLANGED JOINT: ANSI A21.15
12. LININGS:
   A. INTERIOR- CEMENT LINED, DOUBLE THICKNESS BITUMINOUS SEAL
   B. EXTERIOR-BITUMINOUS COATING APPROX. 1 MIL THICK, ANSI A21.51, ANSI A21.15, AND ANSI A21.10.
   C. FLANGE MACHINED FACE COATING: ANSI A21.15.
13. LAYING PIPE
   A. PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING.
   B. WHERE PIPE IS LAID ON A SLOPE OF 5% OR MORE, THE LAYING SHALL START AT THE LOW END AND PROCEED UPHILL, WITH THE BELL ENDS UPGRADE.
   C. A WATERTIGHT PLUG SHALL BE PLACED IN THE OPEN ENDS OF INSTALLED PIPE WHEN PIPE LAYING IS NOT IN PROGRESS.
   D. MAX. PERMISSIBLE DEFLECTION IS 75% OF AWWA SPEC. C600.

CHLORINATION OF DOMESTIC WATER LINES
1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS
2. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
3. DISINFECT ALL NEW PIPELINE SYSTEMS IN ACCORDANCE WITH AWWA C651, INCLUDING:
   A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD (TABLET METHOD IS NOT ACCEPTABLE).
   B. FORM OF CHLORINE UTILIZED.
   C. FINAL FLUSHING.
   D. BACTERIOLOGICAL TESTING
   E. REPETITION OF PROCEDURE

GATE VALVES:
1. RESILIENT SEAT GATE VALVES BY KENNEDY "KEN-SEAL" OR EQUAL.
2. IRON BODY GATE VALVES TO MEET AWWA C-509-87.
3. STEM CONSTRUCTION: NON-RISING.
4. STEM SEALS: DOUBLE O-RING.
5. GATE: CAST IRON RESILIENT WEDGE WITH SYNTHETIC ELASTOMER COATING, AND SHALL BE EPOXY COATED (FUSION BONDED) INSIDE AND OUT.
6. BONNET HARDWARE SHALL MEET ASTM A307, CADMIUM PLATED.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT
8. OPERATION: OPEN COUNTERCLOCKWISE.

TAPPING SLEEVES AND VALVES

TAPPING VALVES
1. TAPPING VALVES TO MEET ANSI/AWWA C509-87, STANDARD FOR RESILIENT SEATED GATE VALVES.
2. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
3. VALVES SHALL OPEN COUNTERCLOCKWISE.
4. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/AWWA C110/A21.10.
5. OUTLET CONNECTION: STANDARDIZED MECHANICAL JOINT.
6. STEM SEALS: O RING.
7. STEM CONSTRUCTION: NON-RISING.
8. SEATING: PARALLEL SEAT
9. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
10. BURIED TAPPING VALVES SHALL BE PROVIDED WITH A 2 INCH SQUARE WRENCH NUT AND CAST IRON VALVE BOX. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'-0" , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

TAPPING SLEEVES
1. AWWA C509, LATEST REVISION.
2. AWWA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
3. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
4. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
5. BOLTS AND NUTS, MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/AWWA C111/A21.11-90.
6. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/AWWA C110/A21.10-87, APPENDIX
7. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
8. ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD-APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES
1. ACCEPTABLE MANUFACTURERS: MUELLER, CLOW, OR EQUAL.
2. CLOW F-2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5¼ INCH SHAFT.
4. SIZE 664-A (40-60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F-2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.

CONCRETE
1. CONCRETE SHALL HAVE:
   A. MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
   B. AIR ENTRAINMENT OF 4% TO 6% BY VOLUME.
   C. WATER CEMENT RATIO OF 0.49 LBS. WATER/CEMENT.
   D. SLUMP OF 2 TO 4 INCHES.
2. CONCRETE SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
3. CONCRETE SHALL NOT BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
4. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURES FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
5. ALLOW TO SET AND CURE ALL THRUST BLOCKS, CONCRETE SUPPORTS, AND ANCHORS A MINIMUM OF 24 HOURS BEFORE BACKFILLING.
6. COMPLETELY CURE AND SET CONCRETE BEFORE ANY HYDROSTATIC OR LEAKAGE TESTING OF PIPELINE SYSTEMS.
7. NONSHRINK GROUT SHALL BE HALCO TRADEMARK, AS MANUFACTURED BY LEHN & FINK INDUSTRIAL PRODUCTS.
8. DO NOT PLACE ANY MORTAR OR GROUT WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT.
9. MORTAR FOR MANHOLES SHALL CONSIST OF THE FOLLOWING:
   A. CEMENT-TYPE II, ASTM C150.
   B. HYDRATED LIME-TYPE N, ASTM C207.
   C. SAND- ASTM C 33, FINE AGGREGATES FOR CONCRETE.
   D. WATER-CLEAN, SUITABLE FOR DRINKING.
10. MIX(BY VOLUME): 1 PART CEMENT, ½ PART LIME, 4½ PARTS SAND.

GENERAL
1. CONTRACTOR SHALL NOTIFY BURLINGTON DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS BEFORE BEGINNING WATER LINE WORK..
2. "AS BUILT" DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AT THE TIME OF COMPLETION OF THE SYSTEM.

TABLE 2 - THRUST DEVELOPED PER 100psi PRESSURE (lbs force)					
PIPE DIAMETER IN.	VALVES AND DEAD ENDS, TEES	90° BENDS	45° BENDS	22½° BENDS	11¼° BENDS
4	1810	2560	1390	635	320
6	3740	5290	2860	1370	690
8	6430	9100	4920	2320	1170
10	9680	13680	7410	3610	1820
12	13690	19350	10470	5080	2550
14	18380	25990	14100	6100	3080
16	23780	33630	18280	7960	4020

NOTES:
1. PERFORM HYDROSTATIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
2. PLACE 4 MIL POLYETHYLENE BETWEEN FITTINGS AND THRUST BLOCKS.
3. CONCRETE SHALL BE CLASS B.
4. ON ALL THRUST BLOCKS, B SHALL BE THE GREATER DIMENSION, USE 1.5:1 TO 2:1 FOR B:H.

TABLE 1 - BEARING STRENGTH OF UNDISTURBED SOIL	
SOIL TYPE	BEARING STRENGTH
PEAT, ETC.	0 lb/ft²
SOFT CLAY	500 lb/ft²
SAND	1000 lb/ft²
SAND AND GRAVEL	1500 lb/ft²
SAND AND GRAVEL WITH CLAY	2000 lb/ft²
SAND AND GRAVEL CEMENTED WITH CLAY	4000 lb/ft²
HARD PAN	5000 lb/ft²

DETERMINING MINIMUM BEARING FACE AREA:
THE AREA (ft²=@) SHALL BE CALCULATED BY DETERMINING THE TOTAL THRUST GENERATED AT THE FITTING.
DIVIDE THE THRUST DEVELOPED (lbs force) (FROM TABLE 2) BY THE BEARING STRENGTH OF THE SOIL (FROM TABLE 1). THE RESULT IS THE AREA OF THE SOIL REQUIRED TO RESIST THE THRUST (A).
THE AREA CALCULATED WILL BE FOR THE AREA OF CONCRETE UP AGAINST THE TRENCH WALL (i.e. THE BACK SIDE OF THE BLOCK). USE THE TEST PRESSURE TO DETERMINE THE TOTAL THRUST.

AREA = THRUST DEVELOPED (lbs force) / BEARING STRENGTH OF SOIL

STATE OF VERMONT
PAUL M. BOISVERT
NO. 9016
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Stamp

No.	Description	Date

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Sheet Title: Water Details

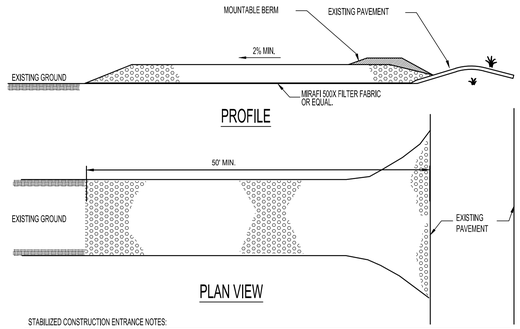
Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
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Scale:	As Noted
Date:	5/10/24

C3.4

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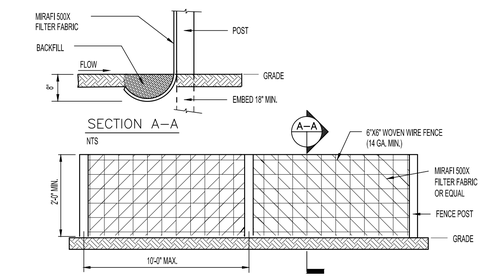


STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE 1-1/2" CRUSHED STONE.
2. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE (1)

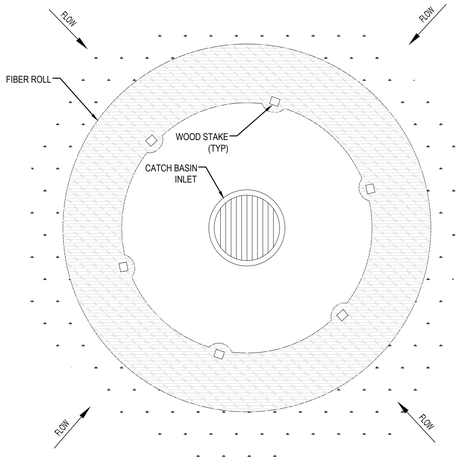


SILT FENCE NOTES:

1. SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR EQUAL, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2. CONSTRUCTED IN PLACE SILT FENCE:
   - A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
   - B. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP OF MID SECTION.
   - C. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
3. INSPECTION SHALL BE FREQUENT (MINIMUM ONCE A WEEK AND AFTER EVERY RAINFALL). MAINTENANCE SHALL BE PER-FORMED AS NEEDED, AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.

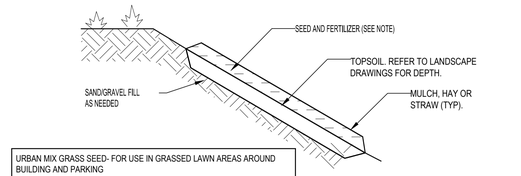
SILT FENCE DETAIL

SCALE: NONE (2)



FIBER ROLL INLET PROTECTION DETAIL

SCALE: NONE (3)



URBAN MIX GRASS SEED- FOR USE IN GRASSED LAWN AREAS AROUND BUILDING AND PARKING		
% BY WEIGHT	LBS. LIVE SEED BY ACRE	TYPE OF SEED
44.44	20.0	CREEPING RED FESCUE
44.44	20.0	KENTUCKY BLUEGRASS
11.11	5.0	RYEGRASS
100	45.0 # LIVE SEED/ ACRE	

CONSERVATION MIX GRASS SEED- FOR USE IN ALL OTHER AREAS		
% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
50	15.0	SMOOTH BROMEGRASS
16.67	5.0	RYEGRASS
33.33	10.0	BIRDSFOOT TREFOIL
100	30.0 # LIVE SEED/ACRE	

FERTILIZER- 40 LBS. PER 1000S.F.
USE STANDARD 10-20-20 WHEN NO SOIL TEST DATA IS AVAILABLE
SPRING SEEDING
FALL SEEDING

LIME- 100 LBS. PER 1000S.F.
DOLOMITIC GROUND LIMESTONE
NOT LESS THAN 85% OF THE TOTAL CARBONATE

TOP SOIL
6" MINIMUM TOPSOIL

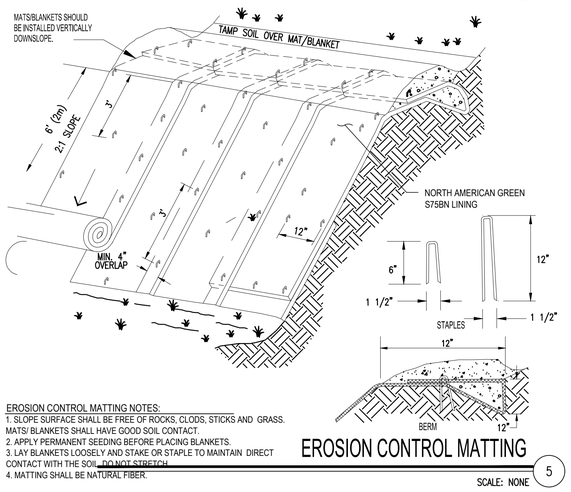
HAY OR STRAW MULCH- 90-100LBS PER 1000S.F.
APPLY BINDER OR NETTING AS NEEDED

NOTES FOR SEEDED AND MULCHED AREAS

1. ALL DISTURBED SURFACES SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED WITHIN 7 DAYS OF DISTURBANCE.
2. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.
3. MULCH: TYPICALLY HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 90-100 LBS/1,000 SF. MULCH SHALL NOT BE PLACED ON SLOPES OF GREATER THAN 3:1. SEED IMPREGNATED EROSION CONTROL NETTING SHALL BE USED IN ITS PLACE.
4. SEED: SEEDING SHALL OCCUR AFTER APRIL 15 AND PRIOR TO SEPTEMBER 15TH IN ORDER TO ESTABLISH A STAND OF GRASS PRIOR TO GROUND FREEZING. SEED SHALL BE IN ACCORDANCE WITH SEED SPECIFICATION ON THIS SHEET.
5. COVER SEED WITH $\frac{1}{4}$ INCH SOIL UNLESS A HYDROSEEDER IS USED.
6. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
7. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.

SEEDED AND MULCHED AREAS DETAIL

SCALE: NONE (4)



EROSION CONTROL MATTING NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.
MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIl. DO NOT STRETCH.
4. MATTING SHALL BE NATURAL FIBER.

EROSION CONTROL MATTING

SCALE: NONE (5)

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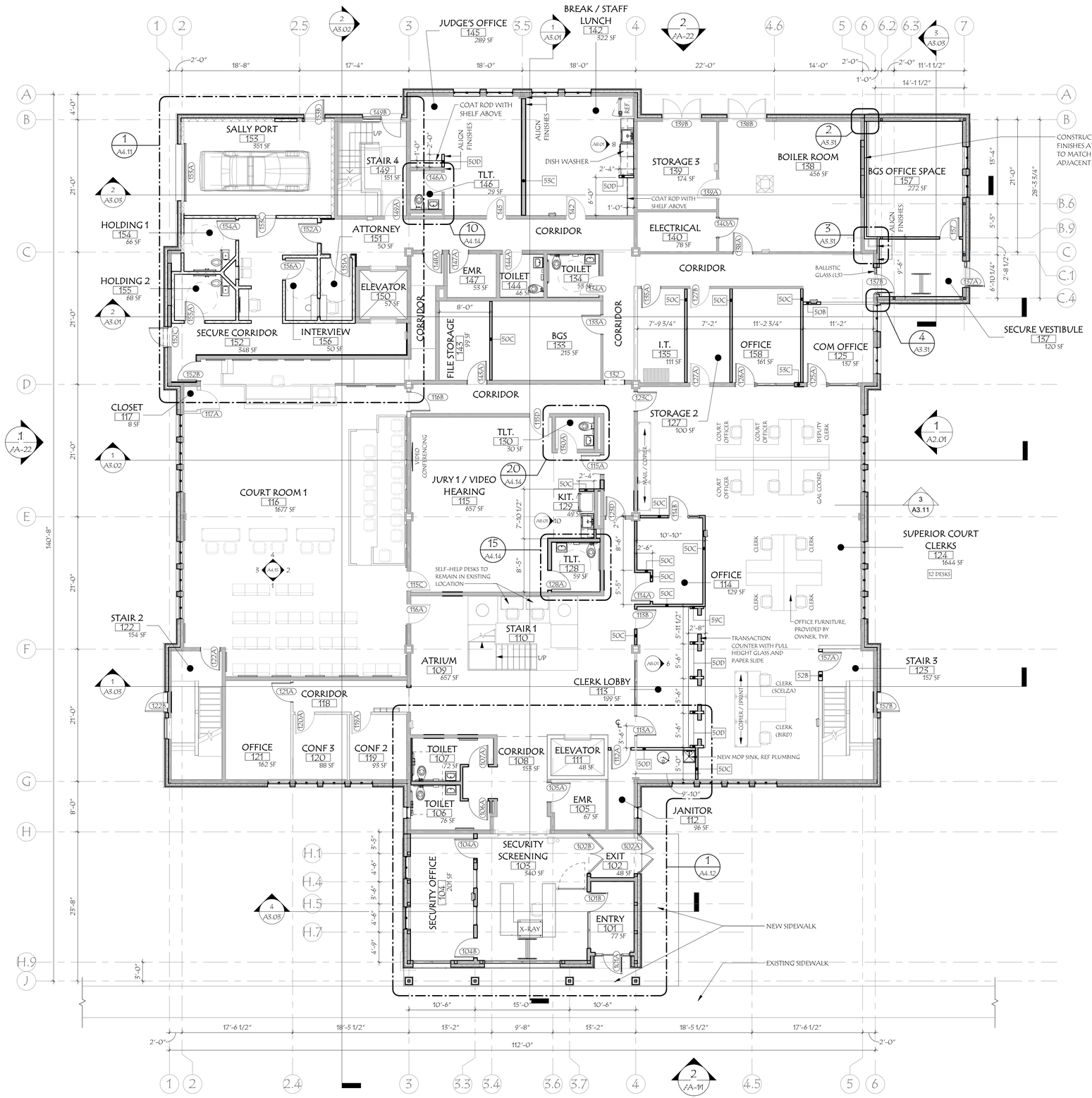
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Project Title: Windsor District Court Expansion Project
White River Junction, VT

EV Project #	22548
Drawn By:	TB
Checked By:	PB
Scale:	As Noted
Date:	5/10/24

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1 LEVEL 1 - NEW CONSTRUCTION
A1.01 1/8" = 1'-0"

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05403
802.655.5020
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wiemannlamphere.com

WINDSOR COURTHOUSE RENOVATIONS

WHITE RIVER JUNCTION VERMONT

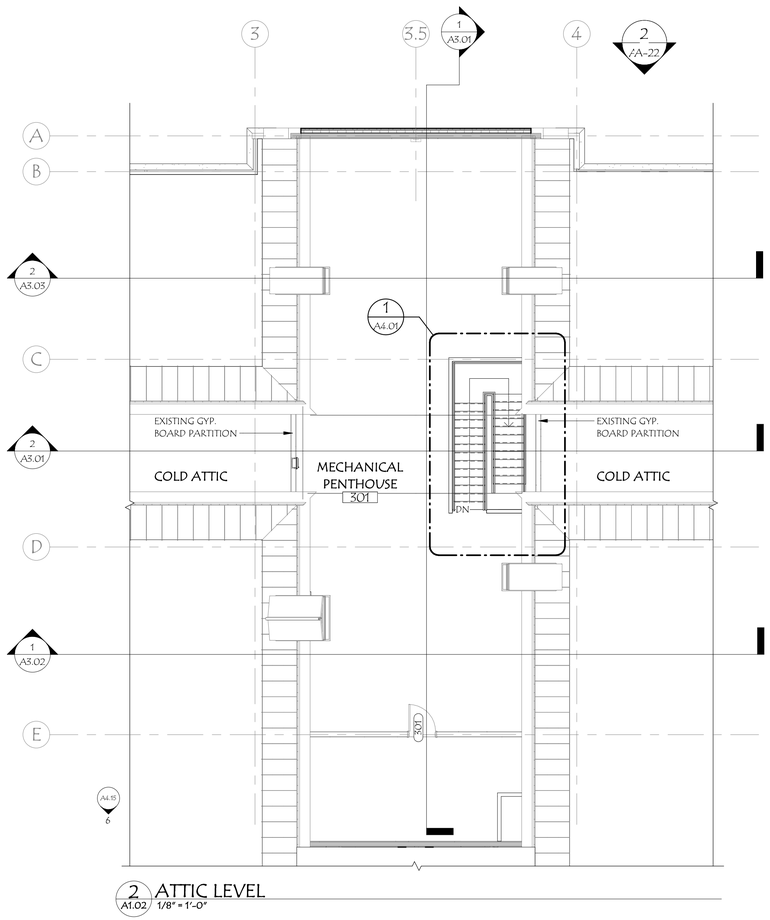
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1	05.10.24	PROGRESS SET

DATE: 05/10/2024
SCALE: 1/8" = 1'-0"
PROJECT NO: 2016059
DRAWN BY: RJH
CHECKED BY: DPR

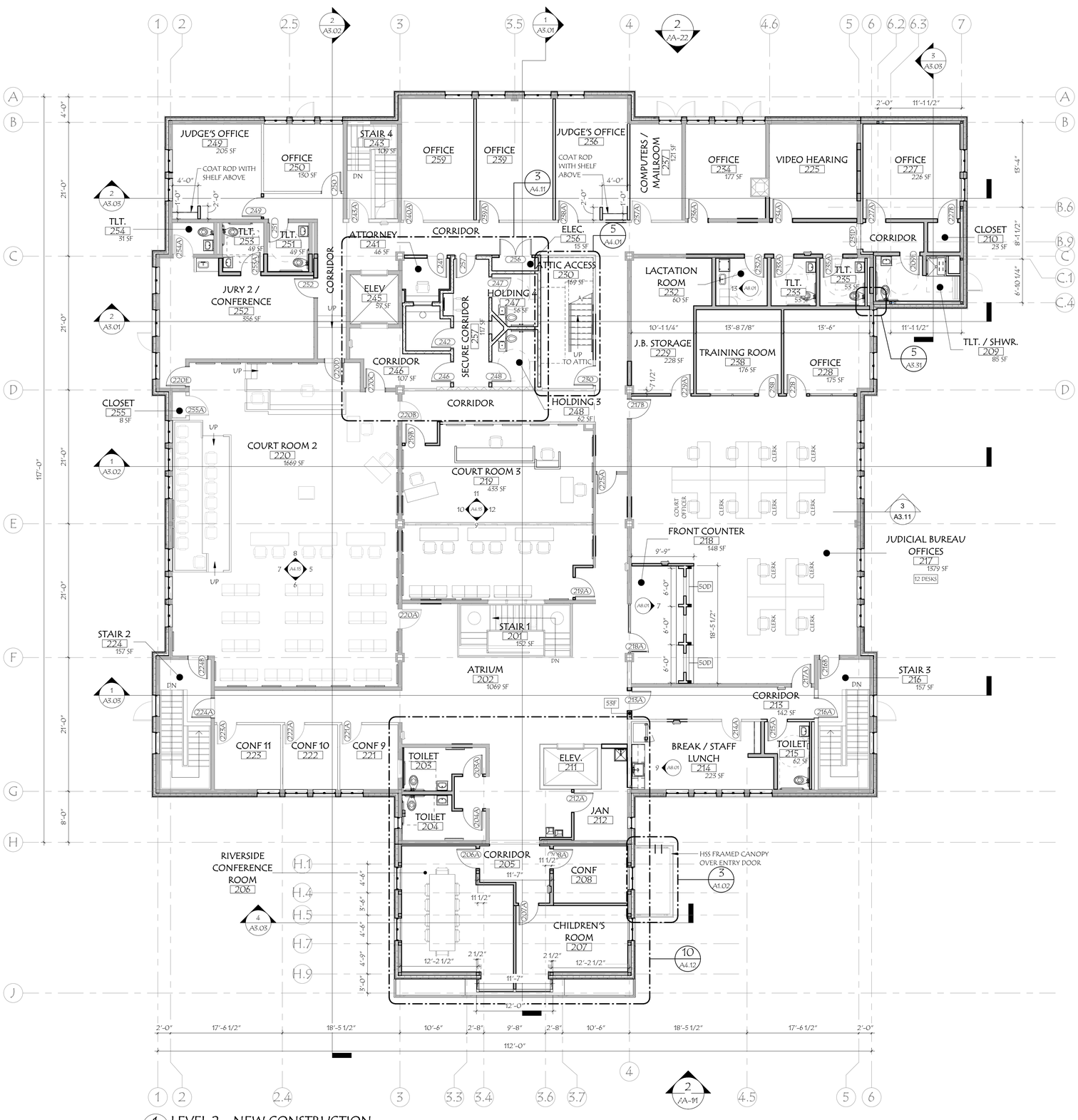
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LEVEL 1 FLOOR PLAN

SHEET NUMBER:
A1.01

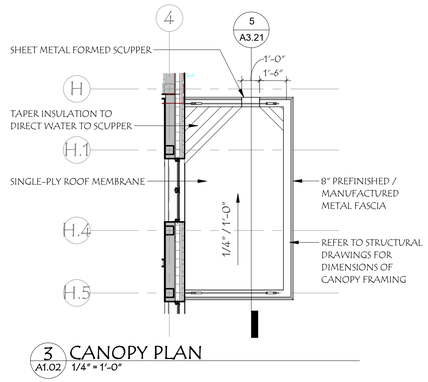
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2 ATTIC LEVEL
A1.02 1/8" = 1'-0"



1 LEVEL 2 – NEW CONSTRUCTION
A1.02 1/8" = 1'-0"



3 CANOPY PLAN
A1.02 1/4" = 1'-0"

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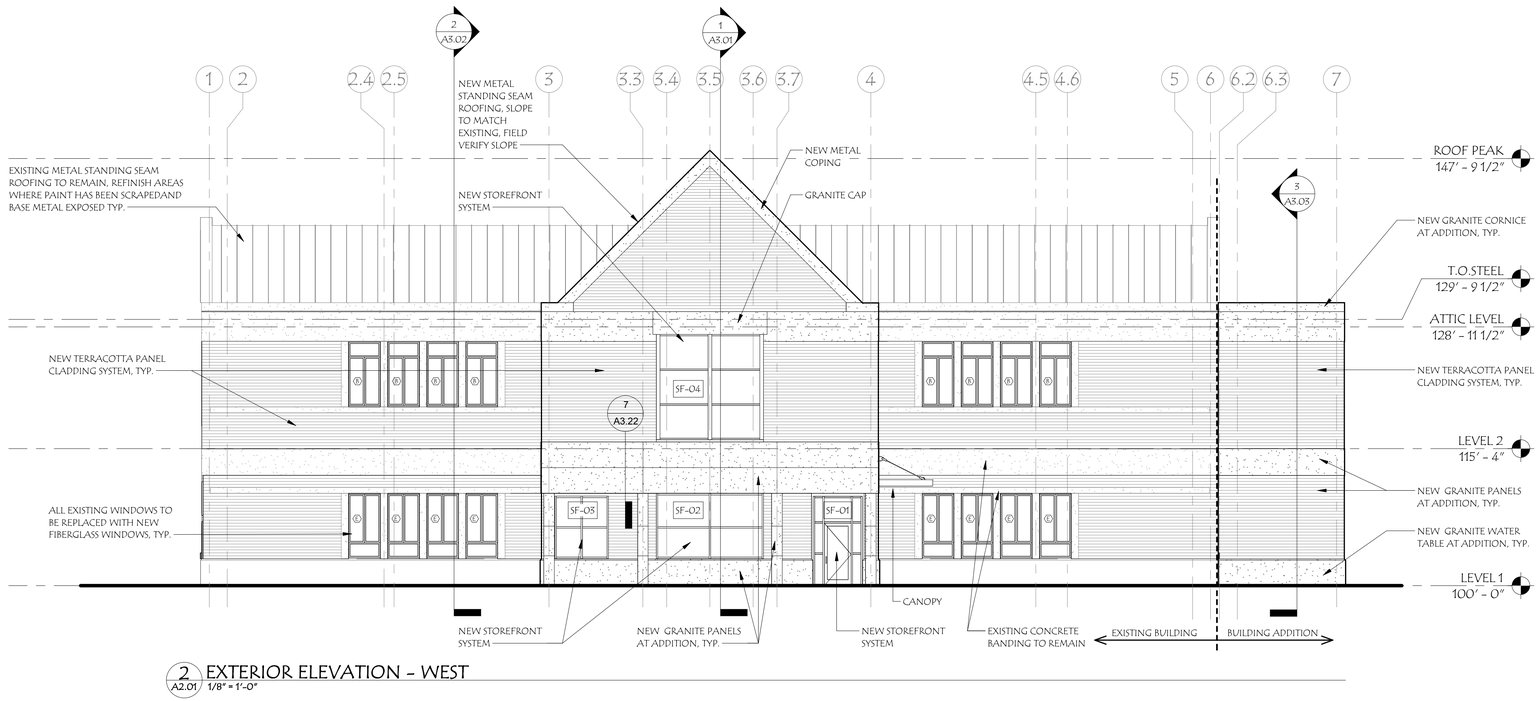
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SHEET TITLE:
LEVEL 2 FLOOR PLAN

SHEET NUMBER:
A1.02

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2 A2.01 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"



1 A2.01 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"

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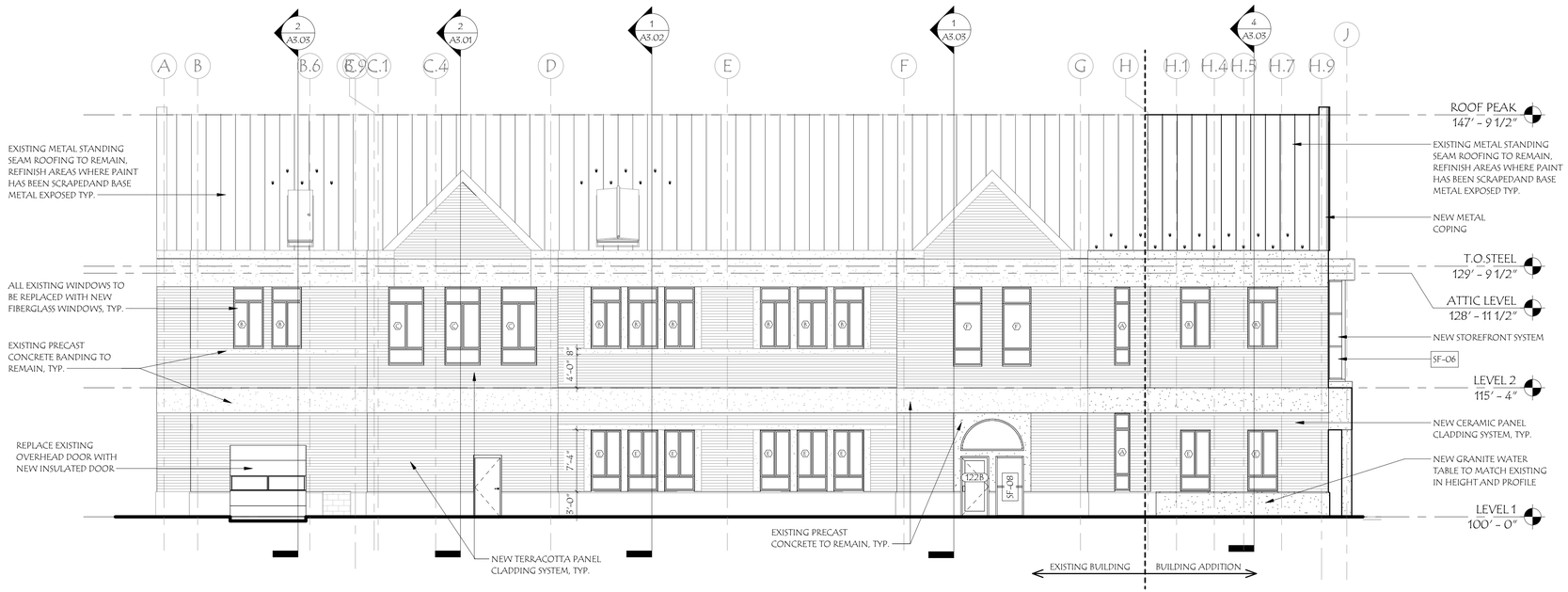
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SHEET TITLE: EXTERIOR ELEVATIONS

SHEET NUMBER: A2.01

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2 A2.02 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"



1 A2.02 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"

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WINDSOR COURTHOUSE RENOVATIONS

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1	05.10.24	PROGRESS SET

DATE: 05/10/2024
SCALE: 1/8" = 1'-0"
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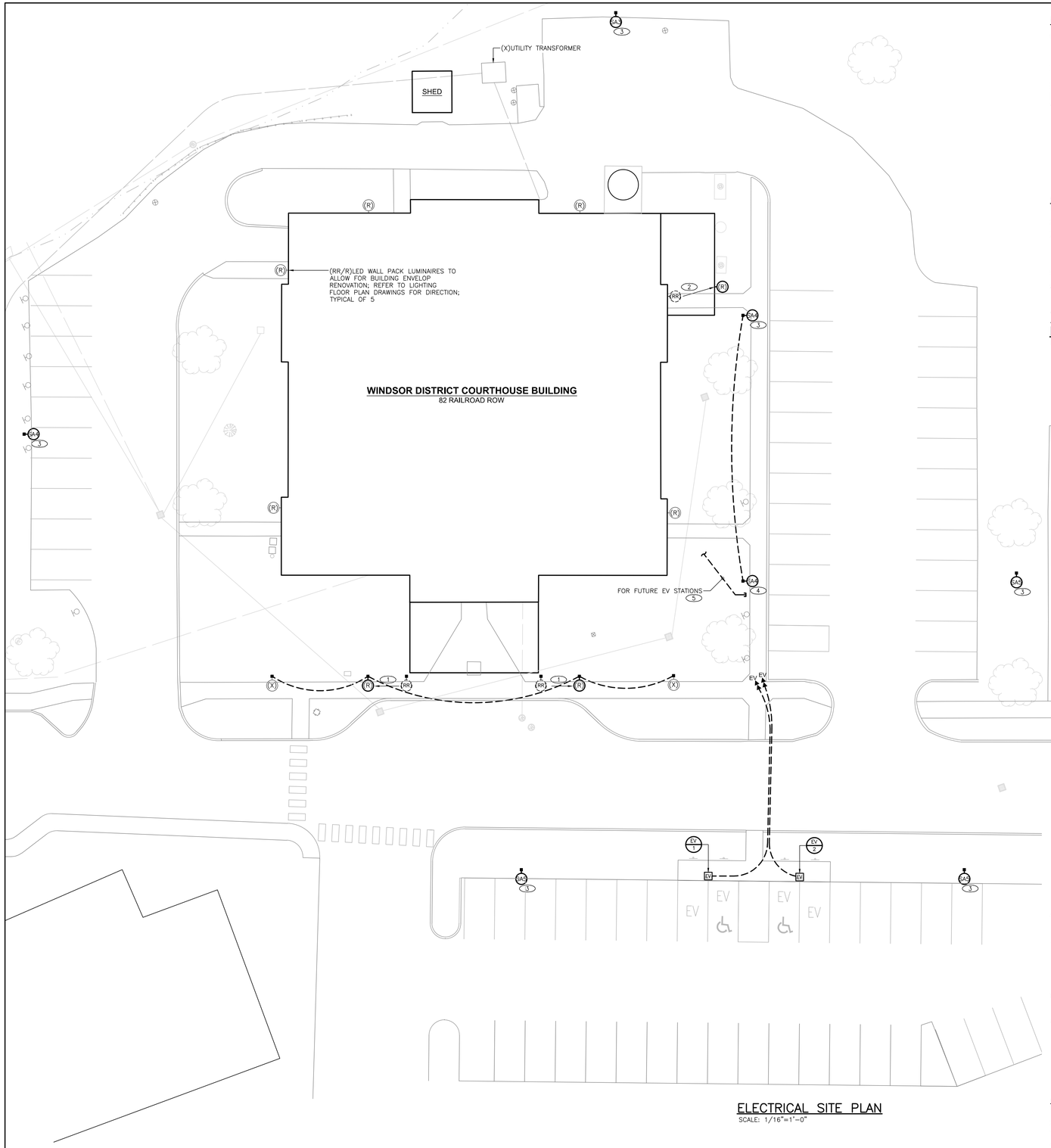
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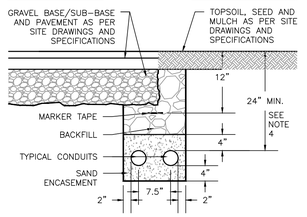
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ELECTRICAL SITE PLAN
SCALE: 1/16"=1'-0"

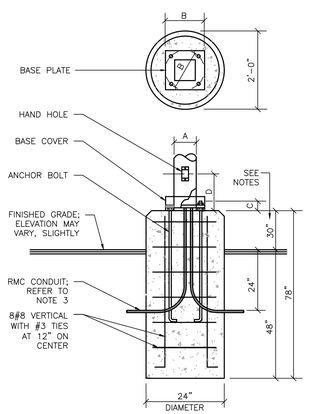
PAVED AREAS

LAWNED AREAS



NOTES:
1. DETAIL IS TYPICAL FOR ALL WIRING THAT IS NOT ELECTRICAL SERVICE POWER WIRING.
2. COMPLY WITH OSHA TRENCH PROTECTION REQUIREMENTS.
3. PROVIDE CONDUIT SPACERS/SADDLES EVERY 6 FEET.
4. BURIAL DEPTH IS SHOWN FOR DIRECT BURIAL PVC RIGID NON-METALLIC CONDUIT. WHERE SPECIFIED BURIAL DEPTH IS NOT POSSIBLE, UTILIZE GALVANIZED STEEL RIGID METALLIC CONDUIT. NOTIFY ENGINEER PRIOR TO ANY CHANGE OF WIRING METHODS.
5. CONDUIT DEPTH SHALL BE 36" TO TOP FOR CONDUITS FROM TRANSFORMER AND GENERATOR INTO THE BUILDING.
6. **DETAIL IS TYPICAL INSTALLATION; PROVIDE QUANTITY OF CONDUITS AS REQUIRED FOR THE INSTALLATION AND AS DIRECTED IN THE PLANS AND DETAILS.**

TYPICAL ELECTRICAL DUCTBANK DETAIL
NO SCALE



NOTES:
1. REFER TO LIGHT POLE MANUFACTURER FOR A, B, C AND D DIMENSIONS AND ANCHOR BOLT SIZE.
2. CONDUIT/SLEEVES IN BASE SHALL BE 1" SCHED 80 PVC.
3. PROVIDE RUBBED FINISH ON ALL EXPOSED CONCRETE SPACES.
4. CENTER BASE PLATE/ANCHOR BOLT PATTERN IN CENTER OF CONCRETE BASE.
5. CONTRACTORS OPTION TO PROVIDE PRECAST CONCRETE BASE OF SIMILAR PROPORTION IN LIEU OF SITE-BUILT CONCRETE BASE. IF PRECAST, **PROVIDE PRODUCT INFORMATION SUBMITTAL FOR APPROVAL.**

CONCRETE POLE BASE DETAIL
NOT TO SCALE

ELECTRICAL LEGEND:
REFER TO LUMINAIRE SCHEDULE FOR LUMINAIRE TYPES. REFER TO SECURITY DEVICE MATRIX ON DRAWING E5 FOR ACCESS, CONTROLS AND SECURITY SYMBOLS

PIR DT	OCCUPANCY SENSOR LIGHTING CONTROL DEVICE; REFER TO SCHEDULE
$	MANUAL SINGLE POLE LIGHTING SWITCH; 3 = 3 WAY; OC = OCCUPANCY SENSOR, PIR = PASSIVE INFRARED; DT = DUAL TECHNOLOGY; D = DIMMING, LV = LOW VOLTAGE, P = SWITCH WITH PILOT, K = KEYED SWITCH
P	PHOTOELECTRIC CONTROL SWITCH
TC	TIMECLOCK
	DUPLEX RECEPTACLE OUTLET
U	DUPLEX RECEPTACLE OUTLET WITH 2 USB PORTS
	DOUBLE-DUPLEX (QUAD) RECEPTACLE OUTLET
	GROUND FAULT PROTECTION RECEPTACLE OUTLET
	JUNCTION BOX
R	CONTROL RELAY
M	MOTOR SWITCH
	SAFETY/DISCONNECT SWITCH; PROVIDE RATINGS AND FUSES AS PER SCHEDULES
EP	EQUIPMENT CONTROL PACKAGE; FURNISHED INTEGRAL TO THE EQUIPMENT
	MOTOR
	HOMERUN TO PANEL INDICATED
	BRANCH CIRCUIT OR FEEDER WIRING
	UNDERGROUND WIRING
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR PANEL
K	FIRE FIGHTERS KEYBOX
	FIRE ALARM SYSTEM MANUAL PULLSTATION
M 30	FIRE ALARM SYSTEM AUDIO/VISUAL WITH CANDELA RATING INDICATED
30	FIRE ALARM SYSTEM VISUAL WITH CANDELA RATING INDICATED
FS	SPRINKLER SYSTEM FLOW SWITCH
TS	SPRINKLER SYSTEM TAMPER SWITCH
PS	SPRINKLER SYSTEM PRESSURE SWITCH
IM	FIRE ALARM SYSTEM INPUT MODULE
OM	FIRE ALARM SYSTEM OUTPUT MODULE
S	DUCT MOUNTED SMOKE DETECTOR
R	REMOTE SMOKE DETECTOR TEST SWITCH
S	PHOTOELECTRIC SMOKE DETECTOR
H	HEAT DETECTOR
CO	CARBON MONOXIDE DETECTOR
SCO	SMOKE/CARBON MONOXIDE COMBO DETECTOR
	DATA (LAN) DEVICE OUTLET, NUMBER INDICATES NUMBER OF CABLES
WAP	CEILING MOUNTED DATA (LAN) WIRELESS ACCESS POINT, NUMBER INDICATES NUMBER OF CABLES
DO	POWERED DOOR OPENER
HC	DOOR OPENER HANDICAP PUSH BUTTON
	SECURITY CAMERA
AFF, AFG, AFR	ABOVE FINISH FLOOR, GRADE, ROOF
WP	WEATHERPROOF WITH COVER "CLOSED" FOR RECEPTACLES; NEMA 3R FOR ENCLOSURES
AC	ABOVE COUNTER
CM	CEILING MOUNTED
TYP	TYPICAL
NTS	NOT TO SCALE
UON	UNLESS OTHERWISE NOTED
(X)	EXISTING, TO REMAIN
(RX)	REMOVE EXISTING
(RR)	REMOVE, RELOCATE
(R)	RELOCATED
(N)	NEW
(F)	FUTURE
HRU 1	MECHANICAL EQUIPMENT CONNECTION
EP 1	BUILDING EQUIPMENT CONNECTION

GENERAL NOTES:
THESE GENERAL NOTES APPLY TO ALL ELECTRICAL PLAN DRAWINGS.

1. FOLLOW ALL APPLICABLE CODES AND USE GOOD ELECTRICAL CONSTRUCTION PRACTICES WHEN DETERMINING TYPES OF WIRING METHODS AND SIZING OF CONDUCTORS AND CONDUIT. INSTALL ALL POWER, CONTROL AND SIGNAL WIRING USING METHODS AS FOLLOWS:

1.1. UNDERGROUND WIRING OR BENEATH CONCRETE SLAB: INDIVIDUAL CONDUCTORS IN SCHEDULE 40 PVC RIGID NON-METALLIC CONDUIT (RNC) FOR DIRECT BURIAL; TRANSITION TO GALVANIZED STEEL RIGID METALLIC CONDUIT (RMC) FOR SWEEPS AND WHERE CONDUIT RISES TO BE EXPOSED ABOVE GRADE OR CONCRETE SLAB, FROM A MINIMUM OF 24" BELOW FINISHED GRADE.

1.2. UNDERGROUND WIRING OR BENEATH ROAD WAY OR PARKING AREA: INDIVIDUAL CONDUCTORS IN SCHEDULE 80 PVC RIGID NON-METALLIC CONDUIT (RNC) FOR DIRECT BURIAL; TRANSITION TO GALVANIZED STEEL RIGID METALLIC CONDUIT (RMC) WHERE CONDUIT RISES TO BE EXPOSED ABOVE GRADE OR CONCRETE SLAB, FROM A MINIMUM OF 24" BELOW FINISHED GRADE.

1.3. EXPOSED EXTERIOR WIRING: INDIVIDUAL CONDUCTORS IN GALVANIZED STEEL RIGID METAL CONDUIT (RMC).

1.4. EXPOSED WIRING IN UTILITY AREAS (MECHANICAL, ELECTRICAL ROOMS, ETC.): INDIVIDUAL CONDUCTORS IN ELECTRICAL METALLIC TUBING (EMT) WITH SET SCREW FITTINGS.

1.5. CONCEALED WIRING ABOVE ACCESSIBLE CEILINGS: INDIVIDUAL CONDUCTORS IN ELECTRICAL METALLIC TUBING (EMT) WITH SET SCREW FITTINGS, METAL CLAD (TYPE MC) CABLE FIXTURE WHIPS (6' MAX).

1.6. CONCEALED WIRING IN INACCESSIBLE WALLS AND CEILINGS: INDIVIDUAL CONDUCTORS IN ELECTRICAL METALLIC TUBING (EMT) WITH SET SCREW FITTINGS AND METAL CLAD (TYPE MC) CABLE.

1.7. FINAL CONNECTIONS TO MECHANICAL/VIBRATING EQUIPMENT WILL BE MAXIMUM 4' FLEXIBLE METALLIC CONDUIT (FMC) IN DRY AREAS AND LIQUID TIGHT FLEXIBLE METALLIC CONDUIT (LFMC) IN DAMP/WET AREAS.

1.8. CONTRACTOR SHALL CONSULT WITH ENGINEER REGARDING QUESTIONS REGARDING WIRING METHODS PRIOR TO ROUGH-IN OF WIRING.

2. SERVICE AND FEEDER WIRING SHALL BE ALUMINUM CONDUCTORS, XHHW INSULATION. ALL BRANCH WIRING SHALL BE COPPER, THHN/THWN-2 INSULATION.
3. MINIMUM CONDUCTOR SIZE SHALL BE 12 AWG. PROVIDE AN INSULATED GROUND CONDUCTOR WITHIN ALL CABLES AND RACEWAYS. ALL CONDUCTORS SHALL BE COPPER, UNLESS OTHERWISE NOTED.
4. CIRCUITS SHALL BE 20A1P, (2#12, 1#12G) 1/2"C. OR CABLE, UNLESS INDICATED OTHERWISE.
4. MINIMUM 1" CONDUIT UNDERGROUND IN SITE.
5. PROVIDE AN INSULATED EQUIPMENT GROUND CONDUCTOR WITHIN ALL CABLES AND RACEWAYS.
6. ALL WIRING SHALL BE ROUTED CONCEALED AND DEVICES SHALL BE FLUSH/RECESSED MOUNTED TO THE GREATEST EXTENT POSSIBLE. WIRING IN THE UTILITY SPACES SHALL BE PERMITTED TO BE EXPOSED WHERE NO WALL FINISH EXISTS. WIRING ROUTED EXPOSED ON VERTICAL SURFACES SHALL BE ROUTED VERTICALLY; HORIZONTAL WIRING SHALL BE ROUTED AT THE CEILING LEVEL OF THESE SPACES, NOT ON THE WALLS.
7. LIFE SAFETY LUMINAIRES (EXIT SIGNS, EMERGENCY BATTERY UNITS) SHALL BE CONNECTED TO THE UNSWITCHED PORTION OF THE LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR AUTOMATIC CONTROLS.
8. ALL LIGHTING LAYOUTS SHALL BE COORDINATED WITH ARCHITECT'S REFLECTED CEILING PLANS AND EXACT LOCATION OF LUMINAIRES SHALL BE CHECKED AT CONSTRUCTION TIME AND PRIOR TO INSTALLATION WITH OTHER TRADE'S LATEST DRAWINGS AND EQUIPMENT LAYOUTS. COORDINATE LUMINAIRE TRIMS AND MOUNTING WITH CEILING CONSTRUCTION. FINAL LOCATION OF LUMINAIRES SHALL BE REASONABLY CONDUCIVE TO ACCESS BY THE OWNER FOR ROUTINE MAINTENANCE.
8. MOUNT RECEPTACLE DEVICES 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. MOUNT RECEPTACLE DEVICES SUCH THAT THEY ARE ORIENTED SO THE GROUND IS IN THE "UP" POSITION. "AC" INDICATES MOUNTING 8" OVER COUNTER BACK SPLASH, APPROXIMATELY 44" ABOVE FINISHED FLOOR.

8.1. ALL RECEPTACLES SHALL BE TAMPER-RESISTANT TYPE.

9. ALL SWITCHES AND RECEPTACLE COVERS SHALL BE LABELED WITH PANEL NAME AND CIRCUIT NUMBER USING CLEAR STICK-ON LABELS WITH BLACK CHARACTERS. LABELS SHALL BE 1/2" MINIMUM SIZE CHARACTERS. PROVIDE THIS LABELING BOTH ON THE FRONT AND THE BACKSIDE OF ALL DEVICES.
10. LABEL ALL CIRCUITS IN PULL-BOXES, JUNCTION BOXES AND SIMILAR. LABEL ENCLOSURE COVER, WITH PHENOLIC TAG OR NEATLY HANDWRITTEN INDELIBLE MARKER.
11. WHERE MECHANICAL EQUIPMENT IS INDICATED ON PLAN WITHOUT LOCAL DISCONNECT, EITHER IT IS FURNISHED WITH THE EQUIPMENT OR IS INDICATED IN THE EQUIPMENT WIRING DIAGRAM AND EQUIPMENT SCHEDULE. REFER TO MECHANICAL EQUIPMENT SCHEDULE AND WIRING DIAGRAMS FOR CONNECTIONS TO CONTROL DEVICES. WHERE MECHANICAL EQUIPMENT IS SHOWN WITHOUT HOMERUN, REFER TO PANEL SCHEDULES.

DRAWING NOTES:
THESE DRAWING NOTES APPLY TO THIS DRAWING, ONLY.

1. RELOCATE EXISTING "ACORN" POLE TO STREET LIGHT LUMINAIRES. REWORK AND EXTEND EXISTING CONTROLLED CIRCUIT LIGHTING TO NEW LOCATIONS. (2#8, 1#10G) 1"C.
2. RELOCATE LED WALL PACK LUMINAIRE, REFER TO LIGHTING CONTROL SPECIFICATION FOR CONTROLS.
3. REPLACE EXISTING POLE TOP SHOE BOX LUMINAIRE ON EXISTING POLE. CONNECT TO EXISTING LIGHTING CIRCUIT. REFER TO LIGHTING CONTROL SPECIFICATION FOR CONTROLS.
4. PROVIDE NEW POLE LUMINAIRE. POLE HEIGHT WITH 30" EXPOSED CONCRETE BASE SHALL MATCH EXISTING. REWORK AND EXTEND EXISTING WIRING FROM ADJACENT POLE TO NEW, (2#10, 1#10G) 1"C.
5. PROVIDE CONDUIT WITH PULLWIRE FOR FUTURE EV STATION FROM PANEL EV. CAP CONDUIT UNDERGROUND AND PROVIDE TRIANGULATED LOCATION OF END OF CONDUIT ON AS-BUILT DOCUMENTS.

PROGRESS SET
NOT FOR CONSTRUCTION
05/10/2024

Wiemann Lamphere ARCHITECTS
525 Hercules Drive
Suite Two
Colchester, VT 05446
802.655.5020
802.622.6567
wiemannlamphere.com

Engineering Services of Vermont, LLC
MECHANICAL-ELECTRICAL CONSULTING ENGINEERS
9 Washington Street
Rutland, Vermont 05701
Phone: 802-855-8091
www.EngineeringVermont.com

WINDSOR COURTHOUSE RENOVATIONS
WHITE RIVER JUNCTION VERMONT

#	DATE	REVISION DESCRIPTION

DATE: 05.10.2024
PLAN NORTH
SCALE: As Indicated
PROJECT NO: ESVT No. 16130
DRAWN BY: ESVT
CHECKED BY: CPB

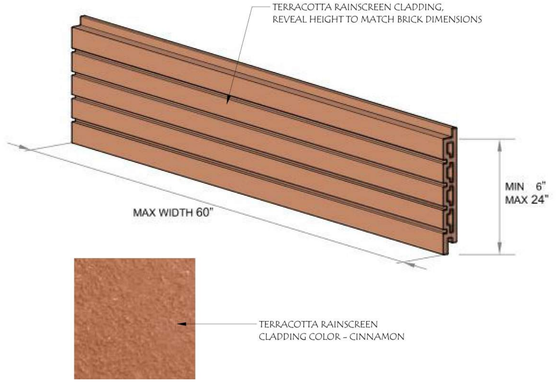
SHEET TITLE: ELECTRICAL SITE PLAN

SHEET NUMBER: E3

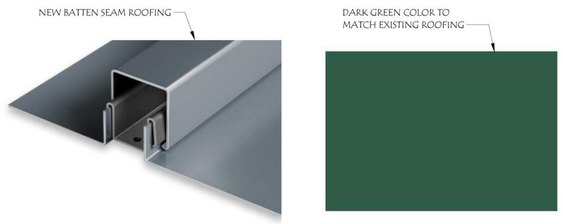
All reports, drawings, specifications, computer files, field data, notes and other documents and instruments prepared by the Consultant as instruments of service shall remain the property of the Consultant. The Consultant shall retain all common law, statutory and other reserved rights, including the copyright thereto.
Ownership of Instruments of Service
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MATERIALS LEGEND

TERRACOTTA CLADDING

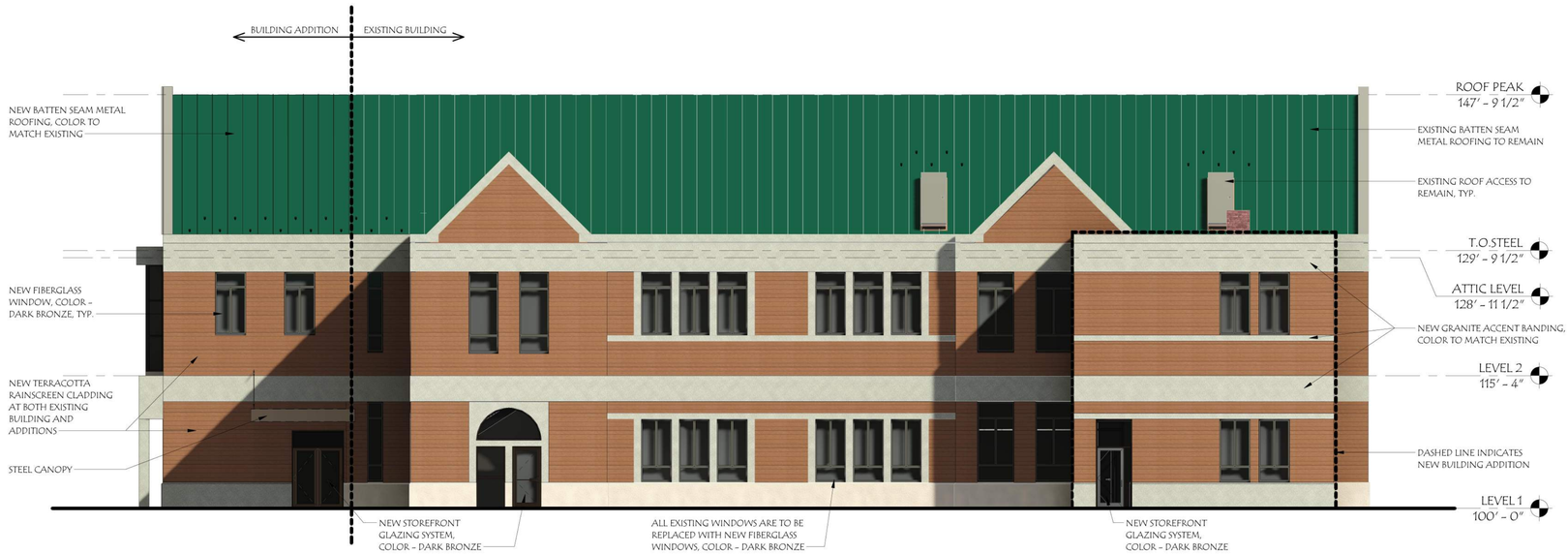


BATTEN SEAM ROOFING



STOREFRONT WINDOWS AND ENTRIES





1 A-1 ZONING ELEVATION - SOUTH
1/8" = 1'-0"



2 A-1 ZONING ELEVATION - WEST
1/8" = 1'-0"

WINDSOR COURTHOUSE RENOVATIONS

82 RAILROAD ROW
WHITE RIVER JUNCTION, VT

ZONING ELEVATIONS

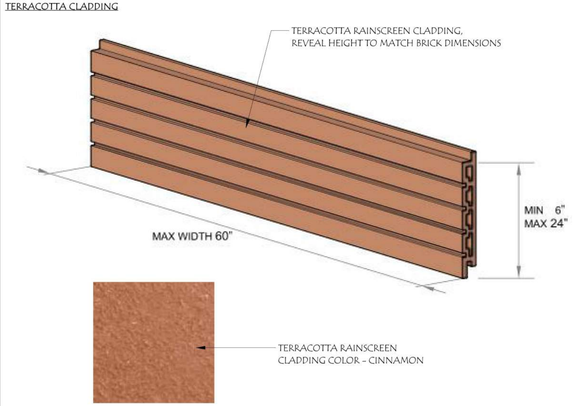
01/02/2023

Wiemann Lamphere ARCHITECTS

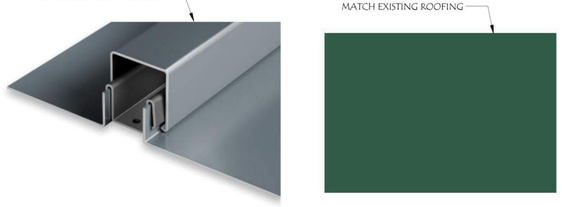
All reports, drawings, specifications, computer files, field data, notes and other documents and instruments prepared by the Consultant as instruments of service shall remain the property of the Consultant. The Consultant shall retain all common law, statutory and other reserved rights, including the copyright thereto.
Ownership of Instruments of Service
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MATERIALS LEGEND

TERRACOTTA CLADDING



BATTEN SEAM ROOFING



STOREFRONT WINDOWS AND ENTRIES





1 A-2 ZONING ELEVATION - NORTH
1/8" = 1'-0"



2 A-2 ZONING ELEVATION - EAST
1/8" = 1'-0"

WINDSOR COURTHOUSE RENOVATIONS

82 RAILROAD ROW
WHITE RIVER JUNCTION, VT

ZONING ELEVATIONS

Wiemann Lamphere ARCHITECTS

01/02/2023

VERMONT

Department of Buildings and General Services
Design and Construction Division
133 State Street, 5th Floor
Montpelier, VT 05633-5801

Agency of Administration

[phone] 802-828-3519

May 20, 2024

Town of Hartford
171 Bridge Street
White River Junction, VT 05001

Attn: Jo-Ann Ells, Zoning Administrator

Re: Windsor District Court Renovation, 82 Railroad Row

Dear Ms. Ells:

I appreciated your assistance at our meeting on May 6, 2024, which allowed our project team to introduce themselves and to discuss the proposed Windsor District Court Renovation project at 82 Railroad Row.

Wiemann Lamphere Architects is the firm under contract with the Department of Buildings and General Services and is assisting with the design, permitting, and construction of the project.

The Windsor District Court Renovation project will consist of the following:

1. Energy improvements to comply with present day energy code: new roofs, windows, doors and replace the existing brick siding, with terracotta tile, to correct the water infiltration issues and increase the insulation value.

2. Replace the heating, ventilation and air conditioning systems: replace the oil-fired boilers with wood pellet boilers, with an exterior silo on the rear of the building, replacement of the rooftop chiller and air handlers in the building.

3. Construct two new entrances: The front entrance is being increased for additional security screening of the public. The side entrance creates a secure vestibule and additional office space.

4. Site work: replace the existing sidewalks to improve accessibility, heated walks at the new entrances to limit the use of salt. The addition of three electric vehicle parking spaces. Correct stormwater issues for better draining of the parking lot.

For the Planning Commission meeting I have enclosed the following:

1. State of Vermont 895680 made out in the amount of $220.00 to the Hartford Town Treasurer
2. Planning Commission and Zoning Board of Adjustment application for the referenced project and property
3. Drawings
   A. C1.1 Existing Conditions and Demolition Plan
   B. C2.1 Site Utility and Layout Plan
   C. C2.2 Grading Plan
   D. C3.1 Site Details
   E. C3.2 Sidewalk and Curb Details
   F. C3.3 Stormwater Details
   G. C3.4 Water Details
   H. C3.5 EPSC Details
   I. A1.01 Level 1 Floor Plan
   J. A1.02 Level 2 Floor Plan
   K. A2.01 Exterior Elevations
   L. A2.02 Exterior Elevations
   M. E3 Electrical Site Plan

For your information and pursuant to State law, the Town's review of this project is limited to the specific aspects as set forth in 24 V.S.A. § 4413 (a)(1) which states:

> *" The following uses may only be regulated with respect to location, size, height, building, bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping and screening requirements, and only to the extent that regulations do not have the effect of interfering with the intended functional use."*

The Vermont Department of Public Safety, Division of Fire Safety (DFS), has entered into cooperative inspection agreements with the Town of Hartford; however, this agreement does not apply to state owned buildings (for which DFS retains jurisdiction). DFS will perform all inspections and issue a Certificate of Occupancy.

That said, we encourage you to bring forward any urgent concerns you may have for discussion. The State of Vermont strives to be a good neighbor and we are committed to arriving at mutually agreeable solutions to any areas of difference.

While the State is not subject to local permitting fees, we are aware of permitting expenses incurred locally and have enclosed a $220.00 application fee. Please note that this payment does not constitute a waiver of the State's exemption from permitting fees and any remaining provision of the Town's fee schedule would be inapplicable.

I look forward to presenting this project to you and the Planning Commission. Should you have any questions or concerns before then, please do not hesitate to contact me at Sherilyn.lafley@vermont.gov or 802-505-0681.

Sincerely,

Sherilyn Lafley

Sherilyn Lafley,
Project Manager

Copy: Joe Aja, Director of Design and Construction Division
Lauren Washburn, Program Chief of Design and Construction Division

VERMONT

Department of Buildings and General Services
Design and Construction Division
133 State Street, 5th Floor
Montpelier, VT 05633-5801

Agency of Administration

[phone] 802-828-3519

May 28, 2024

Town of Hartford
171 Bridge Street
White River Junction, VT 05001

Attn: Jo-Ann Ells, Zoning Administrator

Re: Windsor District Court Renovation, 82 Railroad Row

Dear Ms. Ells,

Below is the information relating to your memorandum dated May 23, 2024, as requested for the proposed Windsor District Court Renovation project at 82 Railroad Row.

1. Please provide a narrative of the proposed stormwater improvements.

   Two existing catch basins are not functioning as they should, so the basins and associated piping are being demolished. New catch basins and piping are being installed in the southern (employee) parking lot to improve drainage in that parking lot. The project proposes 1,550 sf of new impervious surface. This increase falls well below the 5,000-sf expansion threshold in the state stormwater regulations that would require a state stormwater application. Please note that this narrative does not constitute a waiver of the State's exemption under 24 V.S.A. § 4413.

2. Please acknowledge that you understand that construction of the project must comply with Section 260-31 B of the Hartford Zoning Regulations, which states:

   Earth moving and hauling, rock drilling or crushing, jack hammer and similar excessively loud equipment shall not be operated on Sundays or between the hours of 5:30 p.m. and 7:00 a.m. except in emergency situations.

   Acknowledged

3. During initial meetings regarding this application, it was mentioned that you would be pursuing a geothermal heating system and I see that several geothermal test holes were dug. Can you share why you are proposing wood pellet boilers instead?

   Three geothermal test holes were dug and tested to determine the number of wells that would be needed to heat the building. The test results showed that more wells were

needed than the engineer predicted. The State performed a life cycle cost analysis that compared a pellet boiler with chiller and the geothermal system. The cost analysis determined after a 30-year period the pellet boiler with a chiller was less expensive than the geothermal system..

4. Please send me a single email with all application materials, including your response to this memo.

   Sent on May 29, 2024.

5. Please submit 14 copies of all application materials, including your response to this memo. Please staple and fold all of the plans. 11” x 17” plans are acceptable as long as they are legible.

   Provided

Sincerely,

Sherilyn Lafley

Sherilyn Lafley,
Project Manager

Copy: Joe Aja, Director of Design Construction Division
Lauren Washburn, Program Chief of Design and Construction Division

VERMONT

Department of Buildings and General Services
Design and Construction Division
133 State Street, 5th Floor
Montpelier, VT 05633-5801

Agency of Administration

[phone] 802-828-3519

May 21, 2024

Town of Hartford
171 Bridge Street
White River Junction, VT 05001

Attn: Jo-Ann Ells, Zoning Administrator

Re: Windsor District Court Renovation, 82 Railroad Row

Dear Ms. Ells,

Below is the information relating to section 260-46 Design Review District as requested for the proposed Windsor District Court Renovation project at 82 Railroad Row.

(9) **Application requirements**. In addition to the submittal requirements of § 260-45, any application for construction, reconstruction, alteration, or demolition of any building in the Downtown White River Junction Design Review District shall include the following:

(a) Narrative describing the project:

The Windsor District Court Renovation project will consist of the following:

1. Energy improvements to comply with present day energy code: new roofs, windows, doors, and replace the existing brick with ceramic tile to correct water infiltration issues and increase the insulation value.

2. Replace the heating, ventilation, and air conditioning systems: replace the oil-fired boilers with wood pellet boilers, with an exterior silo on the rear of the building, replacement of the rooftop chiller and air handlers in the building.

3. Construct two new entrances: The front entrance is being increased for additional security screening of the public. The side entrance creates a secure vestibule and additional office space.

4. Site work: replace the existing sidewalks to improve accessibility, heated walks at the new entrances to limit the use of salt. The addition of three electric vehicle parking spaces. Correct stormwater issues for better draining of the parking lot.

(b) Description of materials to be used on the exterior of the building;

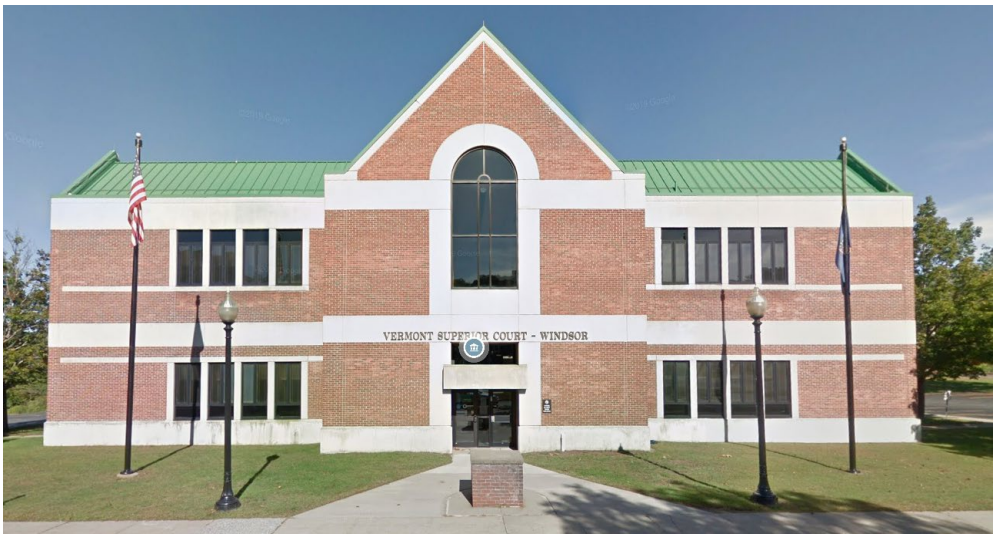
N/A under 24 V.S.A. § 4413

(c) Proposed architectural elevations (prepared by an architect registered in the State of Vermont) showing door and window types, shutters and other exterior details;

This was included in the application to planning commission &/or zoning board of adjustment.

(d) Color photographs of the subject building;

Existing Photos:







Renderings are attached separately.

(e) Color photographs of existing buildings on adjacent or nearby properties to illustrate the existing streetscape;




RSG
Google


NORWICH
SOLAR TECHNOLOGIES



(f) Site plan; and

This was included with the application to planning commission &/or zoning board of adjustment.

(g) Any additional information which may be requested by the DRC or the Planning Commission as necessary for a clear understanding of the proposal, including scale models or other three-dimensional analyses.

Nothing additional to include.

(10) **Diversity of design.** These regulations recognize the value of diversity in design solutions based on a wide variety of architectural styles and design philosophies, without imposing a particular aesthetic value or prohibiting the introduction of new forms into the built environment, provided these are consistent with the intent of this district.

N/A under 24 V.S.A. § 4413

(11) **Design criteria**. In making a determination on an application, the Design Review Committee and Planning Commission shall give consideration to the White River

Junction Design Plan and White River Junction Design Guidelines and the following criteria:

(a) The way in which the project preserves and/or enhances the integrity of the historic architecture of the downtown and the specific buildings.

N/A under 24 V.S.A. § 4413

(b) The way in which the project uses historically appropriate or compatible materials where possible in rehabilitation and new construction projects.

N/A under 24 V.S.A. § 4413

(c) The way in which the project respects existing setbacks, scale and massing when developing a new building or addition.

N/A under 24 V.S.A. § 4413

(d) The way in which the project employs appropriate lighting patterns and levels that reflect use, safety and security.

Minor changes in lighting due to realignment of the existing light poles to account for the addition.

(e) The way in which the project implements streetscape elements on a building-by-building basis.

N/A under 24 V.S.A. § 4413

(f) The way in which the project preserves the landscape, including existing terrain, trees and vegetation to the extent feasible.

No change, except for replacement of an invasive species with a non-invasive species.

(g) The way in which the project promotes accessibility and rear access from parking areas to commercial buildings.

No proposed changes.

(h) The way in which the project provides efficient and effective vehicular and pedestrian circulation.

No proposed changes.

(i) The way in which the details being proposed for the building, including window, door, and trim, are compatible with the existing and adjacent buildings' historic and design qualities.

N/A under 24 V.S.A. § 4413

Sincerely,

Sherilyn Lafley

Sherilyn Lafley,
Project Manager

Copy: Joe Aja, Director of Design Construction Division
Lauren Washburn, Program Chief of Design and Construction Division

DRAFT
Meeting Minutes
Hartford WRJ Design Review Committee
May 30, 2024

Present: Denise Welch-May, Jonathan Schechtman, Larson Burns, Sara Ferguson, and Jo-Ann Ells, Zoning Administrator

Denise opened the meeting by reading the hybrid meeting script and taking a roll call.

1. Application by the State of Vermont for Design Review Approval for additions and exterior improvements to the Windsor District Court lot 46-0024-001, 82 Railroad Row, White River Junction, in CB and Design Review Districts.

Joe Aja, Director, Design & Construction Division, Buildings & General Services and Sherilyn Lafley, Project Manager**,** Design & Construction Division were present.

Jo-Ann Ells explained that pursuant to State law, the Town's review of this project is limited by 24 V.S.A. § 4413 (a)(1) which states:

> *" The following uses may only be regulated with respect to location, size, height, building, bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping and screening requirements, and only to the extent that regulations do not have the effect of interfering with the intended functional use."*

Sherilyn gave a general overview of the project.

Joe reviewed the proposed change to the face of the building from brick to terracotta tile and the changes to the heating system.

The elevation plans were reviewed.

Jonathan asked if the roof would be replaced. Joe confirmed it would.

Joe clarified that the existing granite on the building would be retained.

There was a discussion regarding the dimension of the additions.

Joe noted that the rooftop chiller would be replaced with a smaller unit.

Landscaping and EV parking spaces were reviewed.

Sara moved to recommend approval to the Planning Commission. Denise seconded, and the motion passed unanimously.

Administrative Matters

Denise moved to approve the minutes of October 26, 2023. Larson seconded, and the motion

passed.

At 5:35p.m., Larson moved to adjourn the meeting. Denise seconded, and the meeting was adjourned.

Members of the Design Review Committee are as follows:

Chair, Denise Welch-May 4/15/27
Vice Chair, Jonathan Schechtman 03-07-25
Sara Ferguson 10-04-24
Anita Hamalainen 11-15-24
Larson Burns 08-22-25

Memorandum

To: Joe Aja, Sherilyn Lefley, and Lauren Washburn

Cc: Dana Clawson, Hartford Environmental Sustainability Coordinator

From: Jo-Ann Ells, Hartford Zoning Administrator

Date: May 23, 2024

Re: Windsor District Court Additions/Improvements

Please submit a response to the following comments/questions on your application for improvements to the Windsor District Court before **9:00 a.m., Thursday, May 30, 2024.** If you are unable to meet this deadline, please contact me as soon as possible to discuss the deadline to have your application heard at the next round of Public Hearings.

Prior to the Planning Commission and Zoning Board of Adjustment Hearings, you will receive an agenda, draft Findings of Fact, and additional staff comments if there are any. Please feel free to contact me at any time during this process.

1. Please provide a narrative of the proposed stormwater improvements.

2. Please acknowledge that you understand that construction of the project must comply with Section 260-31 B of the Hartford Zoning Regulations, which states:

   > Earth moving and hauling, rock drilling or crushing, jack hammer and similar excessively loud equipment shall not be operated on Sundays or between the hours of 5:30 p.m. and 7:00 a.m. except in emergency situations.

3. During initial meetings regarding this application it was mentioned that you would be pursuing a geothermal heating system and I see that several geothermal test holes were dug. Can you share why you are proposing wood pellet boilers instead?

4. Please send me a single email with all application materials, including your response to this memo.

5. Please submit 14 copies of all application materials, including your response to this memo. Please staple and fold all of the plans. 11” x 17” plans are acceptable as long as they are legible.

DRAFT
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND
DECISION

HARTFORD PLANNING COMMISSION

Application #24-01 by Guernsey Ruth Hall Revocable Trust and Summit Distributing for Site Development Plan Approval for approval of a car wash lot 44-0041-000, Sykes Mountain Avenue White River Junction, in an IC zoning district

This decision pertains to Application #24-01 by Guernsey Ruth Hall Revocable Trust (owner) and Summit Distributing (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of a car wash, lot 44-0041-000, Sykes Mountain Avenue, White River Junction, in an IC zoning district.

FINDINGS OF FACT

Based upon the information contained in the exhibits for this application (see attached list) and the evidence adduced at the Planning Commission meetings of April 15, 2024 and June 24, 2024 the Hartford Planning Commission makes the following Findings of Fact:

General Information

1. The owner of record of 44-0041-000 is the Guernsey Ruth Hall Revocable Trust who acquired the lot on 06-18-14. The deed is recorded in volume 502, page 124 of the Hartford Land Records.

2. The lot is approximately 1.165 acres.

3. The lot is developed with a parking lot.

4. The lot is a class 1 lot.

5. The lot is in an IC zoning district.

This Application

6. The applicant proposes to develop a car wash on the lot including a 100 ft long car wash tunnel with two prepaid stations and eleven (11) vacuum spaces.

7. The applicant submitted a Trip Generation and Site Access Study. The applicant will comply with the following as recommended in the study:

> Proposed plantings, vegetation, landscaping, and signing along the site frontage be kept low to the ground (no more than 3.0 feet above street level) or set back sufficiently from Sykes Mountain Avenue so as not to inhibit the available sight lines.

(See exhibit #11)

8. The applicant submit an Environmental Sound Study prepared by Aaron Farbo of Cavanaugh Tocci.

A review of this study was conducted by Edward Duncan of Paxwood Acoustics on behalf of the Town.

To mitigate noise, the applicant will:

- Install prototype silencers on the intake-side of the dryer blowers in the car wash.
- Install a wooden sound barrier.

(See exhibit #5)

9. The Zoning Regulations do not include a calculation for the number of parking spaces for a car wash. Therefore, the Planning Commission determines the number of required parking spaces.

The applicant proposes 12 parking spaces including one accessible parking space.

10. The applicant has provided a landscaping plan including a mixture of trees, shrubs and perennials. According to the applicant, approximately 50% of the existing treed area will remain.

To ensure landscaping is maintained in a healthy condition, the applicant will hire a property maintenance company to maintain the landscaping.

11. There is an existing 8’ high wooden stockade fence alongside a portion of the western boundary line installed by a previous owner of adjacent lot 44-0040-000.

As noted above, the applicant proposes to install an 8-foot high wooden sound barrier running along the north and west sides of the property.

According to the applicant, the barrier will block vehicular headlights because "Vehicular headlights must be between 2 ft to 4 ½ ft off the ground. The highest elevation of the pavement is 546 and the ground at the bottom of the fence adjacent to the pavement is 546; therefore, the top of the fence will be at elevation 554. Headlight height ranges would be between 548 and 550.5."

12. According to the applicant, the site will be accessed from adjacent Lot 44-0038-000 from either the retail motor fuel outlet or the driveway from Sykes Mountain Highway. The drive aisle in front of the site will maintain a two-way traffic flow to allow customers to access the vacuums, enter the car wash queue, or exit the car wash. There are two pay stations proposed for the car wash, paid car washes will most likely be recognized by license plates, so customers can leave the queue and use the vacuums to the rear of the site or continue to the car wash tunnel. The site has the capacity to queue 18 vehicles from the pay stations. The striped area to the rear of the site has been provided to allow trash trucks, maintenance trucks, and the Town's ladder truck to maneuver around the rear of the site. The one-way bypass is provided to allow these vehicles to leave the site.

Should the need arise, it is anticipated that available on-site staff will be able to facilitate with overall operational/traffic flow assistance.

If a customer decides to leave the wash queue after already being in line, that will occur after passing through the pay station, where there would be sufficient room to bypass.

There is sufficient room for a vehicle existing the vacuums in the front of the lot to complete a turning maneuver from those spots and exit the site with the proposed 24-foot wide drive aisle that is wide enough to accommodate two-way traffic.

Our general experience has demonstrated that this layout is fairly typical for the size and type of use that is proposed. In addition, there are no sight line restrictions between the front parking spaces, the exit from the car wash, or the full access/egress driveway.

Regarding merging of lanes/vehicles before the wash tunnel, this layout and operational component (two or more payment stations merging into a single-file line for service) is typical for the proposed use, and is intended to lessen the overall queue length, as it's spread out over multiple pay stations.

Regarding the ability of vehicles to merge back into the wash lane after using the rear vacuums, there is sufficient width to bypass vehicles in queue for the wash tunnel, and egress to the abutting property (Map 44/Lot 38) utilizing the northerly exit-only driveway. Should a customer decide to wash (or re-wash) their vehicle after utilizing

the rear vacuum stations, there are no prohibitions restricting re-entry to the site via the full- access southerly driveway.

13. The applicant submitted turning movement plans for a ladder truck and trash hauler. (See exhibit #2)

    According to the applicant, the site has been designed to allow for a fire apparatus around the building. In the case of an emergency, emergency vehicles can access the site through the outer pay station lane, through the proposed bypass lane, or park within the loading zone on the adjacent property.

14. The applicant submitted a photometric plan. (See exhibit #2)

    The applicant understands that lighting must not create excessive off-site or sky glow. If the Zoning Administrative Officer determines that lighting does not meet this condition, the applicant will be required to comply.

15. The applicant proposes to install an enclosed dumpster at the rear of the site for use by the employees of car wash and the convenience store on adjacent lot 44-0038-000. In addition, trash receptacles will be available at the vacuum spaces for customers.

    The applicant will have trash removal restricted to daylight hours.

16. Hours of operation for the car wash are proposed to be 7:00 a.m. to 8:00 p.m., seven days a week.

    The 5 vacuums in the rear of the lot will turn off at 8:00 p.m. The applicant will install a sign with this information.

17. The applicant proposes 2-3 employees on site at any given time.

18. The applicant will display an 800 number for people to call with concerns.

19. The car wash will be connected to municipal water and sewer. Connections will be coordinated with the Hartford Department of Public Works (DPW).

20. Before construction commences, the applicant will schedule a preconstruction meeting with the DPW and will contact the DPW at least two weeks before they want to hold this meeting.

    The applicant understands that if the meeting with the DPW results in any revisions to the approved plans, they must contact the Zoning Administrator to discuss amending their permit.

21. According to the applicant, "stormwater runoff currently sheet flows over the existing pavement and flows toward Lot 44-55 and to the Right of Way of Sykes Mountain Avenue. As part of the redevelopment, a stormwater management system has been designed which includes deep sump catch basins with oil/water separator hoods, First Defense hydrodynamic separators and an underground stormwater detention system. Trench drains provided within the car wash tunnel will capture used car wash water and direct it to the reclamation system."

    In addition, "Concrete curbing is proposed throughout the site to direct runoff to a series of catch basins that ultimately drains to the existing municipal drainage network. Per the Stormwater Report, there is no increase in runoff to existing design points. There will be no damage to other properties or any erosion of topsoil."

    "The snow storage area to the north of the vacuum area has been depressed to collect snow storage melt. In addition the area between the fence and the pavement has been graded to flow toward the onsite closed drainage system."

22. According to the applicant, to prevent surface icing from vehicles exiting the wash, trench drains within the tunnel will capture wasted water from washings and direct the water to the reclaim system. The area adjacent to the tunnel exit has been graded to direct stormwater runoff to two proposed catch basin. In addition, the concrete aprons at the entrance and exit of the tunnel will be heated.

23. Snow will be stored on site and will be removed as needed. Snow will not be stored in such a manner as to create a hazard.

24. The applicant understands that any stockpiling of materials related to the construction of the project must be located twice the distance of the height of the stockpiled materials from any public or private right-of-way or property boundary.

25. During construction of the project, erosion and sediment control measures as specified in the most current edition of the *Low Risk Site Handbook for Erosion Prevention and Sediment Control* published by the Vermont Department of Environmental Conservation will be followed.

26. The applicant understands that construction of the project must comply with the following:

    > Earth moving and hauling, rock drilling or crushing, jack hammer and similar excessively loud equipment shall not be operated on Sundays or between the hours of 5:30 p.m. and 7:00 a.m. except in emergency situations.

27. The applicant understands that no structure, including construction/office trailers, signage, parking spaces or plantings may be placed in such a way that obstructs sight

distance along the traveled way, at any intersection or driveway. Any signs, parking spaces or plantings found to obstruct sight distance will be required to be relocated.

28. The applicant retains the obligation to identify, apply for, and obtain relevant local and state permits for this project.

29. The applicant understands that all activities authorized by the issuance of the zoning permit shall be started within six (6) months and completed within two (2) years of its date of issue, or the zoning permit shall become null and void and reapplication to complete any activities shall be required. Any activities not completed within the above permit period shall be subject to any ordinance in effect at the time of reapplication. One six (6) month extension to both time periods may be granted by the Planning Commission.

28. The applicant understands that they must obtain a Certificate of Occupancy from the Zoning Administrative Officer upon completion of the project and before the site may be occupied. The applicant understands that a Certificate of Occupancy will not be issued if the project is not in compliance with these Findings, Plans and any conditions placed on the decision.

CONCLUSIONS OF LAW

The Hartford Planning Commission, based upon the forgoing Findings of Fact, concludes Based upon the foregoing Findings of Fact, the Hartford Planning Commission concludes that the proposed site plan provides, as required by **§260-45 C** of the Hartford Zoning Regulations:

(1) Maximum safety of **traffic circulation between the site and the street network** and integration with the overall traffic pattern, including provisions for auxiliary roadways connecting with adjacent properties where appropriate. Included in this evaluation shall be the location, number and width of access points, curve radii at access points, acceleration or deceleration lanes on adjacent public streets, sight distances, lighting, location of sidewalks and other walkways, and the overall relationship of the proposed development with existing traffic conditions in the area. All modes of transportation shall be taken into account, including pedestrian, bicycle, handicapped, delivery and emergency vehicles and public transportation.

(2) Adequacy of **on site circulation, parking, and loading facilities,** with particular attention to safety. Included in this evaluation shall be traffic movement patterns, drive and aisle widths, directional signs, location of loading docks and parking areas, number and size of parking spaces, and provision for lighting, drainage, snow removal and access for emergency vehicles and public transportation.

(3) Adequacy of **landscaping, screening, and setbacks** in achieving maximum compatibility with and protection of adjacent properties by screening from them any glare

produced by interior or exterior lights and unsightly areas such as storage areas, and parking lots; assurance that landscape materials will not interfere with visibility or safety and that they are of a type that can survive and be maintained as proposed.

(4) Adequacy of **provision for safety and convenience of pedestrians, bicyclists, and handicapped persons**. Included in this evaluation shall be lighting of walks and entrances, design and placement of walks and crosswalks, pick-up points for public transportation and provision of bicycle racks.

(5) **Protection of renewable energy resources,** including a finding that the proposed development does not adversely affect the ability of adjacent properties to use this form of energy.

(6) **Compliance with other provisions of these regulations** including § 260-27, Landscaping, and § 260-31, Land use performance standards.

(7) **Other** factors that are directly related to the above aspects of site plan review.

DECISION

The Hartford Planning Commission, based upon the forgoing Findings of Fact and Conclusions of Law, hereby approves application #24-01 by Guernsey Ruth Hall Revocable Trust (owner) and Summit Distributing (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for approval of a car wash, lot 44-0041-000, Sykes Mountain Avenue, White River Junction, in an IC zoning district **the condition that:**

1. **Before a Zoning Permit is issued:**

    - **The applicant reimburses the Town for the cost of the third party review.**
    - **The applicant submits written authorization from the abutting lot owner to install the sound barrier on their property.**
    - **The applicant submits copies of applicable access easement(s) to support the proposed traffic pattern.**
    - **The applicant submits written verification from the Fire Marshal confirming they have reviewed and approved the turning movement plan for the ladder truck.**
    - **The applicant submits a copy of their water and sewer allocation to the Zoning Administrator.**
    - **The applicant's Engineer certifies that no changes, other than those required by the Planning Commission/Zoning Board, were made to the final plans that are submitted for the Zoning Permit.**
    - **A copy of the final plans is emailed to the Zoning Administrator.**

2. Before a Certificate of Occupancy is issued, the applicant submits:

- **Written verification from a Professional Engineer licensed by the State of Vermont certifying that the project was constructed in compliance with the approved plans, Findings of Fact, and Zoning Permit.**
- **Written verification from Cavenaugh Tocci certifying that the blower prototype silencers were installed and are performing as specified in the sound study.**
- **Written verification from the DPW confirming that the water and sewer have been inspected and approved.**
- **Written verification from the DPW confirming that they have received acceptable record drawings.**
- **An electronic copy of the record drawings.**
- **A copy of the Energy Code Certificate as recorded in Hartford's Land Records.**

This decision is also subject to the condition that no modification or expansion shall be made to the project as described and limited in the above Findings of Fact and Conclusions of Law without the written approval of the Hartford Zoning Board of Adjustment and/or the Hartford Planning Commission. This decision may be revoked, and a new application or permit required if conditions and findings are violated or modified without written approval.

The applicants are responsible for insuring compliance with all applicable State and Federal regulations pertaining to this application.

Those in favor:

Those in opposition:

Those not participating:

Dated at Hartford, Vermont this ____ day of June 2024.

HARTFORD PLANNING COMMISSION

By:_____
Chairperson/Vice-Chairperson

Appeal Rights: An interested person who has participated in the proceeding related to this decision has the right to appeal this decision to the Vermont Environmental Court, pursuant to 24 V.S.A. s. 4471 and V.R.E.C.P.5, in writing, within 30 days of the date of this decision. The fee is $250.00. If you fail to appeal this decision, your right to challenge this decision at some future time may be lost because you waited too long. You will be bound by this decision, pursuant to 24 V.S.A. s. 4472 (d) (exclusivity of remedy; finality).

EXHIBIT LIST

1. Application #24-01

2. Set of plans entitled "Site Development Plan, Proposed Car Wash for Assessors Map 44 Lot 41, Sykes Mountain Avenue, White River Junction, Vermont, prepared for Summit Distributing, 240 Mechanic Street, Lebanon, NH 03766" revised June 11, 2024 including:

    - Title Sheet
    - General Notes
    - Existing Conditions Plan
    - Demolition Plan
    - Site Plan
    - Grading & Drainage Plan
    - Utility Plan
    - Erosion & Sediment Control Plan
    - Landscape Plan
    - Four Detail Sheets
    - Truck Turn Plan 1 (Fire)
    - Truck Turn Plan 4 (Garbage)
    - Photometric Plan
    - Lighting cutsheets
    - Elevations

3. Letter from Nicole Duquette dated June 11, 2024

4. Project Narrative

5. Environmental Sound Study including:

    - Memo from Aaron Farbo, Cavanaugh Tocci dated June 10, 2024
    - Letter from Edward Duncan of Paxwood Acoustics dated June 7, 2024
    - Memo from Aaron Farbo, Cavanaugh Tocci dated June 4, 2024
    - Sound Study from Aaron Farbo, Cavanaugh Tocci dated June 3, 2024
    - Letter from Edward Duncan of Paxwood Acoustics dated May 20, 2024
    - Sound Study from Aaron Farbo, Cavanaugh Tocci dated April 24, 2024

6. Hartford Noise Ordinance, Chapter 110

7. Letter from Robert Bollinger dated March 1, 2024

8. Email from Jo-Ann Ells dated February 21, 2024 regarding traffic

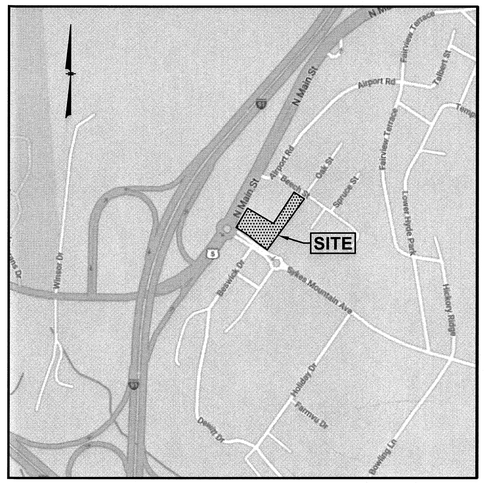
9. Letter from Nicole Duquette dated February 15, 2024

10. #24-01

10. Memo from Jo-Ann Ells dated February 9, 2024

11. Trip Generation and Site Access Study dated January 29, 2024

SITE DEVELOPMENT PLANS
PROPOSED CAR WASH
for
ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT
Prepared for:
SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766



LOCATION MAP
(NOT TO SCALE)

INDEX TO DRAWINGS

1.	TITLE SHEET
2.	GENERAL NOTES
3.	EXISTING CONDITIONS PLAN
4.	DEMOLITION PLAN
5.	SITE PLAN
6.	GRADING & DRAINAGE PLAN
7.	UTILITY PLAN
8.	EROSION & SEDIMENT CONTROL PLAN
9.	LANDSCAPE PLAN
10.	DETAIL SHEET
11.	DETAIL SHEET
12.	DETAIL SHEET
13.	DETAIL SHEET
1 OF 1.	TRUCK TURN PLAN 1
1 OF 1.	TRUCK TURN PLAN 2
1 OF 2.	LIGHTING PLAN (RL-9431-S1)
2 OF 2.	LIGHTING SPECIFICATIONS (RL-9431-S1)
1 OF 1.	BUILDING ELEVATIONS (A2.1)

GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

PREPARED FOR
SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
6/11/24

REVISIONS		
4.	REV. SHEET 5	6/11/24
3.	REV. SHEETS 2, 4-9	4/17/24
2.	REV. ALL SHEETS	2/15/24
1.	SHEETS 2, 7, & TTP	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CCC	NID

TITLE SHEET

SCALE: AS SHOWN

NEX-2019181

1 OF 13

F:\Projects\MAX-2019181 - White River Junction, VT - Summit Distributing\CAD Files\2019181_CVR.dwg COVER 6/11/24 10:38am nduquette

LEGEND

SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
SCC	SLOPED CONCRETE CURB
VCC	VERTICAL CONCRETE CURB
CCB	CAPE COD BERM
DSLY	DOUBLE SOLID LINE YELLOW
DDLY	DOUBLE DASHED LINE YELLOW
SDLY	SINGLE DASHED LINE YELLOW
SSLY	SINGLE SOLID LINE YELLOW
SSLW	SINGLE SOLID LINE WHITE
SDLW	SINGLE DASHED LINE WHITE
G	GAS LINE
T	UNDERGROUND TELEPHONE
W	WATER LINE
E	UNDERGROUND ELECTRIC
	WOOD GUARDRAIL
	METAL GUARDRAIL
	CHAIN LINK FENCE
	STOCKADE FENCE
	POST & RAIL FENCE
X	WIRE FENCE
90	CONTOUR ELEVATION
	TREE
	UTILITY POLE
	GUY WIRE
	OVERHEAD WIRE
	TREELINE
PB	PULL BOX
	SIGN
98.56	SPOT ELEVATION
D	DRAIN MANHOLE
	CATCH BASIN
R	ROOF DRAIN
C	CLEANOUT
V	VENT
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
E	ELECTRIC MANHOLE
W	WATER MANHOLE
MH	MANHOLE
	GAS VALVE
	GAS SHUT OFF
	WATER VALVE
	WATER SHUT OFF
	FIRE HYDRANT
	BOLLARD
GM	GAS METER
EM	ELECTRIC METER
	MONITORING WELL
	LIGHT POLE
	BORING
	WETLAND LINE
	WATER FEATURE
U/GW	UNDERGROUND COMM
	DITCH LINE
	EASEMENT LINE
	PROPERTY LINE
	ABUTTER PROPERTY LINE
	BUILDING SETBACK
	SOIL TYPE LINE
	ZONE LINE
	FLOOD ZONE LINE
TBR	TO BE REMOVED
- K K K K K K	TO BE REMOVED
1	NUMBER OF PARKING SPACES
T.D.	TIP DOWN CURB
	PROP. VERTICAL CONC. CURB (VCC)
	PROP. VERTICAL GRANITE CURB (VGC)
C.O.	PROP. CLEANOUT
CB-1	PROP. CATCH BASIN
DMH-1	PROP. DRAIN MANHOLE
MEG	MEET EXISTING GRADE
331.25	PROP. SPOT ELEVATION
300	PROP. CONTOUR ELEVATION
TW=	TOP OF WALL ELEV.
BW=	BOTTOM OF WALL ELEV.
G.B.	GRADE BREAK
TP	TEST PIT
	PROP. GATE VALVE
	PROP. SEDIMENT CONTROL FENCE

GENERAL NOTES:

1) EXISTING BOUNDARY AND PLANIMETRIC INFORMATION AS SHOWN IS THE RESULT OF AN ACTUAL FIELD SURVEY BY THIS OFFICE.
2) TAX MAP 44 LOT 41
3) ZONING DISTRICT: INDUSTRIAL COMMERCIAL (IC)
4) LOT AREA = 50,752 Sq.Ft.
   = 1.165 Ac.±
5) EXISTING USE: OVERFLOW PARKING LOT
   PROPOSED USE: CAR WASH FACILITY
6) ALL BUILDINGS AND SITE CONSTRUCTION SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, AS AMENDED.
7) THE LOCATIONS OF EXISTING SUBSURFACE UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTED TO BE CORRECT. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SUBSURFACE UTILITIES PRIOR TO PERFORMING ANY WORK.
8) WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
9) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 811 PRIOR TO ANY EXCAVATION.
10) ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF WHITE RIVER JUNCTION AND THE STATE OF VERMONT.
11) THE SURVEY TRACT IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (100 YEAR FLOOD) PER FLOOD INSURANCE RATE MAP NUMBER 50027C0389E, WITH AN EFFECTIVE DATE OF SEPTEMBER 28, 2007.
12) ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS AND THE STANDARD CONSTRUCTION DRAWINGS AS SUPPLIED BY THE DEVELOPER.
13) A SIGN PERMIT SHALL BE OBTAINED PRIOR TO INSTALLATION.
14) PROPOSED SNOW STORAGE AREAS AS SHOWN. ANY EXCESS SNOW TO BE TRUCKED OFF-SITE.
15) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY GREENMAN-PEDERSEN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
16) A CONDITIONAL USE PERMIT IS REQUESTED TO ALLOW A MOTOR VEHICLE CAR WASH WITHIN THE INDUSTRIAL COMMERCIAL DISTRICT.
17) CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE HARTFORD DPW BEFORE COMMENCING WITH CONSTRUCTION. CONTRACTOR SHALL CONTACT DPW AT LEAST 2 WEEKS BEFORE THE INTENDED MEETING DATE.
18) EARTH MOVING AND HAULING, ROCK DRILLING OR CRUSHING, JACK HAMMER AND SIMILAR EXCESSIVELY LOUD EQUIPMENT SHALL NOT BE OPERATED IN SUNDAYS OR BETWEEN THE HOURS OF 5:30 PM AND 7:00 AM EXCEPT IN EMERGENCY SITUATIONS.
19) ANY STOCKPILING OF MATERIALS RELATED TO THE CONSTRUCTION OF THE PROJECT MUST BE LOCATED TWICE THE DISTANCE OF THE HEIGHT OF THE STOCKPILED MATERIALS FROM ANY PUBLIC OR PRIVATE RIGHT OF WAY OR PROPERTY BOUNDARY.
20) CONSTRUCTION TRAILERS MAY BE USED AT CONSTRUCTION SITES FOR OFFICE AND LABRATORY USE ON THE CONDITION THAT THEY ARE PLACED A MINIMUM OF TEN FEET FROM ANY PROPERTY LINE, ARE USED FOR A PROJECT WITH A VALID ZONING PERMIT AND ARE REMOVED BEFORE A CERTIFICATION OF OCCUPANY IS REQUESTED.
21) CAR WASH HOURS OF OPERATION WILL BE 7AM TO 8PM. VACUUMS WITHIN SPACES TO THE NORTH OF THE CAR WASH SHALL BE SHUT OFF AFTER 8PM.
22) CAR WASH WILL HAVE 2 TO 3 EMPLOYEES PER SHIFT.

DEMOLITION NOTES:

1) A DEMOLITION PERMIT MUST BE OBTAINED FROM THE TOWN OF WHITE RIVER JUNCTION PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING UTILITY DISCONNECTIONS MUST BE COORDINATED WITH RESPECTIVE UTILITY COMPANIES.
2) ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS. CONTRACTOR TO INSTALL EROSION CONTROL DEVICES IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL PLAN PRIOR TO BEGINNING DEMOLITION ACTIVITIES.
3) PROCEED WITH DEMOLITION IN A SYSTEMATIC MANNER, FROM THE TOP OF THE STRUCTURE(S) TO THE GROUND.
4) DEMOLISH CONCRETE IN ALL SECTIONS.
5) BREAK UP CONCRETE SLABS-ON-GRADE, UNLESS OTHERWISE DIRECTED BY THE CONSTRUCTION MANAGER.
6) CONDUCT ALL DEMOLITION OPERATIONS IN A MANNER THAT WILL PREVENT INJURY, DAMAGE TO STRUCTURES, ADJACENT BUILDINGS AND ALL PERSONS.
7) REFRAIN FROM USING EXPLOSIVES WITHOUT PRIOR WRITTEN CONSENT OF THE DEVELOPER AND APPLICABLE GOVERNMENTAL AUTHORITIES.
8) CONDUCT DEMOLITION SERVICES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED FACILITIES WITHOUT PRIOR WRITTEN PERMISSION OF THE DEVELOPER AND APPLICABLE GOVERNMENTAL AUTHORITIES. PROVIDE ALTERNATIVE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY APPLICABLE GOVERNMENTAL REGULATIONS.
9) USE WATERING, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS, AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT RISING AND SCATTERING IN THE AIR. CLEAN ADJACENT STRUCTURE AND IMPROVEMENTS OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. RETURN ALL ADJACENT AREAS TO THE CONDITIONS EXISTING PRIOR TO THE START OF WORK.
10) ACCOMPLISH AND PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
11) COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM THE DEMOLITION OF STRUCTURES AND FOUNDATIONS WITH SOIL MATERIALS CONSISTING OF STONE, GRAVEL AND SAND, FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. STONES USED WILL NOT BE LARGER THAN 6 INCHES IN DIMENSION. MATERIAL FROM DEMOLITION MAY NOT BE USED AS FILL. PRIOR TO PLACEMENT OF FILL MATERIALS, UNDERTAKE ALL NECESSARY ACTION IN ORDER TO INSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROZEN MATERIAL, TRASH, DEBRIS. PLACE FILL MATERIALS LAYERS NOT EXCEEDING 6 INCHES IN LOOSE DEPTH AND COMPACT EACH LAYER AT PLACEMENT TO 95% OPTIMUM DENSITY, GRADE SURFACE TO MEET ADJACENT CONTOURS AND TO PROVIDE SURFACE DRAINAGE.
12) REMOVE FROM THE DESIGNATED SITE, AT THE EARLIEST POSSIBLE TIME, ALL DEBRIS RUBBISH, SALVAGEABLE ITEMS, HAZARDOUS AND COMBUSTIBLE SERVICES. REMOVED MATERIALS MAY NOT BE STORED, SOLD OR BURNED ON SITE. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIALS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND DEPARTMENTS.
13) DISCONNECT, SHUT OFF AND SEAL ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF THE DESIGNATED DEMOLITION. MARK FOR POSITION ALL UTILITY DRAINAGE AND SANITARY LINES AND PROTECT ALL ACTIVE LINES. CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DEMOLITION SERVICES THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY ALL APPLICABLE UTILITY COMPANIES TO INSURE THE CONTINUATION OF SERVICE.
14) PROTECT EXISTING DRAINAGE SYSTEM(S) AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING DURING CONSTRUCTION. SEE DETAIL SHEETS FOR EROSION CONTROL DEVICES.
15) ALL WORK WITHIN ROADWAY RIGHT-OF-WAYS TO CONFORM TO TOWN STANDARDS.
16) THE LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING.
17) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY DIG SAFE (DIAL 811) 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER DEPARTMENT TO MARK OUT THEIR UTILITIES.
18) NOTES ON THIS PLAN THAT READ "TBR" REPRESENT FEATURES TO BE REMOVED. ANY FEATURES NOT LABELED "TBR" OR "TO BE REMOVED" SHALL BE CONSIDERED EXISTING TO REMAIN.
19) SEE LANDSCAPE PLAN FOR LIMITS OF CLEARING AND GRUBBING. AFTER CLEARING, STRIP AND STOCKPILE TOP SOIL PER LANDSCAPE PLAN, IF APPLICABLE.

GRADING & DRAINAGE NOTES:

1) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL-WALL, SMOOTH INTERIOR, AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN. THE UNDERGROUND DETENTION SYSTEM SHALL HAVE WATER TIGHT (WT) JOINTS MEETING ASTM D3212 SPECIFICATIONS.
2) ALL ROOF AND CANOPY DRAIN PIPE SHALL BE 6" PVC (SDR-35), EXCEPT WITHIN 10' OF A BUILDING FOUNDATION WHERE CAST IRON PIPE SHALL BE USED. MIN. SLOPE=1%.
3) ELEVATIONS ARE BASED ON NAVD88 DATUM.
4) ALL PROPOSED ELEVATIONS AS SHOWN ARE BOTTOM OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.
5) ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND COORDINATED WITH THE APPROPRIATE LOCAL UTILITY COMPANY.
6) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7) ALL CONSTRUCTION SHALL CONFORM TO MUNICIPAL DPW AND ALL APPLICABLE STATE AND FEDERAL STANDARDS.
8) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIG-SAFE (DIAL 811) PRIOR TO COMMENCING ANY EXCAVATION.
9) THIS SITE WILL REQUIRE A STATE OF VERMONT AGENCY OF NATURAL RESOURCES DEPARTMENT OF CONSERVATION (DEC) STORMWATER CONSTRUCTION DISCHARGE GENERAL PERMIT 3-9050 FOR THE SITE CONSTRUCTION SINCE THE IMPERVIOUS AREA EXCEEDS ONE HALF OF AN ACRE (ACTUAL IMPERVIOUS = 25,380 SF±). BASED ON THE PROJECT RISK FACTOR, THE CONSTRUCTION SITE OPERATOR SHALL EITHER IMPLEMENT DEC'S EROSION PREVENTION AND SEDIMENT CONTROL PLAN (EPSC PLAN) OR DEVELOP AND IMPLEMENT A PROJECT SPECIFIC EPSC PLAN IN ACCORDANCE WITH THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL.
10) ANY UTILITIES TO BE TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY UTILITY COMPANY AND LOCAL DPW.
11) ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO VDOT AND THE TOWN DEPARTMENT OF PUBLIC WORKS, SHALL BE EMPLOYED DURING OPERATIONS WITHIN THE PUBLIC RIGHT-OF-WAY.
12) ALL ADA ACCESSIBLE WALKWAYS CANNOT EXCEED 5% RUNNING SLOPE AND 2% CROSS SLOPE. RAMPS CANNOT EXCEED 8.33% RUNNING SLOPE AND 2% CROSS SLOPE, AND ACCESSIBLE PARKING STALLS AND ACCESS AISLES CANNOT EXCEED 2% SLOPE IN ANY DIRECTION. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
13) SEE UTILITY PLAN FOR DETAILED UTILITY LAYOUT.
14) CONTRACTOR SHALL FIELD ADJUST GRADES FOR THE TANK PAD TO SHED WATER
15) ALL PROPOSED CATCH BASINS SHALL HAVE 4' SUMPS AND OUTLETS EQUIPPED WITH "ELIMINATOR" OIL HOODS OR APPROVED EQUAL.
16) ALL PIPE DATA IS CALCULATED TO CENTER OF STRUCTURE, TYP.
17) CONTRACTOR TO REFER TO THE OPERATION & MAINTENANCE (O&M) MANUAL FOR STORMWATER MANAGEMENT SYSTEMS & SITE MAINTENANCE DURING AND AFTER CONSTRUCTION.
18) CONTRACTOR TO INSTALL RISER STRUCTURES AT EACH CORNER OF UNDERGROUND DETENTION SYSTEMS AND CLEANOUTS AT EACH END OF EACH ROW TO PROVIDE ACCESS POINTS FOR CLEANING AND MAINTENANCE.
   - TOTAL RISERS PROPOSED = 3
   - TOTAL CLEANOUTS PROPOSED = 7

UTILITY NOTES:

1) ALL SANITARY SEWER PIPE SHALL BE PVC (SDR-35), UNLESS OTHERWISE NOTED.
2) ALL WATER PIPE SHALL BE COPPER (TYPE K), UNLESS OTHERWISE NOTED.
3) ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND COORDINATED WITH THE APPROPRIATE LOCAL UTILITY COMPANY.
4) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES.
5) ALL CONSTRUCTION SHALL CONFORM TO MUNICIPAL DPW AND ALL APPLICABLE STATE AND FEDERAL STANDARDS.
6) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 811 PRIOR TO ANY EXCAVATION.
7) ALL WATER AND SEWER CONSTRUCTION SHALL CONFORM TO DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
8) THIS SITE IS SERVED BY MUNICIPAL SEWER AND WATER.
9) ALL ELECTRIC, TELEPHONE AND CABLE TV LINES ARE TO BE UNDERGROUND AND INSTALLED IN CONFORMANCE WITH APPLICABLE UTILITY CO. SPECIFICATIONS.
10) ANY UTILITIES TO BE TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY UTILITY COMPANY AND LOCAL DPW.
11) ALL TRAFFIC CONTROL AND TEMPORARY CONSTRUCTION SIGNAGE ARRANGEMENTS, ACCEPTABLE TO VDOT AND TOWN DEPARTMENT OF PUBLIC WORKS, SHALL BE EMPLOYED DURING OPERATIONS WITHIN THE PUBLIC RIGHT-OF-WAY.
12) REFER TO DETAIL SHEETS FOR ALL UTILITY DETAILS AND ADDITIONAL INFORMATION.
13) THE CONTRACTOR SHALL CONTACT ENGINEER TO INSPECT THE EXISTING SEWER SERVICE LINE PRIOR TO USE. SLIP LINING MAY BE NECESSARY IF FLAWS FOUND IN EXISTING STUB.
14) PRIOR TO CONNECTION INSTALLING WATER CONNECTION, THE CONTRACTOR SHALL APPLY FOR A CONNECTION AND PAY A CONNECTION FEE DETERMINED BY SIZE AND LENGTH OF SERVICES, AND THE COST OF THE METER IF PURCHASED THROUGH THE TOWN.

EROSION CONTROL NOTES:

1) THE EROSION CONTROL PROCEDURES SHALL CONFORM TO THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL.
2) DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS NOTED: THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AS APPROVED BY THE ENGINEER. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.
3) ALL PERMANENT STORM WATER STRUCTURES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B) A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C) A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED.
   D) OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
4) SEDIMENT CONTROL FENCE SHALL BE INSTALLED AND MAINTAINED DURING AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERGOING DEVELOPMENT, WHERE POSSIBLE, NATURAL DRAINAGE WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE EXCESS SURFACE WATER. SEDIMENT CONTROL FENCE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
5) ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISHED GRADED, WITH NO FURTHER CONSTRUCTION TO TAKE PLACE, SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS AFTER FINAL GRADING. A MINIMUM OF 4" OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. THE SEED MIX SHALL BE AS DESIGNATED BELOW.
6) ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. THE MAXIMUM LENGTH OF TIME FOR THE EXPOSURE OF DISTURBED SOILS SHALL BE 45 DAYS. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE. BALES SHALL BE UNSPOILED, AIR DRIED, AND FREE FROM WEED, SEEDS AND ANY COARSE MATERIAL.
7) DURING GRADING OPERATIONS INSTALL SEDIMENT CONTROL FENCE ALONG TOE OF SLOPE OF FILL AREAS WHERE SHOWN. BARRIERS ARE TO BE MAINTAINED UNTIL DISTURBED AREAS ARE PAVED OR GRASSED.
8) THE FILL MATERIAL SHALL BE OF APPROVED SOIL TYPE FREE FROM STUMPS, ROOTS, WOOD, ETC. TO BE PLACED IN 12" LIFTS OR AS SPECIFIED. BULLDOZERS, TRUCKS, TRACTORS, OR ROLLERS MAY BE USED FOR COMPACTION BY ROUTING THE EQUIPMENT TO ALL AREAS OR EACH LAYER.
9) AVOID THE USE OF FUTURE OPEN SPACES (LOAM & SEED) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ROADS.

TEMPORARY EROSION CONTROL MEASURES:

1) THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2) SEDIMENT CONTROL FENCE SHALL BE INSTALLED AS REQUIRED. FENCE IS TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3) BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
4) FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
5) STOCKPILED MATERIALS SHALL BE PLACED ONLY IN AREAS SHOWN ON THE PLANS. STOCKPILES SHALL BE PROTECTED BY SEDIMENT CONTROL FENCING AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
6) ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA.
7) SEED MIX SHALL BE EQUAL PARTS OF RED FESCUE (CREEPING), KENTUCKY BLUE GRASS, REDTOP, PERENNIAL RYEGRASS.
8) AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
9) PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
10) ALL CATCH BASIN INLETS WILL BE PROTECTED WITH INLET PROTECTION AND/OR SILT SACKS.
11) ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
12) ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA OR DEWATERING FILTER BAG.
13) TO PREVENT TRACKING OF SEDIMENT ONTO THE EXISTING ROADS, ALL CONSTRUCTION TRAFFIC CAN ONLY EXIT THE SITE OVER THE CONSTRUCTION ENTRANCES SHOWN ON THIS PLAN.

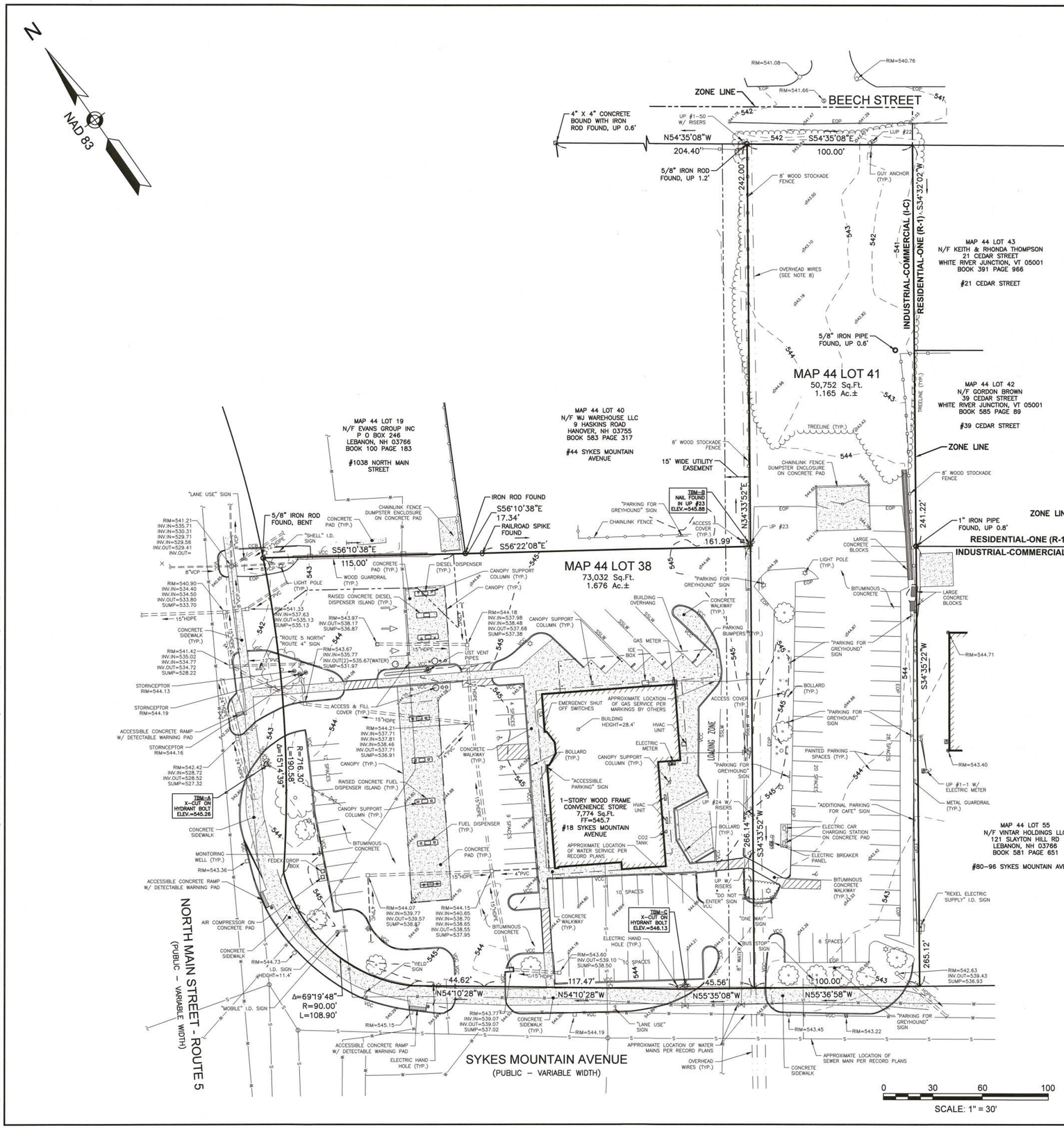
CONSTRUCTION SEQUENCE:

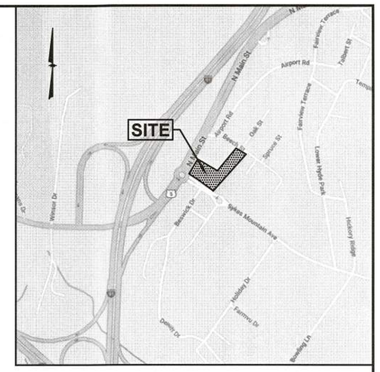
1) SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY ON-SITE CONSTRUCTION AS SHOWN. ADDITIONAL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICAL.
2) REMOVE AND STOCKPILE SOIL AS REQUIRED. STOCKPILE SHALL BE SURROUNDED WITH SEDIMENT CONTROL FENCING TO PREVENT EROSION.
3) CONSTRUCT DRIVEWAYS AND PERFORM SITE GRADING.
4) INSTALL UNDERGROUND UTILITIES & DRAINAGE.
5) BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION.
6) DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SEDIMENT CONTROL FENCES, HAYBALES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
7) BEGIN EXCAVATION FOR AND CONSTRUCTION OF BUILDING.
8) FINISH PAVING ALL DRIVES AND PARKING AREAS. CLEAN ALL DRAINAGE STRUCTURES.
9) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
10) AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

WINTER STABILIZATION NOTES:

MAINTENANCE REQUIREMENTS:
MAINTENANCE MEASURES SHOULD CONTINUE AS NEEDED THROUGHOUT CONSTRUCTION, INCLUDING THE OVER-WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD CONDUCT AN INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUING FUNCTION. FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHOULD CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF VEGETATION COVER, AND REPAIR ANY DAMAGE AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH).
SPECIFICATIONS:
TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING STABILIZATION TECHNIQUES SHOULD BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15TH THROUGH MAY 15TH.

1) THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO ONE ACRE AND SHOULD BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. SUBJECT TO APPLICABLE REGULATIONS, THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF ACTIVITIES ARE CONDUCTED ACCORDING TO A WINTER CONSTRUCTION PLAN, DEVELOPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF VERMONT OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL AS CERTIFIED BY THE CSPESC COUNCIL OF ENVIROCERT INTERNATIONAL, INC.
2) STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
   A. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHOULD BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (SEE DESCRIPTION OF EROSION CONTROL MIX BERMS FOR MATERIAL SPECIFICATION).
   B. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
3) ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.
4) INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHOULD NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH.
5) ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED (E.G., BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
6) STOCKPILES OF SOIL MATERIALS SHOULD 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. MULCHING SHOULD BE DONE WITHIN 24 HOURS OF STOCKING, AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. NO SOIL STOCKPILE SHOULD BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100 FEET FROM ANY WETLAND OR OTHER WATER RESOURCE AREA.
7) FROZEN MATERIALS, (E.G., FROST LAYER THAT IS REMOVED DURING WINTER CONSTRUCTION), SHOULD BE STOCKPILED SEPARATELY AND IN A LOCATION THAT IS AWAY FROM ANY AREA NEEDING T





LOCATION MAP
(NOT TO SCALE)

NOTES:

1) ZONE: INDUSTRIAL COMMERCIAL DISTRICT (I-C)
   MIN. LOT SIZE: 10,000 Sq.Ft.
   MIN. LOT FRONTAGE: 100 Ft.
   SETBACKS:
   FRONT 10 Ft.
   SIDE 10 Ft.
   REAR 20 Ft.
   REFER TO THE TOWN OF HARTFORD ZONING ORDINANCE FOR VERIFICATION, ADDITIONAL RESTRICTIONS AND PERMITTED USES. THE ZONING INFORMATION SHOWN HEREON IS BASED ON A REVIEW OF THE HARTFORD ZONING ORDINANCE.

2) THIS PLAN IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY AND UAS SURVEY PERFORMED BY THIS OFFICE BETWEEN JULY 5 AND JANUARY 18, 2024. A PORTION OF THE PLANIMETRIC DETAIL AND PERMANENT PHYSICAL FEATURES SHOWN ON THIS PLAN WERE DIGITIZED FROM RECTIFIED ORTHOPHOTOGRAPHY DERIVED FROM AERIAL IMAGERY OBTAINED VIA UAS BY THIS OFFICE ON JULY 13, 2023.

3) BEARINGS SHOWN HEREON ARE BASED ON NAD83 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON JULY 5, 2023.

4) ELEVATIONS SHOWN HEREON ARE BASED ON NAVD88 PER GPS OBSERVATIONS PERFORMED BY THIS OFFICE ON JULY 5, 2023.

5) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE ONLY. ADDITIONAL UNDERGROUND UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED. INVERTS ARE LISTED IN A CLOCKWISE DIRECTION ENDING WITH THE INVERT OUT (UNLESS OTHERWISE NOTED).

6) THE SURVEY TRACT IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (100 YEAR FLOOD) PER FLOOD INSURANCE RATE MAP NUMBER 50027C0389E, WITH AN EFFECTIVE DATE OF SEPTEMBER 28, 2007.

7) A TOTAL OF 99 (96 STANDARD, 3 ACCESSIBLE) CLEARLY IDENTIFIABLE PARKING SPACES WERE OBSERVED IN CONDUCTING THIS SURVEY.

8) THERE IS A GENERAL BLANKET EASEMENT THAT EXISTS OVER MAP 44 LOT 41 FOR ALL WIRES, POLE LINES, AQUEDUCTS, AND CONDUITS IN BOOK 248 PAGE 326

UTILITY NOTES:

WATER SERVICE – PUBLIC WATER – HARTFORD WATER SYSTEM

SEWER SERVICE – PUBLIC SEWER – HARTFORD WASTEWATER SYSTEM

GAS SERVICE – NATURAL GAS – VERMONT GAS SYSTEMS

ELECTRICAL SERVICE – GREEN MOUNTAIN POWER

PLAN REFERENCES:

1) "ALTA / ACSM LAND TITLE SURVEY" PREPARED BY: PATHWAY CONSULTING, LLC; PREPARED FOR: SUMMIT DISTRIBUTING, LLC; DATED: APRIL 23, 2009; RECORDED AS PLAN 894A-894C AT THE HARTFORD, VERMONT TOWN CLERK'S OFFICE.

2) "PLAN OF LAND OF CLARENCE E. THIBIDEAU & FRANK & OLIVE F. GILMAN" PREPARED BY: K.A. LECLAIR ASSOCIATES, INC.; DATED FEBRUARY 13, 1968; ON FILE WITH THE HARTFORD, VT TOWN CLERK IN CABINET 679 PAGE 262.

3) "TOWN OF HARTFORD, COUNTY OF WINDSOR, HARTFORD STP 0113(59)S, STP EH09(15), US ROUTE 5 & SYKES MOUNTAIN AVENUE" PREPARED BY STANTEC CONSULTING SERVICES, INC.; APPROVED BY THE TOWN OF HARTFORD ON FEBRUARY 26, 2020.

OWNER OF RECORD:

MAP 44 LOT 38
SUMMIT DISTRIBUTING LLC
240 MECHANIC ST
LEBANON, NH 03766
BOOK 604 PAGE 805

MAP 44 LOT 41
RUTH H. GUERNSEY, TRUSTEE
REVOCABLE TRUST OF RUTH HALL GUERNSEY
22 GREEN STREET WEST
WEST LEBANON, NH 03784
BOOK 502 PAGE 124

GPI
Engineering
Design
Planning
Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

PREPARED FOR
SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
SCOTT M. L'ITALIEN
NO. 132671
REGISTERED LAND SURVEYOR
2/15/2024

REVISIONS		
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CSS	SML

EXISTING CONDITIONS PLAN

SCALE: 1"=30'

NEX-2019181

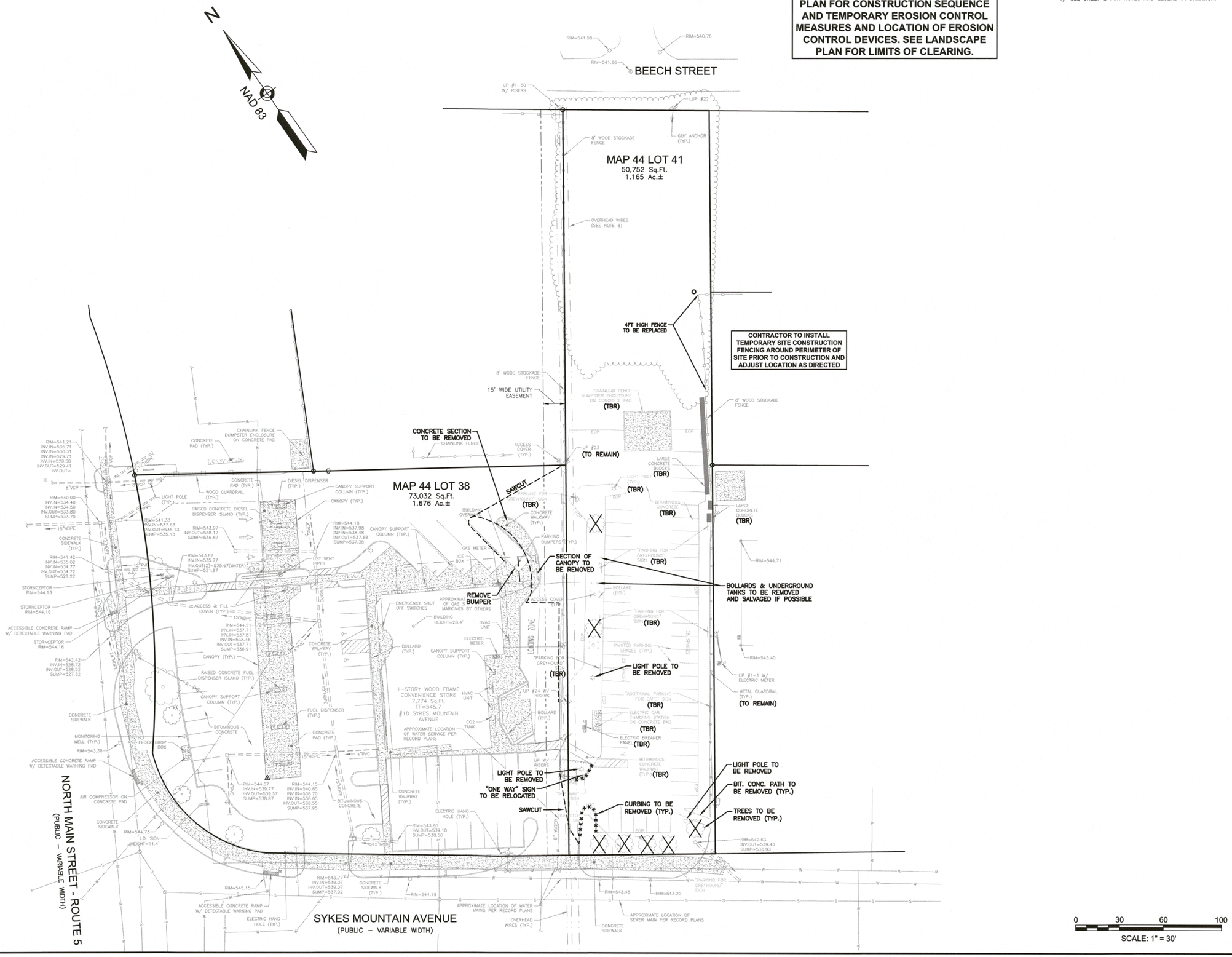
3 OF 13

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SEE EROSION & SEDIMENT CONTROL PLAN FOR CONSTRUCTION SEQUENCE AND TEMPORARY EROSION CONTROL MEASURES AND LOCATION OF EROSION CONTROL DEVICES. SEE LANDSCAPE PLAN FOR LIMITS OF CLEARING.

NOTES:

1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.



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PREPARED FOR
SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/24

REVISIONS		
2.	REV. PER TOWN COMMENTS	4/17/24
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CCC	NID

DEMOLITION PLAN

SCALE: 1"=30'

NEX-2019181

811 DigSafe MA-ME-NH-RI-VT

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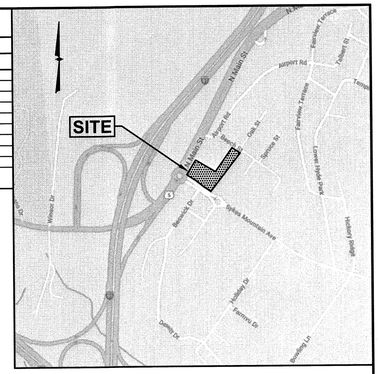
SIGN KEY

SIGN I.D. NUMBER	TEXT/COLOR	SIZE/REMARKS
R1-1	STOP R/W	30" x 30" NEW SIGN WITH POST
R5-1	DO NOT ENTER R/W	30" x 30" NEW SIGN WITH POST
R6-1	ONE WAY B/W	36" x 12" NEW SIGN WITH POST
R7-8	RESERVED PARKING G/B/W	12" x 18" NEW SIGN WITH POST
R7-8A	XXX ACCESSIBLE G/W	6" X 12"
R3-5L	ONLY B/W	36" x 30" NEW SIGN WITH POST

TABLE OF ZONING REGULATIONS - WHITE RIVER JUNCTION, VT

ZONE: INDUSTRIAL COMMERCIAL (I-C)

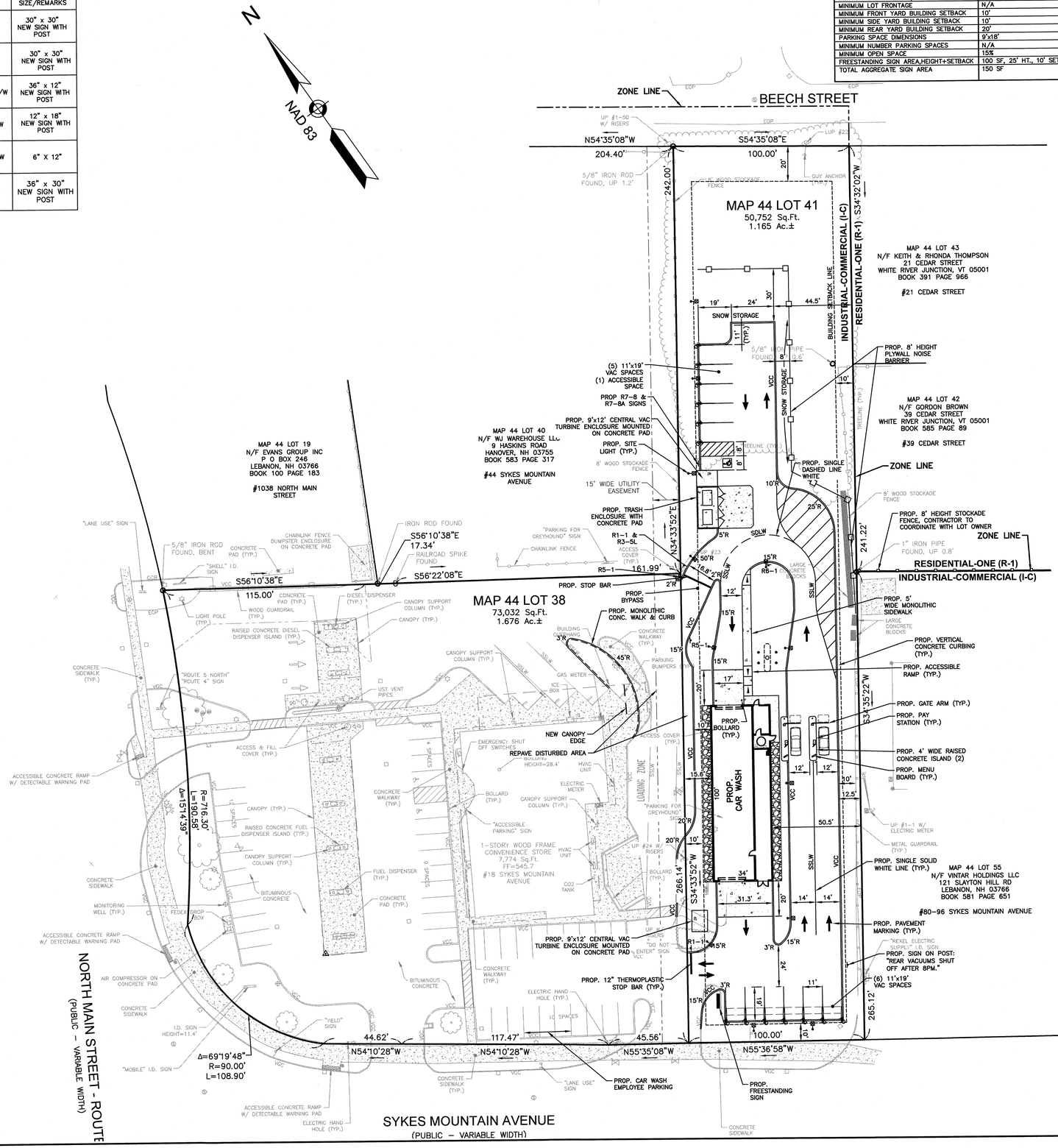
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM LOT AREA Sq. Ft.	10,000 SF	50,752 SF
MINIMUM LOT FRONTAGE	N/A	100'
MINIMUM FRONT YARD BUILDING SETBACK	10'	91.1'
MINIMUM SIDE YARD BUILDING SETBACK	10'	15.6'
MINIMUM REAR YARD BUILDING SETBACK	20'	316.3'
PARKING SPACE DIMENSIONS	9'x18'	11'x19' (VAC SPACES)
MINIMUM NUMBER PARKING SPACES	N/A	12 SPACES
MINIMUM OPEN SPACE	15%	25,237 SF = 49.7%
FREESTANDING SIGN AREA,HEIGHT+SETBACK	100 SF, 25' HT., 10' SETBACK	TBD
TOTAL AGGREGATE SIGN AREA	150 SF	TBD



LOCATION MAP
(NOT TO SCALE)

NOTES:

1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.
2) A CONDITIONAL USE PERMIT IS REQUESTED FOR A CAR WASH WITHIN THE INDUSTRIAL COMMERCIAL DISTRICT.
3) CAR WASH HOURS OF OPERATION WILL BE 7AM TO 8PM. VACUUMS WITHIN SPACES TO THE NORTH OF THE CAR WASH SHALL BE SHUT OFF AFTER 8PM.
4) CAR WASH WILL HAVE 2 TO 3 EMPLOYEES PER SHIFT.



OWNER OF RECORD:

MAP 44 LOT 38
SUMMIT DISTRIBUTING LLC
240 MECHANIC ST
LEBANON, NH 03766
BOOK 604 PAGE 805

MAP 44 LOT 41
RUTH H. GUERNSEY, TRUSTEE
REVOCABLE TRUST OF RUTH HALL GUERNSEY
22 GREEN STREET WEST
WEST LEBANON, NH 03784
BOOK 502 PAGE 124

0 30 60 100
SCALE: 1" = 30'

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Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

PREPARED FOR
SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
6/11/24

REVISIONS		
3.	REV. FENCING	6/11/24
2.	REV. PER TOWN COMMENTS	4/17/24
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

SITE PLAN

SCALE: 1"=30'

NEX-2019181

5 OF 13

DRAINAGE STRUCTURES

CB–1 (F.D.)
RIM=545.20
INV.OUT=541.80

CB–2
RIM=544.40
INV.OUT=541.35

CB–3 (F.D.)
RIM=544.70
INV.IN=541.20(CB–2)
INV.OUT=541.10

CB–4
RIM=544.00
INV.IN=540.70(OCS–1)
INV.OUT=540.60

CB–5
RIM=543.80
INV.OUT=540.00

CB–6 (F.D.)
RIM=543.60
INV.IN=539.60(CB–5)
INV.IN=539.60(CB–4)
INV.OUT=539.50

DMH–1
RIM=544.00
INV.IN=539.43(CB–6 (F.D.))

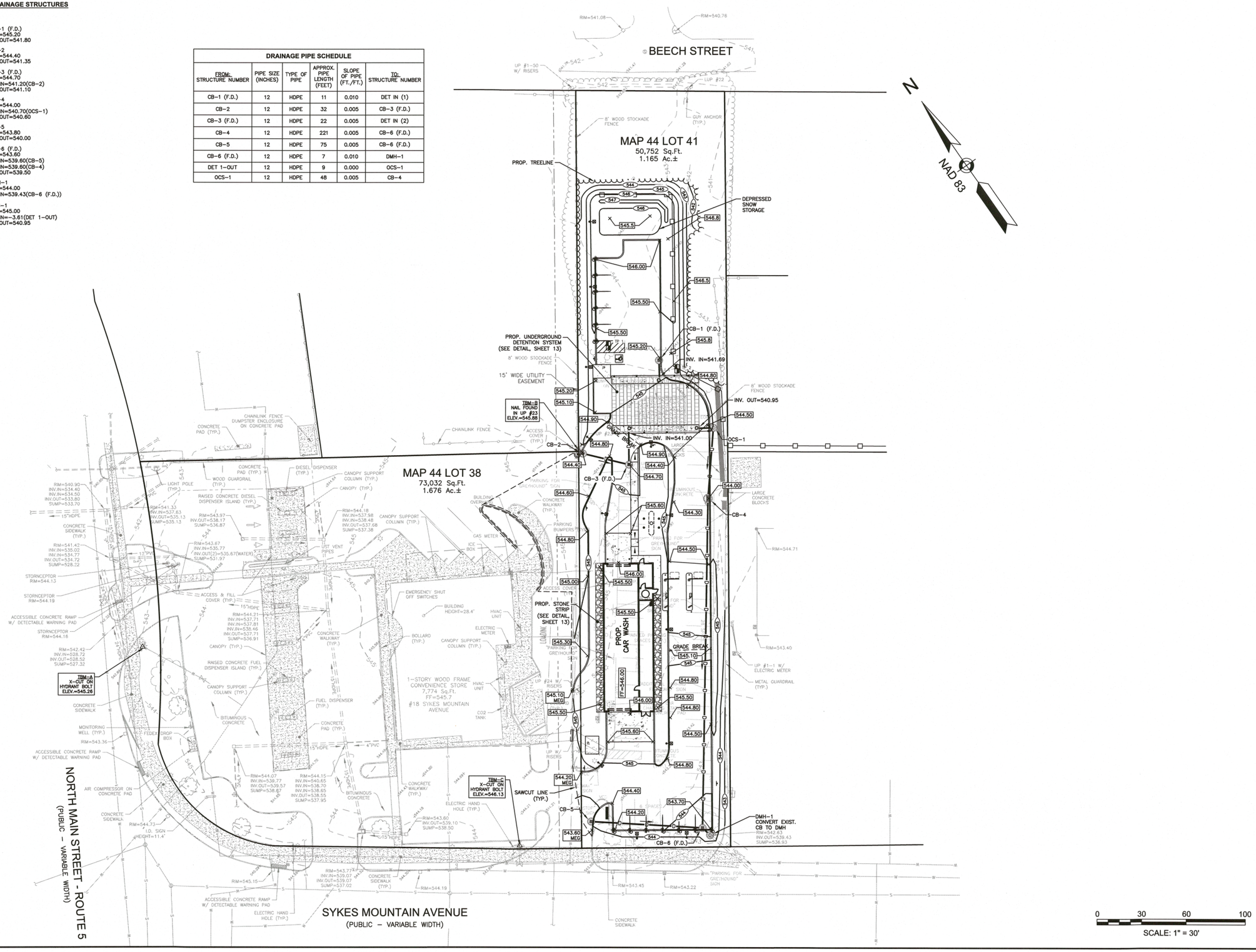
OCS–1
RIM=545.00
INV.IN=–3.61(DET 1–OUT)
INV.OUT=540.95

DRAINAGE PIPE SCHEDULE

FROM: STRUCTURE NUMBER	PIPE SIZE (INCHES)	TYPE OF PIPE	APPROX. PIPE LENGTH (FEET)	SLOPE OF PIPE (FT./FT.)	TO: STRUCTURE NUMBER
CB–1 (F.D.)	12	HDPE	11	0.010	DET IN (1)
CB–2	12	HDPE	32	0.005	CB–3 (F.D.)
CB–3 (F.D.)	12	HDPE	22	0.005	DET IN (2)
CB–4	12	HDPE	221	0.005	CB–6 (F.D.)
CB–5	12	HDPE	75	0.005	CB–6 (F.D.)
CB–6 (F.D.)	12	HDPE	7	0.010	DMH–1
DET 1–OUT	12	HDPE	9	0.000	OCS–1
OCS–1	12	HDPE	48	0.005	CB–4

NOTES:

1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.



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SUMMIT DISTRIBUTING
240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID B. JORDAN
NO. 135215
CIVIL
5/1/24

REVISIONS		
2.	REV. PER TOWN COMMENTS	4/17/24
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

GRADING & DRAINAGE PLAN

SCALE: 1"=30'

NEX-2019181

6 OF 13

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NOTES:

1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.

SEWER PIPE SCHEDULE

FROM: STRUCTURE NUMBER	PIPE SIZE (inches)	TYPE OF PIPE	APPROX. PIPE LENGTH (feet)	SLOPE OF PIPE (ft./ft.)	TO: STRUCTURE NUMBER
BLDG.(D)	6	SDR 35 PVC	119	0.0290	SMH-1
BLDG.(BAY"A")	(2)8	SCH 80 PVC	15	0.1170	RT-2
BLDG.(BAY"B")	2	SCH 80 PVC	64	0.020	RT-1
BLDG.(BAY"C")	4	SCH 80 PVC	30	0.043	RT-3
BLDG.(BAY"D")	6	SCH 80 PVC	38	0.080	OWS-1
RT-2	6	SDR 35 PVC	41	0.020	OWS-1
SMH-1	6	SDR 35 PVC	70	0.024	EXIST. STUB
OWS-1	6	SDR 35 PVC	15	0.020	SMH-1

SEWER STRUCTURES

RT-1*
RIM=545.0±
INV.IN=541.20("B")
INV.OUT=540.95

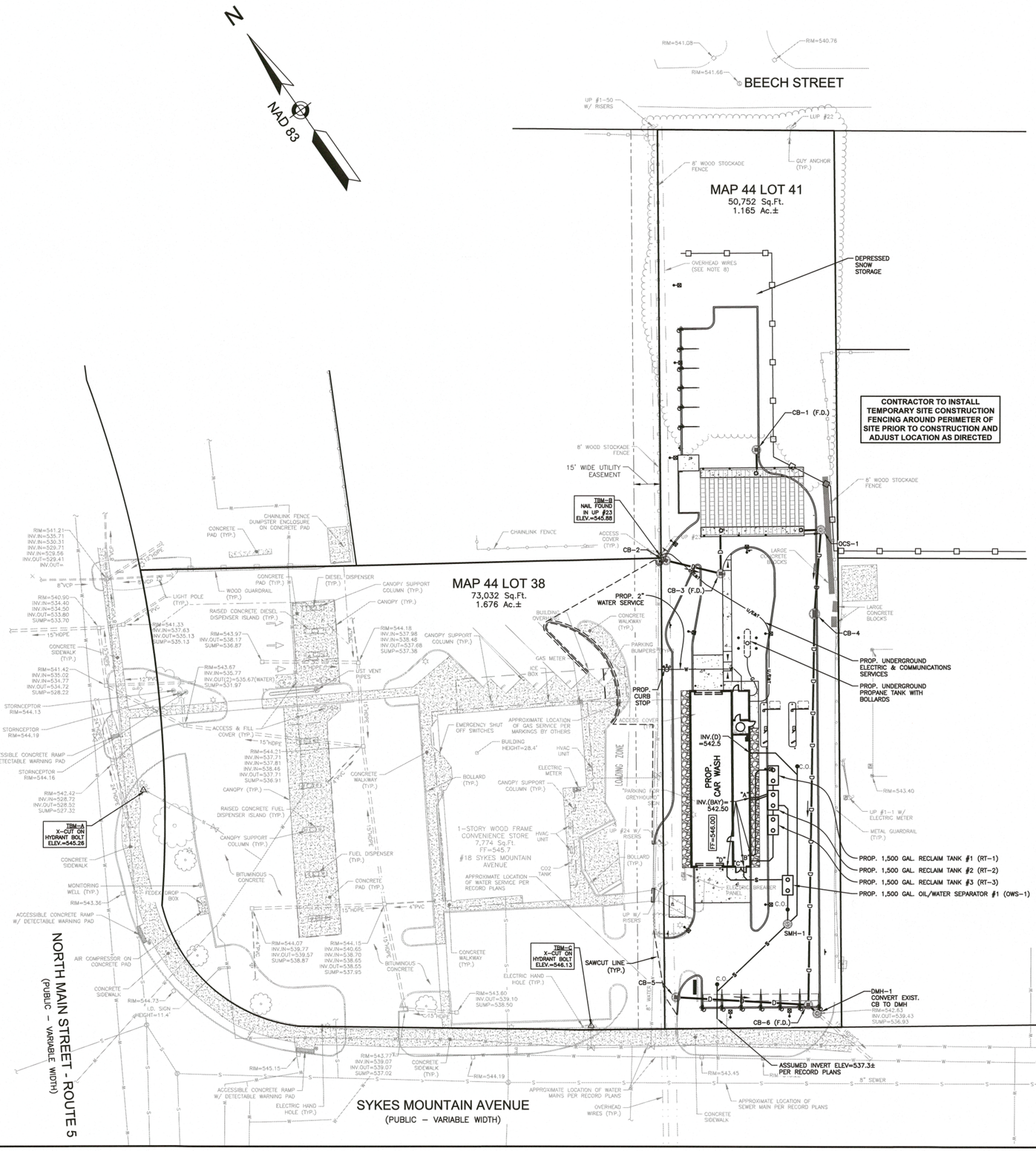
RT-2*
RIM=545.1±
INV.IN=540.75("A")
INV.IN=540.75(RT-1)
INV.IN=540.75(RT-3)
INV.OUT=540.50

RT-3*
RIM=544.8±
INV.IN=541.20("C")
INV.OUT=540.95

OWS-1
RIM=544.8±
INV.IN=539.45
INV.OUT=539.20

SMH-1
RIM=544.5±
INV.IN=539.10(DOMESTIC)
INV.IN=539.10(OWS-1)
INV.IN=539.00(RT-2)
INV.OUT=540.20

* RECLAIM TANK INFORMATION PROVIDED IS CONCEPTUAL. REFER TO RECLAIM DESIGN DRAWINGS BY OTHERS FOR ACTUAL INVERTS & DEPTHS.



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240 MECHANIC STREET
LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/24

REVISIONS		
3.	REV. PER TOWN COMMENTS	4/17/24
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NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

UTILITY PLAN

SCALE: 1"=30'

NEX-2019181

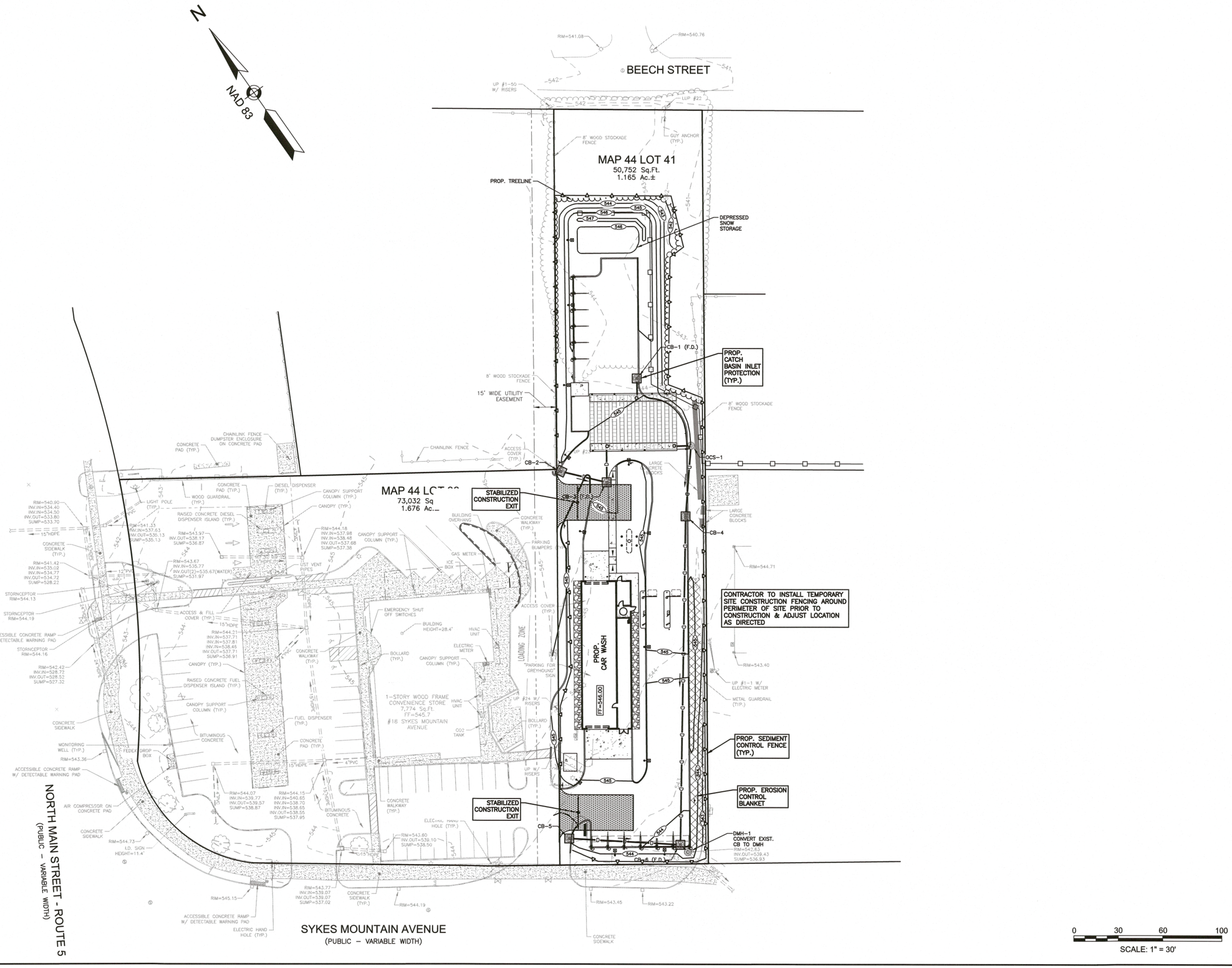
7 OF 13

811 DigSafe MA-ME-NH-RI-VT

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NOTES:

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ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/1/24

REVISIONS		
2.	REV. PER TOWN COMMENTS	4/17/24
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NO.	REVISION	DATE

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EROSION & SEDIMENT CONTROL PLAN

SCALE: 1"=30'

NEX-2019181

8 OF 13

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PLANTING SCHEDULE					
PLANT	QNTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALL SIZE	REMARKS
TREES					
AF	9	ABIES FRASERI	FRASER FIR	6'-7" HT., B&B	
AR	3	ACER RUBRUM 'REDPOINTE'	REDPOINTE MAPLE	2 1/2"-3" CAL., B&B	
SR	3	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK JAPANESE LILAC TREE	2 1/2"-3" CAL., B&B	
MG	4	MALUS 'SPRING SNOW'	SPRING SNOW CRABAPPLE	2 1/2"-3" CAL., B&B	
PP	6	PICEA PUNGENS GLAUCA	COLORADO BLUE SPRUCE	6'-7" HT., B&B	
SHRUBS					
CS	22	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE RED TWIG DOGWOOD	18"-24"HT., 3 GAL.	
IG	39	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	2'-3" HT., 3 GAL	
JV	7	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EMERALD SENTINEL EASTERN RED CEDAR	5'-6" HT., B&B	
PF	20	POTENTILLA FRUTICOSA 'GOLDSTAR'	GOLDSTAR BUSH CINQUEFOIL	2'-3" HT., 3 GAL.	
SJ	21	SPIREA JAPONICA 'GOLDMOUND'	GOLDMOUND SPIREA	18"-24" HT., 3 GAL.	
PERENNIALS & GRASSES					
HD	33	HEMEROCALLIS 'STELLA DE ORO'	DWARF YELLOW DAYLILY	1 GAL.	

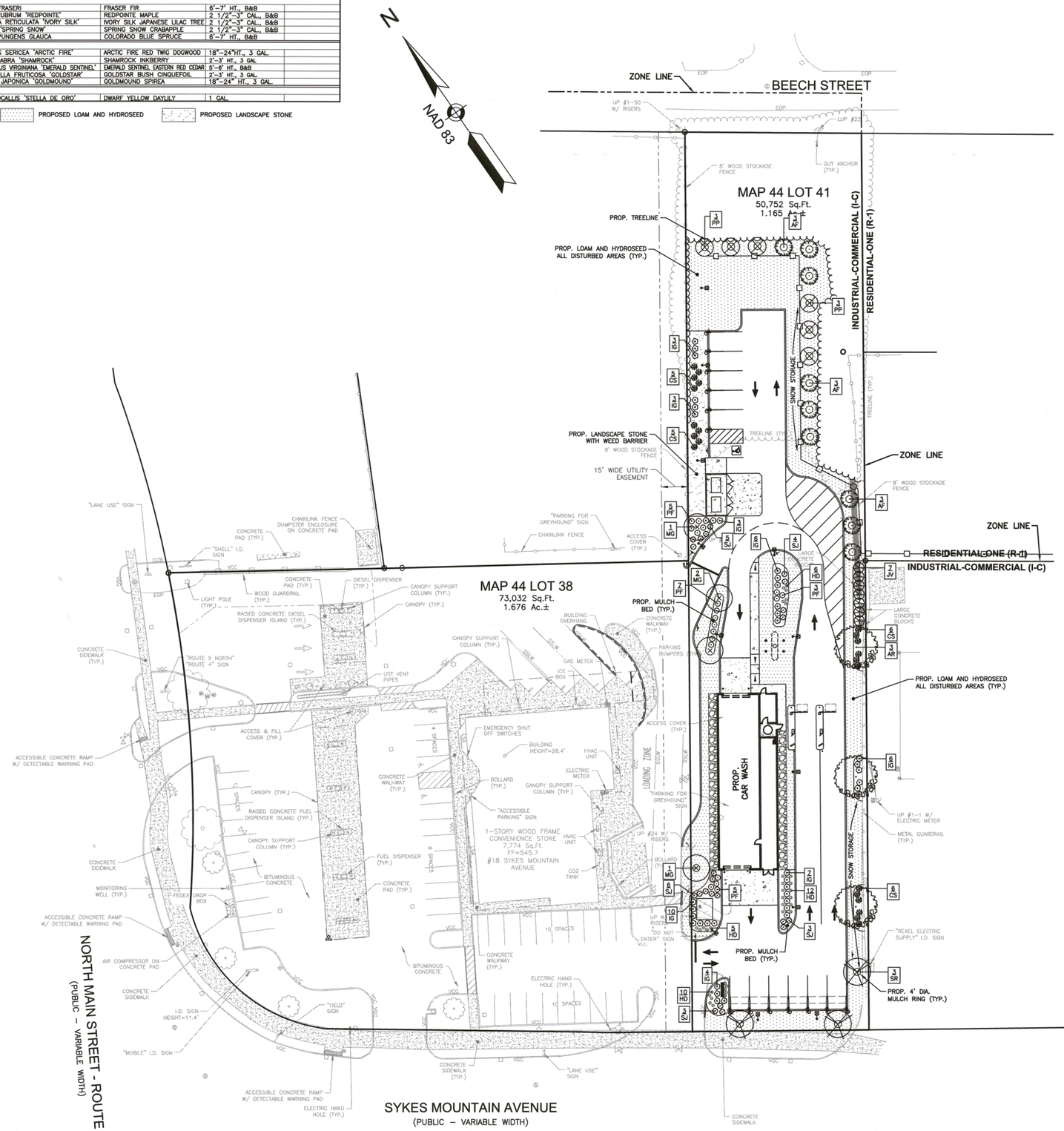
X PLANT QUANTITY
XX PLANT DESIGNATION

PROPOSED LOAM AND HYDROSEED

PROPOSED LANDSCAPE STONE

N

NAD 83



0 30 60 100

SCALE: 1" = 30'

NOTES:

1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.

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LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 175215
CIVIL
5/1/24

REVISIONS		
2.	REV. PER TOWN COMMENTS	4/17/24
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

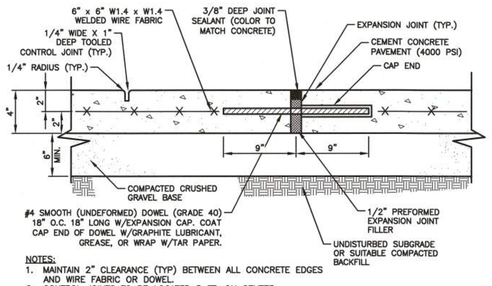
FEBRUARY 2, 2024

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CCC	NID

LANDSCAPE PLAN

SCALE: 1"=30'

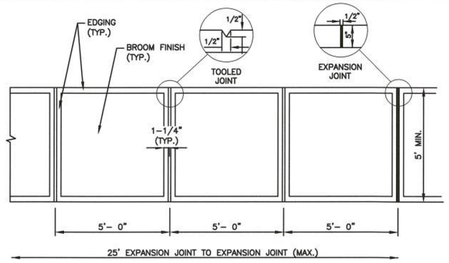
NEX-2019181



NOTES:
1. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
2. CONTROL JOINTS TO BE LOCATED 5 FT. ON CENTER.
3. EXPANSION JOINTS TO BE LOCATED 25 FT. ON CENTER.

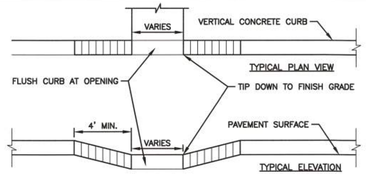
CEMENT CONCRETE SIDEWALK SECTION AND JOINT

NOT TO SCALE



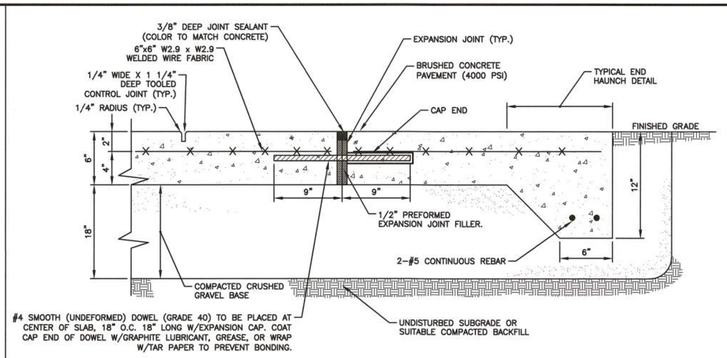
CONCRETE SIDEWALK JOINTING AND EDGING

NOT TO SCALE



TYPICAL TIP DOWN CURB DETAIL

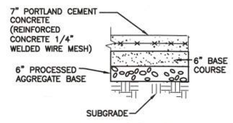
NOT TO SCALE



NOTES:
1. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC, DOWEL, OR REBAR.
2. CONTROL JOINTS TO BE LOCATED 5 FT. ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
3. EXPANSION JOINTS TO BE LOCATED 25 FT. ON CENTER.
4. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.

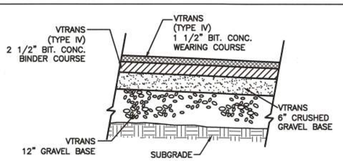
6" HEAVY DUTY CONCRETE PAD

NOT TO SCALE



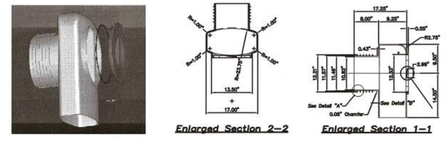
HEAVY DUTY CONCRETE PAVEMENT DETAIL

NOT TO SCALE



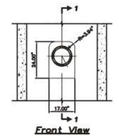
ON-SITE PAVEMENT DETAIL

NOT TO SCALE



Enlarged Section 2–2

Enlarged Section 1–1



Front View

THE ELIMINATOR CATCH BASIN OIL & DEBRIS TRAP



Enlarged Front View



Side View of Cover



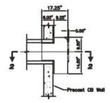
Rear View of Cover w/ Integral Handle



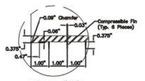
Front View of Cover w/ Integral Handle

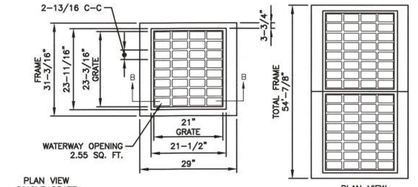


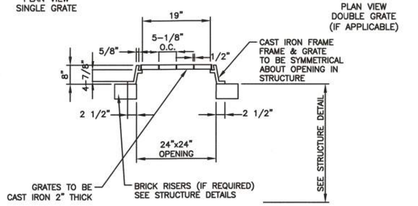




Section 1–1

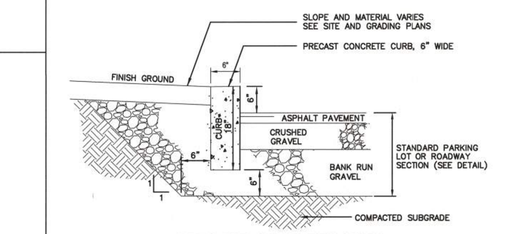






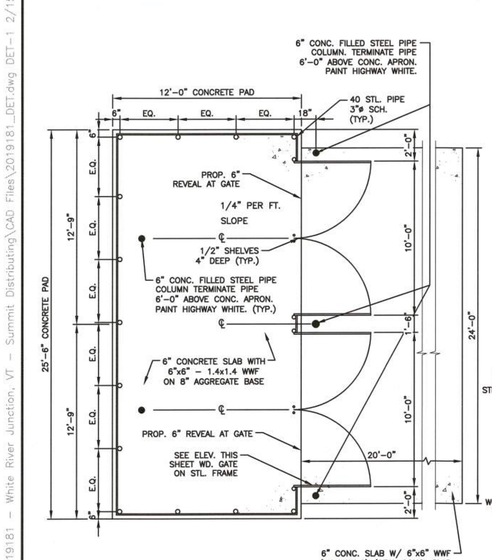
FRAME AND GRATE - TYPE B

NOT TO SCALE



PRECAST CONCRETE CURB

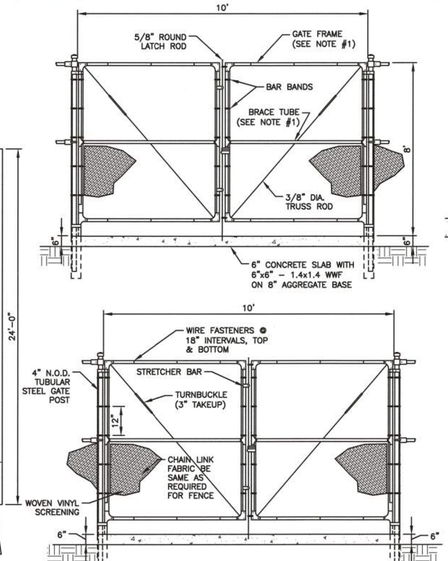
NOT TO SCALE



PLAN VIEW

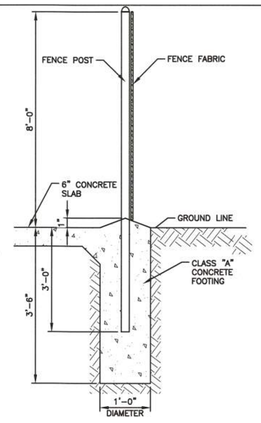
CHAINLINK TRASH ENCLOSURE

NOT TO SCALE



GATE DETAIL

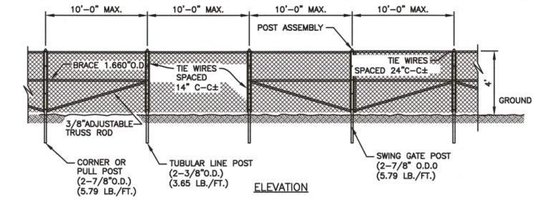
NOTE:
1) NOMINAL OUTSIDE DIAMETER (N.O.D.) OF GATE FRAME AND BRACE TUBE TO BE 1.66" UP TO 6" IN WIDTH, AND 1.90" IF OVER 6' IN WIDTH.



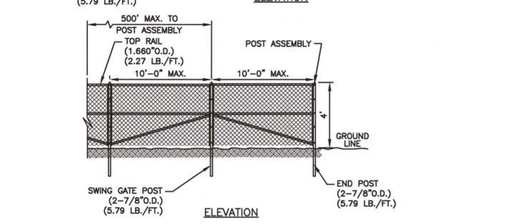
TRASH ENCLOSURE FENCE DETAIL

NOT TO SCALE

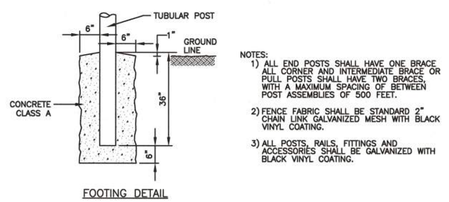
FENCE NOTES:
1) FENCE FABRIC SHALL BE STANDARD 2" CHAIN LINK GALVANIZED MESH WITH PRIVACY SLATS (FOREST GREEN).
2) ALL POSTS SHALL BE GALVANIZED SCHEDULE 40 STEEL PIPE.
3) ALL LINE POSTS TO BE 2.375" O.D. PIPE. MAXIMUM SPACING TO BE 10' ON CENTER.
4) ALL END AND CORNER POSTS TO BE 2.875" O.D. PIPE.
5) ALL TOP AND MIDDLE RAILS TO BE 1.66" O.D. PIPE.
6) ALL FITTINGS AND ACCESSORIES SHALL BE GALVANIZED.



ELEVATION



ELEVATION

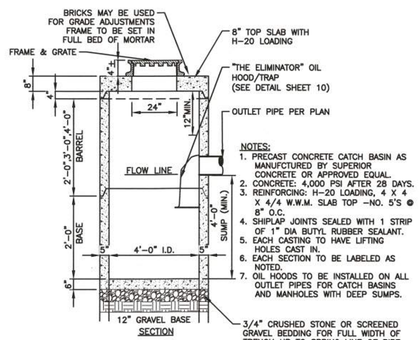


FOOTING DETAIL

NOTES:
1) ALL END POSTS SHALL HAVE ONE BRACE. ALL CORNER AND INTERMEDIATE BRACE OR PULL POSTS SHALL HAVE TWO BRACES, WITH A MAXIMUM SPACING OF BETWEEN POST ASSEMBLIES OF 500 FEET.
2) FENCE FABRIC SHALL BE STANDARD 2" CHAIN LINK GALVANIZED MESH WITH BLACK VINYL COATING.
3) ALL POSTS, RAILS, FITTINGS AND ACCESSORIES SHALL BE GALVANIZED WITH BLACK VINYL COATING.

CHAIN LINK FENCE DETAIL

NOT TO SCALE



NOTES:
1. PRECAST CONCRETE CATCH BASIN AS MANUFCTURED BY SUPERIOR CONCRETE OR APPROVED EQUAL.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. REINFORCING: H–20 LOADING, 4 X 4 X 4/4 W.W.M. SLAB TOP –NO. 5'S ø 8" O.C.
4. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA BUTYL RUBBER SEALANT.
5. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
6. EACH SECTION TO BE LABELED AS NOTED.
7. OIL HOODS TO BE INSTALLED ON ALL OUTLET PIPES FOR CATCH BASINS AND MANHOLES WITH DEEP SUMPS.
3/4" CRUSHED STONE OR SCREENED GRAVEL BEDDING FOR FULL WIDTH OF TRENCH UP TO SPRING LINE OF PIPE (6" IN EARTH, 12" IN LEDGE)

PRECAST CONCRETE CATCH BASIN WITH HOOD

NOT TO SCALE

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ASSESSORS MAP 44 LOT 41
SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
2/15/24

REVISIONS		
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NO.	REVISION	DATE

FEBRUARY 2, 2024

DRAWN/DESIGN BY	CHECKED BY
CCC	NID

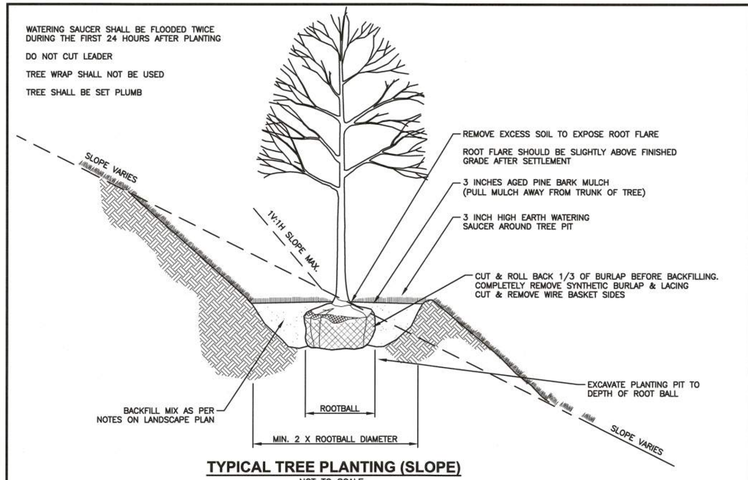
DETAIL SHEET

SCALE: AS SHOWN

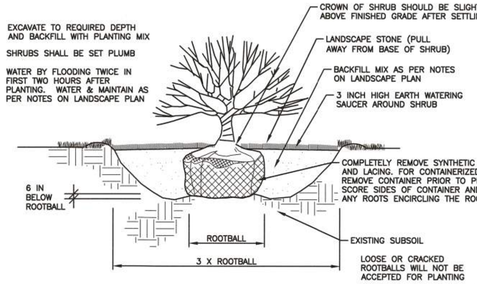
NEX-2019181

10 OF 13

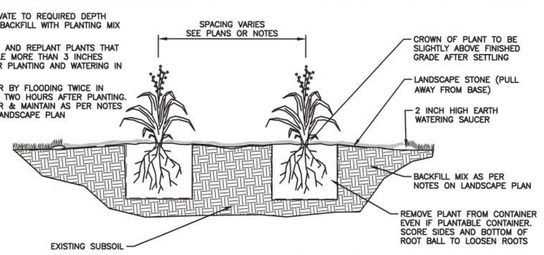
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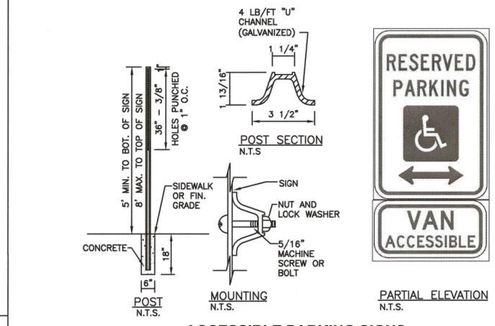
TYPICAL TREE PLANTING (SLOPE)
NOT TO SCALE



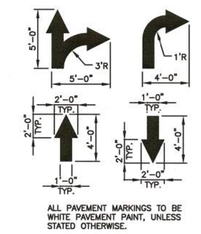
TYPICAL SHRUB PLANTING
NOT TO SCALE



TYPICAL PERENNIAL PLANTING
NOT TO SCALE

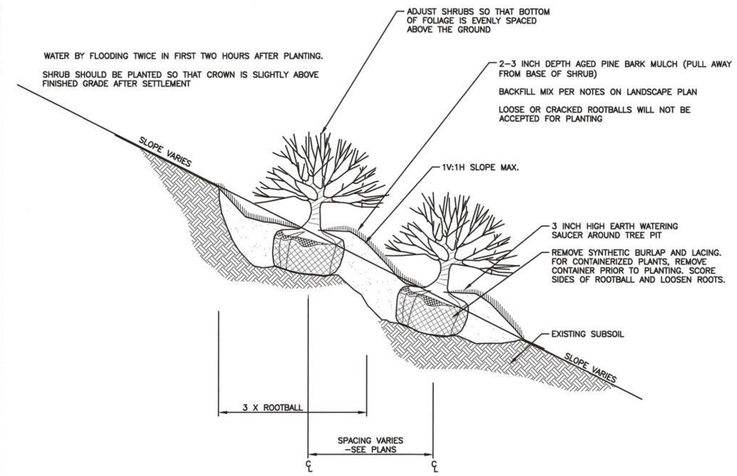


ACCESSIBLE PARKING SIGNS
NOT TO SCALE

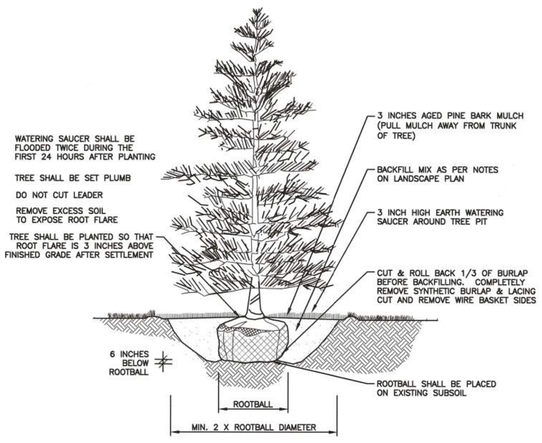


ALL PAVEMENT MARKINGS TO BE WHITE PAVEMENT PAINT, UNLESS STATED OTHERWISE.

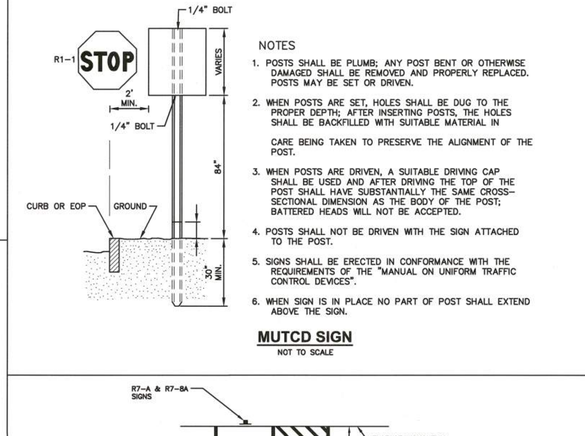
ON-SITE PAVEMENT MARKING
NOT TO SCALE



TYPICAL SHRUB PLANTING (SLOPE)
NOT TO SCALE



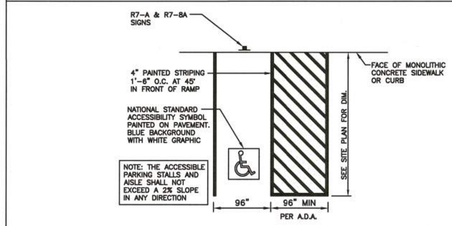
TYPICAL EVERGREEN TREE PLANTING
NOT TO SCALE



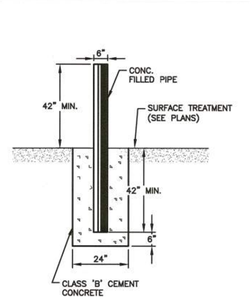
NOTES

1. POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH; AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST; BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
6. WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.

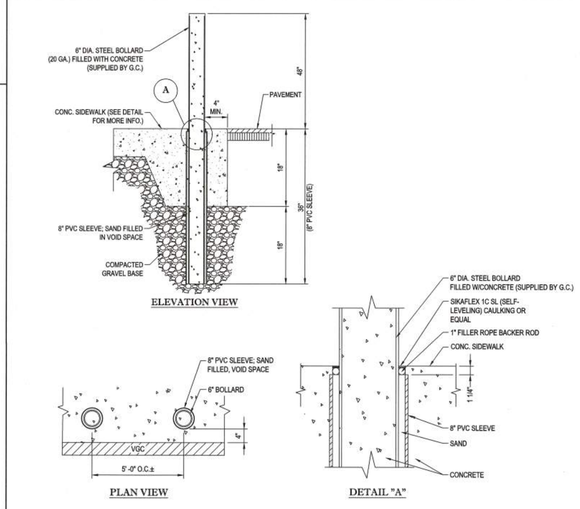
MUTCD SIGN
NOT TO SCALE



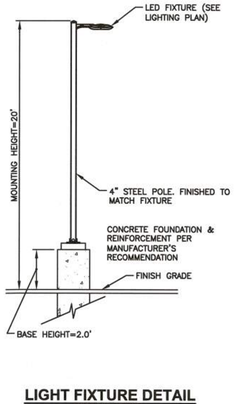
ACCESSIBLE PARKING STALLS
NOT TO SCALE



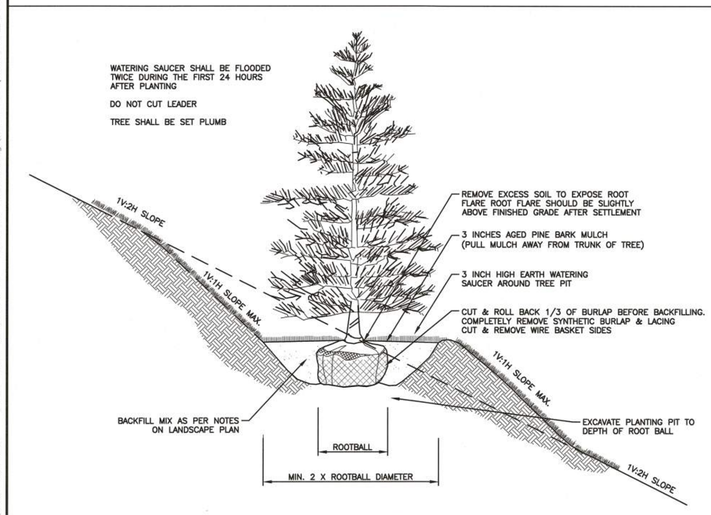
PIPE BOLLARD
NOT TO SCALE



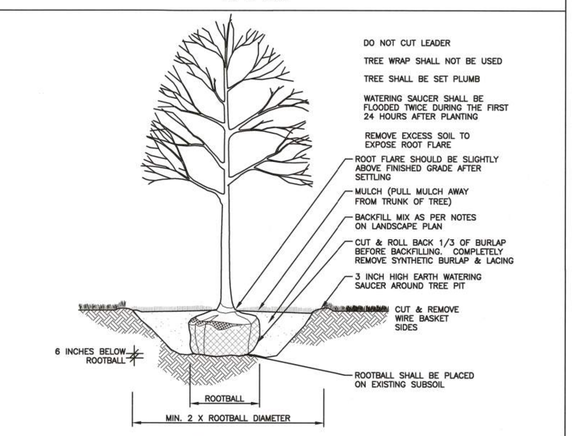
BOLLARD SET IN CONCRETE WALK
NOT TO SCALE



LIGHT FIXTURE DETAIL
NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING (SLOPE)
NOT TO SCALE



TYPICAL TREE PLANTING
NOT TO SCALE

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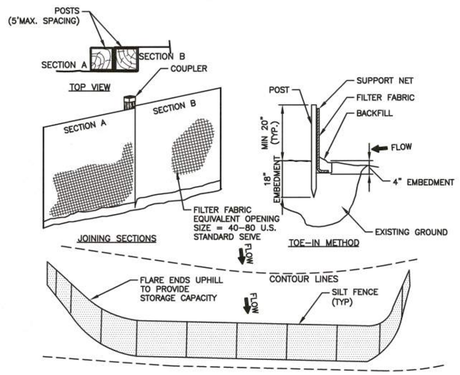
DETAIL SHEET

SCALE: AS SHOWN

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CRITERIA FOR SILT FENCES:

1) SILT FENCE FILTER CLOTH: THE FABRIC FOR THE SILT FENCE SHALL MEET THE FOLLOWING SPECIFICATIONS:

FABRIC PROPERTIES:	MINIMUM ACCEPTABLE VALUES	TEST METHOD
GRAB TENSILE STRENGTH (lbs)	90	ASTM D1682
ELONGATION AT FAILURE (%)	50	ASTM D1682
MULLEN BURST STRENGTH (PSI)	190	ASTM D3786
PUNCTURE STRENGTH (lbs)	40	ASTM D751
EQUIVELANT OPENING SIZE	40-80	US STD SIEVE

2) FENCE POSTS (FOR FABRICATED UNITS) – THE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG. WOOD POSTS WILL BE OF SOUND QUALITY HARDWOOD WITH A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES. STEEL POSTS WILL BE STANDARD T OR U SECTIONS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT. MAXIMUM SPACING SHALL BE 6 LINEAR FEET.

3) WIRE FENCE (FOR FABRICATED UNITS) – WIRE FENCING SHALL BE A MINIMUM 14.5 GUAGE WITH A MAXIMUM 6 INCH MESH OPENING.

4) PREFABRICATED UNITS – PREFABRICATED UNITS MAY BE USED IN LIEU OF THE ABOVE METHOD PROVIDING: (1) THE FILTER CLOTH AND FENCE POSTS MEET THE ABOVE CRITERIA; AND (2) THE UNIT IS INTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE:

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.

2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.

3) SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMITELY ONE-HALF THE HEIGHT OF THE BARRIER.

4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

CONSTRUCTION SPECIFICATIONS:

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.

2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND (4" DEEP & 4" WIDE) AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.

3) WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.

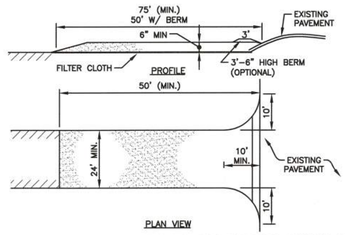
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.

5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EAC OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES (24" IS PREFERRED), FOLDED, AND STAPLED.

6) POSTS TO BE SPACED AT A MAXIMUM OF 6' ON CENTER.

SEDIMENT CONTROL FENCE

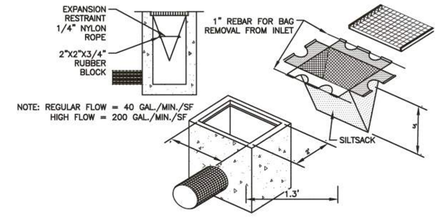
NOT TO SCALE



1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH COARSE AGGREGATE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET,
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN 24' WHERE INGRESS OCCURS.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO EXIT ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

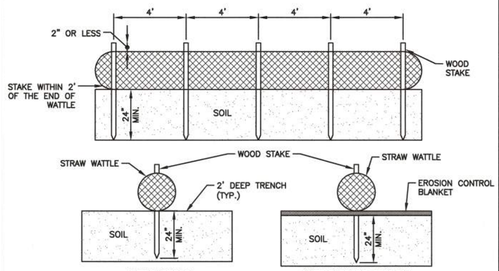
STABILIZED CONSTRUCTION EXIT

NOT TO SCALE



SILT SACK DETAIL-ON OR OFF SITE

NOT TO SCALE



NOTES:
1. ENDS OF WATTLES SHALL BE TURNED SLIGHTLY UP.
2. RECCOMMENDED STAKES ARE 1 1/8" WIDE x 1 1/8" THICK x 30" LONG. STAKES SHALL NOT EXCEED ABOVE THE STRAW WATTLE MORE THAN 2".

STRAW WATTLE

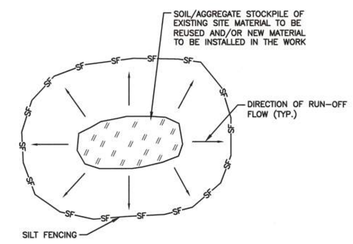
NOT TO SCALE

MAINTENANCE

1. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY.
2. SEDIMENT SHOULD BE REMOVED FROM THE TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF OF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURAL OR VEGETATIVE MEANS.
3. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.
4. ALL STRUCTURES WITH INLET PROTECTION MUST BE CLEANED AT THE END OF CONSTRUCTION AND WHEN THE SITE IS FULLY STABILIZED.

INLET PROTECTION DETAIL

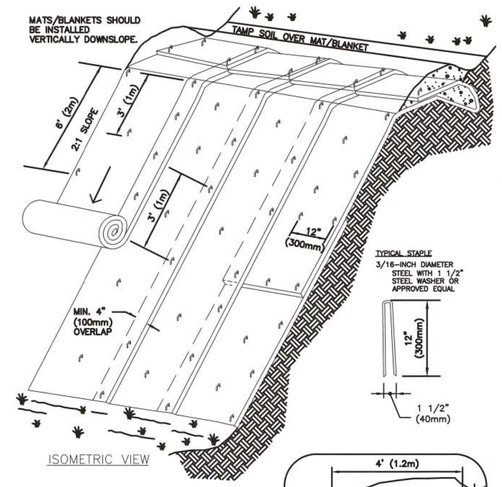
NOT TO SCALE



NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.
3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

MATERIALS STOCKPILE

NOT TO SCALE



ISOMETRIC VIEW

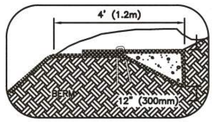
TYPICAL SLOPE
SOIL STABILIZATION

NOTES:
1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW. LAY BLANKETS LOOSELY & MAINTAIN DIRECT CONTACT WITH SOIL – DO NOT STRETCH.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE BLANKET END OVER END WITH 6 INCH (MIN.) OVERLAP AND ANCHOR DOWN SLOPE BLANKET IN A 6 INCH DEEP TRENCH.
5. BLANKETS SHALL BE STAPLED ENOUGH TO ANCHOR BLANKET WHILE MAINTAINING CONTACT WITH SOIL. STAPLES SHALL BE PLACED DOWN THE CENTER & STAGGERED WITH THE STAPLES PLACED ALONG EDGES. PATTERN & AMOUNT OF STAPLES VARIES BY MANUFACTURER, SO FOLLOW MANUFACTURERS RECOMMENDATIONS.
6. BLANKET SHALL BE NORTH AMERICAN GREEN SC-150 BN OR APPROVED EQUAL.

MAINTENANCE & MATS
1. BLANKETS SHALL BE INSPECTED WEEKLY DURING CONSTRUCTION & AFTER A RAINFALL IN EXCESS OF 1/2" IN A 24-HOUR PERIOD.
2. FAILURES SHALL BE REPAIRED IMMEDIATELY. IF ANY OF THE FOLLOWING OCCUR; SLOPE WASHOUT, MAT DISPLACEMENT, DAMAGE TO MAT, THE AFFECTED AREA SHALL BE REPAIRED & RESEEDED & MAT SHALL BE REPLACED OR RE-INSTALLED.

BLANKET SLOPE PROTECTION FOR EROSION CONTROL

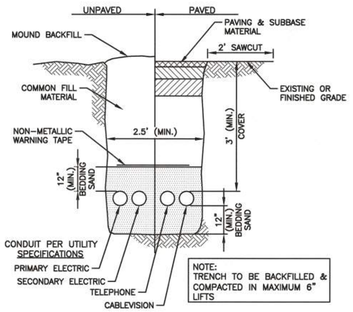
NOT TO SCALE



TYPICAL INSTALLATION
OF EROSION CONTROL
BLANKETS FOR SLOPES

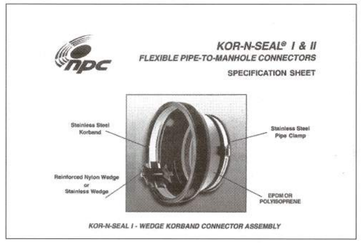
NOT TO SCALE

NOTE:
1) DO NOT USE PRODUCTS THAT CONTAIN WELDED PLASTIC OR THAT ARE "PHOTODEGRADABLE". USE PRODUCTS WITH BIODEGRADABLE NETTING AND NATURAL FIBER MATERIAL (I.E. STRAW OR COCONUT FIBER).
2) THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED.



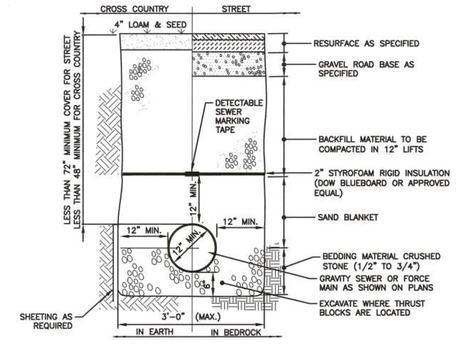
UTILITY TRENCH

NOT TO SCALE



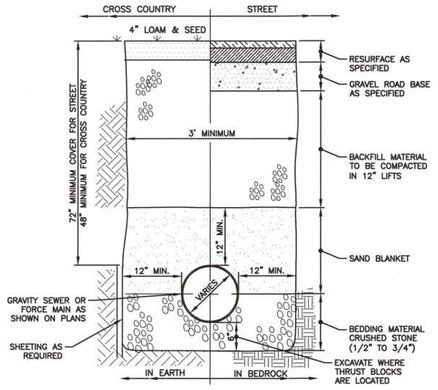
KOR-N-SEAL DETAIL

NOT TO SCALE



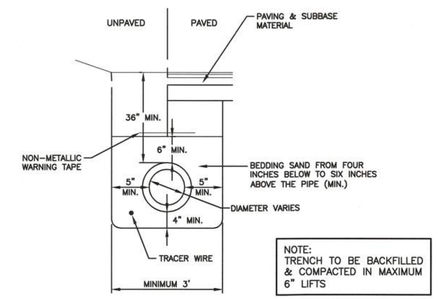
TYPICAL TRENCH SECTION FOR SANITARY SEWER SERVICE WITH LESS THAN 6' OF COVER

NOT TO SCALE



TYPICAL TRENCH SECTION FOR SANITARY SEWER SERVICE

NOT TO SCALE



TYPICAL GAS TRENCH

NOT TO SCALE

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LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
2/15/24

REVISIONS		
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

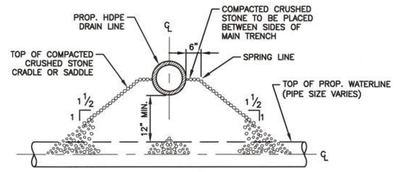
DETAIL SHEET

SCALE: AS SHOWN

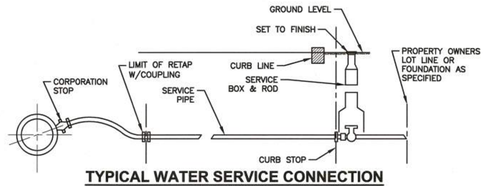
NEX-2019181

12 OF 13

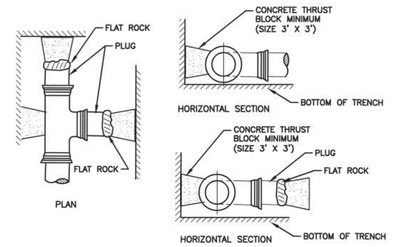
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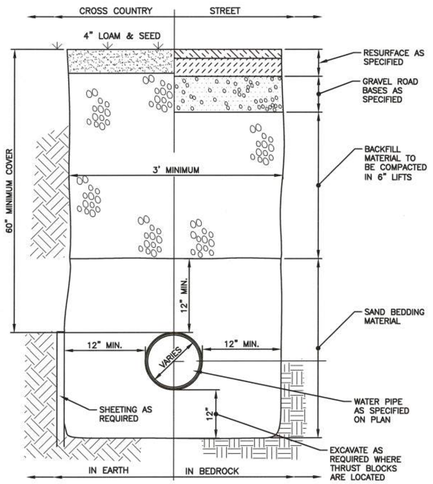
PIPE CROSSING DETAIL
NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



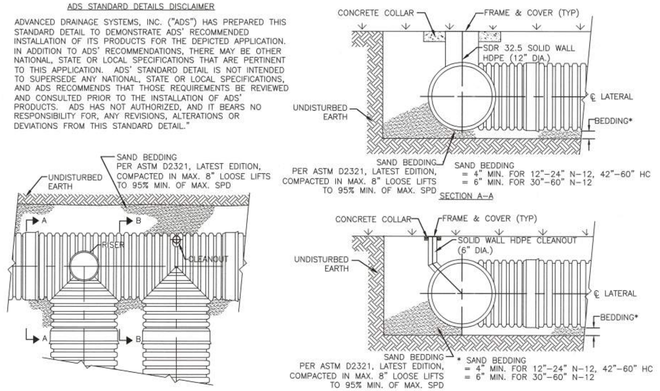
THRUST BLOCK
NOT TO SCALE



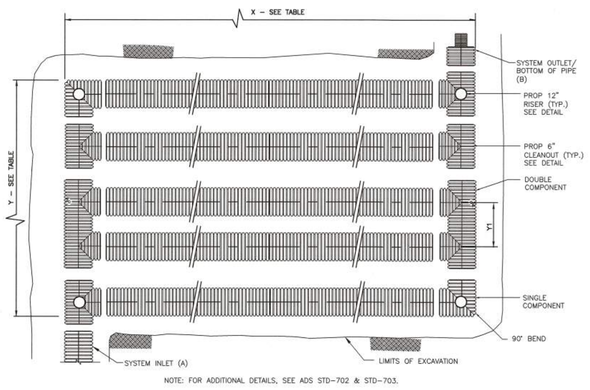
TYPICAL TRENCH SECTION FOR WATER SERVICE
NOT TO SCALE

ADS STANDARD DETAILS DISCLAIMER

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS STANDARD DETAIL TO DEMONSTRATE ADS' RECOMMENDED INSTALLATION OF ITS PRODUCTS FOR THE DEPICTED APPLICATION. IN ADDITION TO ADS' RECOMMENDATIONS, THERE MAY BE OTHER NATIONAL, STATE OR LOCAL SPECIFICATIONS THAT ARE PERTINENT TO THIS APPLICATION. ADS' STANDARD DETAIL IS NOT INTENDED TO SUPERSEDE ANY NATIONAL, STATE OR LOCAL SPECIFICATIONS, AND ADS RECOMMENDS THAT THOSE REQUIREMENTS BE REVIEWED AND CONSULTED PRIOR TO THE INSTALLATION OF ADS' PRODUCTS. ADS HAS NOT AUTHORIZED, AND IT BEARS NO RESPONSIBILITY FOR, ANY REVISIONS, ALTERATIONS OR DEVIATIONS FROM THIS STANDARD DETAIL."



TYPICAL RISER AND CLEANOUT DETAILS
NOT TO SCALE



NOTE: FOR ADDITIONAL DETAILS, SEE ADS STD-702 & STD-703.

UNDERGROUND STORMWATER DETENTION SYSTEM TABLE							
UG DETENTION SYSTEM	LENGTH (X)	WIDTH (Y)	SPACING (Y1) (O.C. TYP.)	PIPE SIZE (INCHES) SOLID	INV. PIPE ELEV. (A)	INV. PIPE ELEV./BOTTOM OF PIPE (B)	# PIPE ROWS
UG-DET #1	36.00'	58.45'	53.1"	30"SOLID(WT)	541.69 541.00	540.95	12

NOTE: SEE TYPICAL CROSS SECTIONS BELOW
WT = WATERTIGHT JOINTS

TYPICAL UNDERGROUND DETENTION SYSTEM LAYOUT
NOT TO SCALE

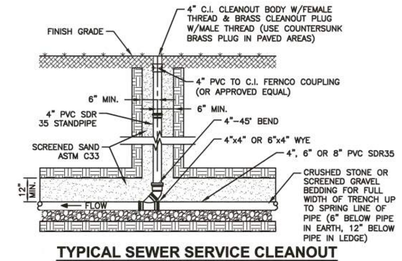
DETENTION SYSTEM NOTES:

1) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH–DENSITY POLYETHYLENE PIPE, DUAL WALL, SMOOTH INTERIOR AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN.

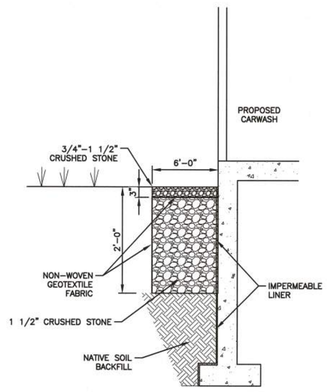
2) CONTRACTOR SHOULD CONFIRM SYSTEM PARTS AND OBTAIN SHOP DRAWINGS FROM MANUFACTURER. SUBSTITUTIONS AND SHOP DRAWINGS SHOULD BE APPROVED BY THE ENGINEER.

3) PARTS SPECIFICATIONS SHOWN ARE AS PROVIDED BY ADS, INC., OR APPROVED EQUAL. ANY CHANGES TO THESE SPECIFICATIONS SHOULD BE APPROVED BY DESIGN ENGINEER FOR PERFORMANCE.

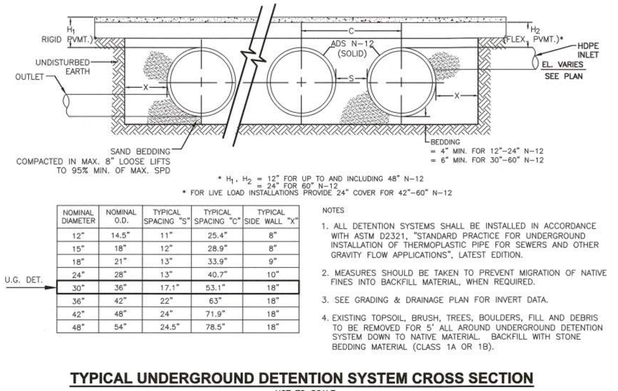
4) SYSTEM TO BE LAID LEVEL.



TYPICAL SEWER SERVICE CLEANOUT
NOT TO SCALE



STONE DRIP EDGE
NOT TO SCALE



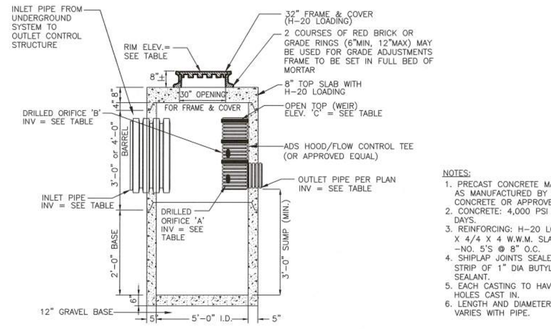
* H_1, H_2 = 12" FOR UP TO AND INCLUDING 48" N–12
= 24" FOR 60" N–12
* FOR LIVE LOAD INSTALLATIONS PROVIDE 24" COVER FOR 42"–60" N–12

NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	TYPICAL SPACING "C"	TYPICAL SIDE WALL "X"
12"	14.5"	11"	25.4"	8"
15"	18"	12"	28.9"	8"
18"	21"	13"	33.9"	9"
24"	28"	13"	40.7"	10"
30"	36"	17.1"	53.1"	18"
36"	42"	22"	63"	18"
42"	48"	24"	71.9"	18"
48"	54"	24.5"	78.5"	18"

U.G. DET.

NOTES
1. ALL DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. SEE GRADING & DRAINAGE PLAN FOR INVERT DATA.
4. EXISTING TOPSOIL, BRUSH, TREES, BOULDERS, FILL AND DEBRIS TO BE REMOVED FOR 5' ALL AROUND UNDERGROUND DETENTION SYSTEM DOWN TO NATIVE MATERIAL. BACKFILL WITH STONE BEDDING MATERIAL (CLASS 1A OR 1B).

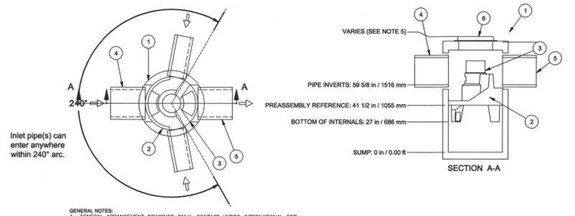
TYPICAL UNDERGROUND DETENTION SYSTEM CROSS SECTION
NOT TO SCALE



NOTES:
1. PRECAST CONCRETE MAN HOLE AS MANUFACTURED BY SUPERIOR CONCRETE OR APPROVED EQUAL.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. REINFORCING: H–20 LOADING, 4 X 4/4 X 4 W.W.M. SLAB TOP –NO. 5'S @ 8" O.C.
4. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA BUTYL RUBBER SEALANT.
5. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
6. LENGTH AND DIAMETER OF TEE VARIES WITH PIPE.

OUTLET CONTROL STRUCTURE TABLE								
OCS	RIM	ORIFICE	SIZE (IN.)	ELEV.	INV.IN (SIZE)	INV.IN (ELEV)	INV.OUT (SIZE)	INV.OUT (ELEV)
#1	545.00	A	1" DIA.	540.95	12"	540.95	12"	540.95
		B	1" DIA.	541.45				
		C	12" DIA.	543.10				

PRECAST CONCRETE OUTLET CONTROL STRUCTURE (OCS) FOR UNDERGROUND SYSTEMS
NOT TO SCALE



GENERAL NOTES:
1. GENERAL ARRANGEMENT DRAWINGS ONLY. CONTACT HYDRO INTERNATIONAL FOR SITE SPECIFIC FABRICATION DRAWINGS.
2. THE DIAMETER OF THE INLET & OUTLET PIPES MAY BE NO MORE THAN 24".
3. MULTIPLE INLET PIPES POSSIBLE (REFER TO PROJECT PLANS).
4. INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK (REFER TO PROJECT PLANS).
5. PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER.
6. LARGER SEDIMENT STORAGE CAPACITY MAY BE PROVIDED WITH A DEEPER SUMP DEPTH.

PRODUCT SPECIFICATIONS:
A. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM THE WATER COLUMN.
B. THE TREATMENT SYSTEM SHALL FIT WITHIN THE LIMITS OF EXCAVATION (AREA AND DEPTH) AS SHOWN IN THE PROJECT PLANS AND WILL NOT EXCEED THE DIMENSIONS FOR THE DESIGN FLOW RATES SPECIFIED HEREIN.
C. THE TREATMENT SYSTEM SHALL REMOVE GREATER THAN OR EQUAL TO 80% OF TSS (MASS) ON THE TSS LOAD PARTICLE SET (TPSD) OF 100 MICRONS AND/OR 80% OF TSS BASED ON THE TSS LOAD PARTICLE SET (TPSD) OF 50 MICRONS.
D. THE TREATMENT SYSTEM SHALL CONVEY THE PEAK ON–LINE FLOW RATES OF UP TO 18 CFS WITHOUT CAUSING UPSTREAM SURCHARGE CONDITIONS. FULL–SCALE INDEPENDENT LABORATORY SCOUR TESTING SHALL DEMONSTRATE EFFLUENT CONTROL OF LESS THAN OR EQUAL TO 5 MG/L FOR ALL FLOWS UP TO 200% OF WTRV–106.
E. THE TREATMENT SYSTEM SHALL BE CAPABLE OF CAPTURING AND RETAINING FINE SILT AND DEBRIS. FULL–SCALE INDEPENDENT LABORATORY TESTING FOR ON–LINE INSTALLATIONS SHALL DEMONSTRATE PARTICLE SIZES PREDOMINATELY IN THE 20–MICRON RANGE

NOTE: CONTRACTOR SHALL CONFIRM SYSTEM PARTS AND OBTAIN SHOP DRAWINGS FROM MANUFACTURER PRIOR TO CONSTRUCTION.

PARTS LIST				
ITEM	QTY	SIZE (in)	SIZE (mm)	DESCRIPTION
1	1	48	1200	I.D. PRECAST MANHOLE
2	1			INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	750	FRAME AND GRATE
4	1	24 (MAX)	600 (MAX)	OUTLET PIPE (BY OTHERS)
5	1	24 (MAX)	600 (MAX)	INLET PIPE (BY OTHERS)

"FIRST DEFENSE" FD-4HC UNIT DETAIL
(OR APPROVED EQUAL)
NOT TO SCALE

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44 Stiles Road, Suite One
Salem, NH 03079

PREPARED FOR
SUMMIT DISTRIBUTING
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LEBANON, NH 03766

ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

STATE OF VERMONT
DAVID R. JORDAN
NO. 135215
CIVIL
REGISTERED PROFESSIONAL ENGINEER
2/15/24

REVISIONS		
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

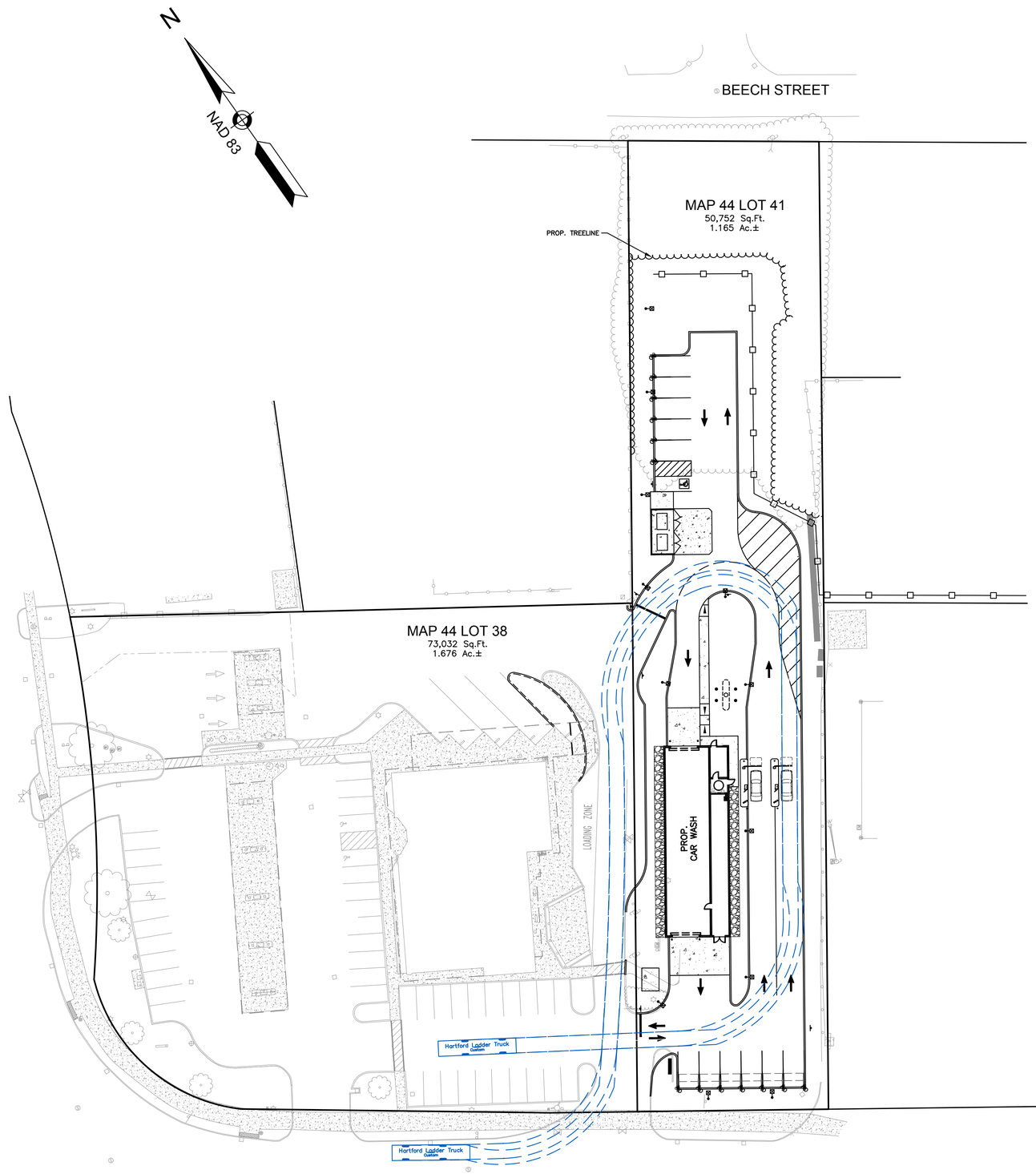
DETAIL SHEET

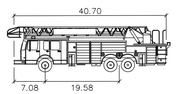
SCALE: AS SHOWN

NEX-2019181

13 OF 13

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Hartford Ladder Truck

	feet
Width	: 8.00
Track	: 7.83
Lock to Lock Time	: 6.0
Steering Angle	: 42.0

0 30 60 100

SCALE: 1" = 30'

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ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

REVISIONS		
2.	MISC REV.	2/15/24
1.	REV. PER TOWN COMMENT	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

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CCC	NID

TRUCK TURN PLAN 1 (FIRE)

SCALE: 1"=30'

NEX-2019181

1 OF 1

F:\Projects\MAX-2019181 - White River Junction, VT - Summit Distributing\CAD Files\2019181_SP.dwg TT 1 5/01/24 3:25pm srollins

N

NAD 83

BEECH STREET

MAP 44 LOT 41
50,752 Sq.Ft.
1.165 Ac.±

PROP. TREELINE

MAP 44 LOT 38
73,032 Sq.Ft.
1.676 Ac.±

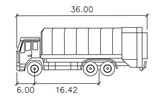
PROP. CAR WASH

LOADING ZONE

Garbage-Front Load

NORTH MAIN STREET - ROUTE 5
(PUBLIC – VARIABLE WIDTH)

SYKES MOUNTAIN AVENUE
(PUBLIC – VARIABLE WIDTH)



Garbage-Front Load

	feet
Width	: 9.33
Track	: 9.33
Lock to Lock Time	: 6.0
Steering Angle	: 23.0

0 30 60 100

SCALE: 1" = 30'

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ASSESSORS MAP 44 LOT 41

SYKES MOUNTAIN AVENUE
WHITE RIVER JUNCTION, VERMONT

REVISIONS		
1.	MISC REV.	2/15/24
NO.	REVISION	DATE

FEBRUARY 2, 2024

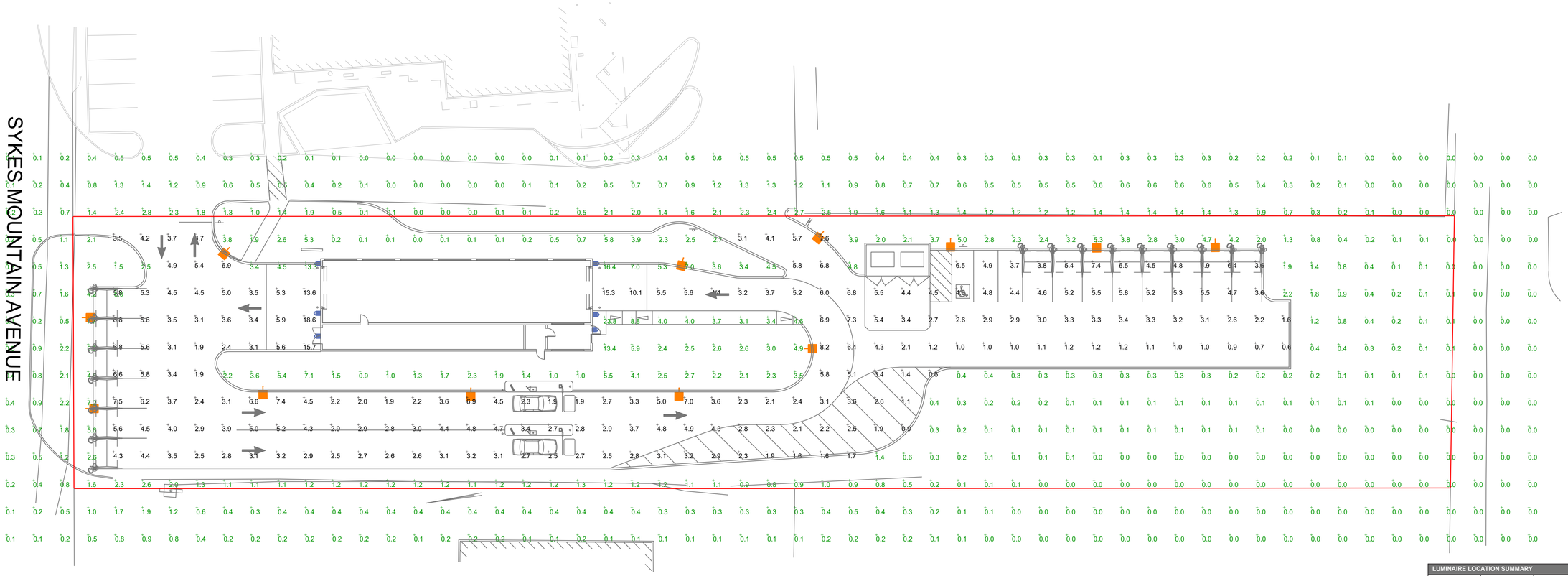
DRAWN/DESIGN BY	CHECKED BY
CCC	NID

TRUCK TURN PLAN 2 (GARBAGE)

SCALE: 1"=30'

NEX-2019181

1 OF 1



NOTES:
- POLE MOUNTED FIXTURES ARE MOUNTED ON A 17FT POLE ATOP A 30 INCH HIGH CONCRETE BASE.

LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
1	A	19.5
2	A	19.5
3	A	19.5
4	A	19.5
5	A	19.5
6	A	19.5
7	A	19.5
8	A	19.5
9	A	19.5
10	A	19.5
11	A	19.5
12	A	19.5
13	W	9
14	W	9
15	W	9
16	W	9
17	W	9
18	W	9

FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
PAVED AREA	4.04	18.6	0.6	6.73	31.00
UNDEFIND AREA	0.96	23.8	0.0	N.A.	N.A.

LUMINAIRE SCHEDULE										
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURE	CATALOG LOGIC
	12	A	SINGLE	10450	1.030	B2-U0-G2	68	816	Cree Lighting	OSQ-ML-C-DA + OSQM-C-11L-57K7-3M-UL-NM-XX-Q9
	6	W	SINGLE	4071	1.030	B1-U0-G1	26.8	160.8	Cree Lighting	OSQW-C-4L-40K7-3M-UL-WM-XX

REDLEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

REV.	BY	DATE	DESCRIPTION
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SCALE: 1" = 20'
LAYOUT BY: TAS
DWG SIZE: D
DATE: 1/31/24

PROJECT NAME:
CAR WASH
SUMMIT DISTRIBUTING
WHITE RIVER JCT. VT.
DRAWING NUMBER:
RL-9431-S1

	QTY	LABEL	DESCRIPTION
AREA	12	A	OSQ-ML-C-DA + OSQM-C-11L-57K7-3M-UL-NM-XX-Q9

ADDITIONAL FIXTURE INFO

OSQ Series

OSQ™ LED Area/Flood Luminaire featuring Patented NanoComfort™ Technology – Version C

Rev. Date: V7 11/01/2023

Product Description

The OSQ™ Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment and high performance heat sink.

Acrylic optic w/clear tempered glass lens

Some versions are provided with full circuit board, but not fully populated with LEDs or optics to scale back lumen package

Luminaire can also be directly mounted on direct arm. Mounting adaptor is rugged die cast aluminum and mounts to 2" (50mm) or larger square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers. Refer to page 14 for fixture mounting information

Adjustable arm mount available as a rugged, die-cast aluminum

Trunnion mount is constructed of 6000 and 6111 steel and is adjustable from 0-180° in 15° degree increments. Trunnion mount secures to surface with (1) 3/4" bolt or (2) 1/2" bolts

Luminaires include 15' (381mm) 18/5 cord exiting the luminaire

Designed for uplight and downlight applications. Uplight orientation not suitable for use with N or R options

Exclusive ColorSeal DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available.

Weight

Mount	Housing Size		
	Medium	Large	Extra Large
Direct Arm	19.7 lbs. (8.9kg)	28.8 lbs. (13.1kg)	43.8 lbs. (20.0kg)
Adjustable Arm	19.3 lbs. (8.8kg)	28.4 lbs. (12.9kg)	48.6 lbs. (22.0kg)
Trunnion	23.2 lbs. (10.5kg)	32.3 lbs. (14.7kg)	N/A

For BML sensor add 0.1 lbs. (45g), and for NEMA receptacle, add 0.3 lbs. (136g).

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 277-480V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV/5kA surge suppression protection standard; 20kV/10kA surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Dims to 10%. Controls by others
- 0-10V ANSI C137.1-2019 (8-Volt or 9-Volt per power level/options selected) Refer to Dimming spec sheet for details
- **Maximum 10V Source Current:** 1.8mA
- **Operating Temperature Range:** -40˚C - +40˚C (-40˚F - +104˚F)

REGULATORY & VOLUNTARY QUALIFICATIONS

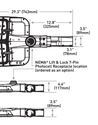
- cULus Listed (UL 1598)
- Suitable for wet locations
- Meets NEMA 250 IP standards
- Drivers and LEDs are UL certified in accordance with UL8750
- Meets requirements of IP66 per IEC 60529 when ordered without N or R options
- Certified to ANSI C136.31-2018, 3G bridge and overpass vibration standards
- ANSI C136.2 10kV/5kA (standard) and 20kV/10kA (optional) surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Lens meets IK09 requirements per IEC 60068-2
- Assembled in the USA by Cree Lighting from US and imported parts
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 3000K CCT and direct arm mount only. Please refer to https://darksky.org/what-we-do/darksky-approved/products-companies/#!/search/keyword=cree for most current information
- DLC and DLC Premium qualified SKUs available. Exceptions apply when 2R, 3R, 4R & 4B options are selected. Please refer to https://qpl.designlights.org/solid-state-lighting/ for most current information
- TLC Lens qualified when ordered with direct arm mount and 3000°CCT. Please refer to https://www.designlights.org/solid-state-lighting/ for most current information
- ⚠ **CA RESIDENTS WARNING:** Cancer and Reproductive Harm - www.p65warnings.ca.gov

US: creelighting.com **(800) 236-4800**
Canada: creelighting-canada.com **(800) 473-1234**

CREE LIGHTING

OSQM - AA Mount





Luminaire	Weight
OSQM	19.3 lbs. (8.8kg)

Note: For OSQL, OSQM and additional mounts, refer to drawings on page 27.

Mount (Luminaire must be ordered separately)*

OSQ-

Medium/Large Mounts	Extra Large Mounts	Color Options:	
OSQ-ML-C-DA Adjustable Arm	**OSQ-X-C-AA** Adjustable Arm	**SV** Silver	**BZ** Bronze
OSQ-ML-C-DA Direct Arm	**OSQ-X-C-DA** Direct Arm	**BK** Black	**WH** White
OSQ-ML-C-TR Trunnion Mount			

*Reference fixture mounting drill pattern, EPA, and pole configuration guidelines data beginning on page 14.

Luminaire (Mount must be ordered separately)

OSQ- | **C**

Family	Size	Series	Lumen Package*	CCT/ CRI	Optic	Voltage	Mount	Color Options	Controls**	Options
OSQ	**M** Medium **L** Large **X** Extra Large	**C**	**Medium** **3L** 3,000 Lumens **4L** 4,000 Lumens **5L** 5,000 Lumens **6L** 6,000 Lumens **7L** 7,000 Lumens **8L** 8,000 Lumens **10L** 10,000 Lumens **11L** 11,000 Lumens **13L** 13,000 Lumens **16L** 16,000 Lumens **Low LCE** **5LLCE** 5,000 Lumens **6LLCE** 6,000 Lumens **7LLCE** 7,000 Lumens **8LLCE** 8,000 Lumens **10LLCE** 10,000 Lumens **11LLCE** 11,000 Lumens **13LLCE** 13,000 Lumens **16LLCE** 16,000 Lumens **Extra Low LCE** **7XLLCE** 7,000 Lumens **8XLLCE** 8,000 Lumens **10XLLCE** 10,000 Lumens **11XLLCE** 11,000 Lumens **13XLLCE** 13,000 Lumens **16XLLCE** 16,000 Lumens	**30K**† 3000K, 70 CRI **40K** 4000K, 70 CRI **50K**† 5000K, 70 CRI **57K7** 5700K, 70 CRI	**Automatics** **1A** Type 1 Mid **2A** Type 2 Mid **3A** Type 3 Mid **4A** Type 4 Mid **5A** Type 5 Mid **6A** Type 6 Mid **Backlight Shield** **BLS** Backlight Shield - Available with all automatic optics except R5L **Backlight Control** **BLC** Backlight Shield - Available with all automatic optics except R5L **Symmetrics** **1S** Type 1 Mid **3S** Type 3 Mid **4S** Type 4 Short **5S** Type 5 Narrow **5W** Type 5 Wide **6S** Type 6 Mid **6W** Type 6 Wide **R5W** Rotated 5W **R6S** Rotated 6S **R6W** Rotated 6W **R5WAS** Rotated 5W with Automotive Frontline Asymmetric factory installed **R6SAS** Rotated 6S with Automotive Frontline Asymmetric factory installed **R6WAS** Rotated 6W with Automotive Frontline Asymmetric factory installed **Backlight Control** **BLC** Backlight Shield - Available with all symmetric optics except R5L **Rotate Left** **R** Rotate optic left - Refer to BWL-C spec sheet for details - Not available with symmetric optics **Rotate Right** **R** Rotate optic right - Refer to BWR-C spec sheet for details - Not available with symmetric optics	**UL** Universal 120-277V **HV** Universal 347-480V - Not available with 5L, 6L, 7L, 8L, 10L, 11L, 13L, 16L, 7XLLCE, 8XLLCE, 10XLLCE, 11XLLCE, 13XLLCE, 16XLLCE lumen packages **UE** Universal 120-277V - Available with 7XLLCE, 8XLLCE, 10XLLCE, 11XLLCE, 13XLLCE, 16XLLCE lumen packages	**WH** Mid-Level - Mount separately **BK** Black - Mount separately **DBZ** Dark Bronze - Mount separately **DWH** Dark White - Mount separately	**BML** Bluetooth® Technology-Enabled Multi-Level Sensor Utilizes a multifunction sensor to control luminaire - Refer to BML spec sheet for details - Refer to BML-DIM-002 spec sheet for details **DIMSENSORMOUNT** Field-Adjustable Output - Must select BT, SK, SV, SS, SL, SW, SB, or SG option - Offers full range adjustability - Refer to pages 15-16 for power and lumen values - Not available with BML or X options or Synapse TLT-HMS **HNTR/SLNR/SLNX/SLNY** Locked Lumen Output - Must select 5L, 6L, 7L, 8L, 10L, 11L, 13L, 16L, 7XLLCE, 8XLLCE, 10XLLCE, 11XLLCE, 13XLLCE, 16XLLCE lumen package - Refer to pages 15-16 for power and lumen values - Not available with the following lumen package/voltage offerings: 7LHV, 7LLCEHV, 8LLCEHV, 10LLCEHV, 11LLCEHV, 13LLCEHV, 16LLCEHV, 7XLLCEHV, 8XLLCEHV, 10XLLCEHV, 11XLLCEHV, 13XLLCEHV, 16XLLCEHV lumen package/voltage - Lumen values are factory preset and locked to the setting selected - Refer to pages 15-16 for power and lumen values	**OVP** 20kV/10kA Surge Suppression - Provides 20kV/10kA surge protection **F** Fusing - Includes one 120-277V or 347V fuse (s required) - Optional Battery Fusing is required for 20W, 340V or UBO - Fuse is preinstalled and ships with luminaire, but must be installed in the field **N** NEMA® Photocontrol Receptacle - Not available with BML or R options **NEMA® Lift & Lock 5-Pin Photocontrol Receptacle** - 7-pin receptacle per ANSI C136.41 - Not available with BML or R options **NEMA® Lift & Lock 5-Pin Photocontrol Receptacle** - 7-pin receptacle per ANSI C136.41 - Available only with OSQM & OSQL luminaires - Not available with downlight applications with maximum 45° tilt - Factory connected 7-720 slim leads - Refer to Photocontrol spec sheet for details **NEMA® Lift & Lock 5-Pin Photocontrol Receptacle** - 7-pin receptacle per ANSI C136.41 - Not available with downlight applications with maximum 45° tilt - Factory connected 7-720 slim leads - Refer to Photocontrol spec sheet for details **SPD10KV** 10kV/5kA Surge Suppression - Provides 10kV/5kA surge protection **SPD20KV** 20kV/10kA Surge Suppression - Provides 20kV/10kA surge protection **EB** Emergency Battery Back-Up - Provides 90 minutes and 7W of power in emergency mode - Not available with R options - Not available with BML, ML or P controls

OSQ-C Series Ambient Adjusted Lumen Maintenance*

Ambient	Initial LMF	25K for Reported* LMF	50K for Reported* LMF	75K for Reported* LMF	100K for Reported* LMF
5˚C (41˚F)	1.02	0.99	0.93	0.88	0.83
10˚C (50˚F)	1.02	0.98	0.93	0.87	0.82
15˚C (59˚F)	1.01	0.98	0.92	0.87	0.82
20˚C (68˚F)	1.01	0.97	0.92	0.86	0.81
25˚C (77˚F)	1.00	0.97	0.91	0.86	0.81

* Lumen maintenance values at 25˚C (77˚F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LAMF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for ambient average nighttime ambient temperature.

** In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to the tested duration in the IES LM-80 report for the LED.

Electrical Data*

Lumen Package	System Watts 120-480V	Utility Label Wattage	Total Current (A) 120V	208V	240V	277V	347V	480V
6L**	24	30	0.21	0.12	0.11	0.09	N/A	N/A
8L	27	40	0.23	0.13	0.12	0.10	0.08	0.06
11L	55	60	0.46	0.27	0.23	0.20	0.16	0.12
13L	68	70	0.57	0.33	0.28	0.25	0.20	0.14
16L	97	100	0.81	0.47	0.40	0.35	0.28	0.20
20L	131	130	1.09	0.63	0.55	0.47	0.38	0.27
30L	175	180	1.46	0.84	0.73	0.63	0.50	0.36
40L	206	260	1.96	1.13	0.98	0.85	0.68	0.49
50L	297	N/A	2.48	1.43	1.24	1.07	0.86	0.62
60L	351	N/A	2.93	1.69	1.46	1.27	1.01	0.73
70L	467	N/A	3.72	2.15	1.86	1.61	1.29	0.93
85L	520	N/A	4.34	2.50	2.17	1.88	1.50	0.93

*Electrical data at 25˚C (77˚F). Actual wattage may differ by +/- 10% when operating between 120-277V (277-480V or 347-480V) +5%.
** Available with 6L wattage only.

Accessories

Field-Installed

External Backlight Shield
OSQ-M-C-BLSF (Medium)
OSQ-L-C-BLSF (Large)
OSQ-X-C-BLSF (Extra Large)
- Not for use with rotated optics

Bird Spikes
OSQ-M-C-BRDSPK
OSQ-L-C-BRDSPK
OSQ-X-C-BRDSPK

Shorting Cap
Ask XSLSHRT

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:
Example: **Mount.** OSQ-ML-C-DA-BK + **Luminaire.** OSQM-C-4L-50K7-3M-UL-NM-BK

ADDITIONAL FIXTURE INFO

OSQ Series

OSQW™ LED Wall Mount Luminaire featuring Patented NanoComfort™ Technology

Rev. Date: V1 11/29/2023

Product Description

The OSQW™ LED wall mount luminaire has a slim, low profile design intended for outdoor wall mounted applications. The rugged lightweight aluminum housing and mounting box are designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes. The luminaire allows for through-wired or conduit entry from the top, bottom, sides and rear. The housing design is intended specifically for LED technology including a weather-tight LED driver compartment and thermal management. Optic design features industry-leading NanoComfort Technology which provides superior glare reduction and visual comfort with high efficacy and uniformity, concentrating light precisely where it is needed.

Applications: General area and security lighting

Performance Summary

Utilizes Patented NanoComfort™ Technology

Utilizes Cree TrueWhite® Technology on 5000K Luminaires

Assembled in the USA by Cree Lighting from US and imported parts

Initial Delivered Lumens: Up to 8,600

Input Power: 14 - 55 watts

Efficacy: Up to 159 LPW

CRI: Minimum 70 CRI (2700K, 3000K, 4000K & 5700K), 90 CRI (5000K)

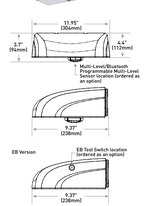
CCT: 2700K, 3000K, 4000K, 5000K, 5700K

Limited Warranty*: 10 years for luminaire/10 years for ColorSeal DeltaGuard® finish/up to 5 years for Synapse® accessories/1 year for accessories

Limited Warranty Emergency Back Up (EB) Battery: 1 year for Battery Back Up. Test regularly in accordance with local code

*See http://creelighting.com/warranty for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.





Luminaire	Weight
Standard	9.0 lbs. (4.1kg)
Emergency	10.0 lbs. (4.5kg)

Accessories

Field-Installed

Bronze Plate
WM-PLT12** - 12" (305mm) Square
WM-PLT14** - 14" (356mm) Square
- Covers holes left by incumbent wall packs

Synapse® SimpleSNAP 10V Interface
DIM10-220F
- 120-277V
- Requires either Synapse Central Base Station or On-Site Controller
- Refer to DIM10-220F spec sheet for details

Synapse SimpleSNAP Central Base Station
SNAP-CBS-002
- Includes On-Site Controller (OSxSI-002) and 5-button switch
- Indoor and Outdoor rated
- Refer to CBSSNAP-xSI-002 spec sheet for details

Synapse SimpleSNAP On-Site Controller
OSxSI-002
- Verizon® LTE enabled
- Designed for indoor applications
- Refer to OSxSI-002 spec sheet for details

Synapse Building Management System (BMS) Gateway
BMS-GW-002
- Includes BACnet integration
- Refer to BMS-GW-002 spec sheet for details

Synapse Wireless Sensor
WOA-SPM
- Motion and light sensor
- Mounts to luminaire
- Refer to WOA-SPM spec sheet for details

Ordering Information

Example: OSQW-C-3L-27K7-3M-UL-WM-BK

OSQW	C							
Family	**Series**	**Lumen Package***	**CCT/CRI**	**Optic**	**Voltage**	**Mounting**	**Finish**	**Controls****	**Options**
OSQW	**C**	**3L** 2,500 Lumens - Not available with 480V voltage **4L** 4,000 Lumens **6L** 6,000 Lumens **8L** 8,600 Lumens	**27K7** 2700K, 70 CRI **30K** 3000K, 70 CRI **40K7** 4000K, 70 CRI **50K9** 5000K, 90 CRI **57K7** 5700K, 70 CRI	**2W** Type 2 Mid **3W** Type 3 Mid **5W** Type 5 Mid **UW** Type 5 Wide	**UL** Universal 120-277V **HV** Universal 347-480V - Not available with 3L, 4L, 6L, 8L lumen package, EMR, or ML controls, or EB option **UE** Universal 347-480V - Available only with 3L, 4L, 6L, 8L lumen package, EMR, or ML controls, or EB option	**WM** Wall	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**BML Bluetooth® Technology Enabled Multi-Level Sensor** - Utilizes a multifunction sensor - Refer to BML spec sheet for details - Refer to BML-DIM-002 spec sheet for details **EB Emergency Battery Back-Up** - Provides 90 minutes and 7W of power in emergency mode - Not available with BML, ML or P controls

* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT selection. Refer to Initial Delivered Lumen tables for specific lumen values.
** Luminaire comes standard with 0-10V dimming. Controls by others.

Electrical Data*

Lumen Package	System Watts 120-480V	System Watts 120V	208V	240V	277V	347V	480V*	EB System Watts 120-277V	Total Current (A) 120V	208V	240V	277V
2L	16	0.13	0.08	0.07	0.06	N/A	N/A	19	0.16	0.09	0.08	0.07
4L	29	0.22	0.13	0.11	0.10	0.08	0.06	30	0.26	0.14	0.12	0.11
6L	40	0.34	0.19	0.17	0.14	0.12	0.08	43	0.36	0.21	0.18	0.16
8L	55	0.47	0.27	0.23	0.20	0.16	0.12	58	0.49	0.28	0.24	0.21

* Electrical data at 25˚C (77˚F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%.
** 2L lumen package is only available with 120-277V.

OSQW Series Ambient Adjusted Lumen Maintenance Factors*

Ambient	Initial LMF	25K for Reported* LMF	50K for Reported* LMF	75K for Reported* LMF	100K for Reported* LMF
5˚C	1.02	0.99	0.93	0.88	0.83
10˚C	1.02	0.98	0.93	0.87	0.82
15˚C	1.01	0.98	0.92	0.87	0.82
20˚C	1.01	0.97	0.92	0.86	0.81
25˚C	1.00	0.97	0.91	0.86	0.81
30˚C	0.99	0.96	0.90	0.85	0.80
35˚C	0.99	0.95	0.90	0.85	0.80
40˚C	0.98	0.95	0.89	0.84	0.79
45˚C	0.98	0.94	0.89	0.84	0.79
50˚C	0.97	0.94	0.88	0.83	0.78

* Lumen maintenance values at 25˚C (77˚F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LAMF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for ambient average nighttime ambient temperature.

** In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to the tested duration in the IES LM-80 report for the LED.

Delivered Emergency Lumens

Lumen Package	CCT/CRI 2700K/3000K, 70 CRI	4000K, 70 CRI	5000K, 90 CRI	5700K, 70 CRI
2L	1,070	1,120	810	1,120
4L	1,000	1,060	760	1,060
6L	1,020	1,060	780	1,060
8L	1,110	1,160	800	1,160

Product Specifications

CREE LIGHTING NANOCOMFORT™ TECHNOLOGY

Cree Lighting's NanoComfort™ Technology ends the trade-offs in outdoor lighting by providing superior glare reduction and visual comfort in high-efficiency illumination delivered precisely where it is needed. The basic building block of NanoComfort™Technology is a compact 4x4 array of LEDs. Each of the 16 LEDs in a module is in contact with its own acrylic polymer optic and is surrounded by a highly reflective, white surface. Together, the acrylic optics are cut and sculpted into facets that relieve the glare and harshness while improving visual comfort – all while retaining superb efficacy and control.

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all with the industry's highest luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire housing specifically designed for LED applications with advanced LED thermal management and driver
- Some versions are provided with full circuit board, but not fully populated with LEDs or optics to scale back lumen package
- Luminaire mounting box designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes
- Luminaire can also be direct mounted to a wall and surface wired
- Includes (4) 3/16" mounting holes for customer supplied hardware. Select hardware appropriate for mounting surface
- Conduit entry from top, bottom, sides, and rear
- Exclusive ColorSeal DeltaGuard® finish features an E-coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, black, white and bronze are available
- **Weight:** Standard - 9.0 lbs. (4.1kg), Emergency - 10.0 lbs. (4.5kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV/5kA surge suppression protection standard; 20kV/10kA surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Dims to 10%. Controls by others
- 0-10V ANSI C137.1-2019 (8-Volt)
- **Maximum 10V Source Current:** 1 mA
- Refer to Dimming spec sheet for details
- **Operating Temperature Range:** -40˚C - +50˚C (-40˚F - +122˚F). Minimum operating temperature with EB option: -20˚C (-4˚F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Designed for downlight applications only
- UL924 (EB Option) Maximum mounting height: 20 (6.1m)
- Enclosure rated IP66 per IEC 60598
- ANSI C136.2 10kV/5kA (standard) and 20kV/10kA (optional) surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Lens meets IK09 requirements per IEC 60068-2
- Assembled in the USA by Cree Lighting from US and imported parts
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Dark Sky Approved when ordered with 2700°or 3000°CCTs. (Pending) Please refer to https://darksky.org/what-we-do/darksky-approved/products-companies/#!/search/keyword=cree for most current information
- ⚠ **CA RESIDENTS WARNING:** Cancer and Reproductive Harm - www.p65warnings.ca.gov

Electrical Data*

Lumen Package	System Watts 120-480V**	System Watts 120V	208V	240V	277V	347V***	480V***	EB System Watts 120-277V	Total Current (A) 120V	208V	240V	277V
2L	16	0.13	0.08	0.07	0.06	N/A	N/A	19	0.16	0.09	0.08	0.07
4L	29	0.22	0.13	0.11	0.10	0.08	0.06	30	0.26	0.14	0.12	0.11
6L	40	0.34	0.19	0.17	0.14	0.12	0.08	43	0.36	0.21	0.18	0.16
8L	55	0.47	0.27	0.23	0.20	0.16	0.12	58	0.49	0.28	0.24	0.21

* Electrical data at 25˚C (77˚F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%.
** 2L lumen package is only available with 120-277V.
*** 2L lumen package is only available with 120-277V.

OSQW Series Ambient Adjusted Lumen Maintenance Factors*

Ambient	Initial LMF	25K for Reported* LMF	50K for Reported* LMF	75K for Reported* LMF	100K for Reported* LMF
5˚C	1.02	0.99	0.93	0.88	0.83
10˚C	1.02	0.98	0.93	0.87	0.82
15˚C	1.01	0.98	0.92	0.87	0.82
20˚C	1.01	0.97	0.92	0.86	0.81
25˚C	1.00	0.97	0.91	0.86	0.81
30˚C	0.99	0.96	0.90	0.85	0.80
35˚C	0.99	0.95	0.90	0.85	0.80
40˚C	0.98	0.95	0.89	0.84	0.79
45˚C	0.98	0.94	0.89	0.84	0.79
50˚C	0.97	0.94	0.88	0.83	0.78

* Lumen maintenance values at 25˚C (77˚F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LAMF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for ambient average nighttime ambient temperature.

** In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to the tested duration in the IES LM-80 report for the LED.

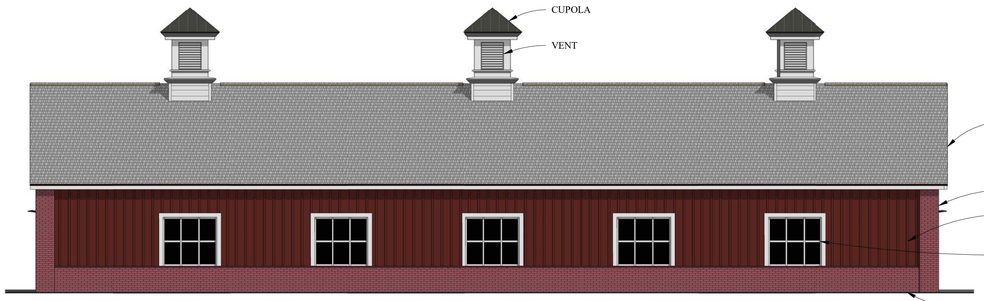
Delivered Emergency Lumens

Lumen Package	CCT/CRI 2700K/3000K, 70 CRI	4000K, 70 CRI	5000K, 90 CRI	5700K, 70 CRI
2L	1,070	1,120	810	1,120
4L	1,000	1,060	760	1,060
6L	1,020	1,060	780	1,060
8L	1,110	1,160	800	1,160

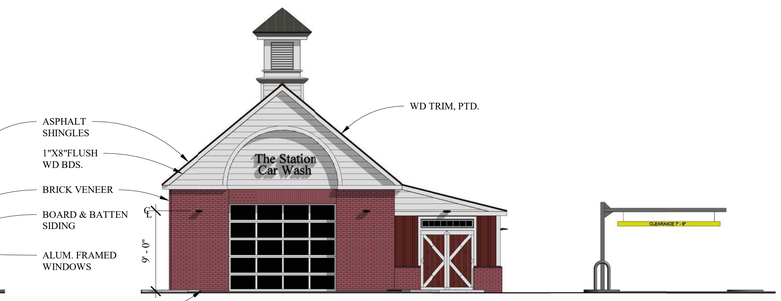
REDLEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

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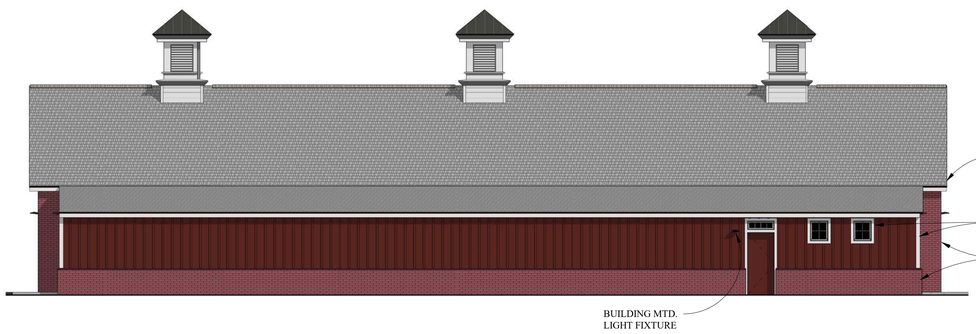
PROJECT NAME:
CAR WASH
SUMMIT DISTRIBUTING
WHITE RIVER JCT. VT.
DRAWING NUMBER:
RL-9431-S1



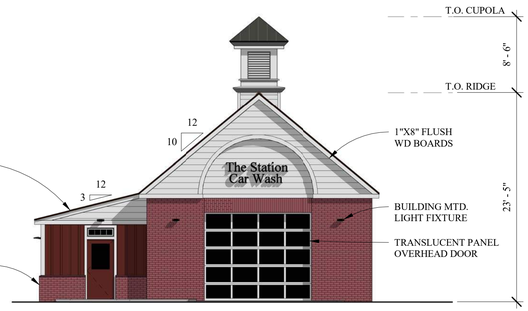
1 West Elevation
1/8" = 1'-0"



2 South Elevation
1/8" = 1'-0"



3 East Elevation
1/8" = 1'-0"



4 North Elevation
1/8" = 1'-0"

Summit Distributing, LLC
Summit - WRJ Carwash

18 Sykes Mountain Avenue, VT

Mudge Greeley Architects, PLLC

MGA

85 DCH
Route 10
Lyme, New Hampshire

Exterior Elevations

2320	1/8" = 1'-0"
Job No	Scale
2 FEB 2024	
Date	Revised

E1

June 11, 2024

NEX-2019181.00

Jo-Ann Ells, Hartford Zoning Administrator
Hartford Town Hall
171 Bridge Street
White River Junction, VT 05001

SUBJECT: Response to Comment
Proposed Car Wash
Lot 44-0041-00

Dear Jo-Ann:

Greenman Pedersen, Inc. (GPI) has prepared this Response to Comments (RTC) letter to respond to your comments provided in the "to do" list provided in your email dated April 17, 2024 regarding the car wash for Lot 44-41 along Sykes Mountain Avenue in White River Junction. We have reviewed the comments and this letter has been prepared to summarize our responses. The review comments have been provided below followed by our responses to each, **in bold text**.

Third Party Review

1. *The Applicant needs to submit an updated noise study that includes the site changes discussed with the Zoning Board/Planning Commission and information on how the project complies with §260-31 A of the Zoning Regulations.*

   Once the amended study is received, the Town will obtain proposals for the review.

   An estimate of the cost of the review will be submitted to the Applicant.

   The Applicant will need to confirm their understanding that they are responsible to cover the cost of the review.

   Response: A revised noise study was submitted to the Town on April 24th. Peer review comments were received on May 20th and the noise study has been revised per the comments and included with this submittal.

Plan Amendments

Per the Zoning Board & Planning Commission Hearings in April, the site plan set need to be amended as follows:

- *Move rear vacuum structure closer to the dumpster*
  Response: The vacuum has been relocated as requested.
- *Move fence in the rear of the lot to allow additional landscaping behind the fence (Zoning Board requested that the Applicant speaks to the neighbors)*
  Response: The fence has been moved closer to the rear vacuum area. Space between the fence and pavement has been provided to allow for snow storage. This area will be graded so that snow melt flows toward the paved area and into the closed drainage system provided on the site. The landscaping has been proposed on the abutters' side of the fence to enhance the vegetated buffer.
- *Clarify height and location of all fencing*
  Response: The fence location is provided on sheet 5. The fence shall be 8ft high as labeled on the Site Plan.
- *Confirm fencing will block headlights*
  Response: Vehicular headlights must be between 2 ft to 4 ½ ft off the ground. The highest elevation of the pavement is 546 and the ground at the bottom of the fence adjacent to the

pavement is 546; therefore, the top of the fence will be at elevation 554. Headlight height ranges would be between 548 and 550.5.

- *Provide fencing/landscaping between Brown and Rexall*
  Response: Additional landscaping has been provided adjacent to the southwest corner of Lot 44-42.
- *Amend the design of the snow storage areas in the rear of the lot to function as rain gardens*
  Response: The snow storage area to the north of the vacuum area has been depressed to collect snow storage melt. In addition the area between the fence and the pavement has been graded to flow toward the onsite closed drainage system.
- *Remove the snow storage areas abutting the commercial lot to the east*
  Response: the snow storage area adjacent to lot 44-55 has been removed.
- *Change "granite" curbing to "concrete" curbing*
  Response: "Granite curbing stated in the narrative has been changed to "concrete" curbing to be consistent with the plans.
- *Provide vacuum hours signage*
  Response: A sign has been provided to state "rear vacuums shut off after 8pm."
- *Add 3 Fraser firs to the south of the proposed plantings, and some narrower species south of that*
  Response: Three Fraser Firs have been added and Emerald Sentinel Eastern Cedar have been added to the south of the Firs.
- *Look at spacing of maple trees. Add additional landscaping near maples*
  Response: Shrubs have been added around the base of the maple trees.
- *Add signage to prevent vehicles from exiting through the gas station lot from the rear of the project lot.*
  Response: A left turn only sign has been added to the rear access.

Misc. Items

Per the Zoning Board & Planning Commission Hearings in April the Applicant needs to address the following:

- *Confirm the rear/all vacuums will be turned off at 8PM*
  Response: Our client has agreed to turn off the rear vacuums after 8pm.
- *Consider opening the car wash at 8AM*
  Response: In order to be competitive with the adjacent 24 hour car wash which also abuts a residential neighborhood, the applicant would like to keep to the hours promised at the hearing of 7am to 8pm for the car wash.
- *Provide additional information regarding on-site traffic congestion. Consider having an employee direct traffic on busy days. Provide information about the ability of vehicles to exit the wash lane, and the ability of vehicles to exit vacuum stations in the front of the lot. Respond to concerns regarding general congestion in the front of the lot. Provide information about the merging of lanes/vehicles before the wash tunnel. Provide information about vehicles merging back into the wash lane after using the rear vacuums.*
  Response: Regarding employee assistance to direct traffic on busy days, the Applicant has previously indicated that two to three employees will be on site at any given time. Should the need arise, it is anticipated that available on-site staff will be able to facilitate with overall operational assistance. Regarding the ability of vehicles to exit the wash lane (post wash), per the site plan, motorists will utilize the proposed full-access driveway at the southerly end of the site, whereupon access to the public roadway system (Sykes Mountain Avenue or North Main Street) will occur at one of the driveways on the abutting property (Map 44/Lot 38) through existing and/or proposed cross-access easements. However, if the comment is referring to the possibility of a customer deciding to leave the wash queue after already being in line, that would occur after passing through the pay station, where there would be sufficient room to bypass. Regarding the ability of vehicles to exit vacuum stations in the front of the lot, the site plan indicates that there is sufficient room to complete a turning maneuver from those spots and exit the site with the proposed 24-foot wide drive aisle that is wide enough to accommodate two-way traffic. Regarding "concerns regarding general congestion in front of the lot," the comment is

not entirely understood; however, our general experience has demonstrated that this layout is fairly typical for the size and type of use that is proposed. In addition, there are no sight line restrictions between the front parking spaces, the exit from the car wash, or the full access/egress driveway. Regarding merging of lanes/vehicles before the wash tunnel, this layout and operational component (two or more payment stations merging into a single-file line for service) is typical for the proposed use, and is intended to lessen the overall queue length, as it's spread out over multiple pay stations. Regarding the ability of vehicles to merge back into the wash lane after using the rear vacuums, there is sufficient width to bypass vehicles in queue for the wash tunnel, and egress to the abutting property (Map 44/Lot 38) utilizing the northerly exit-only driveway. Should a customer decide to wash (or re-wash) their vehicle after utilizing the rear vacuum stations, there are no prohibitions restricting re-entry to the site via the full-access southerly driveway.

- *Provide a calculation of the percentage of the wooded area that is proposed to be removed.*
  Response: The Industrial Commercial District requires a minimum of 15% open space. The applicant is proposing to more than double the required open space with the site redevelopment. Approximately 50% of the existing treed area will remain as is with the revised plan.
- *Change "granite" curbing to "concrete" curbing*
  Response: The plan correctly proposes vertical concrete curbing. The response to comment letter dated February 15, 2024 incorrectly stated vertical granite curbing in the response for comment #20.
- *Provide information regarding employee parking (in lease as well)*
  Response: Note number 22 under the General Notes on sheet 2 has been added to state "Car wash will have 2 to 3 employees per shift."
- *Confirm trash removal will be restricted to "daylight hours" (specify hours)*
  Response: Summit Distributing agreed to have trash removal restricted to daylight hours at the previous hearing.
- *Describe emergency vehicle access to the rear of the lot with and without vehicles in the wash lane*
  Response: The site has been designed to allow for a fire apparatus around the building. In the case of an emergency, emergency vehicles can access the site through the outer pay station lane, through the proposed bypass lane, or park within the loading zone on the adjacent property.
- *Provide 800 # for people to call with concerns*
  Response: 800-743-7606
- *Clarify if the dumpster enclosure will be locked*
  Response: The dumpsters are not proposed to be locked.

If you have any questions or need additional information, please feel free to contact myself by phone at 603-374-7906 or by email to nduquette@gpinet.com. We look forward to your response.

Sincerely,

GREENMAN-PEDERSEN, INC.

Nicole Duquette

Nicole Duquette, P.E.
Project Manager

44 Stiles Road, Salem, NH 03079

enclosure(s)

MEMORANDUM

DATE: June 10, 2024

FROM: Aaron M Farbo

TO: Mr. Tom Frawley (Summit Distributing)

CC: Nicole Duquette (GPI)

SUBJECT: Response to Paxwood Acoustics Peer Review Letter (June 7, 2024)

This memo addresses Mr. Duncan's comments to my updated Environmental Sound Study (June Sound Study), specifically item 4 in the summary.

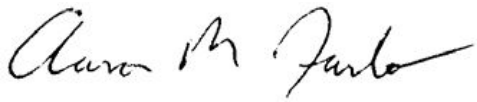
> 4. While the study briefly addresses the more qualitative aspects of Section 110-6 and Section 260-31A, we note that it does not address the potential for disturbance during the daytime at the residences along Cedar Street and Beech Street. A discussion or response on those specific portions of those sections may be merited.

The proposed car wash will only operate during daytime hours when existing background sound levels in the environment are elevated due to traffic on Interstate 91 and local roads, along with commercial activities, including an existing car wash, adjacent to residents along Cedar and Beech Streets. Nearest residences are located closest to the entrance to the car wash, which is the quieter end, farther away from the dryer blowers which are the main source of sound.

Sound from the proposed car wash may be audible at times but is not expected to cause loud, unnecessary, excessive or offensive noise or unusual sound which unreasonably disturbs the peace and quiet of any residential or other sensitive use or which causes discomfort or annoyance to any reasonable person of a normal sensitivity in the area, as defined in Section 110-6. In addition, sound produced by the car wash is not expected to create levels or frequencies which are not customary in the neighborhood or represent a repeated disturbance to others as defined in Section 260-31A.

Based on the proposed noise mitigation measures for the car wash (dryer blower silencers and sound barrier wall), it is my opinion that sound from the car wash during daytime hours at residences along Cedar and Beech Streets will blend into the existing environment and will not cause a noise disturbance as described in Sections 110-6 and 260-31A.

Sincerely,
CAVANAUGH TOCCI



Aaron M. Farbo, *Principal Consultant*
afarbo@cavtocci.com

24063/CTA Peer Review Letter Response Memo 2024-06-10.docx

Paxwood Acoustics

Eddie.Duncan@PaxwoodAcoustics.com

June 7, 2024

Jo-Ann Ells
Department of Planning & Development
Town of Hartford, Vermont
171 Bridge Street
White River Junction, VT 05001
Via email only: jells@hartford-vt.org

Dear Jo-Ann:

At the Town's request, we have reviewed the updated Environmental Sound Study[1] ("June Sound Study") for the White River Junction Car Wash ("Project") proposed by Summit Distributing. We also previously reviewed the original Environmental Sound Study[2] ("April Sound Study"). We provided the findings of our first review to you in a letter on May 20, 2024.

This letter provides the findings our review based on the June Sound Study. The focus of this review is on the updates that were made to the assessment. As discussed in the first review (and continues to be the case for this current review), the study contains the appropriate sections, the authors are qualified to conduct the work, the modeling standard that was used is appropriate, and the sound power levels used in the model are within a reasonable range of what we would expect given the type of sound sources. For more information on these items, a brief project description, and Paxwood Acoustics' qualifications, please refer to our review of the April Sound Study.

Overall, we find that the June Sound Study addresses most of the feedback we provided in our first review including, additional details on the model settings and equipment sound emissions and a brief discussion on Section 110-6 of the Town Code. While the

[1] CavanaughTocci, White River Junction Car Wash Environmental Sound Study, 3 June 2024.
[2] CavanaughTocci, White River Junction Car Wash Environmental Sound Study, 24 April 2024.

PO Box 446, Quechee, Vermont 05059
Phone: 802-299-6966

June Sound Study does not specifically mention the qualitative aspects of Section 260-31A (i.e. customary sounds and repeated disturbances) in its discussion of Section 110-6, the content of the discussion for Section 110-6 are also applicable to some extent to Section 260-31A.

Modeling & Measurement Updates

The primary model updates made to the June Sound Study are that it:

- Utilizes data that was collected by the study author,
- Provides both unmitigated and mitigated model results, and
- Added sound emissions from four vacuum handsets in addition to the 2 central vac turbines that were already included in the analysis.

Use of Measured Data from a Similar Facility

CavanaughTocci collected sound level data at a facility that "contains the same high pressure wash system and dryer blower type as the proposed car wash." The data that was measured at a similar facility was used to calculate sound power levels that are used as sound emission inputs into the model. Use of data measured by the study's author is an improvement over the April Sound Study.

It is noted that the similar facility where measurements were conducted has 12 dryer blowers while the proposed facility only has 8, so the study applied a "slight reduction" to the sound power levels from the blowers. The study does not specify what the slight reduction was but given the difference in the number of blowers, we would expect it to be not greater than -2 dBA. Given the authors experience and their description of the sound power computations, the sound emission data used in the model should be considered appropriate and reasonable.

Specification of Model Settings

The June Sound Study provided a more detailed description of the model settings in Appendix B.[3] These settings include one order of reflection from buildings, receptor height specified at 5 feet above grade, use of a ground factor of 0 on paved areas and 0.5 in non-paved areas, and topography from USGS. All of these model settings are appropriate for the site.

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[3] Appendix B also includes a manufacturer noise test report from AutoVac Industrial. It is our understanding from reading the June Noise Assessment and briefly confirming with the study author that this data was not used in the June Noise Assessment. Instead the June noise assessment used data that was measured by the study author. The AutoVac data remained in the Appendix from the April Noise Assessment even though it was not used in the June Noise Assessment.

Appendix B also specified that the property lines were imported from the Vermont Center for Geographic Information. This should be considered an appropriate source of property line locations, given the distances between the sources and property lines. For example, a property line location through the VCGI data would need to be incorrect by more than 4 feet in order for it to make a difference of approximately 1 dBA in the model calculations.

Unmitigated Model Results

Based on the updated model, the June Sound Study found four residential property line receptors and to residences over the daytime hourly L_{eq} limit of 50 dBA (Section 110-5) and two non-residential property line receptors over the daytime maximum limit of 70 dBA (Section 110-5). The receptors that were over the daytime limits were the two adjacent residences on Cedar Street (21 and 39 Cedar Street), and the property line between those residences and the proposed development.

All receptors were below the nighttime limits given that nighttime operations only involve the operation of the vacuum system at the front of the property adjacent to Sykes Mountain Avenue.

Mitigated Model Results

Mitigated model results are also provided accounting for two mitigation measures (discussed in the next section). With the proposed mitigation in place, all receptors are below sound level limits set in Section 110-5 of the Town Code.

Mitigation

The June Sound Study includes two mitigation measures:

1. Prototype silencers on the intake-side of the dryer blowers in the car wash, and
2. A wooden sound barrier that is 8-feet high.

Blower Silencers

The assessment applies a 3 dBA reduction to the car wash exit and a 1 dBA reduction to the car was entrance based on the attenuation provided by prototype silencers that would be installed on the intake-side of dryer blowers in the car wash. This reduction is based on data collected by WSP Engineering which is attached to the June Sound Study in Appendix C. While the silencers are prototypes, custom silencers for air-moving equipment is not uncommon, and a 1 to 3 dBA reduction from blower silencers can reasonably be expected based on silencer technology assuming they are properly designed. That said, the Town may want to consider a mechanism to ensure that the silencers are installed at the proposed facility and perform as specified in the June Sound Study to maintain the reliability of the model results.

Noise Barrier

The June Sound Study includes an 8-foot high wooden noise barrier and specifies Plywall which is a commercial noise barrier manufacturer. The barrier is an appropriate height, and the materials and construction of Plywall provides good sound reduction.

The barrier in the noise model is located on the backside of the Project site near the rear vacuum systems. It runs along the northern edge of the proposed paved area, parallel to Beech Street, and then runs south along the edge of the paved area before crossing over to the property line between the Project site and 39 Cedar Street. From there it turns eastward and goes off the applicant's parcel and runs along the property line between 39 Cedar Street and the property to the south where Rexel is currently located.

While the barrier, would likely be effective at reducing sound levels, the Town should note that the eastern leg of the barrier is not located on the applicant's property.

Overall, the two proposed mitigation measures should reduce sound levels and are appropriate, but the Town may want to consider:

- Any potential implications of a portion of the noise barrier being off the applicant's property, and
- A mechanism to ensure that the proposed silencers are installed and perform as specified in the June Sound Study.

Addressing Section 110-6 and Section 260-31A

The June Sound Study briefly discusses Section 110-6 of the Town Code in the study's conclusions. It identifies the existing car wash at 130 Sykes Mountain Avenue that may run 24 hours per day and the commercial surrounding commercial properties and states that the proposed use isn't expected to cause a noise disturbance in those areas. The study does not offer a conclusion or discussion about potential daytime noise disturbance at the residential properties on Cedar Street or Beech Street. It does however say that sound from the front vacuum system is not expected to be audible at any residential receptor at night. Without additional information on nighttime background sound levels in the area, we don't necessarily agree that the vacuums would not be audible outside a residential receptor at night, nonetheless we do note that the projected nighttime sound levels are relatively low (21 to 31 dBA) and acceptable for a residential area, based on general community noise guidelines.

As we discussed in the review of the April Sound Study, Section 260-31A, in addition to setting a 70 dBA property line limit, prohibits sound levels and frequencies that are "not customary in the district or neighborhood or which represent a repeated disturbance to others." The June Sound Study does not directly address this portion of the Town Code,

but it did identify that there is an existing car wash in the area that may run 24 hours a day.

Given these two Sections of the Town Code, a discussion or response on the potential for disturbance during the daytime at the residences along Cedar Street and Beech Street may be merited.

Summary

The key takeaways from this review are as follows:

1. The sound emission data used in the June Sound Study is improved having been collected by the study author at a similar facility.
2. The model methodology, settings, and inputs are appropriate and reasonable.
3. The study incorporates two mitigation measures to reduce projected sound levels below the limits in Section 110-5 of the Town Code. As discussed on the previous page, the Town may want to consider any potential implications of a portion of the proposed noise barrier being off the applicant's property, and a mechanism to ensure that the proposed blower silencers are installed and perform as specified in the sound study.
4. While the study briefly addresses the more qualitative aspects of Section 110-6 and Section 260-31A, we note that it does not address the potential for disturbance during the daytime at the residences along Cedar Street and Beech Street. A discussion or response on those specific portions of those sections may be merited.

Sincerely,



Edward Duncan, INCE Bd. Cert.
Principal Consultant & Founder

MEMORANDUM

DATE: June 4, 2024

FROM: Aaron M Farbo

TO: Mr. Tom Frawley (Summit Distributing)

CC: Nicole Duquette (GPI)

SUBJECT: Response to Paxwood Acoustics Peer Review Letter (May 20, 2024)

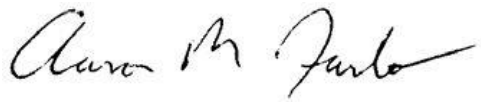
This memo is an accompanying response to my revised sound study report dated June 3, 2024 (White River Junction Car Wash Sound Study Report 2024-06-03) to address the peer review comments from Paxwood Acoustics Letter dated May 20, 2024, which is attached to this memo. I will address each comment section as it appears in the peer review letter.

- **Modeling**
  - Reflections – One order of reflection is included in modeling. Adjacent buildings were included and set as reflective.
  - Ground Absorption –Ground absorption for the entire model is set at G=0.5 (partially absorptive), except for paved areas (parking lots, roads) of the proposed car wash site and surrounding lots which were modeled as G=0 (reflective).
  - Fence – The wooden stockade fence has been upgraded to a Plywall sound barrier wall system (STC 31) and modeled as a sound barrier. www.plywall.com
  - Receptors – Additional receptors were added along the residential property line. All receptor locations represent the worst-case (highest) sound levels emitted from the project.
  - All settings and parameters used in modeling are listed in Appendix B of the revised report.
- **Measurements**
  - Measurements of an existing car wash in Wilbraham, MA were conducted on May 23, 2024 using a calibrated, Class 1 sound level meter. The measured car wash contains the same high pressure wash system and dryer blower type as the proposed car wash. Sound was measured for the following sources:
    - Car wash entrance
    - Car Wash Exit
      - Measurements were conducted with a car moving through the airstream of the dryer blowers, representing the worst-case (maximum) sound level at the exit.
    - Vacuum Blower
    - Vacuum Handset

  - Sound power levels for each source were calculated based on the sound pressure level measurements and assumption of spherical spreading at distances over which we measured the sound levels in the field. See Table 2 in my June 3, 2024 report for unmitigated source sound power levels used in modeling.
  - The Wilbraham car wash contains 12 PECO dryer blowers whereas the proposed car wash contains 8 blowers. A slight reduction was applied to the sound power levels at the car wash entrance and exit presented in Table 2 to account for the lower number of blowers.

- **Prototype Silencers**
  - The prototype dryer blower silencers measured by WSP Engineering were included in the analysis for the mitigated case in my revised report.
    - Based on the WSP measurement report, a 3 dBA reduction was applied to the car wash exits and a 1 dBA reduction was applied to the car wash entrance.
- **Geospatial Data**
  - Topography in modeling was obtained from USGS (United States Geological Survey).
  - Existing buildings and parcel boundaries included in modeling were obtained from the Vermont Center for Geographic Information (VCGI).
- **Relevant Noise Standards**
  - In addition to addressing the specific noise limits in the Hartford Town Code (Chapter 110 and 260), I address the Noise Disturbance criteria listed in Section 110-6 in the conclusion of my revised report.

Sincerely,
CAVANAUGH TOCCI



Aaron M. Farbo, *Principal Consultant*
afarbo@cavtocci.com

24063/CTA Peer Review Letter Response Memo 2024-06-04.docx

Paxwood Acoustics

Eddie.Duncan@PaxwoodAcoustics.com

May 20, 2024

Jo-Ann Ells
Department of Planning & Development
Town of Hartford, Vermont
171 Bridge Street
White River Junction, VT 05001
Via email only: jells@hartford-vt.org

Dear Jo-Ann:

At the Town's request, we have reviewed the Environmental Sound Study ("Sound Study") for the White River Junction Car Wash ("Project") proposed by Summit Distributing. This letter provides the findings our review including a brief description of the Project and documents reviewed, Paxwood Acoustics qualifications to conduct the review, and discussion related to the:

- Qualifications of the authors of the Sound Study,
- Appropriateness of methods and standards used in the Sound Study,
- Reasonableness of the data used in the Sound Study, and
- Addressing of the relevant regulations.

As discussed in this review, we find that the Sound Study:

- Contains the appropriate sections,
- The authors are qualified to conduct the work contained in the Sound Study,
- The modeling standard that was used is appropriate, and
- The sound power levels used in the model are within a reasonable range of what we would expect given the type of sound sources.

However, we are unable to confirm the overall appropriateness of the modeling methodology and the reasonableness of some of the data used and generated due to insufficient details within the Sound Study. In addition, given the proximity of residences

PO Box 446, Quechee, Vermont 05059
Phone: 802-299-6966

to the north and northeast along Cedar Street and Beech Street, a discussion of the Project in the context of Section 110-6 and Section 260-31A (i.e. customary sounds and repeated disturbances) of the Town Code may be merited.

Project Description & Reviewed Documents

The Project is a car wash facility proposed on Sykes Mountain Avenue on Map 44 Lot 41. It involves the construction of a building that will house the car wash and associated equipment and the installation of two vacuum systems with one system located at the front of the property near Sykes Avenue and one system located at the rear of the property in a lot behind the proposed car wash building. The existing conditions of the site are a parking lot on the front half of the parcel and an undeveloped yard on the back half of the parcel.

For this review, the primary document we reviewed was the Sound Study[1] by CavanaughTocci. We also reviewed the Site Development Plans[2] for additional context.

Sound Study Review

Qualifications of the Study Firm

CavanaughTocci is a well-known and respected firm in the field of acoustics. They are involved in the relevant professional organizations in our field: the Institute of Noise Control Engineering (INCE), the Acoustical Society of America (ASA), and the National Council of Acoustical Consultants (NCAC). The primary author of the Sound Study, Aaron Farbo, is a Principal Consultant at CavanaughTocci. Mr. Farbo is a full member of both INCE and ASA. While Mr. Farbo himself is not Board Certified through INCE, other staff at his firm are.

CavanaughTocci and Mr. Farbo are qualified to conduct the work contained in the Sound Study.

Appropriateness of Methods & Standards

The relevant standards that come into play in the Sound Study are modeling or calculation standards and measurement standards.

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[1] CavanaughTocci, White River Junction Car Wash Environmental Sound Study, 24 April 2024.
[2] GPI, Site Development Plans Proposed Car Wash, 2 February 2024 with revisions as recent as 17 April 2024

Modeling

The Sound Study utilizes appropriate modeling software (CadnaA) and supporting calculation standards (ISO 9613-2). However, it is not clear from the Sound Study whether appropriate settings were used in the model, so we are unable to verify the accuracy and reasonableness of the calculations. Some key factors that would affect the calculations include ground factor, buildings, and reflections.

Given the built-up environment in the surrounding area, we would recommend that buildings on the proposed property and adjacent properties be included in the model with 1 or 2 orders of reflection. In addition, given that the site is and will be paved, a ground factor of 0, which represents hard ground, would be most appropriate for the Project site, roadways, and neighboring paved parcels. These settings may have been used in the Sound Study, but it is not stated in the report, so we cannot confirm the accuracy or reasonableness of the projected sound levels presented in Table 2 and Figures 1 through 3.

The Sound Study mentions that the analysis includes an 8-foot-high stockade fence along the northern and eastern sides of the site, and it shows the location of the fence in the model result maps (Figures 1 through 3). However, the report does not state how the stockade fence was taken into account in the analysis. Depending on how it was accounted for in the model, it may or may not be appropriate for the calculations. For example, ISO 9613-2 and CadnaA allow one to model a noise barrier, but a typical stockade fence does not fit within the definition of a noise barrier which would allow it to be modeled in that fashion. A noise barrier should not have any appreciable air gaps and should have a surface weight at least 4 pounds per square foot. Stockade fences typically do not fit either of these specifications given that there can be air gaps between the boards and at the base of the fence, and that it weighs less than 4 pounds per square foot. For example, a 6-foot by 8-foot section of spruce/pine/fir stockade fence from Home Depot has a surface weight of ~1.9 lbs/sq. ft.[3] We did not see specifications for the proposed stockade fence in the Site Development Plans.

The model results are provided at discrete receptors along the property line and at nearby residential receptors. While the report states that the property line receptors are located at the closest locations, it would be good if the Sound Study either provided sound levels all along the property line through the use of sound level iso-lines or indicate that the discrete receptors represent the worst-case property line sound levels.

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[3] https://www.homedepot.com/p/Outdoor-Essentials-6-ft-H-x-8-ft-W-Spruce-Pine-Fir-Stockade-Fence-Panel-8847/100087022

Measurements

It did not appear as though any measurements were conducted specifically for the Sound Study, but it did rely upon measurements conducted by others to develop input into the model.

For the AutoVAC equipment, the manufacturer data is provided in a certification report in Appendix B. The certification report indicates that the measurements by the manufacturer were conducted with an Extech 407730 sound level meter. This is a Class 2 sound level meter with an accuracy of +/- 2 dB. We also note that the certification report is not signed nor does it indicate if the sound level meter was calibrated. While it would be preferable if the measurements were conducted with a more accurate Class 1 sound level meter and provided in a report that is signed and indicates that the meter was calibrated, this may represent the best available information from the manufacturer on their system.

The second page in Appendix B provides measured sound pressure levels of dryers in a car wash. It's not clear from the report is this is the same system that would be installed at the proposed Project or if it is being used as a representative system. This should be indicated as it affects the degree to which the data should be relied upon.

Table B-1 in Appendix B provides the actual sound power levels that were used by CavanaughTocci in the modeling, presumably based on the information provided on the prior two pages and the WSP measurement report[4] at the end of the document. Overall, the sound power levels shown in Table B-1 appear to be reasonable given our experience with car wash noise and associated sound sources, but there is a disconnect between the supporting data provided in Appendix B and Table B-1. It is unclear from the report how the sound power levels were calculated or if the calculation method was appropriate. We also note that the WSP report attached at the end of the document includes sound level data on car wash blowers with and without prototype silencers, but the report does not state which data was used in the model or if silencers (prototype or otherwise) are proposed for this car wash.

While the Sound Study uses an appropriate calculation standard (ISO 9613-2) and the overall sound power levels used in the model appear to be reasonable based on our experience, the report provides insufficient details related to model settings, how the stockade fence was accounted for, and how the manufacturer and WSP measurement data were used to generate the sound power levels for the model. Without these details,

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[4] WSP is a large engineering and professional services firm. The WSP report attached to the Sound Study does not identify the author of the report.

we are unable to fully evaluate the appropriateness of the methods and standards used in the Sound Study.

Reasonableness of the Data

As mentioned above, the total sound power levels (listed in Table B-1) which were used as input to the CadnaA model appear to be within a reasonable representative range of sound levels for the type of equipment being proposed. Based on our experience we would expect actual sound emissions from the equipment to be within a few dB of the listed values. That said, page 3 of the study clearly states that this is data from similar car wash projects, but it does not state that it is the same equipment that will be used at this proposed site.

We cannot verify the reasonableness of the projected sound levels at the property line or residential receptors because as previously stated, there is insufficient information in the report to verify that appropriate model settings were used.

Regarding geospatial data, the source of the parcel data is not stated in the report. Given that the highest property line sound level is within 1 dB of the 70 dBA property line sound level limit, using a surveyed parcel boundary layer may be merited to ensure that the limit at the actual property line is not exceeded.

Addressing Relevant Noise Standards

The Sound Study evaluates the relevant quantitative noise standards within the Hartford Town Code. Specifically, the daytime and nighttime residential (and sensitive land use) property line standards in Chapter 110, and the 70 dBA property line limit in Chapter 260.

The Sound Study also identifies some of the more qualitative aspects of the Town Code, specifically Section 110-6, titled Noise Disturbances. Other than identifying this portion of the Town Code, the Sound Study does not provide a discussion on whether the proposed sound levels and sources may be considered:

- “loud, unnecessary, excessive, or offensive”
- “unusual sound which unreasonably disturbs the peace and quiet” or
- “causes discomfort or annoyance to any reasonable person of a normal sensitivity”.

There is also additional qualitative aspects listen in Section 260-31A which states, “Noise levels or frequencies which are not customary in the district or neighborhood or which represent a repeated disturbance to others shall not be permitted.” While this Section is identified in the Sound Study, it is not discussed in the context of the Project.

Given the proximity of residences to the north and northeast along Cedar Street and Beech Street, a discussion of the qualitative factors in Section 110-6 in the context of the residential area and a discussion the qualitative language in Section 260-31A (i.e. customary sounds and repeated disturbances) may be merited.

Paxwood Acoustics Qualifications

Paxwood Acoustics is located in Quechee, Vermont and provides professional consulting services in acoustics and noise control engineering with a focus on environmental permitting and compliance. Eddie Duncan, Principal Consultant, is a Board-Certified Noise Control Engineer through the Institute of Noise Control Engineering and is a member of the Acoustical Society of America. Mr. Duncan has been practicing acoustic consulting for over 20 years. In that time, he has managed over 400 acoustics projects across the country. He has also conducted noise assessments in the Town of Hartford having used the local noise standards in the past.

Sincerely,



Edward Duncan, INCE Bd. Cert.
Principal Consultant & Founder

June 3, 2024

Mr. Tom Frawley
Summit Distributing
240 Mechanic Street
Lebanon, NH 03766

SUBJECT: White River Junction Car Wash
Environmental Sound Study

Dear Mr. Frawley,

As requested, Cavanaugh Tocci has completed a study of environmental sound produced by the proposed car wash to be located at 18 Sykes Mountain Avenue in White River Junction, VT. This report discusses applicable noise regulations and presents our sound impact assessment. Appendix A presents a glossary of acoustical terminology used in this report.

Noise Criteria

White River Junction is an unincorporated village in the town of Hartford, VT. The Town of Hartford Town Code contains noise limits that are pertinent to sound produced by this project, as listed in Chapters 110 and 260.

Hartford Town Code [1]

Chapter 110 Noise
§ 110-5 Residential and other sensitive use areas.

A. In addition to the prohibitions set forth in § 110-6 below, it shall be unlawful for any person at any location to create any sound or to allow the creation of any sound on any property owned, leased, occupied or otherwise controlled by such person which causes the exterior sound level when measured at the property line of any affected single- or multiple-family residence, school, hospital, church, rest home, cemetery, public library or other sensitive use to exceed the sound level standards as set forth in Table I below:

Table I
Sound Level Standards
(for fixed sound sources)

Sound Level Description	Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
Hourly Leq, dB	50	45
Maximum Level, dB	70	65

[1] https://www.hartford-vt.org/DocumentCenter/View/9335/Town-Code-PDF

(1) In the event the measured ambient sound level exceeds the applicable sound level standard identified in Table I, the sound level standard (the standard against which violations are measured) shall be adjusted so as to equal the ambient sound level plus three dB.

(2) Each of the sound level standards specified in Table I shall be reduced by five dB for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be at a lower level than the ambient sound level plus three dB

(3) If the intruding sound source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient sound level can be measured, the sound level measured while the source is in operation shall be compared directly to the sound level standards of Table I.

§ 110-6 Noise disturbances.

A. In addition to and notwithstanding any other provisions of this chapter, it is unlawful for any person to willfully make or continue to cause or allow to be made or continued any loud, unnecessary, excessive or offensive noise or unusual sound which unreasonably disturbs the peace and quiet of any residential or other sensitive use or which causes discomfort or annoyance to any reasonable person of a normal sensitivity in the area.

B. In determining whether a violation of the provisions of this section exists, the enforcement officer may consider any of the following:

(1) The volume and intensity of the sound.

(2) The vibration intensity of the sound.

(3) Whether the nature of the sound is usual or unusual.

(4) Whether the origin of the sound is natural or unnatural.

(5) The volume and intensity of the background sound, if any.

(6) The proximity of the sound to residential sleeping facilities.

(7) The nature and zoning of the area within which the sound is being produced.

(8) The density of the inhabitation of the area within which the sound is being produced.

(9) The time of day or night the sound occurs.

(10) The duration of the sound.

(11) Whether the sound is recurrent, intermittent or constant.

Chapter 260 Zoning
§ 260-31 Land use performance standards.

A. Noise volume shall be limited to 70 decibels or less at or beyond the property line. Noise levels or frequencies which are not customary in the district or neighborhood or which represent a repeated disturbance to others shall not be permitted.

The proposed car wash tunnel and rear (north) vacuum system will operate during daytime hours only (8 AM to 8 PM). The vacuum system at the front of the property (south end near Sykes Mountain Ave) will operate 24 hours a day.

Sound produced by the car wash tunnel and vacuum systems are subject to the limits in Table I of Chapter 110 of the Hartford Town Code at nearest residential properties. Sound produced by the car wash tunnel and vacuum systems are limited to daytime hourly L_{eq} of 50 dBA and a maximum level of 70 dBA at residential property lines and receptors. Sound produced by the front vacuum system (24 hours) is subject to the nighttime limit of 45 dBA (hourly L_{eq}) and maximum level of 65 dBA at residential property lines and receptors.

In addition to the residential limits in Chapter 110, Section 31 of Chapter 260 of the Hartford Town Code, Land use performance standards, limits sound to 70 decibels or less at non-residential property line locations.

Project Sound Analysis

Facility-related sound impacts that are associated with equipment at the proposed Project have been calculated using Cadna/A environmental sound modeling software (Version 2023 MR2 DataKustic GmbH). The Cadna/A sound modeling software uses algorithms and procedures described in International Standard ISO 9613-2:1996 "Acoustics- Attenuation of sound during propagation outdoors – Part 2: General method of calculation". This standard and its associated methods are universally accepted for environmental sound modeling of industrial and transit sound sources. The methods described in this standard estimate A-weighted and octave band sound levels for meteorological conditions that are favorable for the propagation of sound (downwind with a wind speed of 1-5 meters/sec). This methodology is also valid for sound propagation under well-developed moderate ground-based temperature profile inversions, which commonly occur on clear calm nights. Appendix B contains additional modeling parameters used in this analysis.

Table 1 lists the stationary car wash equipment sound sources that were included in the acoustic model.

Table 1 – Car Wash Equipment Sound Sources

Item	Quantity	Comments
PECO Dryer Blowers	8	Blowers are located just inside the car wash exit
High Pressure Wash Equipment	1	High pressure wash system includes: Sprayers, washers and underbody wash
Vacuum Vac Systems Autovac Industrial	2	There are two central vac turbines located in enclosures on opposite ends of the site (north and south). The units modeled were 20 HP with VFD.
Vacuum Handset	4	Two active handsets (used to vacuum car interiors) operating outside their holders are included for each vacuum system (2 front, 2 rear).

Source Sound Levels

To understand the sound levels for the proposed car wash, we visited a similar car wash facility on May 23, 2024. This facility, located in Wilbraham, MA contains the same high pressure wash system and dryer blower type as the proposed car wash. We measured sound emitted from the car wash entrance, car wash exit, vacuum blower, and the vacuum handset. For the handset, we measured sound with the vacuum handset out of the housing (open). When the vacuum handset was in the housing, sound levels were at or below background sound from traffic. The closed handset is shown in Figure 1. Table 2 provides the octave band and overall A-weighted sound power levels (L_w) for all the above sources. These sound power levels were computed by Cavanaugh Tocci based on our sound pressure level measurements and assumption of spherical spreading at distances over which we measured the sound levels in the field.

The Wilbraham car wash contains 12 PECO dryer blowers whereas the proposed car wash contains 8 blowers. A slight reduction was applied to the sound power levels at the car wash entrance and exit presented in Table 2 to account for the lower number of blowers.

Table 2 – Unmitigated Car Wash Equipment Sound Power Levels, dB re: 1 pico-watt

Car Wash Source (Qty)	Octave Band Center Frequency, Hz									dBA
	31.5	*63*	*125*	*250*	*500*	*1000*	*2000*	*4000*	*8000*	
Car Wash Entrance (1)	99	101	101	99	98	97	96	90	82	102
Car Wash Exit (1)	97	102	104	103	107	107	106	101	93	112
Vacuum Blower Unit (2)	74	69	76	68	68	71	82	80	77	86
Open Vacuum Handset (2)	80	75	82	74	74	77	88	86	83	92

Our analysis consisted of three operating scenarios which are based on the Hartford Town Code limits: Hourly L_{eq}, Maximum Daytime and Maximum Nighttime. Specific car wash equipment operation for each scenario is presented below:

- Hourly L_{eq}
  - Car Wash Tunnel – 45 cars per hour
    - 30 seconds dryer blower per car
  - Vacuum System –
    - Main Vacuum Blowers (2) – Continuous operation for front and rear systems
    - Handheld Vacuum Nozzle (4) – 30 minutes operation for each nozzle, two at the front vacuum system and two at the rear vacuum system
- Maximum Daytime
  - All equipment is continuously operating at maximum capacity
- Maximum Nighttime
  - Car Wash Tunnel – Not Operating (shut off at night)
  - Vacuum System
    - Front System

- Main Vacuum Blower – Continuously operating
- Handheld Vacuum Nozzles (2) – Continuously operating

- Rear System – Not Operating (shut off at night)

Table 3 provides a summary of the unmitigated modeling results along with appropriate limits from the Hartford Town Code. This table presents the hourly L_{eq} results of acoustic modeling of stationary car wash equipment sound sources at the worst-case residential property line locations (RPL1-RPL7) and residential receptors (R1-R6) along with maximum results for daytime and nighttime scenarios at worst-case non-residential property line locations (PL1-PL4), residential property line locations (RPL1-RPL7) and residential receptors (R1-R6). Receptor locations are shown in Figures 2-4.

Table 3 – Estimate of Unmitigated Stationary Car Wash Equipment Sound Levels (dBA)

Receptor Location	Town of Hartford Town Code Limits	Estimated Hourly L_{eq} Sound Level (dBA) Daytime (7AM-10PM) (Figure 1)	Estimated Maximum Sound Level (dBA) Daytime (7AM-10PM) (Figure 2)	Estimated Maximum* Sound Level (dBA) Nighttime (10PM-7AM) (Figure 3)
RPL1	**Residential Daytime (7AM-10PM) Hourly Leq: 50 dBA Maximum: 70 dBA** **Residential Nighttime (10PM-7AM) Hourly Leq: 45 dBA Maximum: 65 dBA**	56	60	39
RPL2		55	59	36
RPL3		53	56	34
RPL4		51	55	31
RPL5		49	53	31
RPL6		50	54	33
RPL7		50	54	31
R1		52	56	36
R2		51	55	34
R3		47	51	29
R4		45	49	32
R5		42	46	27
R6		46	50	21
PL1	**Performance Standards Non-Residential: 70 dBA**	-	72	56
PL2		-	71	54
PL3		-	63	46
PL4		-	66	40

*Residential nighttime hourly L_{eq} sound levels are equal to the maximum nighttime sound levels presented in Column 5 of Table 3 under the conservative assumption the front vacuum system blower and handset along Sykes Mountain Avenue may operate continuously for a one-hour period.

Project sound levels without mitigation will exceed the residential hourly L_{eq} limits by up to 6 dBA and exceed the non-residential performance standards limit by up to 2 dBA.

Mitigation

We have evaluated two sound mitigation measures. The first is a prototype silencer consisting of acoustically lined cylindrical covers attached to the air intake-side of the dryer blowers. Based on the noise testing report completed by WSP Engineering (attached in Appendix C), we applied a 3 dBA reduction to the car wash exit and a 1 dBA reduction to the car wash entrance sound power levels. The second noise mitigation measure is an 8-foot high wooden sound barrier running along the north and west sides of the car wash site as shown in Figures 2-4. The sound barrier will be specified as Plywall[2], which is a wooden post and panel system that has been tested in accordance with ASTME E-90 and ASTM E-413 which result in a Sound Transmission Class (STC) rating of 31.

Table 4 provides the octave band and A-weighted sound power levels (L_w) for the car wash sources including the prototype silencers on the air intake-side of the dryer blowers. The vacuum sources are unchanged from the previous source table (Table 2).

Table 4 – Mitigated Car Wash Equipment Sound Power Levels, dB re: 1 pico-watt

Car Wash Source (Qty)	Octave Band Center Frequency, Hz									*dBA*
	31.5	*63*	*125*	*250*	*500*	*1000*	*2000*	*4000*	*8000*	
Car Wash Entrance (1)	98	100	100	98	97	96	95	89	81	101
Car Wash Exit (1)	94	98	101	100	104	104	1063	98	90	109
Vacuum Blower Unit (2)	74	69	76	68	68	71	82	80	77	86
Open Vacuum Handset (2)	80	75	82	74	74	77	88	86	83	92

Table 5 provides a summary of the mitigated modeling results, which include the dryer blower intake silencers and Plywall sound barrier wall. Figure 2 presents the hourly L_{eq} results of acoustic modeling of stationary car wash equipment sound sources at the nearest residential (RPL1-RPL7 and R1-R6). Figures 3 and 4 present the maximum results of acoustic modeling for daytime and nighttime scenarios.

[2] https://www.plywall.com/

Table 5 – Estimate of Mitigated Stationary Car Wash Equipment Sound Levels (dBA)

Receptor Location	Town of Hartford Town Code Limits	Estimated Hourly Leq Sound Level (dBA) Daytime (7AM-10PM) (Figure 1)	Estimated Maximum Sound Level (dBA) Daytime (7AM-10PM) (Figure 2)	Estimated Maximum* Sound Level (dBA) Nighttime (10PM-7AM) (Figure 3)
RPL1	**Residential Daytime (7AM-10PM)** **Hourly Leq: 50 dBA** **Maximum: 70 dBA** **Residential Nighttime (10PM-7AM)** **Hourly Leq: 45 dBA** **Maximum: 65 dBA**	42	46	23
RPL2		46	49	28
RPL3		45	49	28
RPL4		44	48	26
RPL5		42	46	29
RPL6		44	47	26
RPL7		46	50	33
R1		46	49	29
R2		44	47	30
R3		41	44	25
R4		44	48	31
R5		42	45	27
R6		41	45	21
PL1	**Performance Standards Non-Residential: 70 dBA**	-	69	56
PL2		-	68	54
PL3		-	62	46
PL4		-	65	40

*Residential nighttime hourly L_{eq} sound levels are equal to the maximum nighttime sound levels presented in Column 5 of Table 3 under the conservative assumption the front vacuum system blower and handset along Sykes Mountain Avenue may operate continuously for a one-hour period.

Conclusion

Based on our review, it is our opinion that sound produced by proposed equipment associated with the car wash to be located at 18 Sykes Mountain Avenue in White River Junction, VT, with the mitigation measures discussed above (dryer blower silencers and Plywall sound barrier wall), will comply with the Town of Hartford Town Code Noise Limits listed in Chapters 110 and 260.

At the commercial properties surrounding the proposed car wash and the existing car wash with two automated bays located at 130 Sykes Mountain Avenue (which may operate 24 hours a day), sound produced by the proposed car wash is not expected to result in a noise disturbance as listed in Section 110-6 of the Hartford Town Code. During nighttime hours when the car wash tunnel is not operational, sound from the front vacuum system is not expected to be audible at any residential receptor location.

Please do not hesitate to contact us with any questions.

Sincerely,
CAVANAUGH TOCCI



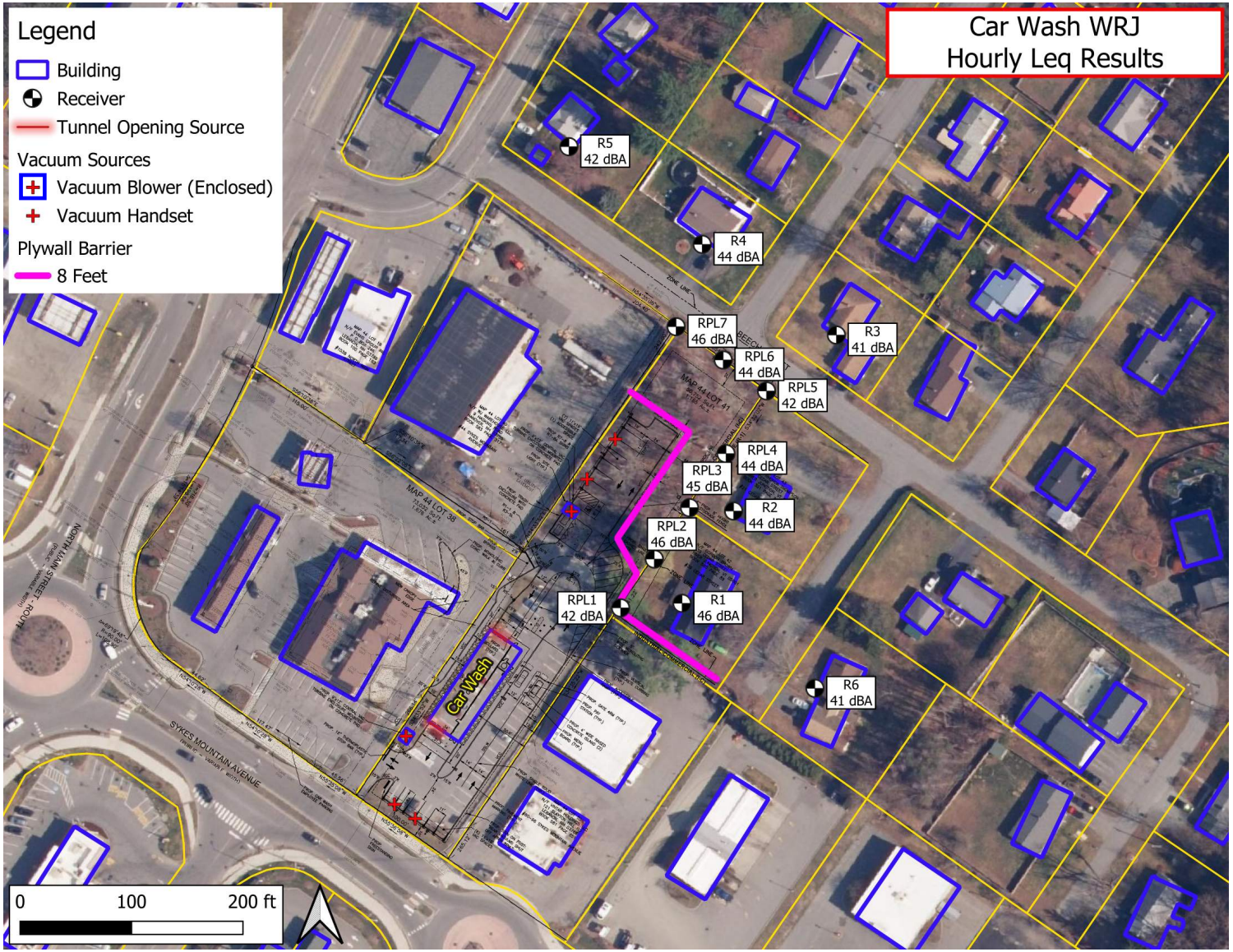
Aaron M. Farbo, *Principal Consultant*
afarbo@cavtocci.com
24063/White River Junction Car Wash Sound Study Report 2024-06-03.docx

FIGURES



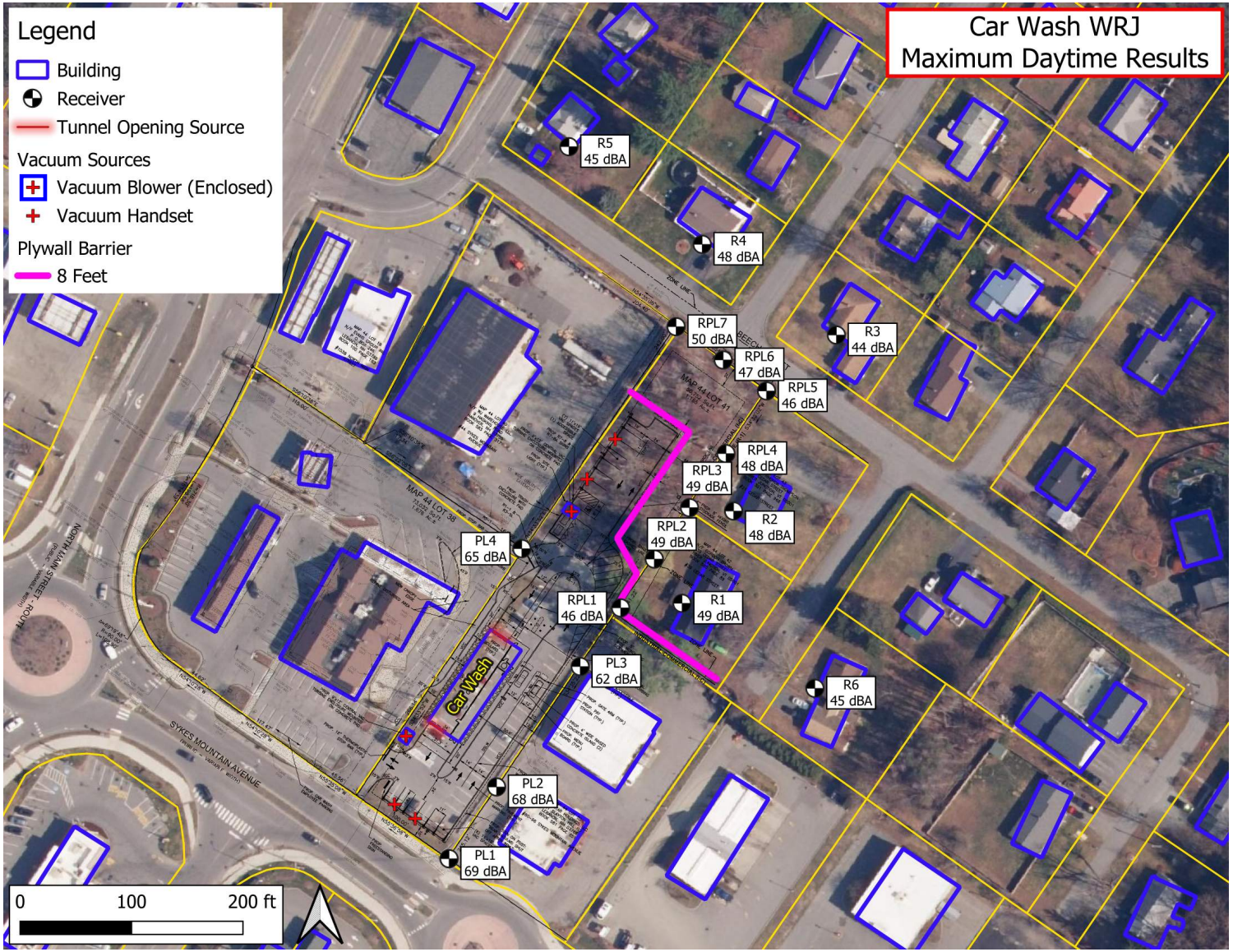
Vacuum Handset in Holder

Figure 1



Aerial Photograph Indicating Car Wash and Vacuum Sources, Plywall Sound Barrier, and Hourly Leq Sound Levels at Residential Property Lines and Receptor Locations

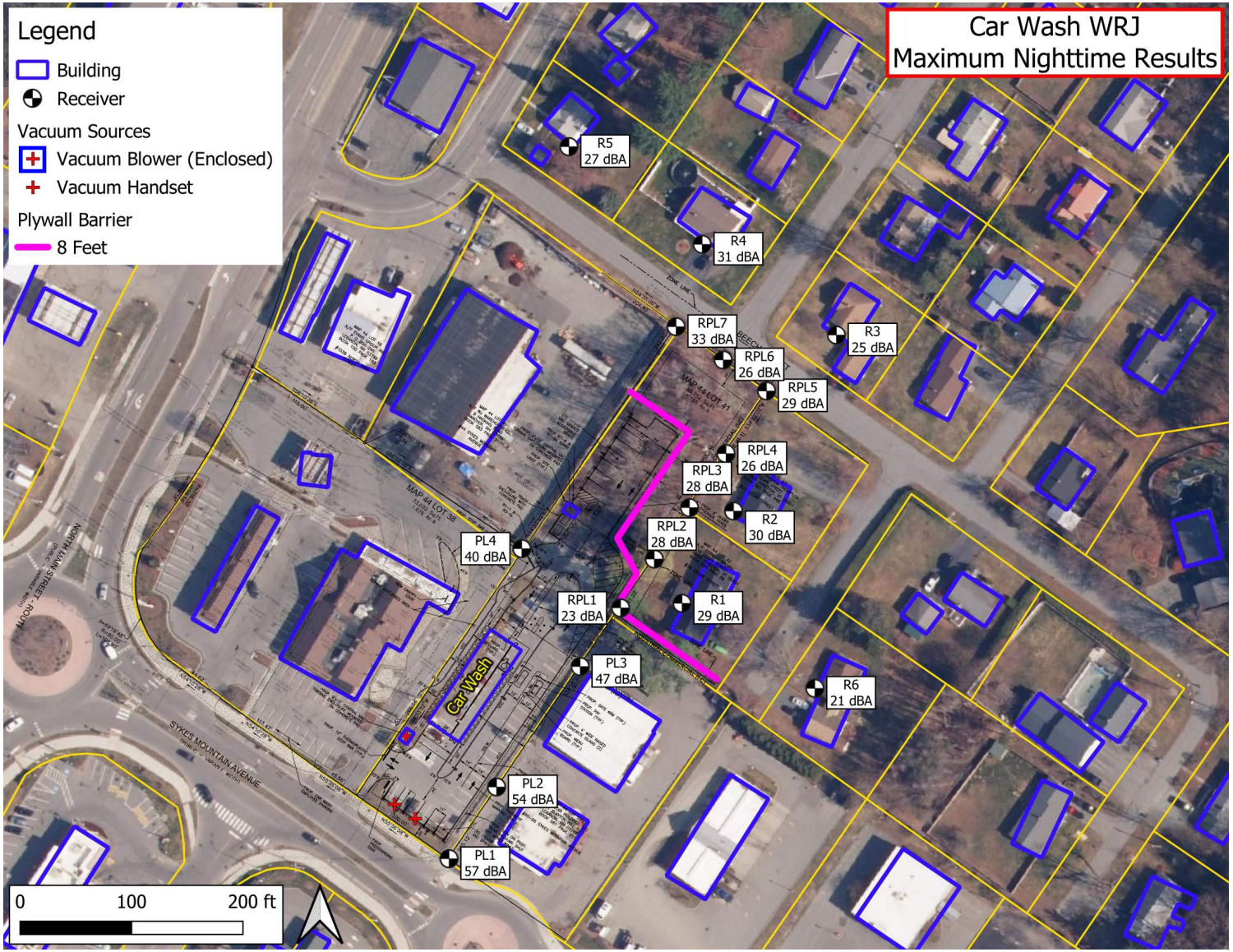
Figure 2



Aerial Photograph Indicating Car Wash, Vacuum Enclosures, Fences and Maximum Daytime Sound Levels at Property Line and Residential Receptor Locations

Figure 3

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Aerial Photograph Indicating Car Wash, Vacuum Enclosures, Fences and Maximum Nighttime Sound Levels at Property Line and Residential Receptor Locations

Figure 4

CAVANAUGHTOCCI

APPENDIX A

Sound Measurement Terminology

SOUND MEASUREMENT TERMINOLOGY

In order to quantify the amplitude, frequency, and temporal characteristics of sound, various acoustical descriptors are used. The following is an introduction to acoustic terminology that is used in this report.

Sound Level

Sound levels are typically quantified using a logarithmic decibel (dB) scale. The use of a logarithmic scale helps to compress the wide range of human sensitivity to sound amplitude into a scale that ranges from approximately 0 to 180 dB. Note however, that the use of the logarithmic scale prevents simple arithmetic operations when combining the cumulative impact of sources. For example, two sources of equal sound level operated simultaneously results in a combined sound level that is only 3 dB higher than if only one source was operated alone. An important feature of the human perception of continuous sound is that an increase or decrease in sound pressure level by 3 dB or less is barely perceptible, and an increase or decrease by 10 dB is perceived as a doubling or halving of noise level.

A-weighting

Generally, the sensitivity of human hearing is restricted to the frequency range of 20 Hz to 20,000 Hz. However, the human ear is most sensitive to sound in the 500 Hz to 5,000 Hz frequency range. Above and below this range, the ear becomes progressively less sensitive. To account for this feature of human hearing, sound level meters incorporate filtering of acoustic signals that corresponds to the varying sensitivity of the human ear to sound at different frequencies. This filtering is called A-weighting. Sound level measurements that are obtained using this filtering are referred to as A-weighted sound levels and are signified by the identifier, dBA. A-weighted sound levels are widely used for evaluating human exposure to environmental sounds. To help place A-weighted sound levels in perspective, Figure A-1 contains a scale showing typical sound levels for common interior and environmental sound sources.

Spectral Characteristics – Octave and 1/3 Octave Band Sound Levels

To characterize a sound, it is often necessary to evaluate the frequency distribution of the sound energy. As mentioned before, the frequencies of most interest where human exposure is concerned range between 20 Hz and 20,000 Hz. This frequency range is commonly divided into octave bands, where an octave band is a range of frequencies. Each octave band is referred to by its center frequency and has a bandwidth of one octave (a doubling of frequency). To cover the full range of human hearing, it is necessary to measure sound in 10 separate octave bands. Typically, the lowest frequency band measured has a center frequency of 31.5 Hz. The next frequency band has a center frequency of 63 Hz. This geometric series continues to the highest frequency band that has a center frequency of 16,000 Hz. A set of octave band sound levels to describe a particular sound is called an octave band spectrum. Covering the full range of hearing, an octave band spectrum would have 10 values, one for each band. Under certain circumstances, more frequency resolution in acoustical data is needed to identify the presence of tonal sounds. A 1/3 octave band spectrum uses filters that divide each

octave band into 3 separate frequency bands. Note that octave band and 1/3 octave band sound levels are not usually A-weighted, with their units being dB.

Environmental Noise Descriptors

Sound levels in the environment are continuously fluctuating and it is difficult to quantify these time-varying levels with single number descriptors. Statistical approaches, which use *percentile sound levels* and *equivalent sound levels*, are often used to quantify the temporal characteristics of environmental sound.

Percentile sound levels (L_n) are the A-weighted sound levels that are exceeded for specific percentages of time within a noise measurement interval. For example, if a measurement interval is one hour long, the 50th percentile sound level (L_{50}) is the A-weighted sound level that is exceeded for 30 minutes of that interval.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The 90th percentile sound level represents the nominally lowest level reached during the monitoring interval and is typically influenced by sound of relatively low level, but nearly constant duration, such as distant traffic or continuously operating industrial equipment. The L_{90} is often used in standards to quantify the existing background or residual sound level.
- L_{50} is the median sound level: the sound level in dBA exceeded 50 percent of the time during the measurement period.
- L_{10} is the sound level exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises like those from passing motor vehicles or aircraft.

By using percentile sound levels, it is possible to characterize the sound environment in terms of the steady-state background sound (L_{90}) and occasional transient sound (L_{10}).

The equivalent sound level (L_{eq}) is the energy average of the A weighted sound level for the measurement interval. Sounds of low level and long duration, as well as sounds of high level and short duration influence this sound level descriptor.

Noise levels at night generally produce greater annoyance than do the same levels which occur during the day. It is generally agreed that a given level of environmental noise during the day would appear to be 10 dBA louder at night – at least in terms of potential for causing community concern. The day night average sound level (Ldn) is a 24 hour average A-weighted sound level where a 10 dB "penalty" is applied to sound occurring between the hours of 10:00 p.m. and 7:00 a.m. The 10 dB penalty accounts for the heightened sensitivity of a community to noise occurring at night.

When a steady continuous sound is measured, the L_{10}, L_{50}, L_{90} and L_{eq} are all equal. For a constant sound level, such as from a power plant operating continuously for a 24-hour period, the L_{dn} is approximately 6 dBA higher than the directly measured sound level.

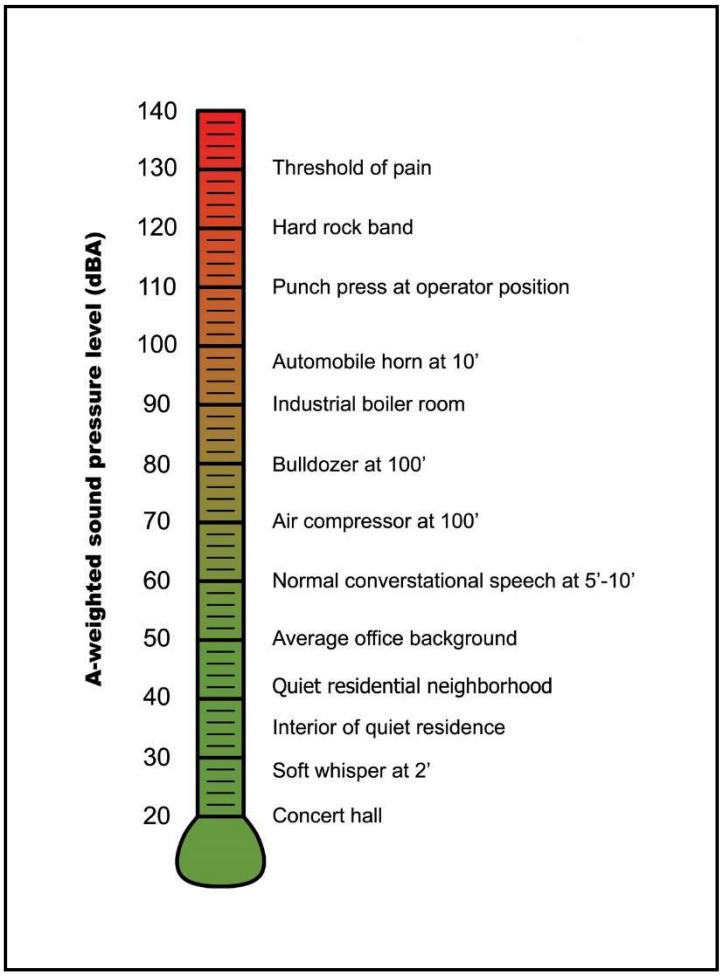


Figure A-1
Typical Sound Levels for Common Interior and Environmental Source

APPENDIX B

Computer Modeling Source Inputs and Parameters

Modeling Technique

Modeling of facility sound was completed using Cadna/A (Datakustik GmbH, Version 2023 MR2). Cadna/A is a computer program that implements the modeling techniques of ISO 9613-1 and ISO 9613-2 to estimate source sound levels at community receptor locations. In calculating sound levels at receptor locations, the Cadna model accounts for reductions in car wash sound pressure levels associated with propagation distance, shielding by intervening structures and topography, and absorption of sound by the atmosphere and porous surfaces.

Computer Model Parameters

Residential receptors in the vicinity of the project site include one-story structures which are modeled at an elevation of 7 feet above grade. Property line receptors were modeled at an elevation of 5 feet above grade.

As sound propagates through the environment, it may encounter boundaries which reflect or absorb some fraction of the incident sound. In our computer model, we have assumed that buildings and parking lots are all acoustically reflective, except where specifically noted. Shielding from topography and existing buildings in the vicinity of the proposed car wash were included in this analysis. To account for reflectors, one order of reflection has been included in computer modeling.

Based on our review of Google Earth images of the site, we have assigned a Ground Attenuation Coefficient (G) of 0.0 (full sound reflecting surface) for ground conditions on paved areas of the proposed car wash site, adjacent paved areas, and roadways. A Ground Attenuation Coefficient of 0.5 (partial sound absorbing surface) was assigned for all non-paved areas in nearby residential neighborhoods, in accordance with the ISO standard. Topography of the surrounding area has been obtained from the United States Geological Survey (USGS) and included in computer modeling.

Existing buildings and parcel boundaries were imported from the Vermont Center for Geographic Information (VCGI - http://vcgi.vermont.gov/).

Attenuation due to foliage and wooded buffers was not included in this analysis.

EQUIPMENT DECIBEL CERTIFICATION

This is to certify that the following AutoVAC equipment was measured with the following decibel levels of noise emission (+/- 2dB) in accordance with ISO 2151:2004. These ratings are taken at 15 feet from the machine with no background noise or outside interference in a 50 x 50ft interior room.

VACUUM PRODUCER					
HORESPOWER	**STAGE**	**START/RUN dB WITH VFD**	**START dB NO VFD**	**SERIAL NO**	**PASS/FAIL**
10	3	64	84		
15	4	66	88		
20	5	66	88		
25	6	72	92		
30	7	74	92		
40	8	76	95		

BLOWER				
HORESPOWER	**START/RUN dB WITH VFD**	**START dB NO VFD**	**SERIAL NO**	**PASS/FAIL**
15	72	85		

Equipment Used to measure decibel levels

EQUIPMENT	MANUFACTURER	MODEL NO	SERIAL NO
Sound Level Meter	Extech Instruments	407730	9848853

Certified By: _____ Date: _____

This certificate does not claim product approval or endorsement by NVLAP, NIST or any agency of the Federal Government. If you have any further questions, please contact AutoVAC at our toll free number 888-628-8682.

CAVANAUGHTOCCI

APPENDIX C

WSP Engineering Prototype Silencer Report

Project Description

This report presents the results of a second round of acoustical tests performed on Sonny's Car Wash dryer blowers and client-designed and installed prototype silencers. The first round of acoustical tests was described in a previous report, *Sonny's Car Wash Dryer Blowers Noise Assessment*, dated 2/16/18.

In this round of tests, the silencers were installed on the dryer blowers at Prestige Car Wash located at 4921 N. University Drive, Lauderhill, Florida. As shown in **Photos 1 and 2**, Prestige is an active car wash in commercial operation. The noise tests were performed after operating hours on 10/3/18 to minimize noise sources in the car wash not attributable to the blowers.



Photo 1. Prestige Car Wash Entry Portal



Photo 2. Prestige Car Wash Exit Portal

Noise Measurement Procedure

The procedure followed in this second round of acoustical tests involved performing calibrated A-weighted broadband and third-octave band noise measurements both with and without the prototype silencers attached to the dryer blowers. As shown in **Figure 1**, noise measurements were performed at nine measurement positions (M0 thru M8) inside, outside and in the vicinity of Prestige Car Wash. The nine positions can be described as follows:



M0 - Inside tunnel towards exit
M1 - Tunnel exit portal (east)
M2 - Outside tunnel in direct line from exit
M3 - Outside tunnel in direct line from exit
M4 - Tunnel entrance portal (west)
M5 - Building facade property to south
M6 - Northern property line
M7 - Outside tunnel in line from entrance
M8 - Inside office/waiting room area

Figure 1. Noise Measurement Positions

The noise measurement instrumentation consisted of a Svantek Model 971 Sound Level Analyzer using a Svantek 7052E Precision Microphone covered with a 3½-inch windscreen. The SVAN-971 was programmed to measure and store Leq noise data in 1-minute samples using an RMS 'slow' time response. The SVAN-971 computed broadband sound levels in unweighted (dBZ) and A-weighted (dBA) decibels, and computed the unweighted third-octave band L_{eq} levels from 20 Hz to 20 kHz. The noise measurement system was calibrated with a Larson Davis Model 150 Calibrator, and complies with ANSI Standard S1.4 for Type 1 quality and accuracy.

Data reduction and post-processing consisted of comparing the broadband A-weighted and third-octave band results measured with and without the silencers at each measurement position. The noise reduction (dBNR) is the difference in decibels between the two measured noise levels. Attempts were made to maintain consistency with as many variables as possible between the two noise measurements; however, background traffic noise did contribute slightly to some of the outdoor readings.

As shown in **Photo 3**, the dryer blowers are typical backward centrifugal air fans. The impellers spin at 3,600 RPM, and each fan has one impeller with 11 blades. Barring other effects, this would lead to expected higher noise emission levels in the 60 Hz, 120 Hz, 180 Hz, 630 Hz and 1,250 Hz third-octave frequency bands. As shown in **Photo 4**, the prototype silencers consisted of acoustically lined cylindrical covers attached to the air intake-side of the blowers. No noise control modifications were performed on the air exhaust-side of the blowers.



Photo 3. Dryer Blowers Without Silencers

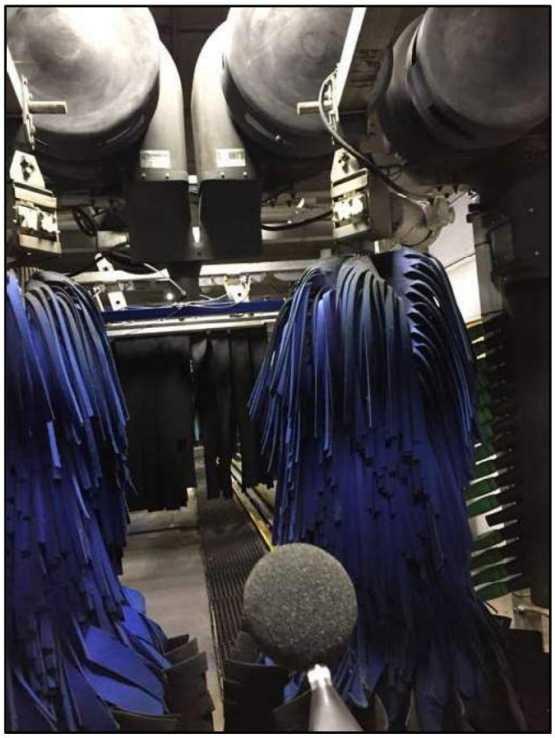


Photo 2. Dryer Blowers With Silencers

Noise Results and Findings

The results of the second round of acoustical tests of the dryer blower prototype silencers can be seen in **Table 1**. The magnitude of noise reduction attributable to the prototype silencers ranged from 1.1 to 4.5 dBNR depending on measurement position. The positions yielding the most noise reduction were those in line with the tunnel exit side of the blowers. The least noise reduction was found in line with the tunnel entrance side. This asymmetry could be attributable to the acoustical directivity of the blowers.

Figures 2 thru 10 show the A-weighted broadband and third-octave band results with and without the silencers for each measurement position. The noise reduction is the difference between the two plotted curves.

All results presented in the table and figures are shown in A-weighted decibels (dBA) so that visual results would correlate better with how humans would perceive the given sounds over the full audio spectrum. Presenting the results in A-weighted decibels also allows for easier identification of the louder frequency bands that would benefit the most from subsequent noise control efforts.

Table 1. Sonny's Dryer Blower Silencers
Acoustical Test Results (Round 2)

Sonny's Car Wash Blower and Silencer Noise Measurement Tests 10/3/18						
Prestige Car Wash - 4921 N. University Drive, Lauderhill, FL 33351						
Site No.	Distance to Blowers* (feet)	Noise Measurement Site Location	Traffic Noise Influence**	Noise Level No Silencers dBA Leq	Noise Level With Silencers dBA Leq	Approx. Noise Reduction dBNR
M0	8	Inside tunnel near blowers towards exit	No	99.7	96.9	2.8
M1	22	Tunnel exit portal (east)	No	96.3	92.8	3.6
M2	51	Outside tunnel in direct line from exit	Slightly	84.8	80.3	4.5
M3	95	Outside tunnel in direct line from exit	Yes	78.4	74.1	4.3
M4	68	Tunnel entrance portal (west)	No	88.3	87.1	1.1
M5	110	Building facade adjacent property to south	Yes	65.7	63.2	2.5
M6	83	Northern property line	Yes	69.7	66.7	3.1
M7	99	Outside tunnel in direct line from entrance	No	77.7	76.5	1.2
M8	10	Inside office/waiting room area	No	67.9	66.1	1.7
*Blowers are located approximately 22 feet inside the car wash tunnel exit and approximately 68 feet inside the tunnel entrance.						
**Traffic noise from N. University Drive NB & SB movements did have an impact on some noise measurements that were farther away from the blower noise.						

Paxwood Acoustics

Eddie.Duncan@PaxwoodAcoustics.com

May 20, 2024

Jo-Ann Ells
Department of Planning & Development
Town of Hartford, Vermont
171 Bridge Street
White River Junction, VT 05001
Via email only: jells@hartford-vt.org

Dear Jo-Ann:

At the Town's request, we have reviewed the Environmental Sound Study ("Sound Study") for the White River Junction Car Wash ("Project") proposed by Summit Distributing. This letter provides the findings our review including a brief description of the Project and documents reviewed, Paxwood Acoustics qualifications to conduct the review, and discussion related to the:

- Qualifications of the authors of the Sound Study,
- Appropriateness of methods and standards used in the Sound Study,
- Reasonableness of the data used in the Sound Study, and
- Addressing of the relevant regulations.

As discussed in this review, we find that the Sound Study:

- Contains the appropriate sections,
- The authors are qualified to conduct the work contained in the Sound Study,
- The modeling standard that was used is appropriate, and
- The sound power levels used in the model are within a reasonable range of what we would expect given the type of sound sources.

However, we are unable to confirm the overall appropriateness of the modeling methodology and the reasonableness of some of the data used and generated due to insufficient details within the Sound Study. In addition, given the proximity of residences

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Phone: 802-299-6966

to the north and northeast along Cedar Street and Beech Street, a discussion of the Project in the context of Section 110-6 and Section 260-31A (i.e. customary sounds and repeated disturbances) of the Town Code may be merited.

Project Description & Reviewed Documents

The Project is a car wash facility proposed on Sykes Mountain Avenue on Map 44 Lot 41. It involves the construction of a building that will house the car wash and associated equipment and the installation of two vacuum systems with one system located at the front of the property near Sykes Avenue and one system located at the rear of the property in a lot behind the proposed car wash building. The existing conditions of the site are a parking lot on the front half of the parcel and an undeveloped yard on the back half of the parcel.

For this review, the primary document we reviewed was the Sound Study[1] by CavanaughTocci. We also reviewed the Site Development Plans[2] for additional context.

Sound Study Review

Qualifications of the Study Firm

CavanaughTocci is a well-known and respected firm in the field of acoustics. They are involved in the relevant professional organizations in our field: the Institute of Noise Control Engineering (INCE), the Acoustical Society of America (ASA), and the National Council of Acoustical Consultants (NCAC). The primary author of the Sound Study, Aaron Farbo, is a Principal Consultant at CavanaughTocci. Mr. Farbo is a full member of both INCE and ASA. While Mr. Farbo himself is not Board Certified through INCE, other staff at his firm are.

CavanaughTocci and Mr. Farbo are qualified to conduct the work contained in the Sound Study.

Appropriateness of Methods & Standards

The relevant standards that come into play in the Sound Study are modeling or calculation standards and measurement standards.

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[1] CavanaughTocci, White River Junction Car Wash Environmental Sound Study, 24 April 2024.
[2] GPI, Site Development Plans Proposed Car Wash, 2 February 2024 with revisions as recent as 17 April 2024

Modeling

The Sound Study utilizes appropriate modeling software (CadnaA) and supporting calculation standards (ISO 9613-2). However, it is not clear from the Sound Study whether appropriate settings were used in the model, so we are unable to verify the accuracy and reasonableness of the calculations. Some key factors that would affect the calculations include ground factor, buildings, and reflections.

Given the built-up environment in the surrounding area, we would recommend that buildings on the proposed property and adjacent properties be included in the model with 1 or 2 orders of reflection. In addition, given that the site is and will be paved, a ground factor of 0, which represents hard ground, would be most appropriate for the Project site, roadways, and neighboring paved parcels. These settings may have been used in the Sound Study, but it is not stated in the report, so we cannot confirm the accuracy or reasonableness of the projected sound levels presented in Table 2 and Figures 1 through 3.

The Sound Study mentions that the analysis includes an 8-foot-high stockade fence along the northern and eastern sides of the site, and it shows the location of the fence in the model result maps (Figures 1 through 3). However, the report does not state how the stockade fence was taken into account in the analysis. Depending on how it was accounted for in the model, it may or may not be appropriate for the calculations. For example, ISO 9613-2 and CadnaA allow one to model a noise barrier, but a typical stockade fence does not fit within the definition of a noise barrier which would allow it to be modeled in that fashion. A noise barrier should not have any appreciable air gaps and should have a surface weight at least 4 pounds per square foot. Stockade fences typically do not fit either of these specifications given that there can be air gaps between the boards and at the base of the fence, and that it weighs less than 4 pounds per square foot. For example, a 6-foot by 8-foot section of spruce/pine/fir stockade fence from Home Depot has a surface weight of ~1.9 lbs/sq. ft.[3] We did not see specifications for the proposed stockade fence in the Site Development Plans.

The model results are provided at discrete receptors along the property line and at nearby residential receptors. While the report states that the property line receptors are located at the closest locations, it would be good if the Sound Study either provided sound levels all along the property line through the use of sound level iso-lines or indicate that the discrete receptors represent the worst-case property line sound levels.

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[3] https://www.homedepot.com/p/Outdoor-Essentials-6-ft-H-x-8-ft-W-Spruce-Pine-Fir-Stockade-Fence-Panel-8847/100087022

Measurements

It did not appear as though any measurements were conducted specifically for the Sound Study, but it did rely upon measurements conducted by others to develop input into the model.

For the AutoVAC equipment, the manufacturer data is provided in a certification report in Appendix B. The certification report indicates that the measurements by the manufacturer were conducted with an Extech 407730 sound level meter. This is a Class 2 sound level meter with an accuracy of +/- 2 dB. We also note that the certification report is not signed nor does it indicate if the sound level meter was calibrated. While it would be preferable if the measurements were conducted with a more accurate Class 1 sound level meter and provided in a report that is signed and indicates that the meter was calibrated, this may represent the best available information from the manufacturer on their system.

The second page in Appendix B provides measured sound pressure levels of dryers in a car wash. It's not clear from the report is this is the same system that would be installed at the proposed Project or if it is being used as a representative system. This should be indicated as it affects the degree to which the data should be relied upon.

Table B-1 in Appendix B provides the actual sound power levels that were used by CavanaughTocci in the modeling, presumably based on the information provided on the prior two pages and the WSP measurement report[4] at the end of the document. Overall, the sound power levels shown in Table B-1 appear to be reasonable given our experience with car wash noise and associated sound sources, but there is a disconnect between the supporting data provided in Appendix B and Table B-1. It is unclear from the report how the sound power levels were calculated or if the calculation method was appropriate. We also note that the WSP report attached at the end of the document includes sound level data on car wash blowers with and without prototype silencers, but the report does not state which data was used in the model or if silencers (prototype or otherwise) are proposed for this car wash.

While the Sound Study uses an appropriate calculation standard (ISO 9613-2) and the overall sound power levels used in the model appear to be reasonable based on our experience, the report provides insufficient details related to model settings, how the stockade fence was accounted for, and how the manufacturer and WSP measurement data were used to generate the sound power levels for the model. Without these details,

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[4] WSP is a large engineering and professional services firm. The WSP report attached to the Sound Study does not identify the author of the report.

we are unable to fully evaluate the appropriateness of the methods and standards used in the Sound Study.

Reasonableness of the Data

As mentioned above, the total sound power levels (listed in Table B-1) which were used as input to the CadnaA model appear to be within a reasonable representative range of sound levels for the type of equipment being proposed. Based on our experience we would expect actual sound emissions from the equipment to be within a few dB of the listed values. That said, page 3 of the study clearly states that this is data from similar car wash projects, but it does not state that it is the same equipment that will be used at this proposed site.

We cannot verify the reasonableness of the projected sound levels at the property line or residential receptors because as previously stated, there is insufficient information in the report to verify that appropriate model settings were used.

Regarding geospatial data, the source of the parcel data is not stated in the report. Given that the highest property line sound level is within 1 dB of the 70 dBA property line sound level limit, using a surveyed parcel boundary layer may be merited to ensure that the limit at the actual property line is not exceeded.

Addressing Relevant Noise Standards

The Sound Study evaluates the relevant quantitative noise standards within the Hartford Town Code. Specifically, the daytime and nighttime residential (and sensitive land use) property line standards in Chapter 110, and the 70 dBA property line limit in Chapter 260.

The Sound Study also identifies some of the more qualitative aspects of the Town Code, specifically Section 110-6, titled Noise Disturbances. Other than identifying this portion of the Town Code, the Sound Study does not provide a discussion on whether the proposed sound levels and sources may be considered:

- “loud, unnecessary, excessive, or offensive”
- “unusual sound which unreasonably disturbs the peace and quiet” or
- “causes discomfort or annoyance to any reasonable person of a normal sensitivity”.

There is also additional qualitative aspects listen in Section 260-31A which states, “Noise levels or frequencies which are not customary in the district or neighborhood or which represent a repeated disturbance to others shall not be permitted.” While this Section is identified in the Sound Study, it is not discussed in the context of the Project.

Given the proximity of residences to the north and northeast along Cedar Street and Beech Street, a discussion of the qualitative factors in Section 110-6 in the context of the residential area and a discussion the qualitative language in Section 260-31A (i.e. customary sounds and repeated disturbances) may be merited.

Paxwood Acoustics Qualifications

Paxwood Acoustics is located in Quechee, Vermont and provides professional consulting services in acoustics and noise control engineering with a focus on environmental permitting and compliance. Eddie Duncan, Principal Consultant, is a Board-Certified Noise Control Engineer through the Institute of Noise Control Engineering and is a member of the Acoustical Society of America. Mr. Duncan has been practicing acoustic consulting for over 20 years. In that time, he has managed over 400 acoustics projects across the country. He has also conducted noise assessments in the Town of Hartford having used the local noise standards in the past.

Sincerely,



Edward Duncan, INCE Bd. Cert.
Principal Consultant & Founder

April 24, 2024

Mr. Tom Frawley
Summit Distributing
240 Mechanic Street
Lebanon, NH 03766

SUBJECT: White River Junction Car Wash
Environmental Sound Study

Dear Mr. Frawley,

As requested, Cavanaugh Tocci has completed a study of environmental sound produced by the proposed car wash located at 18 Sykes Mountain Avenue in White River Junction, VT. This report discusses applicable noise regulations and presents our sound impact assessment. Appendix A presents a glossary of acoustical terminology used in this report.

Noise Criteria

White River Junction is an unincorporated village in the town of Hartford, VT. The Town of Hartford Town Code contains noise limits that are pertinent to sound produced by this project, as listed in Chapters 110 and 260.

Hartford Town Code [1]

Chapter 110 Noise
§ 110-5 Residential and other sensitive use areas.

A. In addition to the prohibitions set forth in § 110-6 below, it shall be unlawful for any person at any location to create any sound or to allow the creation of any sound on any property owned, leased, occupied or otherwise controlled by such person which causes the exterior sound level when measured at the property line of any affected single- or multiple-family residence, school, hospital, church, rest home, cemetery, public library or other sensitive use to exceed the sound level standards as set forth in Table I below:

Table I
Sound Level Standards
(for fixed sound sources)

Sound Level Description	Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
Hourly Leq, dB	50	45
Maximum Level, dB	70	65

[1] https://www.hartford-vt.org/DocumentCenter/View/9335/Town-Code-PDF

(1) In the event the measured ambient sound level exceeds the applicable sound level standard identified in Table I, the sound level standard (the standard against which violations are measured) shall be adjusted so as to equal the ambient sound level plus three dB.

(2) Each of the sound level standards specified in Table I shall be reduced by five dB for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be at a lower level than the ambient sound level plus three dB

(3) If the intruding sound source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient sound level can be measured, the sound level measured while the source is in operation shall be compared directly to the sound level standards of Table I.

§ 110-6 Noise disturbances.

A. In addition to and notwithstanding any other provisions of this chapter, it is unlawful for any person to willfully make or continue to cause or allow to be made or continued any loud, unnecessary, excessive or offensive noise or unusual sound which unreasonably disturbs the peace and quiet of any residential or other sensitive use or which causes discomfort or annoyance to any reasonable person of a normal sensitivity in the area.

B. In determining whether a violation of the provisions of this section exists, the enforcement officer may consider any of the following:

(1) The volume and intensity of the sound.

(2) The vibration intensity of the sound.

(3) Whether the nature of the sound is usual or unusual.

(4) Whether the origin of the sound is natural or unnatural.

(5) The volume and intensity of the background sound, if any.

(6) The proximity of the sound to residential sleeping facilities.

(7) The nature and zoning of the area within which the sound is being produced.

(8) The density of the inhabitation of the area within which the sound is being produced.

(9) The time of day or night the sound occurs.

(10) The duration of the sound.

(11) Whether the sound is recurrent, intermittent or constant.

Chapter 260 Zoning
§ 260-31 Land use performance standards.

A. Noise volume shall be limited to 70 decibels or less at or beyond the property line. Noise levels or frequencies which are not customary in the district or neighborhood or which represent a repeated disturbance to others shall not be permitted.

The proposed car wash tunnel and rear (north) vacuum system will operate during daytime hours only (8 AM to 8 PM). The vacuum system at the front of the property (south end near Sykes Mountain Ave) will operate 24 hours a day.

Sound produced by the car wash tunnel and vacuum systems are subject to the limits in Table I of Chapter 110 of the Hartford Town Code at nearest residential properties. Sound produced by the car wash tunnel and vacuum systems are limited to daytime hourly Leq of 50 dBA and a maximum level of 70 dBA at residential property lines and receptors. Sound produced by the front vacuum system (24 hours) is subject to the nighttime limit of 45 dBA (hourly Leq) and maximum level of 65 dBA at residential property lines and receptors.

In addition to the residential limits in Chapter 110, Section 31 of Chapter 260 of the Hartford Town Code, Land use performance standards, limits sound to 70 decibels or less at non-residential property line locations.

Project Sound Analysis

Facility-related sound impacts that are associated with equipment at the proposed Project have been calculated using CadnaA environmental sound modeling software (Version 2023 MR2 DataKustic GmbH). The CadnaA sound modeling software uses algorithms and procedures described in International Standard ISO 9613-2:1996 “Acoustics- Attenuation of sound during propagation outdoors – Part 2: General method of calculation”. This standard and its associated methodology are the most universally accepted approach for environmental sound modeling of industrial and transit sound sources. The methodology described in this standard provides estimates of A-weighted and octave band sound levels for meteorological conditions that are favorable for the propagation of sound (downwind with a wind speed of 1-5 meters/sec). This methodology is also valid for sound propagation under well-developed moderate ground-based temperature profile inversions, which commonly occur on clear calm nights.

The analysis is based on source sound emission data derived from manufacturer provided sound data (dryer blowers and vacuum system) and measurements (high pressure wash and spectrum for the blowers and vacuum system) from similar car wash tunnel projects. Manufacturer-provided sound data information and sound power data used in modeling are presented in Appendix B.

Table 1 lists the stationary car wash equipment sound sources that were included in the acoustic model.

Table 1 – Car Wash Equipment Sound Sources

Item	Quantity	Comments
PECO Dryer Blowers	8	Blowers Include acoustically lined cylindrical silencer covers attached to the air intake-side of the blowers.
High Pressure Wash Equipment	1	High pressure wash system includes: Sprayers, washers and underbody wash
Vacuum Vac Systems Autovac Industrial	2	There are two central vac turbines located in enclosures on opposite ends of the site (north and south). The units modeled were 20 HP with VFD.

Our analysis consisted of three operating scenarios which are based on the Hartford Town Code limits: Hourly Leq, Maximum Daytime and Maximum Nighttime. Specific car wash equipment operation for each scenario is presented below:

- Hourly Leq
    - Car Wash Tunnel – 45 cars per hour
        - 30 seconds high pressure wash per car
        - 30 seconds dryer blower per car
    - Vacuum System – Continuous operation for front and rear systems
- Maximum Daytime
    - All equipment is continuously operating at maximum capacity
- Maximum Nighttime
    - Car Wash Tunnel – Not Operating (shut off at night)
    - Vacuum System
        - Front System – Continuous operation
        - Rear System – Not Operating (shut off at night)

Table 2 provides a summary of the modeling results along with appropriate limits from the Hartford Town Code. Figure 1 presents the hourly Leq results of acoustic modeling of stationary car wash equipment sound sources at the nearest residential property line locations (RPL1-RPL3) and residential receptors (R1-R6). Figures 2 and 3 present the maximum results of acoustic modeling for daytime and nighttime scenarios at nearest non-residential property line locations (PL1-PL4), residential property line locations (RPL1-RPL3) and residential receptors (R1-R6).

The analysis includes an 8-foot high stockade wooden fence along the east and north sides of the site that extends east along the adjacent property as shown in Figures 1-3.

Table 2 – Estimate of Stationary Car Wash Equipment Sound Levels (dBA)

Receptor Location	Town of Hartford Town Code Limits	Estimated Hourly Leq Sound Level (dBA) Daytime (7AM-10PM) (Figure 1)	Estimated Maximum Sound Level (dBA) Daytime (7AM-10PM) (Figure 2)	Estimated Maximum* Sound Level (dBA) Nighttime (10PM-7AM) (Figure 3)
RPL1	**Residential Daytime (7AM-10PM) Hourly Leq: 50 dBA Maximum: 70 dBA** **Residential Nighttime (10PM-7AM) Hourly Leq: 45 dBA Maximum: 65 dBA**	45	49	14
RPL2		46	50	15
RPL3		43	47	17
R1		48	52	13
R2		46	50	14
R3		42	46	11
R4		43	46	28
R5		42	46	27
R6		46	50	20
PL1	**Performance Standards Non-Residential: 70 dBA**	-	69	46
PL2		-	68	47
PL3		-	68	24
PL4		-	68	42

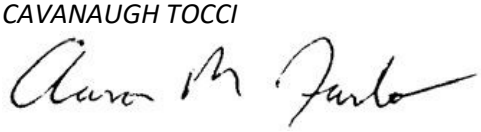
*Residential nighttime Hourly Leq sound levels are equal to the maximum nighttime sound levels presented in Column 5 of Table 2 under the conservative assumption the front vacuum system along Sykes Mountain Avenue may operate continuously for a one hour period.

Conclusion

Based on our review, it is our opinion that sound produced by proposed equipment associated with the car wash to be located at 18 Sykes Mountain Avenue in White River Junction, VT will comply with the Town of Hartford Town Code Noise Limits listed in Chapters 110 and 260.

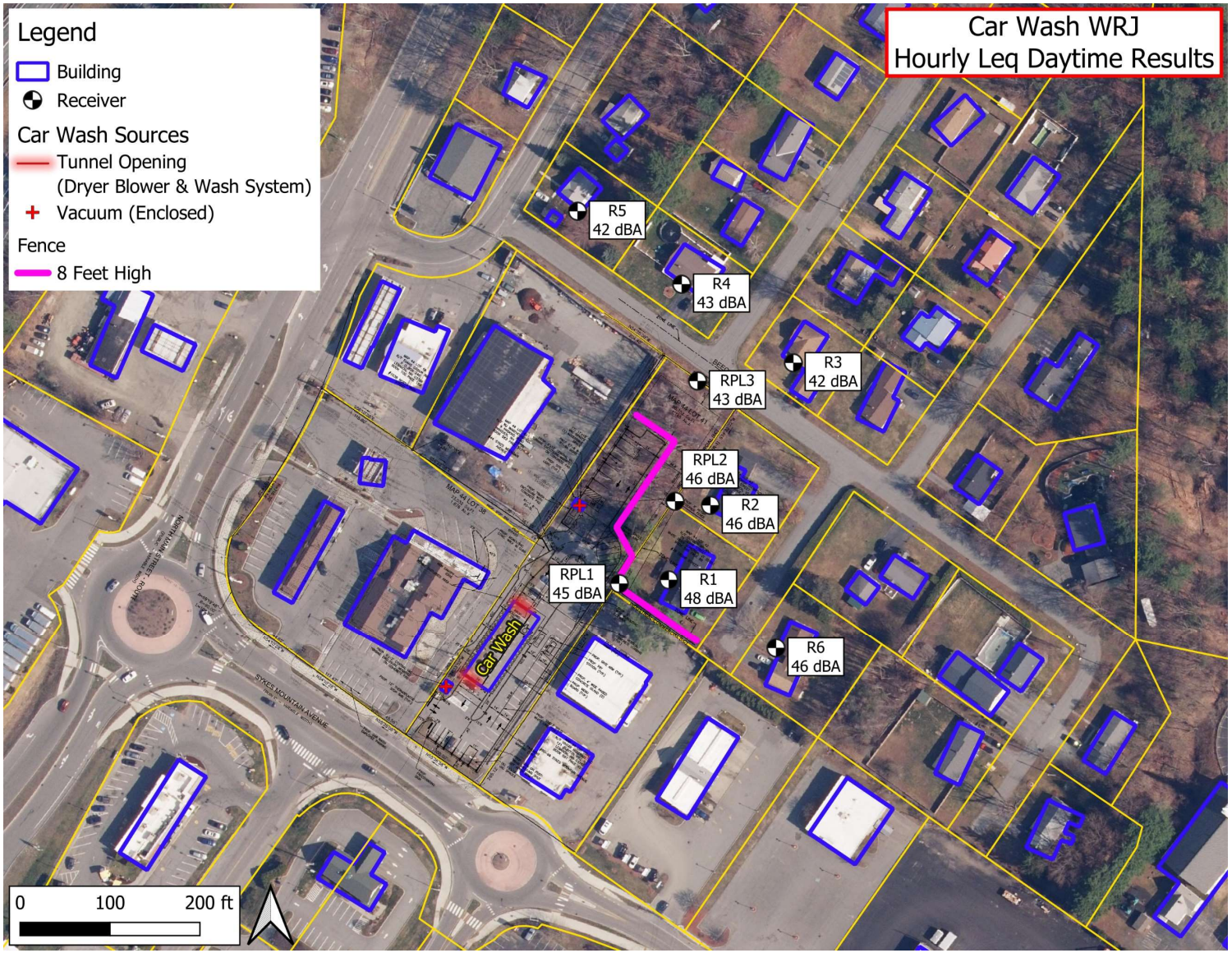
Please do not hesitate to contact us with any questions.

Sincerely,
CAVANAUGH TOCCI



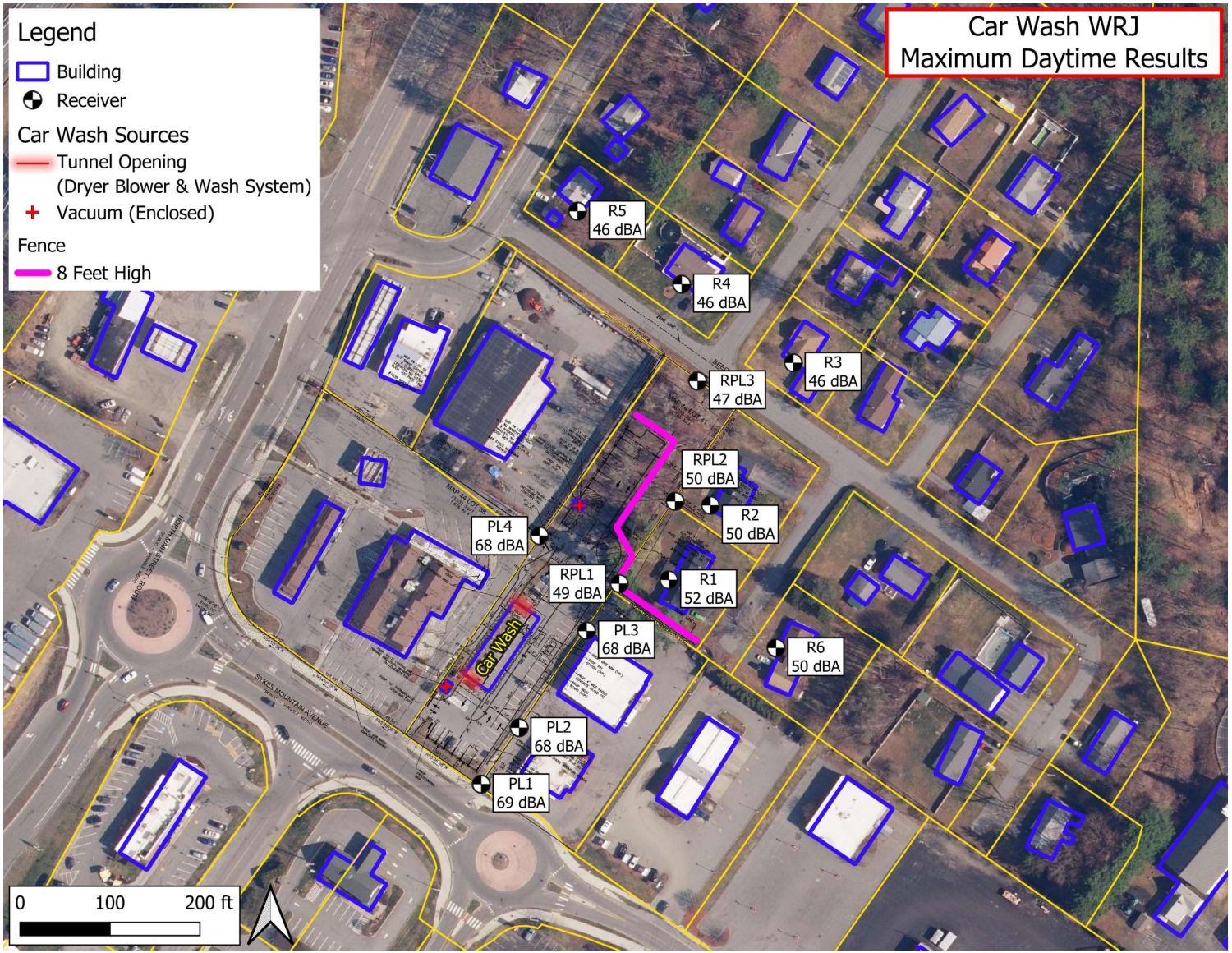
Aaron M. Farbo, *Principal Consultant*
afarbo@cavtocci.com

FIGURES



Aerial Photograph Indicating Car Wash, Vacuum Enclosures, Fences and Hourly Leq Sound Levels at Residential Property Lines and Receptor Locations

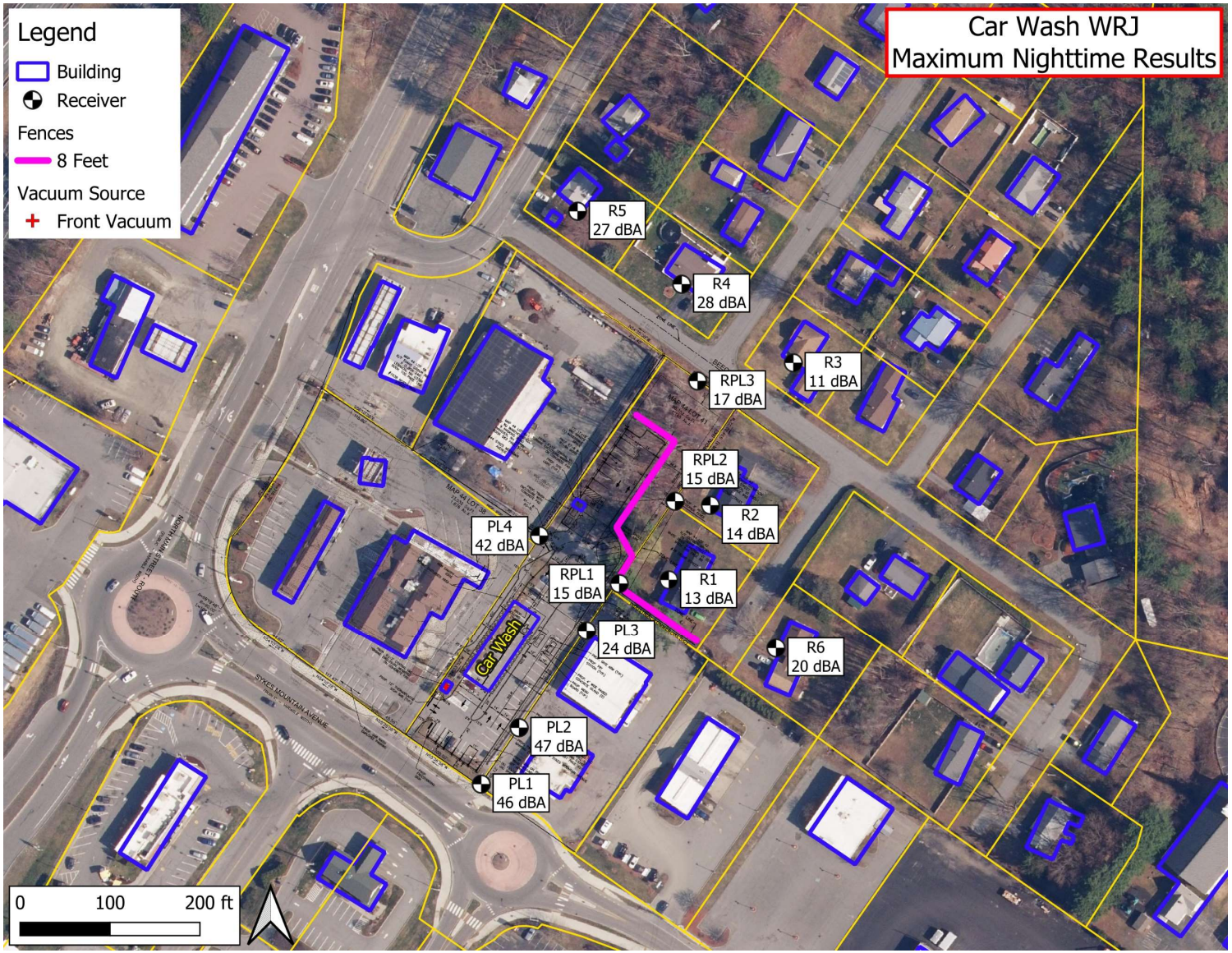
Figure 1



Aerial Photograph Indicating Car Wash, Vacuum Enclosures, Fences and Maximum Daytime Sound Levels at Property Line and Residential Receptor Locations

Figure 2

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Aerial Photograph Indicating Car Wash, Vacuum Enclosures, Fences and Maximum Nighttime Sound Levels at Property Line and Residential Receptor Locations

Figure 3

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APPENDIX A

Sound Measurement Terminology

SOUND MEASUREMENT TERMINOLOGY

In order to quantify the amplitude, frequency, and temporal characteristics of sound, various acoustical descriptors are used. The following is an introduction to acoustic terminology that is used in this report.

Sound Level

Sound levels are typically quantified using a logarithmic decibel (dB) scale. The use of a logarithmic scale helps to compress the wide range of human sensitivity to sound amplitude into a scale that ranges from approximately 0 to 180 dB. Note however, that the use of the logarithmic scale prevents simple arithmetic operations when combining the cumulative impact of sources. For example, two sources of equal sound level operated simultaneously results in a combined sound level that is only 3 dB higher than if only one source was operated alone. An important feature of the human perception of continuous sound is that an increase or decrease in sound pressure level by 3 dB or less is barely perceptible, and an increase or decrease by 10 dB is perceived as a doubling or halving of noise level.

A-weighting

Generally, the sensitivity of human hearing is restricted to the frequency range of 20 Hz to 20,000 Hz. However, the human ear is most sensitive to sound in the 500 Hz to 5,000 Hz frequency range. Above and below this range, the ear becomes progressively less sensitive. To account for this feature of human hearing, sound level meters incorporate filtering of acoustic signals that corresponds to the varying sensitivity of the human ear to sound at different frequencies. This filtering is called A-weighting. Sound level measurements that are obtained using this filtering are referred to as A-weighted sound levels and are signified by the identifier, dBA. A-weighted sound levels are widely used for evaluating human exposure to environmental sounds. To help place A-weighted sound levels in perspective, Figure A-1 contains a scale showing typical sound levels for common interior and environmental sound sources.

Spectral Characteristics – Octave and 1/3 Octave Band Sound Levels

To characterize a sound, it is often necessary to evaluate the frequency distribution of the sound energy. As mentioned before, the frequencies of most interest where human exposure is concerned range between 20 Hz and 20,000 Hz. This frequency range is commonly divided into octave bands, where an octave band is a range of frequencies. Each octave band is referred to by its center frequency and has a bandwidth of one octave (a doubling of frequency). To cover the full range of human hearing, it is necessary to measure sound in 10 separate octave bands. Typically, the lowest frequency band measured has a center frequency of 31.5 Hz. The next frequency band has a center frequency of 63 Hz. This geometric series continues to the highest frequency band that has a center frequency of 16,000 Hz. A set of octave band sound levels to describe a particular sound is called an octave band spectrum. Covering the full range of hearing, an octave band spectrum would have 10 values, one for each band. Under certain circumstances, more frequency resolution in acoustical data is needed to identify the presence of tonal sounds. A 1/3 octave band spectrum uses filters that divide each

octave band into 3 separate frequency bands. Note that octave band and 1/3 octave band sound levels are not usually A-weighted, with their units being dB.

Environmental Noise Descriptors

Sound levels in the environment are continuously fluctuating and it is difficult to quantify these time-varying levels with single number descriptors. Statistical approaches, which use *percentile sound levels* and *equivalent sound levels*, are often used to quantify the temporal characteristics of environmental sound.

Percentile sound levels (L_n) are the A-weighted sound levels that are exceeded for specific percentages of time within a noise measurement interval. For example, if a measurement interval is one hour long, the 50th percentile sound level (L_{50}) is the A-weighted sound level that is exceeded for 30 minutes of that interval.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The 90th percentile sound level represents the nominally lowest level reached during the monitoring interval and is typically influenced by sound of relatively low level, but nearly constant duration, such as distant traffic or continuously operating industrial equipment. The L_{90} is often used in standards to quantify the existing background or residual sound level.
- L_{50} is the median sound level: the sound level in dBA exceeded 50 percent of the time during the measurement period.
- L_{10} is the sound level exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises like those from passing motor vehicles or aircraft.

By using percentile sound levels, it is possible to characterize the sound environment in terms of the steady-state background sound (L_{90}) and occasional transient sound (L_{10}).

The equivalent sound level (L_{eq}) is the energy average of the A weighted sound level for the measurement interval. Sounds of low level and long duration, as well as sounds of high level and short duration influence this sound level descriptor.

Noise levels at night generally produce greater annoyance than do the same levels which occur during the day. It is generally agreed that a given level of environmental noise during the day would appear to be 10 dBA louder at night – at least in terms of potential for causing community concern. The day night average sound level (Ldn) is a 24 hour average A-weighted sound level where a 10 dB "penalty" is applied to sound occurring between the hours of 10:00 p.m. and 7:00 a.m. The 10 dB penalty accounts for the heightened sensitivity of a community to noise occurring at night.

When a steady continuous sound is measured, the L_{10}, L_{50}, L_{90} and L_{eq} are all equal. For a constant sound level, such as from a power plant operating continuously for a 24-hour period, the L_{dn} is approximately 6 dBA higher than the directly measured sound level.

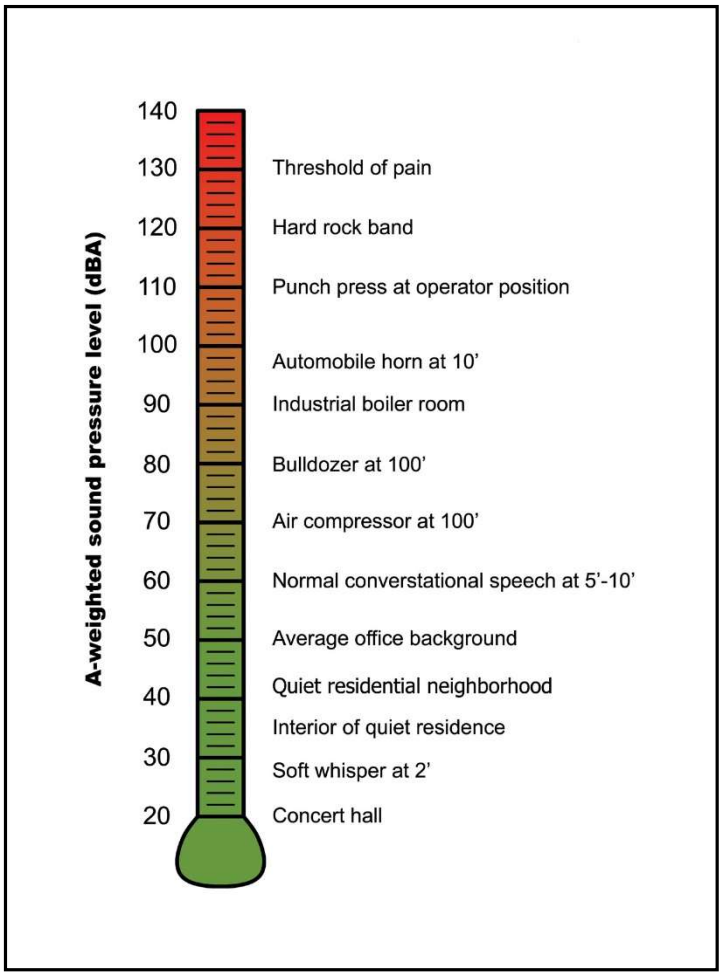


Figure A-1
Typical Sound Levels for Common Interior and Environmental Source

APPENDIX B

Manufacturer and Modeling Sound Data

EQUIPMENT DECIBEL CERTIFICATION

This is to certify that the following AutoVAC equipment was measured with the following decibel levels of noise emission (+/- 2dB) in accordance with ISO 2151:2004. These ratings are taken at 15 feet from the machine with no background noise or outside interference in a 50 x 50ft interior room.

VACUUM PRODUCER					
HORESPOWER	**STAGE**	**START/RUN dB WITH VFD**	**START dB NO VFD**	**SERIAL NO**	**PASS/FAIL**
10	3	64	84		
15	4	66	88		
20	5	66	88		
25	6	72	92		
30	7	74	92		
40	8	76	95		

BLOWER				
HORESPOWER	**START/RUN dB WITH VFD**	**START dB NO VFD**	**SERIAL NO**	**PASS/FAIL**
15	72	85		

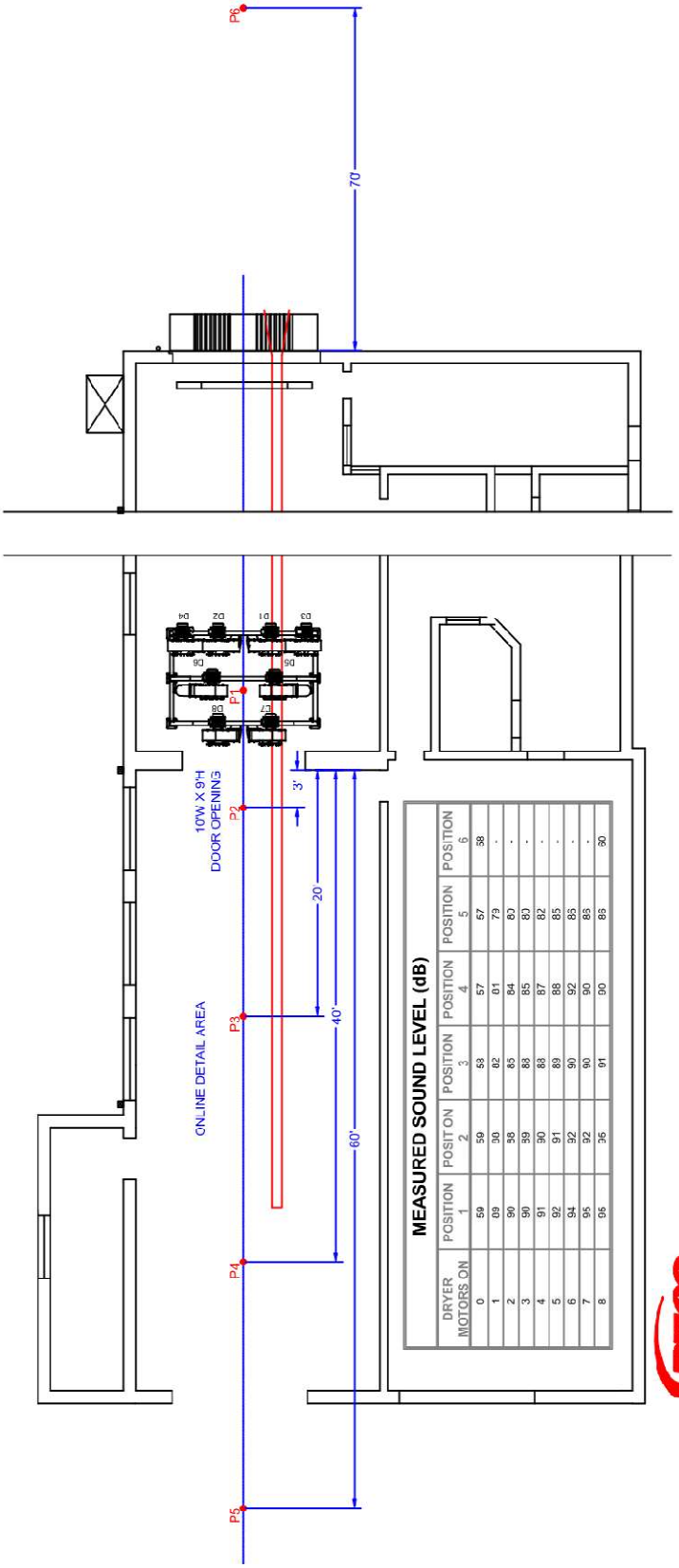
Equipment Used to measure decibel levels

EQUIPMENT	MANUFACTURER	MODEL NO	SERIAL NO
Sound Level Meter	Extech Instruments	407730	9848853

Certified By: _____ Date: _____

This certificate does not claim product approval or endorsement by NVLAP, NIST or any agency of the Federal Government. If you have any further questions, please contact AutoVAC at our toll free number 888-628-8682.

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MEASURED SOUND LEVEL (dB)

DRYER MOTORS ON	POSITION 1	POSITION 2	POSITION 3	POSITION 4	POSITION 5	POSITION 6
0	59	59	83	57	67	38
1	89	90	82	81	79	-
2	90	88	85	84	80	-
3	90	89	88	85	80	-
4	91	90	88	87	82	-
5	92	91	89	88	85	-
6	94	92	90	92	85	-
7	95	92	90	90	85	-
8	96	96	91	90	88	80

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Table B-1 presents the sound power spectrum of sources considered in stationary car wash equipment computer modeling.

Name	Sound power spectrum									Overall sound power	
	31.5	*63*	*125*	*250*	*500*	*1000*	*2000*	*4000*	*8000*	*dBA*	*dBZ*
Entry Door Dryer Blowers	95	102	99	96	105	98	99	91	82	105	109
Exit Door Dryer Blowers	90	97	94	91	100	93	94	86	77	100	104
High Pressure Wash	85	90	89	87	87	86	88	90	86	95	97
Vacuum (20HP with VFD)	71	69	71	81	64	71	84	79	72	87	87

Table B-1. Sound power spectra of stationary car wash sources [dB]

Project Description

This report presents the results of a second round of acoustical tests performed on Sonny's Car Wash dryer blowers and client-designed and installed prototype silencers. The first round of acoustical tests was described in a previous report, *Sonny's Car Wash Dryer Blowers Noise Assessment*, dated 2/16/18.

In this round of tests, the silencers were installed on the dryer blowers at Prestige Car Wash located at 4921 N. University Drive, Lauderhill, Florida. As shown in **Photos 1 and 2**, Prestige is an active car wash in commercial operation. The noise tests were performed after operating hours on 10/3/18 to minimize noise sources in the car wash not attributable to the blowers.



Photo 1. Prestige Car Wash Entry Portal



Photo 2. Prestige Car Wash Exit Portal

Noise Measurement Procedure

The procedure followed in this second round of acoustical tests involved performing calibrated A-weighted broadband and third-octave band noise measurements both with and without the prototype silencers attached to the dryer blowers. As shown in **Figure 1**, noise measurements were performed at nine measurement positions (M0 thru M8) inside, outside and in the vicinity of Prestige Car Wash. The nine positions can be described as follows:



M0 - Inside tunnel towards exit
M1 - Tunnel exit portal (east)
M2 - Outside tunnel in direct line from exit
M3 - Outside tunnel in direct line from exit
M4 - Tunnel entrance portal (west)
M5 - Building facade property to south
M6 - Northern property line
M7 - Outside tunnel in line from entrance
M8 - Inside office/waiting room area

Figure 1. Noise Measurement Positions

The noise measurement instrumentation consisted of a Svantek Model 971 Sound Level Analyzer using a Svantek 7052E Precision Microphone covered with a 3½-inch windscreen. The SVAN-971 was programmed to measure and store Leq noise data in 1-minute samples using an RMS 'slow' time response. The SVAN-971 computed broadband sound levels in unweighted (dBZ) and A-weighted (dBA) decibels, and computed the unweighted third-octave band L_{eq} levels from 20 Hz to 20 kHz. The noise measurement system was calibrated with a Larson Davis Model 150 Calibrator, and complies with ANSI Standard S1.4 for Type 1 quality and accuracy.

Data reduction and post-processing consisted of comparing the broadband A-weighted and third-octave band results measured with and without the silencers at each measurement position. The noise reduction (dBNR) is the difference in decibels between the two measured noise levels. Attempts were made to maintain consistency with as many variables as possible between the two noise measurements; however, background traffic noise did contribute slightly to some of the outdoor readings.

As shown in **Photo 3**, the dryer blowers are typical backward centrifugal air fans. The impellers spin at 3,600 RPM, and each fan has one impeller with 11 blades. Barring other effects, this would lead to expected higher noise emission levels in the 60 Hz, 120 Hz, 180 Hz, 630 Hz and 1,250 Hz third-octave frequency bands. As shown in **Photo 4**, the prototype silencers consisted of acoustically lined cylindrical covers attached to the air intake-side of the blowers. No noise control modifications were performed on the air exhaust-side of the blowers.



Photo 3. Dryer Blowers Without Silencers



Photo 2. Dryer Blowers With Silencers

Noise Results and Findings

The results of the second round of acoustical tests of the dryer blower prototype silencers can be seen in **Table 1**. The magnitude of noise reduction attributable to the prototype silencers ranged from 1.1 to 4.5 dBNR depending on measurement position. The positions yielding the most noise reduction were those in line with the tunnel exit side of the blowers. The least noise reduction was found in line with the tunnel entrance side. This asymmetry could be attributable to the acoustical directivity of the blowers.

Figures 2 thru 10 show the A-weighted broadband and third-octave band results with and without the silencers for each measurement position. The noise reduction is the difference between the two plotted curves.

All results presented in the table and figures are shown in A-weighted decibels (dBA) so that visual results would correlate better with how humans would perceive the given sounds over the full audio spectrum. Presenting the results in A-weighted decibels also allows for easier identification of the louder frequency bands that would benefit the most from subsequent noise control efforts.

Table 1. Sonny's Dryer Blower Silencers Acoustical Test Results (Round 2)

Sonny's Car Wash Blower and Silencer Noise Measurement Tests 10/3/18						
Prestige Car Wash - 4921 N. University Drive, Lauderhill, FL 33351						
Site No.	Distance to Blowers* (feet)	Noise Measurement Site Location	Traffic Noise Influence**	Noise Level No Silencers dBA Leq	Noise Level With Silencers dBA Leq	Approx. Noise Reduction dBNR
M0	8	Inside tunnel near blowers towards exit	No	99.7	96.9	2.8
M1	22	Tunnel exit portal (east)	No	96.3	92.8	3.6
M2	51	Outside tunnel in direct line from exit	Slightly	84.8	80.3	4.5
M3	95	Outside tunnel in direct line from exit	Yes	78.4	74.1	4.3
M4	68	Tunnel entrance portal (west)	No	88.3	87.1	1.1
M5	110	Building facade adjacent property to south	Yes	65.7	63.2	2.5
M6	83	Northern property line	Yes	69.7	66.7	3.1
M7	99	Outside tunnel in direct line from entrance	No	77.7	76.5	1.2
M8	10	Inside office/waiting room area	No	67.9	66.1	1.7
*Blowers are located approximately 22 feet inside the car wash tunnel exit and approximately 68 feet inside the tunnel entrance.						
**Traffic noise from N. University Drive NB & SB movements did have an impact on some noise measurements that were farther away from the blower noise.						

DRAFT
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND
DECISION

HARTFORD PLANNING COMMISSION

Application #24-08 by Craftstudies Inc. and The Upper Valley Haven
for Site Development Plan
for an Emergency Shelter
lot 45-0003-000, 608 North Main Street
White River Junction, in the HCR Zoning District

This decision pertains to application #24-08 by Craftstudies Inc. (owner) and The Upper Valley Haven (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for an Emergency Shelter, lot 45-0003-000, 608 North Main Street, White River Junction, in the HCR Zoning District.

FINDINGS OF FACT

Based upon the information contained in the exhibits for this application (see attached list) and the evidence adduced at the Planning Commission meeting of June 24, 2024 the Hartford Planning Commission makes the following Findings of Fact:

General Information

1. The owner of record of lot 45-0003-000 is Craftstudies Inc. who acquired the lot on 12-15-21. The deed is recorded in volume 596, page 100 of the Hartford Land Records.

2. The lot is approximately 4.54 acres.

3. The lot is located at 608 North Main Street.

4. The lot is developed will a 7,787 sq. ft. commercial building, commonly referred to as “25,000 Gifts”, currently vacant.

5. The lot is a class 1 lot, municipal water and sewer.

6. The lot is in R-2 and HCR zoning districts. The proposed project is in the HCR zoning district.

This Application

7. The applicant proposes to remove the existing structure and construct an Emergency Shelter on the lot.

8. According to the applicant, they have agreed to allow the Hartford Historic Preservation Commission to photo-document the building before it is removed and will coordinate this with Hartford's Town Planner.

9. The Planning Commission approved an Emergency Shelter on the lot in 2023 (application #23-21). The project included renovating the existing building and constructing an addition on the building.

   According to the applicant, "Following that approval, the Haven's geotechnical engineers provided follow up analysis that recommended that steel pins be installed in and through the building's foundation and into the hill behind the building to provide further stabilization in light of the proposed use of the building as an emergency shelter.

   The projected cost to do such pinning of the current building was very high, and caused the Haven to reconsider its planned renovation of that building in its current location. The Haven is now returning to the Planning Commission for approval of an emergency shelter as before, but the current project design calls for removal of the former 25,000 Gifts building, and the construction of a new building on the western side of the property fronting North Main Street, as further discussed below (the "Project"). The new Project includes a hill stabilization plan, as described below, but fortunately at a lower price point due to the simpler stabilization process that can be used." (See exhibit #3)

10. The applicant proposes to "remove the existing building, and to construct a new two-story building on the western side of the Property, away from the hill that abuts the existing building. The shelter building will have a footprint of 4,480 gross square feet, and contain a total of 9,097 gross square feet. Please see the building floor plans, elevations and perspective plans submitted with the application.

    The new building is designed with the same number of beds as in the prior application, which is a total of 20 beds for overnight guests, and will include associated locker/storage space, bathrooms and shower facilities, lounge and common areas, a kitchen, and offices, and a place for two overflow single sleeping bunks. Please see the floor plans submitted with the application.

    As with the prior application, the Haven Project will serve as an emergency shelter designed to meet the daily needs of those experiencing homelessness regardless of age, race, ethnicity, sex, gender identity, medical needs, companion animals, personal belongings, financial resources, or level of sobriety, without requiring guests to navigate waiting lists, complete paperwork, or provide evidence of need.

The shelter will provide dinner and breakfast to overnight guests, as well as warming or cooling stations during the winter and summer. During the day, Haven staff will provide day services to help people secure permanent housing. The Haven's program also includes providing space for other service providers to visit on a scheduled basis to assist Haven clients with removing barriers to obtaining housing." (See exhibits #2 and #3)

11. Section 24 V.S.A. §4303 defines Emergency Shelter as:

"Emergency shelter" means any facility, the primary purpose of which is to provide a temporary shelter for the homeless in general or for specific populations of the homeless and that does not require occupants to sign leases or occupancy agreements."

12. 24 V.S.A. § 4413 limits municipal regulation of certain uses, including Emergency Shelters as follows:

LIMITATIONS ON MUNICIPAL BYLAWS

Section 4413 (a)(1) restricts regulation of Emergency Shelters only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements, and only to the extent that regulations do not have the effect of interfering with the intended functional use.

Section 4413(a)(3) states that "regulating the daily or seasonal hours of operation of an emergency shelter shall constitute interfering with the intended functional use" and is therefore impermissible." (See exhibit #3)

13. According to the applicant, the application meets the criteria of §4413 (a)(1) as follows:

Location

A municipality is allowed to designate zoning districts within its borders for the uses specified under Section 4413, and may not exclude any of the uses from being located within the town's boundaries. The Town of Hartford zoning regulations currently do not designate any district in which an emergency shelter can be located.

As noted in our prior application, in the absence of any designation of zoning districts for location of the uses set out in Section 4413, the Vermont Supreme Court has confirmed that the uses set forth under Section 4413 are allowed anywhere within the municipality. See In re Appeal of Buildings and General Services, 176 VT 41 (2003).

Size; Building Bulk

As noted above, the Project will include the construction of a 9,097 gross square foot two-story building on the existing 4.54-acre property. The new building footprint will be

4,480 gross square feet. This represents a lot-coverage ratio of 2.27%, which is well under the maximum lot coverage ratio of 90% for the HCR district.

Height

The height of the shelter building will be 27'4" above ground level measured per section 260-23 of the Zoning Regulations.

Yards; Courts; Landscaping; Screening

The proposed landscaping and screening for the Project are shown on the landscaping plans submitted with this application. The landscaping plan involves the same plantings as in the prior application, and no new species are proposed for this design.

As with the prior application, a strong benefit of the Project is the extensive landscaping that the Haven will make to the site, as shown on the landscaping plan. The Project will result in the removal of the existing parking area and building, and the creation of an updated parking area and beautifully landscaped areas around the site and along North Main Street. The area behind the building will remain undeveloped and in a natural state.

As noted above, the current retail building will be removed, and the basement area will be filled and graded. The Haven's geotechnical engineers have recommended the installation of a stabilization wall along the base of the rear hill, even though the new building does not touch upon that area. This wall will help stabilize and maintain the rear bank area. The stabilization wall will be constructed using corrugated rusted steel panels to blend into area landscaping, and the Haven expects to cover any visible sections with additional plantings and/or stonework.

Final engineering design for the wall is costly and will be provided after the project has been approved. Initial meetings with the structural, geotechnical engineer, and the geotechnical Design/Build contractor have yielded the responses noted below:

> Construction of the wall is estimated to last less than two weeks. During construction, there will be noise and vibrations. We will conduct preconstruction surveys of foundations of basements and road areas, and seismographs will be set outside of the construction zone to ensure that all is kept within tolerances and thresholds to avoid any damage, and there are not usually any issues with installation of a wall of this type. This type of wall construction is less impactful than a compaction roller.

The landscaping selected for the project includes native species and hardy varieties which will easily thrive once established and rooted-in place. As for establishing the landscape, the specifications and landscape notes include a 2-year landscape

maintenance guarantee period as depicted on plan L1.0, note #11. We believe specifying native and hardy species along with the 2-year guarantee demonstrates the plantings will be well established, thriving, and in a healthy condition.

We believe the landscape pallet provides an adequate landscape approach that is compatible with adjacent properties, colorful, welcoming, and designed without interfering against vehicular site clearances. The landscape area around the parking area has been maintained (mostly) as a lawn area; other minor areas here include perennial planting beds with seasonal plantings. These perennial planting beds can also be available for snow storage during the winter season if necessary, and the plan includes native and hardy varieties that can survive well and easily be maintained once established.

Setbacks

The new shelter building is in conformance with the setback requirements for Class 1 lots in the HCR District, including the 10-foot front and side setbacks and the 20-foot rear setback, as all shown on the site plan included with the application.

Density of buildings

The building will have a total of gross square footage of 9,097 square feet on the 4.54-acre lot, and well within the density requirements of the HCR district. (*Note: Density under Hartford Zoning Regulations is a calculation used for the development of dwelling units.)*

Off-street parking

With the revised site design, there is room for seventeen parking spaces, including two accessible spaces, and the design includes provision for two future electric vehicle charging stations. The parking layout is shown on the site plan included with the application.

These spaces will provide sufficient parking for Haven staff and volunteers, visiting service providers, and shelter guests. Based on its experience operating the existing Haven facilities, and as confirmed in the traffic and parking study from the Wall Consultant Group:

> As noted above, discussions with the Haven indicate they anticipate 4-5 guests out of 20 would bring a vehicle overnight, and up to 7 guests would be on-site with vehicles during the day. In addition, up to 7 staff, up to 4 external service providers, and up to 6 volunteers will be on site at Upper Valley Haven – Transportation Assessment 5/30/2024
> 10 any given time. These maximums would not occur at the same time, and the Haven has discretion over how many volunteers are scheduled

> and how many outside service providers are present at any given time. They are also able to dictate the number of parking spaces volunteers and outside service providers can access at a given time. Based on anticipated schedules, no more than 17 vehicles are expected on site at any given time. This peak is projected to occur during the midday period. The planned 17 parking spaces on site are adequate to handle projected demands.

Loading facilities

The applicant proposes to designate a parking space for loading and deliveries. The parking space will be signed as such.

Traffic

The Property is currently accessed directly from North Main Street via two existing curb cuts to the paved parking area. The Haven proposes to limit access to the lot by providing a single two-way curb cut. In addition, an emergency vehicle lane constructed with grass pavers will be provided.

These access points have been coordinated with the potential redesign by the Vermont Agency of Transportation of the North Main Street area that would involve the State's installation of a roundabout for the intersection of North Main Street (US Route 5) and US Route 4 as shown the site plan with roundabout.

Turning movement plans have been provided for a garbage truck, ambulance and ladder truck.

The Haven obtained an updated traffic study from The Wall Consultant Group to confirm there will be no negative impact on area traffic as a result of the Project. The study concluded:

> Based on the analysis conducted for this report, the proposed project is not expected to impact the condition or capacity of the affected roads and associated infrastructure. The proposed project will not cause or exacerbate any unreasonable congestion or unsafe conditions on the local roadway network and will not unnecessarily or unreasonably endanger the public's investment in any local roads, highways, or related infrastructure.

In addition, the Property is accessible from existing bus routes, and area sidewalks will provide access by pedestrians and bicyclists. As shown on the site plans and landscape detail plan, the Haven will install outdoor bike racks on the Property.

Noise

Any noise from the Property will not exceed 70 decibels at or beyond the property line and will be customary to the surrounding area. Additionally, Haven will implement Operating Procedures for the low barrier shelter, which will require quiet hours to be observed within the Building between 9:30pm and 7:00am each day.
During the construction period, any loud equipment will not be operated on Sundays or between the hours of 5:30 p.m. and 7:00.a.m., except in emergency situations.

Construction is anticipated to last 8-12 months. Installation of the bank stabilization wall is expected to be less than two weeks. Once construction is complete, the Project will not require or use any excessively loud equipment.

Lighting

The parking area and walkways will be illuminated with down-shielded lights, and any lighting will not be visible beyond the boundaries of the Property. Light is shown on the landscaping and lighting plans submitted with the application.

The applicant understands that lighting must not create excessive off-site or sky glow. If the Zoning Administrative Officer determines that lighting does not meet this condition, the applicant will be required to comply.

(See exhibits #2, #3, and #4)

14. The applicant proposes to install a fire hydrant.

15. The project will connect to municipal water and sewer in accordance with Hartford's Water and Wastewater Rules and Regulations. Final utility plans and details must be submitted with the application to the Department of Public Works (DPW) for water and sewer allocation.

The applicant will schedule a preconstruction meeting with the DPW to review project schedule, design, and construction issues at least two weeks before actual site work commences.

The layout of the wall proposed along the rear of the project is over or through an existing 6" water main coming from Fairview Terrace. The aging 6" cast iron water main is undersized and will not survive the installation of the sheet driven retaining wall and be replaced with an 8" ductile iron pipe.

The final wall design at the intersection of the water main including details and specifications must be submitted with the application to the DPW for water and sewer allocation. The DPW will require the applicant to submit detailed information regarding how the utilities at the crest of the slope will be monitored and protected during construction given the history of slope failures documented downhill of the project affecting Fairview Terrace.

The applicant will coordinate easement requirements for the water line with the DPW. The applicant will reimburse the Town for any costs associated with a legal review of the easement. The easement will need to be executed and recorded before a water and sewer allocation will be approved by the DPW.

16. Outdoor amenities include a seating area and a fenced pet run area.

17. Section 260-27 C of the Hartford Zoning Regulations states:

Grading and drainage. The following provisions shall apply to any changes which affect drainage of water to or from a property:

(1) Any changes in grading shall be made so that runoff is directed to established drainage courses and will not cause ponding or flooding of other properties, or exceed the capacity of downstream drainage facilities.

(2) When possible, drainage systems shall be designed so that water runoff existing prior to site development shall not be increased after development.

(3) All changes in grade shall be controlled so as not to cause a nuisance or damage to other properties or erosion of topsoil.

According to the applicant, "Impervious surfaces will be reduced by approximately 900 sf with this project therefore runoff rates will be unchanged or slightly reduced by construction of the proposed facility. The site drainage network has been designed to keep water from ponding on site and creating a nuisance and grades have been designed to convey drainage away from structures and be collected by a series of drainage swales, curbing and catch basins. Drainage will be routed into the existing and proposed stormwater infrastructure in Route 5."

18. The applicant proposes to install 4' high picket fencing and 6' high chain link fencing around the perimeter of the site.

19. The applicant proposes to locate a fenced dumpster on the lot.

20. Snow will be stored on site and will be removed as needed. Snow will not be stored in such a manner as to create a hazard.

21. According to the applicant, they understand they need to obtain a Section 1111 permit from VTrans for access/improvements/work in the State right of way.

22. The applicant understands that any stockpiling of materials related to the construction of the project must be located twice the distance of the height of the stockpiled materials from any public or private right-of-way or property boundary.

23. During construction of the project, erosion and sediment control measures as specified in the most current edition of the *Low Risk Site Handbook for Erosion Prevention and*

Sediment Control published by the Vermont Department of Environmental Conservation will be followed.

24. The applicant understands that no structure, including construction/office trailers, signage, parking spaces or plantings may be placed in such a way that obstructs sight distance along the traveled way, at any intersection or driveway. Any signs, parking spaces or plantings found to obstruct sight distance will be required to be relocated.

25. The applicant retains the obligation to identify, apply for, and obtain relevant local and state permits for this project.

26. The applicant understands that all activities authorized by the issuance of the zoning permit shall be started within six (6) months and completed within two (2) years of its date of issue, or the zoning permit shall become null and void and reapplication to complete any activities shall be required. Any activities not completed within the above permit period shall be subject to any ordinance in effect at the time of reapplication. One six (6) month extension to both time periods may be granted by the Planning Commission.

24. The applicant understands that they must obtain a Certificate of Occupancy from the Zoning Administrative Officer upon completion of the project and before the site may be occupied. The applicant understands that a Certificate of Occupancy will not be issued if the project is not in compliance with these Findings, Plans and any conditions placed on the decision.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Hartford Planning Commission concludes that the application meets the criteria of §4413 (a)(1) including location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening.

DECISION

The Hartford Planning Commission, based upon the forgoing Findings of Fact and Conclusions of Law, hereby approves application #24-08 by Craftstudies Inc. (owner) and The Upper Valley Haven (applicant) for Site Development Plan Approval under section 260-45 of the Hartford Zoning Regulations for an Emergency Shelter, lot 45-0003-000, 608 North Main Street, White River Junction, in the HCR Zoning District **on the condition that:**

1. **Before a Zoning Permit is issued:**

    - **The applicant submits written documentation from the Fire Marshal and VTrans confirming they have approved the location of the fire hydrant.**

- **The applicant submits written documentation from the Fire Marshal confirming they have approved emergency vehicle access to the property including the design and maintenance of the proposed grass pavers.**
- **The applicant submits plans to screen any visible section of the retaining wall along the base of the hill for approval by the Chair.**
- **The Applicant submits a copy of their approved water and sewer allocation.**
- **The applicant submits a maintenance plan for the hillside for approval by the Chair.**
- **The applicant submits documentation from a qualified transportation professional supporting the reduced travel lane width adjacent to the loading/delivery space.**
- **A note is added to the plans requiring the public sidewalk to remain open during construction.**
- **Note V1 on sheets C2.2 and C2.6 is changed from "garbage truck" to "ambulance."**
- **The plans are amended to include a sign designating the grass paver travel lane for emergency vehicles only.**
- **The applicant submits documentation from their Engineer, Architect, and Landscape Architect verifying that changes to the plans approved by the Planning Commission are limited to those required by the Commission.**
- **Final permit plans are emailed to the Zoning Administrator.**

2. **Before a Certificate of Occupancy is issued, the applicant submits to the Zoning Administrator:**

- **Written verification from their Engineer certifying that the project was constructed in compliance with the approved civil plans and Findings of Fact.**
- **Written verification from their Landscape Architect certifying that the project was constructed in compliance with the approved landscape plans and Findings of Fact.**
- **Written verification from their Architect certifying that the building was constructed in compliance with the approved architectural plans and Findings of Fact.**
- **Written verification from the DPW that they have inspected and approved the water, sewer, and hydrant.**
- **Written verification from the DPW confirming that they have received acceptable record drawings.**
- **A PDF of the record drawings.**
- **A copy of an Energy Code Certificate as recorded in Hartford's Land Records.**

This decision is also subject to the condition that no modification or expansion shall be made to the project as described and limited in the above Findings of Fact and Conclusions of Law without the written approval of the Hartford Zoning Board of Adjustment and/or the Hartford Planning Commission. This decision may be revoked, and a new application or permit required if conditions and findings are violated or modified without written approval.

The applicants are responsible for insuring compliance with all applicable State and Federal regulations pertaining to this application.

Those in favor:

Those in opposition:

Those not participating:

Dated at Hartford, Vermont this ____ day of June 2024.

HARTFORD PLANNING COMMISSION

By:_____
Chairperson/Vice-Chairperson

Appeal Rights: An interested person who has participated in the proceeding related to this decision has the right to appeal this decision to the Vermont Environmental Court, pursuant to 24 V.S.A. s. 4471 and V.R.E.C.P.5, in writing, within 30 days of the date of this decision. The fee is $250.00. If you fail to appeal this decision, your right to challenge this decision at some future time may be lost because you waited too long. You will be bound by this decision, pursuant to 24 V.S.A. s. 4472 (d) (exclusivity of remedy; finality).

EXHIBIT LIST

1. Application #24-08

2. Plan Set received May 30, 2024 and revised as required by this Decision including:

G-1	Cover Sheet
C1.0	Existing Conditions Plan
C2.0	Site Grading, Drainage, and Utility Plan
C2.1	Garbage Truck Turning Plan
C2.2	Ambulance Turing Plan
C2.3	Fire Truck Turning Plan
C2.4	Site Plan without roundabout
C2.5	Garbage Truck Turning Plan
C2.6	Ambulance Turning Plan
C2.7	Fire Truck Turning Plan
C3.0	Site Details
C3.1	Site Details
C3.2	Water Details
C3.3	Water Details
C3.4	Sewer Details

C3.5	EPSC Details
C3.6	EPSC Details
L1-0	Landscape Plan
L1-0	Landscape Plan Color Version
L2-0	Landscape Plan w/ Roundabout
L-3	Landscape Details
L3.1	Landscape Details
L4-0	Lighting Plan
L4.1	Photometric Plan
L4.2	Lighting Details
A-1	Floor Plans
A-2	Exterior Elevations
A-3	Building Section
A-4	Building Sections & Radon Details

3. Letter from Kimberly Butler dated May 20, 2024 (Cover Letter)

4. Letter from Kimberly Butler dated May 29, 2024 (Response to Staff comments)

5. Memo from Erica Wygonik dated May 30, 3024

6. Memo from Jo-Ann Ells dated May 23, 2024

Town of Hartford

Planning Commission App # _____
Zoning Board of Adjustment App # _____

APPLICATION TO
PLANNING COMMISSION &/OR ZONING BOARD OF ADJUSTMENT

PLEASE COMPLETE ALL ITEMS APPLICABLE AND PROVIDE THE CORRECT NUMBER OF COPIES OF THIS APPLICATION AND THE SITE PLAN OR SUBDIVISION PLAT. ABUTTING LANDOWNERS WILL BE NOTIFIED BY THE PLANNING/ZONING OFFICE.

1. **NAME & ADDRESS OF RECORD OWNER(S)** Craftstudies, Inc.
   PO Box 1309, White River Junction, VT 05001
   Deed Recorded Book 596 Page 100 (Available at Town Clerk's Office)
   Telephone: Work (802) 281-6804 Cell _____ Email Address: lisa@craftstudies.org
2. **NAME & ADDRESS OF APPLICANTS(S)** Upper Valley Haven, Inc.
   713 Hartford Avenue, White River Junction, VT 05001
   Telephone: Work (802) 478-1802 Cell _____ Email Address: mredmond@uppervalleyhaven.org
3. **NAME & ADDRESS OF APPLICANTS' CONSULTANT** Studio Nexus Architects + Planners, LLC
   46 S. Main Street, Suite 206 PO Box 275 White River Junction, VT 05001
   Telephone: Work 802-275-5110 Ext. 101 Cell _____ Email Address: jimw@studionexusarch.com
4. **PROJECT LOCATION** 608 North Main Street, White River Junction
5. **PRESENT USE OF PROPERTY** Former retail store
6. **BRIEFLY DESCRIBE PROJECT** (in addition, a detailed narrative must be submitted)
   Removal of existing retail building and construction of emergency shelter.
7. **PROJECT SIZE IN SQ. FT OR ACREAGE** 9,097 SF
   Lot Width 444' in project area; approx. 1,250' property western to eastern boundary Lot Depth Varies from approx. 85' to 325'
8. **IS PROJECT ON TOWN WATER/SEWER?** Yes X No _____ If Yes, estimated
   Water Consumption/day 1,735 GPD Amount of Sewer Flow Projected 1,735 GPD
   Size of Closest Lines Above (water) 6" diameter from street to site ~~4" fire and 2" domestic~~ (sewer) 6" diameter from street to site
9. **DESCRIBE LANDSCAPING PLAN** Existing building will be removed, new shelter will be constructed with landscaping throughout the project area, substantially increasing site green space, as shown in the application.
10. **IF A BUSINESS** - Present # of Employees 6-8 on site
    Proposed Days & Hours of Operation See application
    Will you use the landfill & recycling center? Yes Yes No _____
    The main waste by-product of your business is: General office and residential shelter waste

11. **IF A RESTAURANT** - Present seating NA Proposed _____

12. **PARKING SPACES** - Number to be provided 18

13. **SIGNAGE** - Free Standing TBD Attached _____

14. **FENCING** – Location Fencing around shelter area as shown on application plans Height 4-6'

15. **NEAREST WATER SUPPLY FOR FIRE PROTECTION** At property boundary

16. **ESTIMATED VALUE OF PROPOSED WORK** $4,010,545

17. **IS THERE AN EXISTING DRIVEWAY?** Yes

18. **IF A SUBDIVISION** - Number of New Lots to be Created NA

Do you request that the Town consider taking over maintenance of – Roads No

Or Park/Open Space No

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED ON THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. (This certification must be signed by lot owners and applicants).

Upper Valley Haven, Inc. 05/20/2024
Applicant's Signature Date

Craftstudies, Inc. 05/20/2024
Lot Owner's Signature Date

Co-Applicant's Signature Date

Co-Owner's Signature Date

The applicant retains the obligation to identify, apply for, and obtain any relevant local or state permits before any construction may commence. Please call 802-282-6488 to speak with the State Permit Specialist.

For Office Use Only		
Map/Lot #		
Fee Paid $:		Receipt #:
PC: Site Plan	Min. Sub.	Maj. Sub.
PD	PD Amend.	Other
ZBA: Conditional Use	Variance	Appeal
Other		
Zoning District (s)		Date Filed:
Official Submittal Date:		

Upper Valley Haven - Emergency Shelter

608 NORTH MAIN STREET, WHITE RIVER JUNCTION, VT 05001



PROJECT TEAM

OWNER:

UPPER VALLEY HAVEN
713 HARTFORD AVE,
WHITE RIVER JUNCTION, VT 05001

CONTACT: **MICHAEL REDMOND**
EMAIL: mredmond@uppervalleyhaven.org
PHONE: 802.478.1802

ARCHITECT:

STUDIO NEXUS
ARCHITECTS + PLANNERS, LLC
46 SOUTH MAIN STREET, SUITE 206
PO BOX 275
WHITE RIVER JUNCTION, VT 05001

CONTACT: **DOUG SONSALLA, AIA**
EMAIL: dougs@studionexusarch.com
PHONE: 802.275.5110 EXT. 102

CIVIL ENGINEER:

ENGINEERING VENTURES
85 MECHANIC STREET, SUITE B2-2
WEST LEBANON, NH 03766

CONTACT: **ADAM MORSE, PE**
EMAIL: adamm@engineeringventures.com
PHONE: 603.727.7031

LANDSCAPE ARCHITECT:

PARK ARCHITECTURE
3 SCHOOL HOUSE LANE, SUITE 1
ETNA, NH 03750

CONTACT: **PAUL SIMON, ASLA**
EMAIL: parkarchitecture@gmail.com
PHONE: 603.643.3400

DRAWING INDEX

GENERAL:

G-1 COVER SHEET, PROJECT TEAM, DRAWING INDEX GENERAL ARCHITECTURAL NOTES, MATERIAL LEGEND AND DRAWING SYMBOLS

CIVIL:

C1.0 EXISTING CONDITIONS PLAN
C1.1 EROSION PREVENTION AND SEDIMENT CONTROL PLAN
C2.0 SITE, GRADING DRAINAGE AND UTILITY PLAN
C2.1 GARBAGE TRUCK TURNING PLAN
C2.2 AMBULANCE TURNING PLAN
C2.3 FIRE TRUCK TURNING PLAN
C2.4 SITE PLAN WITH ROUNDABOUT
C2.5 GARBAGE TRUCK TURNING PLAN
C2.6 AMBULANCE TURNING PLAN
C2.7 FIRE TRUCK TURNING PLAN
C3.0 SITE DETAILS
C3.1 SITE DETAILS
C3.2 WATER DETAILS
C3.3 WATER DETAILS
C3.4 SEWER DETAILS
C3.5 EPSC DETAILS
C3.6 EPSC DETAILS

LANDSCAPE:

L1.0 Landscape Plan
L1.0 Landscape Plan (color version)
L2.0 Landscape Plan with Roundabout
L3.0 Landscape Details
L3.1 Landscape Details
L4.0 Lighting Plan
L4.1 Photometric Plan
L4.2 Lighting Details

ARCHITECTURAL:

A-1 FLOOR PLANS
A-2 EXTERIOR ELEVATIONS
A-3 BUILDING SECTION
A-4 PERSPECTIVES AND RADON DETAIL

GENERAL ARCHITECTURAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF ALL APPLICABLE NATIONAL, STATE, AND LOCAL BUILDING AND ZONING CODES AND IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF ALL APPLICABLE CONSTRUCTION STANDARDS IN THE JURISDICTION OF THE BUILDING.
2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN FOR OR TO EXISTING CONSTRUCTION PRIOR TO FABRICATION OR NEW CONSTRUCTION. DO NOT SCALE DRAWINGS. PLEASE NOTIFY STUDIO NEXUS, ARCHITECTS + PLANNERS OF ANY DIMENSIONAL DISCREPANCIES IMMEDIATELY. ALL EXISTING INTERIOR AND EXTERIOR DIMENSIONS ARE TO THE FACE OF FINISHES AND ALL NEW INTERIOR AND EXTERIOR DIMENSIONS ARE TO FACE OF FRAMING UNLESS OTHERWISE NOTED.
3. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
4. PROVIDE BLOCKING AND FIRE-STOPPING TO MEET ALL APPLICABLE CODES. PROVIDE SOLID BACKING AT WALLS AND CEILINGS TO RECEIVE MILLWORK, TRIM, LIGHT FIXTURES, ACCESSORIES, OR OTHER SURFACE MOUNTED ITEMS.
5. WHERE EXISTING CONSTRUCTION , WALLS, OR FINISHES ARE REMOVED, ALL DISTURBED SURFACES TO REMAIN EXPOSED ARE TO BE PATCHED TO MATCH ADJOINING SURFACES. DISTURBED SURFACES TO BE COVERED WITH NEW FINISHES SHALL BE PATCHED AND PREPARED TO RECEIVE NEW FINISHES.
6. REPAIR FINISHES AFFECTED BY INSTALLATION OF STRUCTURAL MECHANICAL, ELECTRICAL AND PLUMBING ELEMENTS. MATCH THE EXISTING ADJACENT SURFACES AND APPEARANCE, REPAIR/REPLACE ANY AND ALL DAMAGED ITEMS.
7. WHERE EXISTING MATERIALS OR SYSTEMS ARE TO BE REUSED IN NEW CONSTRUCTION OR ARE TO REMAIN IN PLACE, PROTECT SUCH MATERIALS AND SYSTEMS SO THAT THEY MAY BE CONTINUED IN OR RETURNED TO NORMAL SERVICE. RESTORE ANY EXISTING WORK DAMAGED BY THE OPERATIONS OF THE CONTRACTOR TO THE LEVEL OF SERVICEABILITY WHICH EXISTED BEFORE THE DAMAGE OCCURRED.
8. ALL MATERIALS, EQUIPMENT AND COMPONENTS SHALL BE NEW AND OF GOOD QUALITY.
9. THE FINAL SELECTION OR SUBSTITUTION OF MATERIALS CAN CREATE VARIATIONS IN DIMENSIONS AND DETAILS OF THE FINISHED PRODUCT AND MUST BE CAREFULLY COORDINATED. CHECK ALL DIMENSIONS AND DETAILS FOR OVERALL ACCURACY APPROPRIATE TO THE LOCAL CONDITIONS. FOR EXAMPLE, IF STANDARD LUMBER JOISTS ARE USED IN PLACE OF ENGINEERED FLOOR JOISTS, THE FLOOR-TO-FLOOR DIMENSION WOULD REQUIRE REVISED STAIR DIMENSION AND FRAMING. CHANGES DUE TO SUBSTITUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ENCLOSURE ASSEMBLIES AND COMPONENTS ARE BASED ON MEETING THE PRESCRIPTIVE REQUIREMENTS OF THE GOVERNING ENERGY CODE, AND SHALL MEET OR EXCEED THE INSULATION AND FENESTRATION CRITERIA, UNLESS NOTED OTHERWISE.
11. ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED, ADJUSTED, OPERATED AND CONDITIONED AS DIRECTED BY THE MANUFACTURERS. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED TO SUSTAIN AND PRESERVE ALL EXPRESSED OR IMPLIED WARRANTIES AND GUARANTEES.
12. OWNER PROVIDED EQUIPMENT AND APPLIANCES ARE SHOWN FOR REFERENCE ONLY (DASHED OR GRAY). THE GENERAL CONTRACTOR AND DESIGN/BUILD CONTRACTORS SHALL COORDINATE ALL OWNER EQUIPMENT AND APPLIANCE SIZES AND SPECIFICATIONS, PRIOR TO PERFORMING WORK AT THESE AREAS, FOR PROPER INTEGRATION INTO THE WORK. PROVIDE SOLID WOOD BLOCKING IN THE WALLS TO ACCOMMODATE ANTICIPATED LOADS. NOTIFY ARCHITECT OF ANY DISCREPANCY WITH THE PLANS BEFORE PROCEEDING WITH THE WORK.
13. WINDOW TREATMENTS, DATA/PHONE ARE NOT PART OF THE ARCHITECTURAL SCOPE OF WORK. THE CONTRACTOR SHALL COORDINATE SCHEDULING WITH THE OWNER TO ENSURE TIMELY INSTALLATION BY THE OWNER OR OWNER'S VENDOR. INTEGRATE SYSTEMS TO BE CONCEALED AND COORDINATE ROUTING AND DESIGN OF SOFFITS AND SHAFTS WITH THE ARCHITECT, OWNER AND OTHER TRADES.

MATERIAL LEGEND

GRAPHIC SYMBOL	MATERIAL
	BRICK & TILE
	CONCRETE UNIT MASONRY
UNDISTURBED BACKFILL	EARTH
	GRAVEL, COARSE GRANULAR FILL
	GROUT / MORTAR
	GYPSUM BOARD
	INSULATION, BATT
	INSULATION, RIGID FOAM BOARD
	MINERAL WOOL BOARD OR CELLULOSE INSULATION
	SAND, FINE GRANULAR FILL
	STEEL
	SPRAY FOAM
	WOOD: FRAMING, BLOCKING
	WOOD PANEL IN SECTION / ELEVATION
	WOOD SHEATHING / COMPOSITE WOOD / PLYWOOD
	PVC TRIM OR SHEATHING

DRAWING SYMBOLS:

ROOM NAME / ROOM # — ROOM LABEL

VIEW NAME / SCALE — DRAWING LABEL

ELEVATION NAME / ELEVATION — ELEVATION LEVEL INDICATOR

/ SHEET — BUILDING/WALL SECTION DETAIL

/ SHEET / # — ELEVATION INDICATOR

/ SHEET — DETAIL REFERENCE TO PLAN OR SECTION DETAIL ENLARGEMENT

COL. — COLUMN CENTER LINE

— DOOR TYPE INDICATOR

A — WINDOW TYPE INDICATOR

A — WALL TYPE INDICATOR

A — KEY NOTE TYPE INDICATOR

— REVISION BUBBLE TYPE INDICATOR

MATCH LINE INDICATOR

1 HOUR RATED WALL LINE INDICATOR

2 HOUR RATED WALL LINE INDICATOR

WALLS

EXISTING WALL OR COMPONENT TO REMAIN, UNLESS NOTED OTHERWISE

WALL OR COMPONENT TO BE REMOVED

NEW WALL OR COMPONENT

STUDIO NEXUS
ARCHITECTS + PLANNERS
PO Box 275, White River Junction, VT 05001
802 275 5110 | studionexusarch.com

UPPER VALLY HAVEN
EMERGENCY SHELTER

Issued For:
SITE PLAN REVIEW

Preliminary Not For Construction

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Issue Date: MAY 30, 2024

Revisions

No.	Description	Date

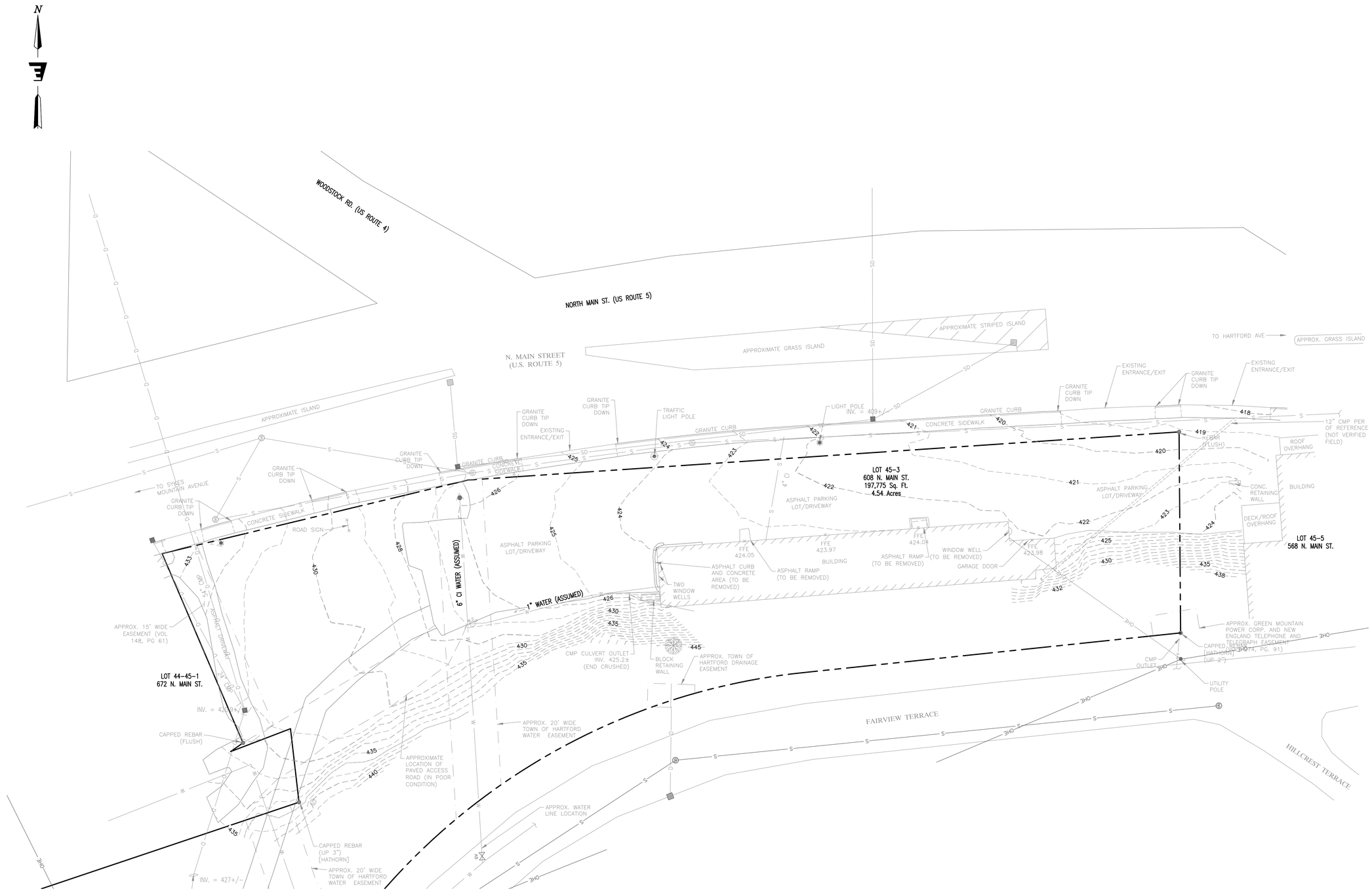
COVER SHEET, PROJECT TEAM & DRAWING INDEX

Project No.: Project Number

G-1

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GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

STUDIO NEXUS
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PO Box 275, White River Junction, VT 05001
802 275 5110 | studionexusarch.com

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tel. 802.863.6225 • fax 802.863.6306
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766
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www.engineeringventures.com

UPPER VALLEY HAVEN EMERGENCY SHELTER

Issued For:
Site Plan Review

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Issue Date: May 31, 2024

Revisions

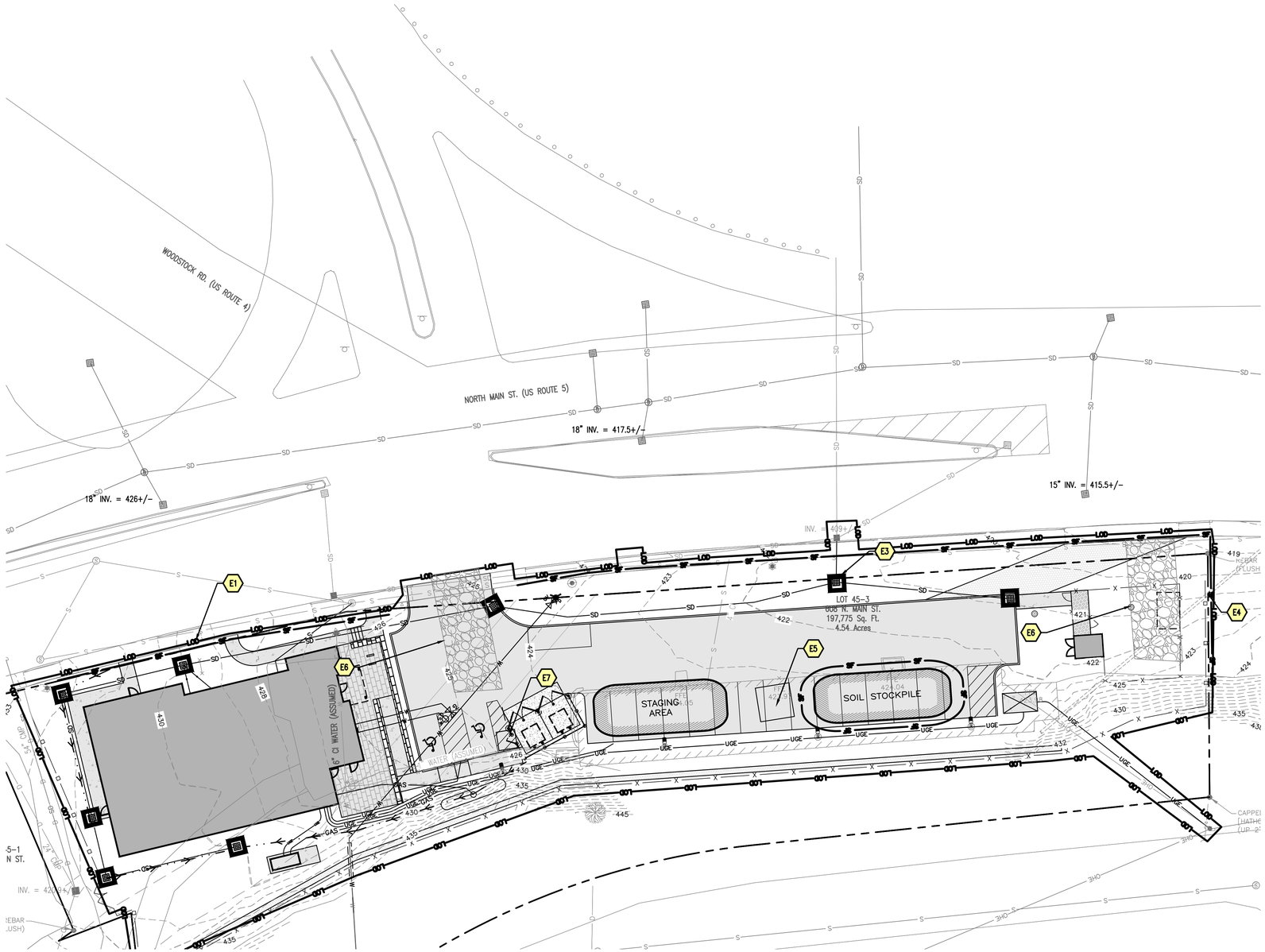
No.	Description	Date

Existing Conditions Plan

Project No.: 23167

C1.0

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STORMWATER POLUTION PREVENTION NOTES

- E1 LIMIT OF DISTURBANCE
- E3 INLET PROTECTION (TYP.)
- E4 SILT FENCE
- E5 CONCRETE WASHOUT
- E6 STABILIZED CONSTRUCTION ENTRANCE
- E7 PORTABLE TOILET

CONSTRUCTION SEQUENCE

1. CONTRACTOR TO COORDINATE STOCKPILE AND STAGING AREAS WITH THE OWNER.
2. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL HOST A PRECONSTRUCTION MEETING WITH OWNER, ENGINEER, PLANNING DEPARTMENT, POLICE, FIRE, AND PUBLIC WORKS STAFF.
3. PRIOR TO ANY OTHER WORK, SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE EROSION CONTROL PLAN. THESE SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT.
5. INSTALL INLET PROTECTION ON EXISTING CATCH BASINS AFFECTED DURING CONSTRUCTION.
6. ROUGH GRADE AND STOCKPILE TOPSOIL SURROUNDED BY SILT FENCE.
7. DEMO EXISTING STRUCTURES AS REQUIRED.
8. CLEAR AND GRUB, REMOVE LOOSE PAVING/DEMO PAVING AS REQUIRED AND HAUL OFF SITE USING EXISTING PARKING AREA AS STAGING.
9. GRADE DRIVE ENTRANCE AND EXCAVATE BUILDING PAD
10. BEGIN VERTICAL CONSTRUCTION OF BUILDING ADDITION CONCURRENT WITH WATER AND SEWER UTILITIES.
11. CONSTRUCT STORMWATER SYSTEM.
12. INSTALL STORMWATER PIPING AND STRUCTURES
13. BACKFILL AND SUBGRADE PREP FOR NEW PARKING AND SIDEWALK AREAS
14. COMPLETE FINAL GRADING OF SITE. PLACE TOPSOIL AND PERMANENTLY VEGETATE, LANDSCAPE, AND MULCH.
15. INSTALL LIGHT POLES.
16. PAVE BASE COURSE.
17. STABILIZE EXPOSED SLOPES AND SOILS AS SOON AS GRADED, REPAIR AND REESTABLISH ALL DISTURBED VEGETATED/LAWN AREAS, AND MAINTAIN UNTIL ADEQUATELY VEGETATED.
18. PAVE WEARING COURSE.
19. AFTER THE SITE IS APPROVED BY THE ENGINEER AS ADEQUATELY STABILIZED, REMOVE ALL TEMPORARY.
20. ANTICIPATED FINAL COMPLETION DATE SUMMER/FALL 2024.

N

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

EROSION CONTROL LEGEND

EROSION PREVENTION AND SEDIMENT CONTROL STRATEGY
THE FOLLOWING TECHNIQUES WILL BE UTILIZED AS PART OF A SEDIMENT AND EROSION CONTROL PROGRAM. THE SEDIMENT AND EROSION CONTROL PROGRAM WILL BE IMPLEMENTED IN STAGES. CERTAIN ITEMS FROM ONE STAGE WILL LIKELY OVERLAP OR TAKE PLACE CONCURRENTLY WITH ITEMS FROM OTHER STAGES. HAY PRODUCTS SHALL NOT BE USED.

TEMPORARY INLET PROTECTION – STONE COLLARS AND/OR INLET SOCKS. INSTALL AS INDICATED ON PLANS. STONE TO BE REMOVED AND REPLACED WITH CLEAN STONE WHEN SEDIMENT IS ≤ 1/2 DEPTH OF STONE. REMOVE ALL SEDIMENT COLLECTED IN STRUCTURE OR SOCK AS SOON AS POSSIBLE.

STONE CHECK DAM
THIS STRUCTURAL MEASURE IS ALONG DITCHES/ SWALES AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO SLOW STORMWATER RUNOFF AND TRAP SEDIMENT PARTICLES. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

PERMANENT EROSION CONTROL NETTING
THIS STRUCTURAL MEASURE IS INSTALLED IN AREAS THAT HAVE SLOPES 3:1 AND GREATER AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. THE NETTING IS TYPICALLY IMPREGNATED WITH GRASS SEED AND SOMETIMES STAPLED TO THE EXPOSED SOIL. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE SEEDED AND MULCHED.

TEMPORARY SEDIMENT BASIN
THIS STRUCTURAL MEASURE INVOLVES CONSTRUCTING TEMPORARY SEDIMENT BASINS IN THE LOCATION OF PROPOSED STORMWATER PONDS. GENERALLY THE STORMWATER PONDS CAN BE CONSTRUCTED AS SHOWN ON THE PLANS HOWEVER ORIFICE ON THE OUTLET STRUCTURES SHALL BE OMITTED UNTIL THE SITE IS STABILIZED TO IMPOUND RUNOFF AND ALLOW FOR SETTLING OF SUSPENDED FINES. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE THE SITE IS STABILIZED, SEDIMENT SHALL BE REMOVED FROM THE BASINS AND THE OUTLET ORIFICE SHALL BE DRILLED INTO THE OUTLET STRUCTURE AS NOTED ON THE PLANS.

SEDIMENT TRAP

TEMPORARY STAGING AND WASTE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE NON-SOIL, NON-ERODIBLE MATERIALS MAY BE STORED. SOILS SHALL NOT BE STORED IN THESE AREAS.

STAGING AREA

TEMPORARY SOIL STOCKPILE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS.

SOIL STOCKPILE

TEMPORARY SILT FENCING
THIS STRUCTURAL MEASURE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. IT IS INSTALLED ALONG THE PERIMETER OF IMPACTED AREAS AND ALONG THE BASE OF THE FILL SLOPES. ADDITIONALLY, WHEN DESIGNATED ALONG THE LIMITS OF DISTURBANCE, INSTALL CONSTRUCTION FENCE BEHIND THE SILT FENCE. SILT FENCING IS EFFECTIVE IN REDUCING STORMWATER RUNOFF VELOCITIES, ASSIST IN THE DEPOSITION OF TRANSPORTED SEDIMENT LOAD AND PREVENT EROSION OF SOILS ONTO ADJACENT AREAS. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

LIMITS OF DISTURBANCE
THE CONTRACTOR SHALL CONTAIN ANY EARTH MOVING ACTIVITIES WITHIN THE DESIGNATED LIMITS SHOWN ON THIS PLAN. THE ENGINEER SHALL REVIEW THE SITE TO MAKE ANY ADJUSTMENTS TO ACCOUNT FOR ENVIRONMENTALLY SENSITIVE AREAS, SPECIMEN TREES AND SPECIAL AREAS OF CONCERN.

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Issue Date: May 31, 2024

Revisions

No.	Description	Date

Erosion Prevention and Sediment Control Plan

Project No.: 23167

C1.1

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SEWER NOTES

- S1 — 6" SANITARY SEWER SERVICE LINE
- S2 — CAP AND ABANDON AT MAIN PER DPW REQUIREMENTS

WATER NOTES

- W1 — 4" COMBINED DOMESTIC WATER AND FIRE SPRINKLER LINE
- W2 — 4" GATE VALVE
- W3 — 2" CURB STOP
- W4 — 2" DOMESTIC SERVICE LINE
- W5 — CAP AND ABANDON AT MAIN PER DPW REQUIREMENTS
- W6 — FIRE DEPARTMENT CONNECTION POINT
- W7 — 8" DI COMBINED FIRE AND DOMESTIC WATER MAIN
- W8 — 20' WIDE WATER EASEMENT TO BE RELOCATED
- W9 — FIRE HYDRANT PER HARTFORD FIRE DEPARTMENT AND DPW REQUIREMENTS
- W10 — 8" GATE VALVE
- W11 — 6" BY 8" REDUCER, 8" GATE VALVE, CONNECT NEW 8" DUCTILE IRON PIPE TO EXISTING 6" CAST IRON TEE AND GATE VALVE. EXPLORATORY EXCAVATION TO DETERMINE DIAMETER, MATERIAL, BURIAL DEPTH.
- W12 — 16" STEEL CASING CARRIER PIPE FOR NEW 8" DUCTILE IRON WATER MAIN, INSERT CASING THROUGH SHEET PILING.

SITE NOTES

- C1 — CONCRETE SIDEWALK
- C2 — VERTICAL CURB
- C3 — STEPS AND PEDESTRIAN RAILING
- C4 — ADA PARKING AND SIGNAGE
- C5 — DUMPSTER ENCLOSURE
- C6 — SEGMENTED BLOCK WALL (TYP.)
- C7 — STAPLE BIKE RACKS (TYP.)
- C8 — SNOW STORAGE (TYP.)
- C9 — PAVEMENT
- C10 — SAWCUT AND REMOVE PAVEMENT WEST OF LINE. CONVERT EXISTING PAVEMENT TO GRASS OR NEW IMPERVIOUS AS INDICATED.
- C11 — GRASS SWALE (TYP.)
- C12 — FENCE (SEE LANDSCAPE PLANS)
- C13 — RESTORE WITH 6" TOPSOIL, GRASS SEED AND MULCH (TYP.)
- C14 — CONCRETE PAVERS
- C16 — FENCE ACCESS GATE
- C17 — DOG RUN AND ACCESS PATH (SEE LANDSCAPE PLANS)
- C18 — SITE LIGHT (TYP.) – SEE LANDSCAPE/PHOTOMETRIC PLANS
- C19 — MOUNTABLE CURB
- C20 — ACCESS GATE
- C21 — SHEET PILE WALL (BY OTHERS)
- C22 — DELIVERY VEHICLE AREA
- C23 — GRASS PAVERS

DRAINAGE NOTES

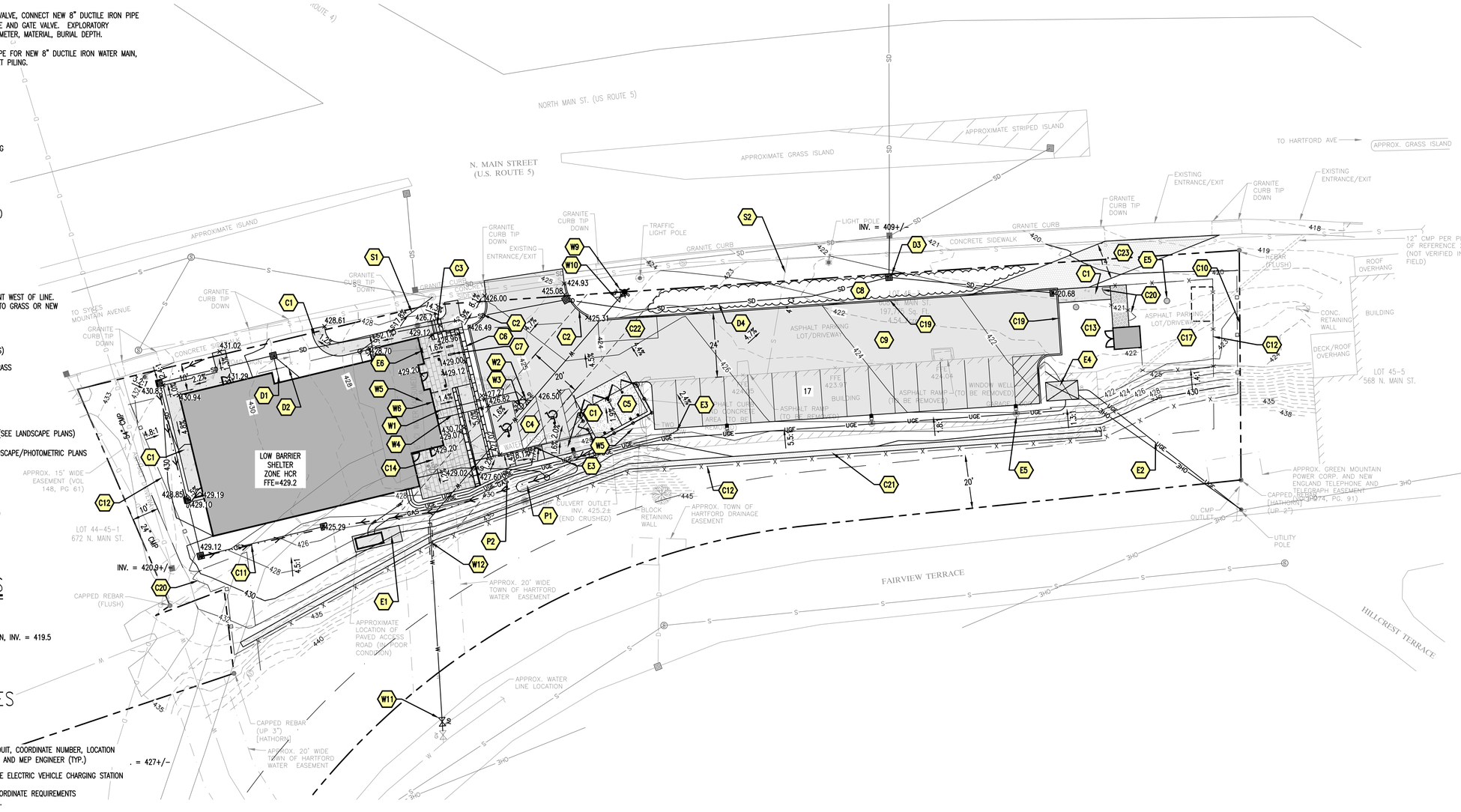
- D1 — ROOF LEADER
- D2 — FOUNDATION DRAIN CONNECTION, INV. = 419.5
- D3 — 4' I.D. CATCH BASIN (TYP.)
- D4 — 12" HDPE DRAIN LINE (TYP.)

ELECTRICAL NOTES

- E1 — PROPANE GENERATOR
- E2 — UNDERGROUND ELECTRIC CONDUIT, COORDINATE NUMBER, LOCATION AND REQUIREMENTS WITH GMP AND MEP ENGINEER (TYP.)
- E3 — ELECTRIC CONDUIT FOR FUTURE ELECTRIC VEHICLE CHARGING STATION
- E4 — ELECTRICAL TRANSFORMER, COORDINATE REQUIREMENTS WITH GMP AND MEP ENGINEER.
- E5 — SITE LIGHT (SEE LANDSCAPE AND PHOTOMETRIC PLANS – TYP.)
- E6 — BUILDING MOUNTED LIGHT (SEE LANDSCAPE AND PHOTOMETRIC PLANS – TYP.)

PROPANE NOTES

- P1 — 1,990 GALLON PROPANE TANK
- P2 — PROPANE LINE (TYP.)



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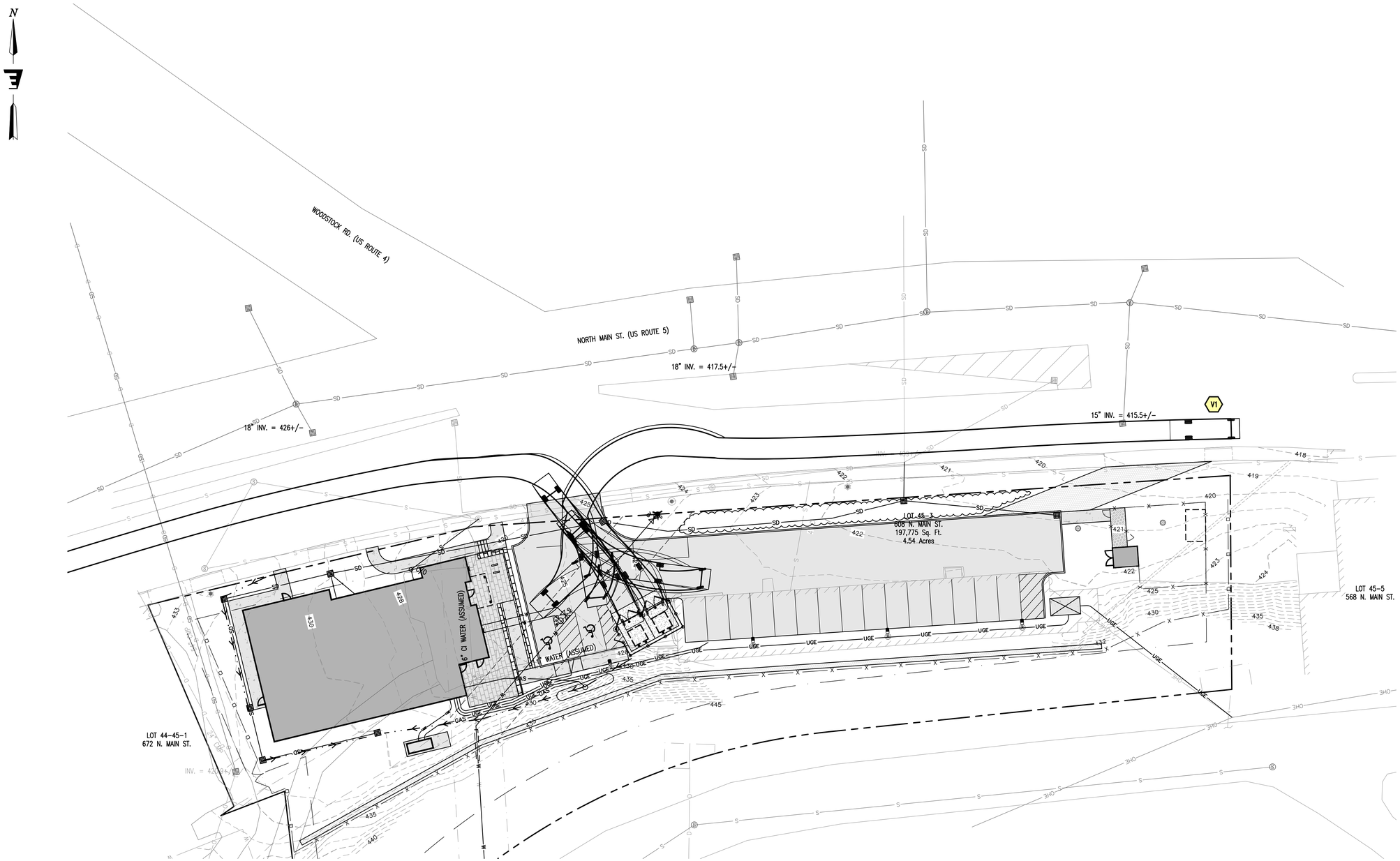
No.	Description	Date

Site, Grading Drainage and Utility Plan

Project No.: 23167

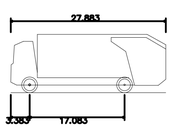
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VEHICLE TURNING NOTES

V1 GARBAGE TRUCK



Hino 338 M + Wayne Royal GT14 Refuse Truck	
Overall Length	27.883ft
Overall Width	8.042ft
Overall Body Height	10.488ft
Min Body Ground Clearance	1.315ft
Track Width	8.042ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	27.400ft

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.
for sheet size 24" x 36"

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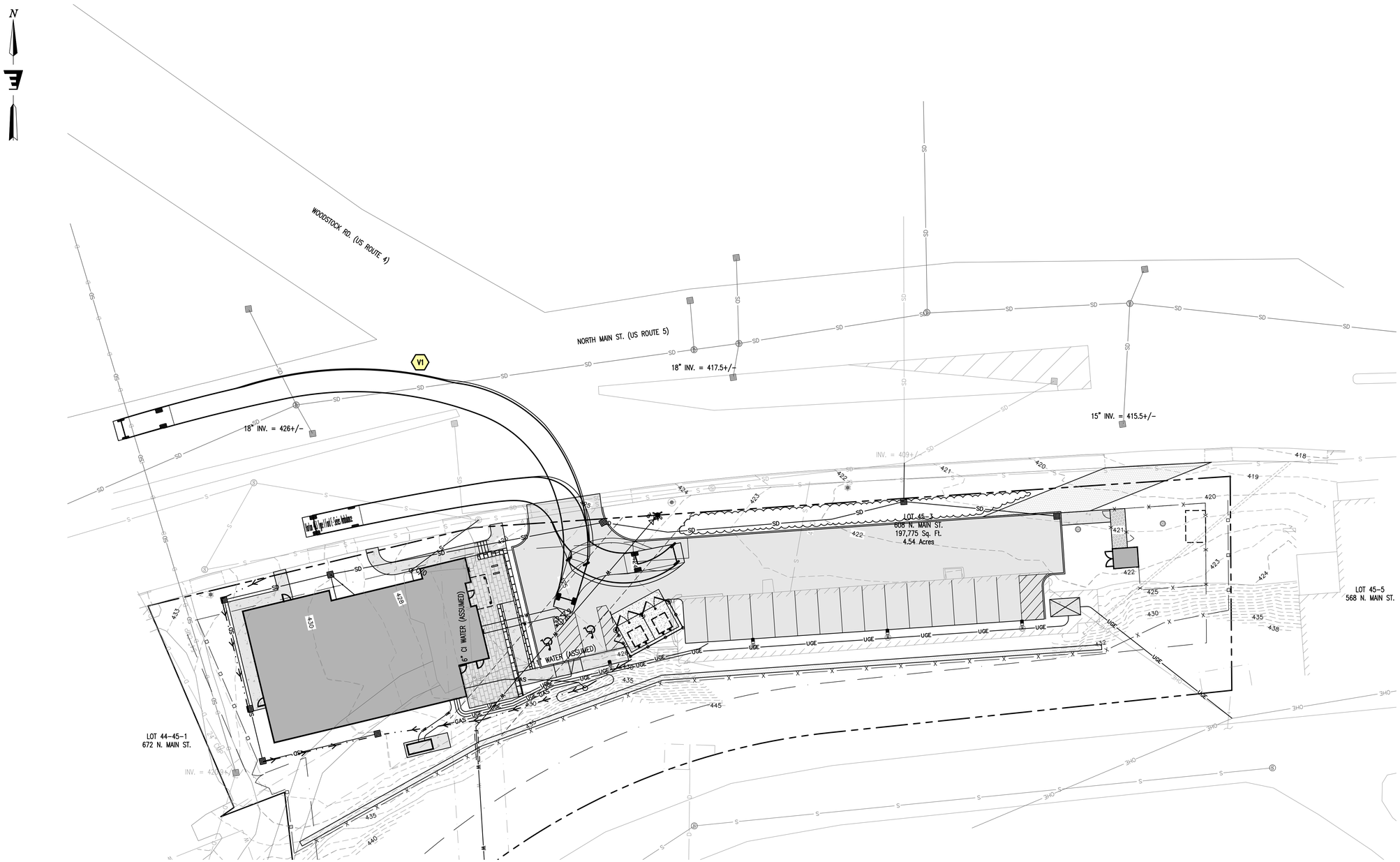
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Garbage Truck Turning Plan

Project No.: 23167

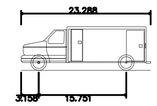
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VEHICLE TURNING NOTES

V1 GARBAGE TRUCK



Horton 453 Type I Ford E-Series Ambulance	
Overall Length	23.288ft
Overall Width	8.021ft
Overall Body Height	7.853ft
Min Body Ground Clearance	1.265ft
Track Width	8.021ft
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	27.400ft

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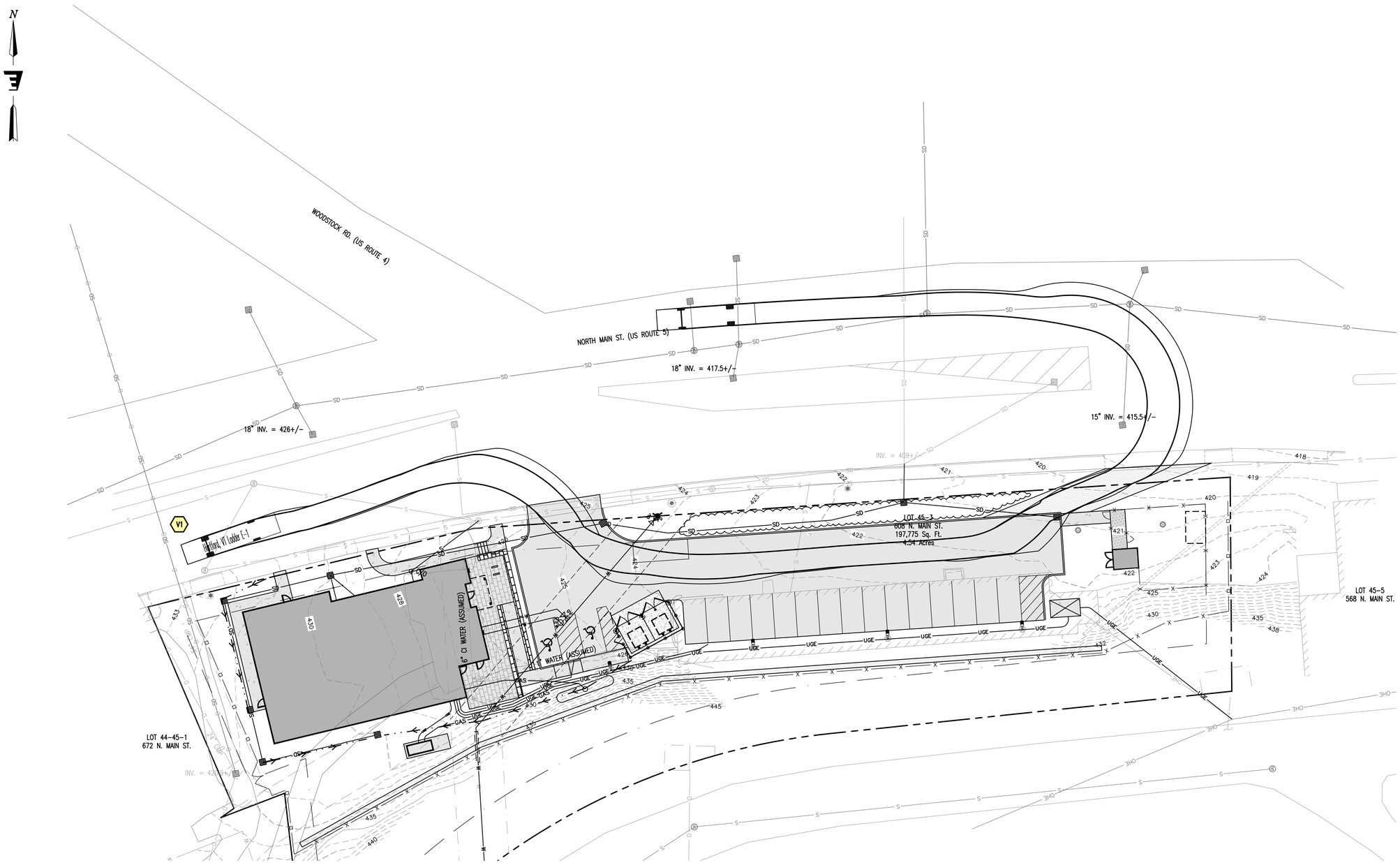
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Ambulance Turning Plan

Project No.: 23167

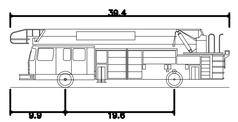
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VEHICLE TURNING NOTES

V1 FIRE TRUCK



Hartford, VT Ladder E-1	
Overall Length	39.400ft
Overall Width	8.300ft
Overall Body Height	10.484ft
Min Body Ground Clearance	0.915ft
Track Width	8.300ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	35.100ft

GRAPHIC SCALE

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Fire Truck Turning Plan

Project No.: 23167

C2.3

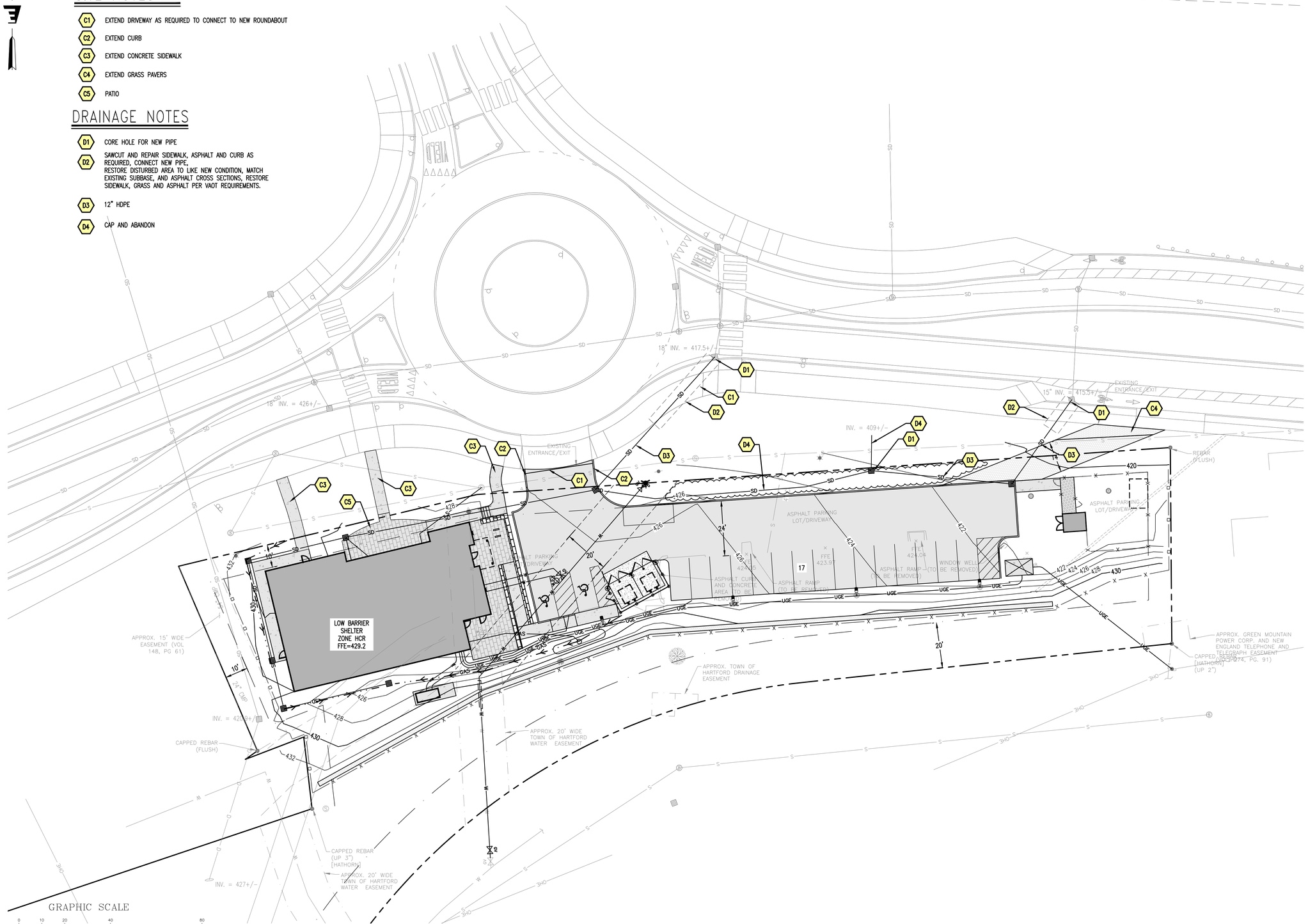
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SITE NOTES

- C1 EXTEND DRIVEWAY AS REQUIRED TO CONNECT TO NEW ROUNDABOUT
- C2 EXTEND CURB
- C3 EXTEND CONCRETE SIDEWALK
- C4 EXTEND GRASS PAVERS
- C5 PATIO

DRAINAGE NOTES

- D1 CORE HOLE FOR NEW PIPE
- D2 SAWCUT AND REPAIR SIDEWALK, ASPHALT AND CURB AS REQUIRED, CONNECT NEW PIPE, RESTORE DISTURBED AREA TO LIKE NEW CONDITION, MATCH EXISTING SUBBASE, AND ASPHALT CROSS SECTIONS, RESTORE SIDEWALK, GRASS AND ASPHALT PER VAOT REQUIREMENTS.
- D3 12" HDPE
- D4 CAP AND ABANDON



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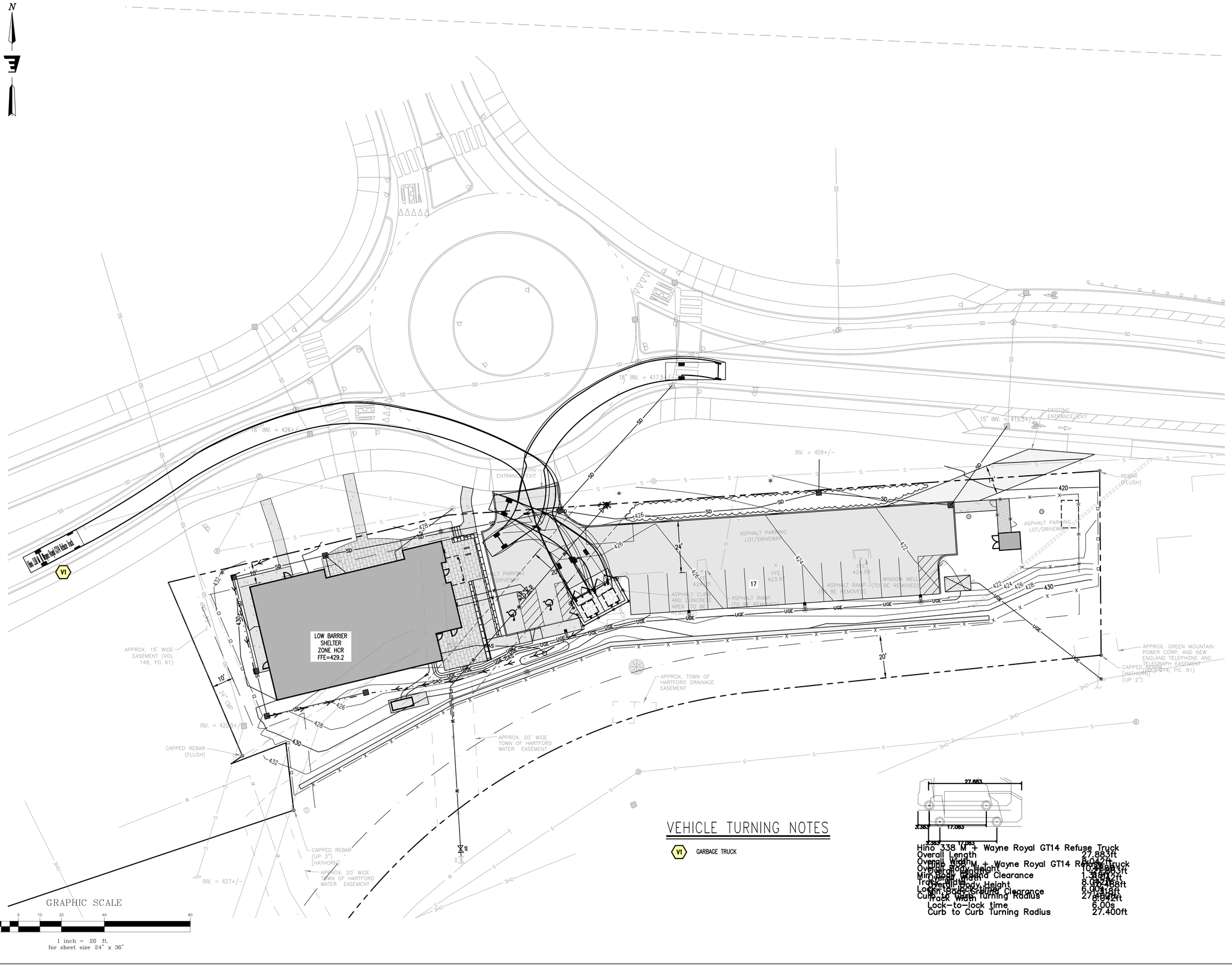
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Site Plan with Roundabout

Project No.: 23167

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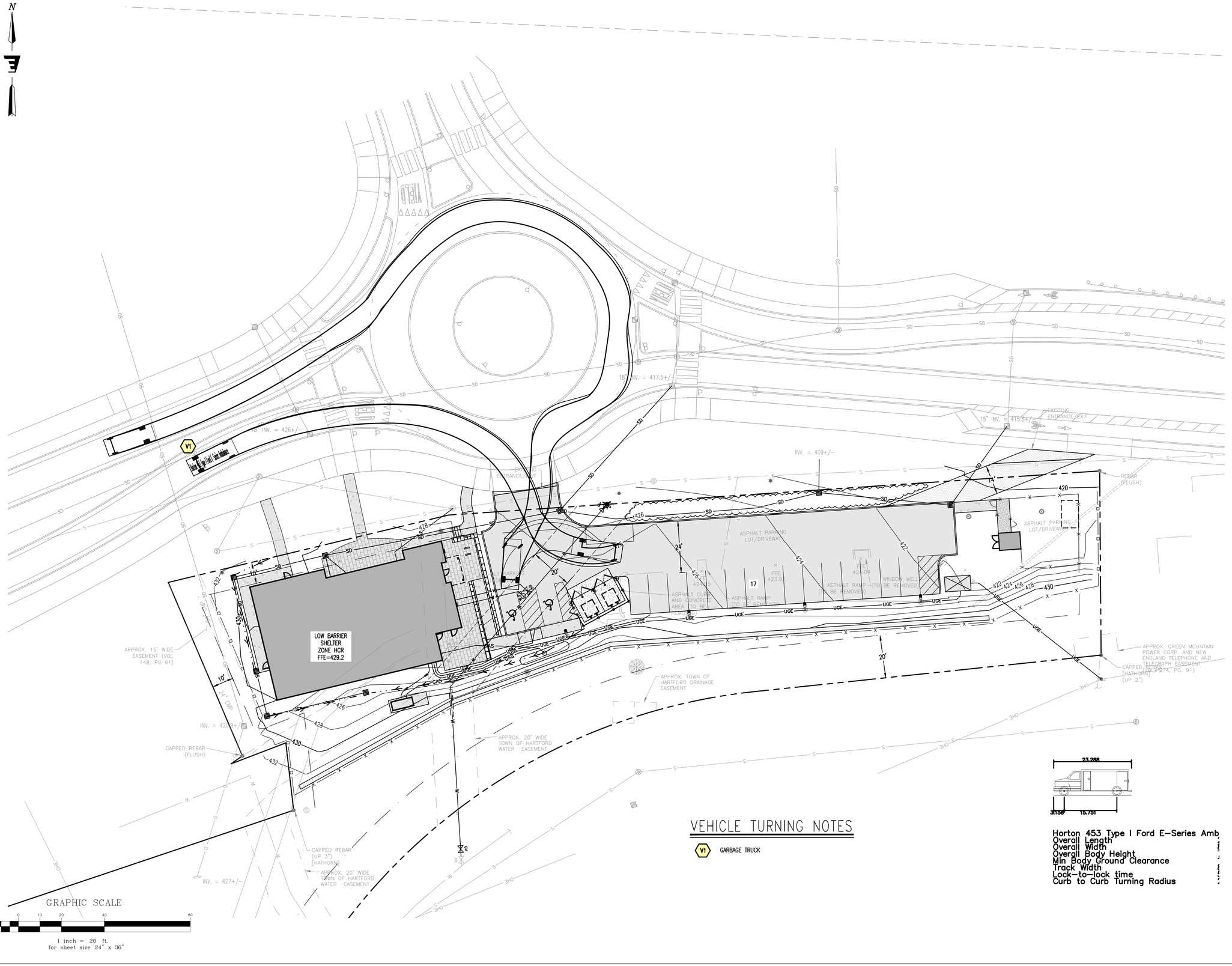
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Garbage Truck Turning Plan

Project No.: 23167

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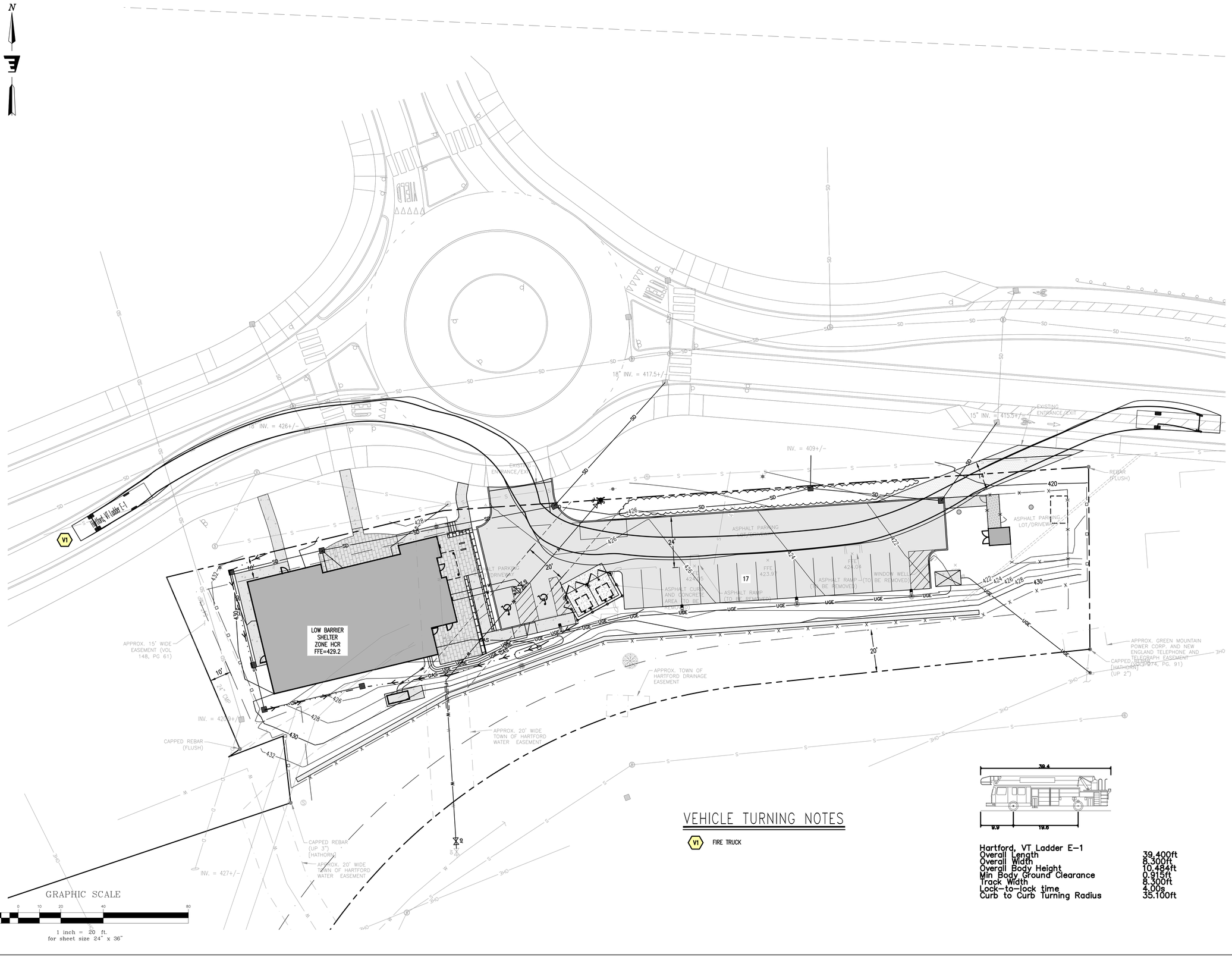
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Ambulance Turning Plan

Project No.: 23167

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GRAPHIC SCALE

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VEHICLE TURNING NOTES

V1 FIRE TRUCK

Hartford, VT Ladder E-1	
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Overall Width	8.300ft
Overall Body Height	10.484ft
Min Body Ground Clearance	0.915ft
Track Width	8.300ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	35.100ft

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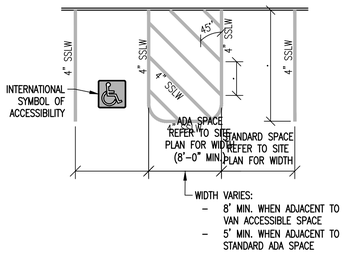
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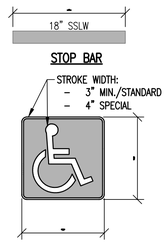
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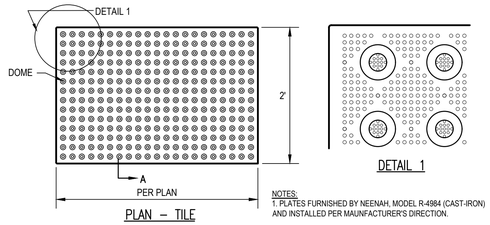
PARKING LOT STRIPING



INTERNATIONAL SYMBOL OF ACCESSIBILITY

ADA PAVEMENT MARKINGS

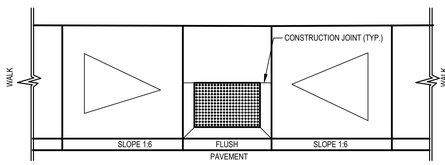
NOT TO SCALE 1



PLAN – TILE

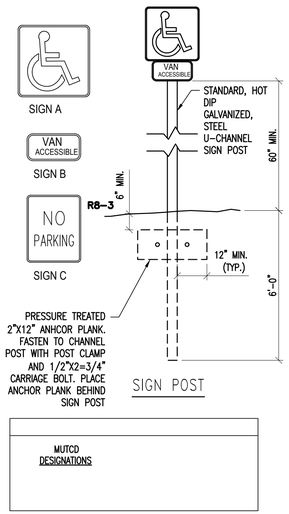
DETAIL 1

NOTES:
1. PLATES FURNISHED BY NEENAH, MODEL R-4984 (CAST-IRON) AND INSTALLED PER MAUNFACTURER'S DIRECTION.



DETECTABLE WARNING PAD

NOT TO SCALE 2

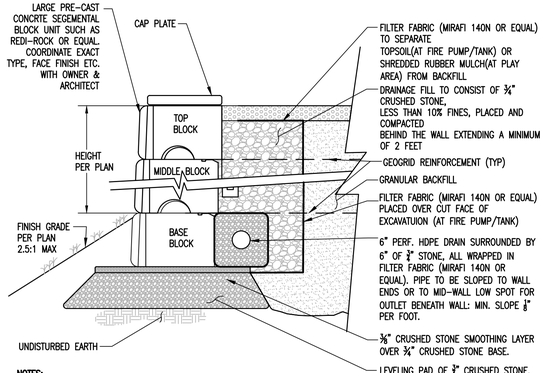


SIGN POST

MUTCD DESIGNATIONS

ADA SIGNS AND POST

NOT TO SCALE 3

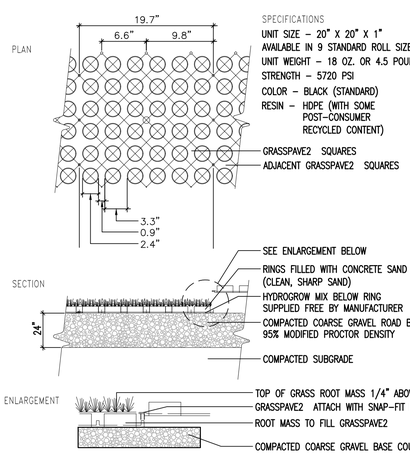


NOTES:
1. CONTRACTOR TO SUBMIT DRAWING STAMPED BY VT LICENSED PROFESSIONAL GEO-TECHNICAL ENGINEER FOR APPROVAL BY PROJECT ENGINEER AND TOWN OF HARTFORD.
2. STRIP ALL VEGETATION, ORGANIC SOILS AND UNSUITABLE FILL SOILS FROM THE WALL ALIGNMENT AREA.
3. BENCH CUT ALL EXCAVATED SLOPES.
4. DO NOT OVER EXCAVATE UNLESS DIRECTED TO DO SO BY THE OWNER'S SITE REPRESENTATIVE IN ORDER TO REMOVE UNSUITABLE SOIL.
5. THE OWNER'S SITE REPRESENTATIVE SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
6. LEVELING PAD SHALL CONSIST OF COMPACTED, ¾" CRUSHED GRAVEL, 12" THICK AND EXTENDING AT LEAST 12" TO EITHER SIDE OF THE BASE BLOCK. A SMOOTHING SURFACE OF ⅜" CRUSHED STONE MAY BE UTILIZED.
7. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE AS INDICATED ON THE WALL FACE DRAWING.
8. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS, ESPECIALLY WITH REGARDS TO LEVELING OF BLOCKS AND BASE.
9. DRAINAGE FILL SHALL CONSIST OF ¾" CRUSHED STONE, LESS THAN 10% FINES, PLACED AND COMPACTED BEHIND THE WALL EXTENDING A MINIMUM OF 2 FEET, OR THE LENGTH OF THE REQUIRED GEO-GRID TIE BACK, WHICHEVER IS GREATER. BEHIND THE WALL. A FILTER FABRIC SHALL BE PLACED OVER THE CUT OR FILL FACE BEHIND THE WALL AREA TO PREVENT SOIL MIGRATION INTO THE DRAINAGE MATERIAL.
10. WHERE PERFORATED HDPE DRAINS ARE USED, PROVIDE OUTLETS AT THE ENDS OF THE WALL OR AT A LOW COLLECTION POINT ALONG THE WALL. (ALTERNATIVE OUTLET METHODS MAY BE APPROVED BY THE DESIGN ENGINEER.)
11. BACKFILL AND COMPACT THE FILL MATERIAL BEHIND THE WALL AS THE WALL IS INSTALLED.
12. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE OWNER'S SITE REPRESENTATIVE.
13. PLACE FILTER FABRIC (MIRAFFI 140N, OR EQUAL) OVER THE DRAINAGE MATERIAL TO MINIMIZE SOIL MIGRATION FROM THE SURFACE MATERIAL INTO THE DRAINAGE MATERIAL.
14. COMPACTION SHALL BE TO 92% (MODIFIED PROCTOR) OR 95% (STANDARD PROCTOR).
15. PROVIDE LATERAL DRAINAGE SWALES TO DIRECT FLOWS AROUND THE ENDS OF THE WALL AND AWAY FROM THE WALL DURING CONSTRUCTION. DO NOT CONSTRUCT A SWALE BEHIND THE WALL AS PART OF THE FINISHED WALL. GRADE ABOVE THE WALL SO THAT WATER FLOWS OVER THE FACE OR TO A POINT AT LEAST AS FAR BEHIND THE WALL AS THE WALL HEIGHT.
16. TURF, OR SOME ACCEPTABLE FORM OF SOIL EROSION PROTECTION, SHOULD BE ESTABLISHED AT THE TOP OF THE WALL (WHERE REQUIRED) BY THE LANDSCAPE CONTRACTOR AS SOON AS THE WALL IS COMPLETED.
17. FINAL WALL ALIGNMENT SHALL BE LOCATED IN THE FIELD.
18. RECOMMENDED COMPACTION EQUIPMENT WITHIN 15 FEET OF THE BACK OF THE WALL IS AS FOLLOWS:
    - 0–4 FEET HAND TAMP OR VIBRATE PLATE COMPACTOR
    - 4–15 FEET NOTHING LARGER THAT TWO-DRUM, WALK BEHIND VIBRATORY ROLLER

    (LARGER ROLLERS CAN BE USED STATICALLY, PROVIDED LIFT SIZE DOES NOT COMPROMISE ACHIEVEMENT OF NECESSARY COMPACTION RATES.)

SEGMENTAL BLOCK WALL

NOT TO SCALE 4



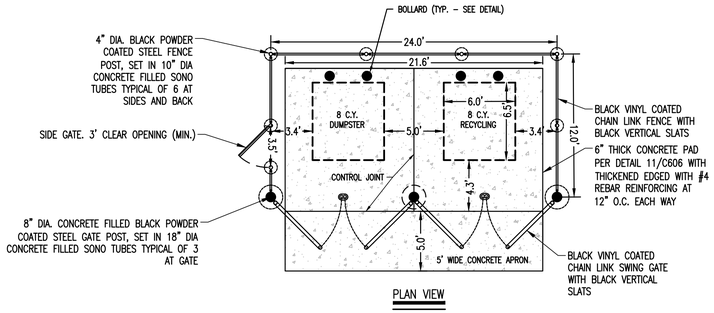
SPECIFICATIONS
UNIT SIZE – 20" X 20" X 1"
AVAILABLE IN 9 STANDARD ROLL SIZES
UNIT WEIGHT – 18 OZ. OR 4.5 POUNDS
STRENGTH – 5720 PSI
COLOR – BLACK (STANDARD)
RESIN – HDPE (WITH SOME POST-CONSUMER RECYCLED CONTENT)
GRASSPAVE2 SQUARES
ADJACENT GRASSPAVE2 SQUARES

NOTES:
1. GRASS TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.
2. SNOW REMOVAL TO BE ACHIEVED BY USE OF A SNOW PLOW WITH SKID PLATES INSTALLED ON THE BLADE OR WITH A SNOWBLOWER WITH THE BLADES RAISED ADEQUATELY TO PREVENT DIRECT CONTACT WITH THE PAVER SURFACE.
3. PAVERS TO BE RATED FOR H-20 LOADING.

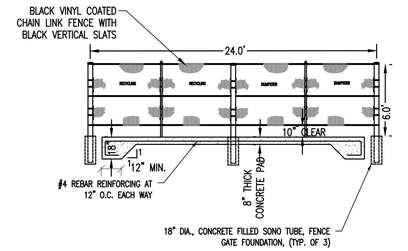
GRASS PAVERS DETAIL

NOT TO SCALE 5

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PLAN VIEW

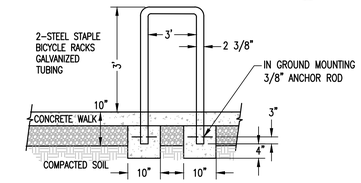


SECTION VIEW

NOTES:
1. CONCRETE TO BE 4000psi WITH 5-7% AIR ENTRAINMENT.
2. BROOM FINISH WITH SMOOTH TROWELED EDGES. TREAT WITH SILANE-SILOXANE OR EQUIVALENT.
3. CONTROL JOINT SHALL BE A 1/8" WIDE JOINT AT LEAST 1/3 OF THE DEPTH OF THE PAD.

DUMPSTER ENCLOSURE

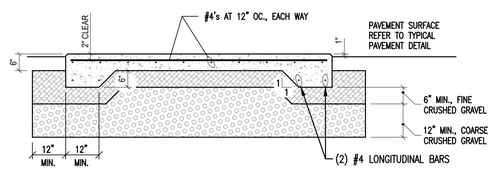
NOT TO SCALE 6



NOTES:
1. ONE RACK HAS THE CAPACITY TO HOLD 2 BIKES.
2. MAINTAIN 3' MINIMUM SPACING BETWEEN RACKS AND 4' TO EXTERIOR WALL.
3. U-STYLE RACKS NOT ACCEPTABLE.

STAPLE BIKE RACK

NOT TO SCALE 7



NOTES:
1. CONCRETE TO BE 4,500psi WITH 5-7% AIR ENTRAINMENT.
2. BROOM FINISH WITH SMOOTH TROWELED EDGES. TREAT WITH SILANE-SILOXANE OR EQUIVALENT.
3. REFER TO LAYOUT PLAN FOR SIZE AND LOCATION.

CONCRETE DUMPSTER PAD

NOT TO SCALE 8

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Issued For:
Site Plan Review

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Issue Date: May 31, 2024

Revisions

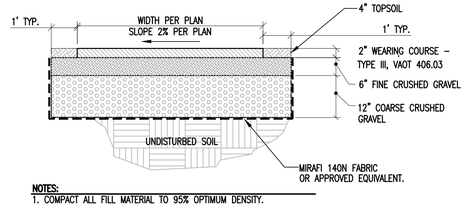
No.	Description	Date

SITE DETAILS

Project No.: 23167

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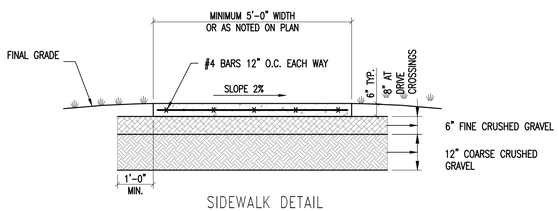
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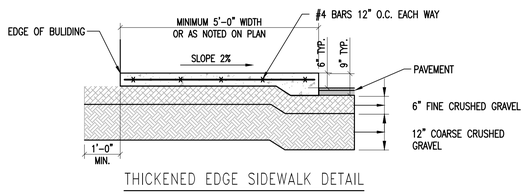
NOTES:
1. COMPACT ALL FILL MATERIAL TO 95% OPTIMUM DENSITY.

ASPHALT SIDEWALK DETAIL

NOT TO SCALE 1



SIDEWALK DETAIL



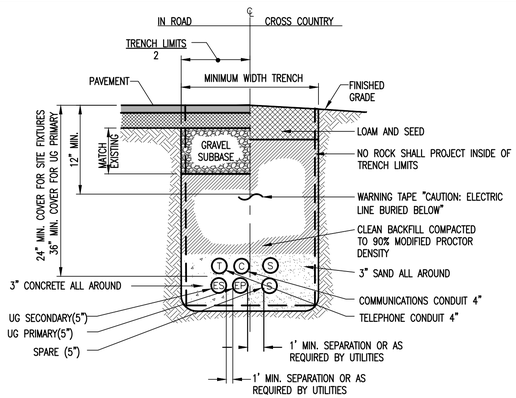
THICKENED EDGE SIDEWALK DETAIL

CONCRETE SIDEWALK NOTES:

1. PLACE A TOOLED JOINT 1/8" WIDE AND AT LEAST 1/3 OF THE DEPTH, TYPICALLY AT INTERVALS MATCHING THE SIDEWALK WIDTH, OR AS NOTED ON PLANS (NOT TO EXCEED 10'–0").
2. PLACE EXPANSION JOINT AS INDICATED ON PLANS, NOT TO EXCEED 20'–0" MAX. ALL EXPANSION JOINTS SHALL BE DOWELED WITH A ¾" DIAMETER SMOOTH DOWEL AT 12" O.C. DOWEL SHALL BE 15" IN LENGTH AND SHALL HAVE AN EXPANSION CAP INSTALLED AT THE END. SEE DETAIL ON THIS SHEET.
3. BROOM FINISH WITH SMOOTH TROWELED EDGES. TREAT WITH SILANE–SILOXANE OR EQUAL.
4. CAST–IN–PLACE CONCRETE TO BE 4000 psi CONCRETE, 5%–7% AIR ENTRAINMENT WITH 6x6–W4.0xW4.0 REINFORCING CENTERED IN SIDEWALK.
5. WHERE SIDEWALK IS ADJACENT TO ENTRY/EXIT DOOR PADS WITH FROST WALL FOUNDATIONS, SIDEWALK SHALL BE DOWELED TO PAD WITH 24" LONG #4 DOWELS (CENTERED) AT 1'–6" oc (PORTION OF DOWEL IN SIDEWALK TO BE GREASED).
6. WHERE SIDEWALK IS ADJACENT TO CURB, BOLLARD OR OTHER HARD FEATURE, INSTALL 1/4" EXPANSION MATERIAL (FULL DEPTH OF SIDEWALK), BETWEEN FEATURE AND SIDEWALK.
7. COMPACT ALL FILL MATERIAL TO 95% MODIFIED PROCTOR.

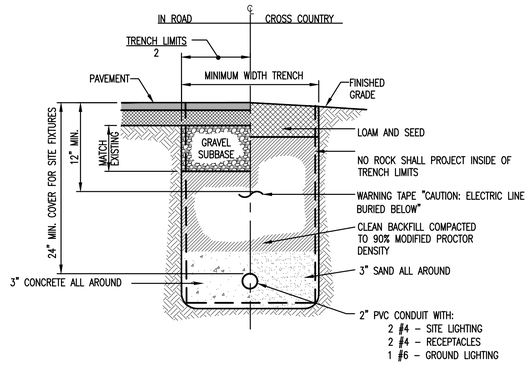
CONCRETE SIDEWALK

NOT TO SCALE 2



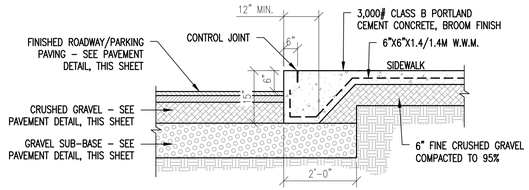
UNDERGROUND CONDUIT TRENCH

NOT TO SCALE 3



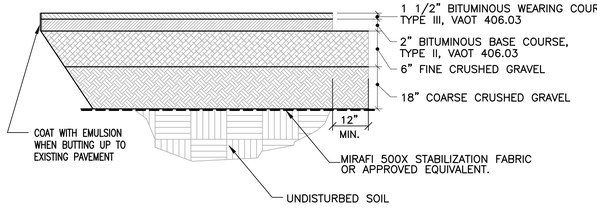
UNDERGROUND LIGHTING TRENCH

NOT TO SCALE 4



MONOLITHIC SIDEWALK

NOT TO SCALE 5

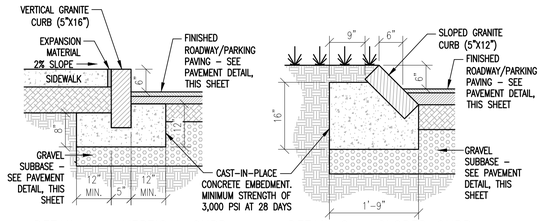


PAVEMENT PATCHING NOTES:

1. IN ALL PAVEMENT AREAS TO BE PATCHED, SAW CUT AND REMOVE EXISTING PAVEMENT.
2. EXCAVATE BASE MATERIAL AND SUB–BASE MATERIAL IF INADEQUATE.
3. COMPACT ALL FILL MATERIAL TO 95% MODIFIED PROCTOR

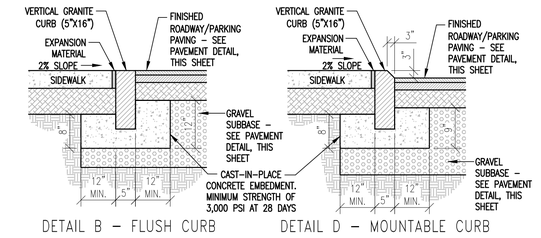
PAVEMENT SECTION

NOT TO SCALE 6



DETAIL A – VERTICAL CURB

DETAIL C – SLOPED CURB



DETAIL B – FLUSH CURB

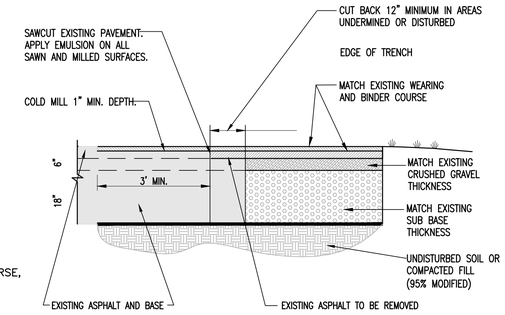
DETAIL D – MOUNTABLE CURB

VERTICAL GRANITE CURB NOTES:

1. GRANITE CURBS SHALL BE INSTALLED IN ACCORDANCE WITH PROJECT AND STATE SPECIFICATIONS
2. WHERE CURB IS ADJACENT TO ENTRY/EXIT DOOR PADS WITH FROST WALL FOUNDATIONS, CURB SHALL BE DOWELED TO PAD WITH 24" LONG #4 DOWELS (CENTERED) AT 1'–6" O.C. (PORTION OF DOWEL IN CURB TO BE GREASED).
3. WHERE CURB IS ADJACENT TO SIDEWALK, BOLLARD, LIGHT BASE OR OTHER HARD FEATURES, 1/2" EXPANSION MATERIAL (FULL DEPTH OF CURB), SHALL BE INSTALLED BETWEEN FEATURE & CURB.

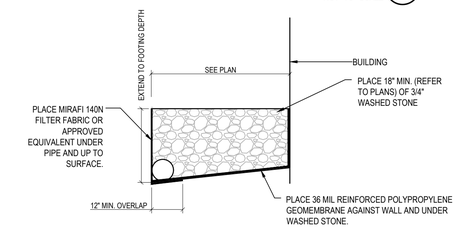
GRANITE CURB DETAILS

NOT TO SCALE 7



ASPHALT PAVEMENT TRENCH PATCH

NOT TO SCALE 8



TYPICAL DRIP EDGE

NOT TO SCALE 9

EARTHWORK NOTES

1. PRIOR TO THE START OF WORK, A PRE–CONSTRUCTION MEETING WILL BE HELD WITH THE CONTRACTOR, AND PROJECT ENGINEER TO REVIEW PROCEDURES, IDENTIFY RESPONSIBILITIES. UNLESS STATED OTHERWISE, ALL MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF TOWN OF HARTFORD SPECIFICATIONS.
2. CLEARING AND GRUBBING– SITE TO BE RESTORED TO PRE–CONSTRUCTION CONDITIONS, INCLUDING DRIVEWAYS, STONE WALLS, AND GRASS AREAS. THE DRIVEWAY SUB–GRADE MATERIAL SHALL EXTEND ONE FOOT BEYOND THE EDGE OF PAVING.
3. COMPACTION OF ALL MATERIALS SHALL BE PERFORMED USING VIBRATORY ROLLERS AND WATER IN LIFTS OF NO GREATER THAN TWELVE INCHES. COMPACTION SHALL BE PERFORMED UNTIL THE REQUIRED DENSITY IS ACHIEVED. DENSITY SHALL BE DETERMINED BY ASTM D2922 AND SHALL NOT BE LESS THAN THE REQUIRED AMOUNT AS DETERMINED IN ACCORDANCE WITH ASTM D1557.
4. COMPACTION TESTING SHALL BE PERFORMED FOR EVERY LAYER OF MATERIAL PLACED AND FOR EVERY 1000 SQUARE FEET OF AREA.
5. PAVEMENT SHALL MEET THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS PUBLISHED BY VTRANS.
6. PAVEMENT SHALL NOT BE INSTALLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT, NOR WHEN THE ROAD BASE TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT. PAVEMENT SHALL NOT FALL BELOW 185 DEGREES FAHRENHEIT PRIOR TO THE COMPLETION OF ROLLING. PAVEMENT SHALL NOT BE INSTALLED WHEN THE SUBGRADE IS FROZEN OR THE GRADES ARE INCORRECT.
7. ALL REMAINING DISTURBED AREAS SHALL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH APPLICABLE STATE SPECIFICATIONS FOR EROSION CONTROL.
8. THE SEEDING OF 10% OR GREATER SLOPES SHALL REQUIRE THE USE OF EROSION CONTROL MATTING.
9. ALL EARTHWORK MATERIALS SHALL BE OBTAINED FROM APPROVED SOURCES. THEY SHALL CONSIST OF SATISFACTORILY GRADED, FREE DRAINING MATERIAL, REASONABLY FREE FROM LOAM, SILT, CLAY AND ORGANIC MATERIAL. EARTHWORK MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING TABLES:

A. SAND BLANKET/BEDDING: MESH SIEVES

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
2 INCHES	100
1–1/2 INCHES	90 – 100
1/2 INCH	70 – 100
NO. 4	60 – 100
NO. 100	0 – 20
NO. 200	0 – 8

B. 3/4" CRUSHED STONE: MESH SIEVES ASTM C33–03, STONE SIZE #67

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
1 INCH	100
3/4 INCHES	90 – 100
3/8 INCH	20 – 55
NO. 4	0 – 10
NO. 8	0 – 5

C. 1–1/2" CRUSHED STONE: MESH SIEVES

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
2 INCH	100
1–1/2 INCH	95 – 100
3/4 INCH	35 – 70
3/8 INCH	10 – 30
NO. 4	0 – 5

D. COARSE CRUSHED GRAVEL: MESH SIEVES

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
4 INCHES	95 – 100
NO. 4	25 – 50
NO. 100	0 – 12
NO. 200	0 – 6

E. FINE CRUSHED GRAVEL: MESH SIEVES

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
2 INCHES	100
1–1/2 INCHES	90 – 100
NO. 4	30 – 60
NO. 100	0 – 12
NO. 200	0 – 6

F. GRANULAR BACKFILL: MESH SIEVES

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE
3 INCHES	100
NO. 4	45 – 75
NO. 100	0 – 12
NO. 200	0 – 6

G. TYPE I STONE FOR STONE FILL THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 1 INCH TO 12 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF FOUR INCHES.

H. TYPE II STONE FOR STONE FILL THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM TWO INCHES TO 36 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 12 INCHES.

I. TOPSOIL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE SPECIFICALLY STATED IN THE CONTRACT DOCUMENTS:
1. THE pH OF THE MATERIAL SHALL BE BETWEEN 5.5 AND 7.6.
2. THE ORGANIC CONTENT SHALL BE NOT LESS THAN 2% NOR MORE THAN 20%.
3. GRADATION:

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
2 INCHES	100
1 INCH	85 – 100
1/4 INCH	65 – 100
NO. 200	20 – 80

THE CONTRACTOR MAY AMEND NATURAL TOPSOIL WITH APPROVED MATERIALS AND BY APPROVED METHOD TO MEET THE ABOVE SPECIFICATIONS.

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Issued For:
Site Plan Review

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Issue Date: May 31, 2024

Revisions

No.	Description	Date

SITE DETAILS

Project No.: 23167

C3.1

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WATER NOTES

WATER MAINS

1. PERFORM A HYDROSTATIC AND LEAKAGE TEST ACCORDING TO AWWA C600(LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS A MINIMUM OF 200 PSI OR 1.5X THE WORKING PRESSURE, WHICHEVER IS GREATER, AND PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI. SEE THE CURRENT EDITION OF AWWA C600 FOR ALLOWABLE LEAKAGE.

EXISTING UTILITIES

1. LOCATION OF UTILITY INSTALLATIONS AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS SOME UTILITIES MAY NOT BE SHOWN.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER, PRIOR TO COMMENCING DEMOLITION.

PIPE BEDDING

1. SAND BLANKET/BEDDING SHALL MEET REQUIREMENTS OF EARTHWORK SPECIFICATIONS
2. TRENCH FINAL BACKFILL MATERIAL – MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS(GREATER THAN 12" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

PIPE TRENCH BACKFILL

1. MEET EARTHWORK SPECIFICATIONS FOR PLACEMENT AND COMPACTION.

DUCTILE IRON PIPE (WATER)

1. D.I. PIPE CONFORM TO AWWA/ANSI C151.
2. LININGS AND LINING REPAIR TO AWWA/ANSI C104.
3. JOINTS CONFORM TO AWWA/ANSI C 111 AND C115.
4. FITTINGS CONFORM TO AWWA/ANSI C110, C153, C105.
5. KEEP INSIDE OF PIPE CLEAN AND FREE OF DEBRIS.
6. REJECT ANY PIPE WHICH IS DROPPED DURING HANDLING.
7. MECHANICAL JOINT GLANDS SHALL BE "MEGA-LUG" RETAINER GLANDS.
8. DUCTILE IRON FITTINGS: ANSI A21.10, 350 PSI PRESSURE RATING.
9. JOINTS: MECHANICAL, PUSH-ON, AND FLANGED:
   A. RUBBER GASKET JOINT, ANSI A21.11
10. GASKETS:
    A: MECHANICAL AND PUSH-ON JOINTS: ANSI A21.11
    B. FLANGED JOINT: ⅛" THICK RING OR FULL FACED RUBBER, ANSI A21.15.
11. BOLTS/NUTS
    A. MECHANICAL JOINT: ANSI A21.11
    B. FLANGED JOINT: ANSI A21.15
12. LININGS:
    A. INTERIOR- CEMENT LINED, DOUBLE THICKNESS BITUMINOUS SEAL
    B. EXTERIOR-BITUMINOUS COATING APPROX. 1 MIL THICK, ANSI A21.51, ANSI A21.15, AND ANSI A21.10.
    C. FLANGE MACHINED FACE COATING: ANSI A21.15.
13. LAYING PIPE
    A. PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING.
    B. WHERE PIPE IS LAID ON A SLOPE OF 5% OR MORE, THE LAYING SHALL START AT THE LOW END AND PROCEED UPHILL, WITH THE BELL ENDS UPGRADE.
    C. A WATERTIGHT PLUG SHALL BE PLACED IN THE OPEN ENDS OF INSTALLED PIPE WHEN PIPE LAYING IS NOT IN PROGRESS.
    D. MAX. PERMISSIBLE DEFLECTION IS 75% OF AWWA SPEC. C600.

CHLORINATION OF DOMESTIC WATER LINES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS
2. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
3. DISINFECT ALL NEW PIPELINE SYSTEMS IN ACCORDANCE WITH AWWA C651, INCLUDING:
   A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD (TABLET METHOD IS NOT ACCEPTABLE).
   B. FORM OF CHLORINE UTILIZED.
   C. FINAL FLUSHING.
   D. BACTERIOLOGICAL TESTING
   E. REPETITION OF PROCEDURE

GATE VALVES

1. RESILIENT SEAT GATE VALVES BY KENNEDY "KEN-SEAL" OR EQUAL.
2. IRON BODY GATE VALVES TO MEET AWWA C-509-87.
3. STEM CONSTRUCTION: NON-RISING.
4. STEM SEALS: DOUBLE O-RING.
5. GATE: CAST IRON RESILIENT WEDGE WITH SYNTHETIC ELASTOMER COATING, AND SHALL BE EPOXY COATED (FUSION BONDED) INSIDE AND OUT.
6. BONNET HARDWARE SHALL MEET ASTM A307, CADMIUM PLATED.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT
8. OPERATION: OPEN COUNTERCLOCKWISE.

TAPPING SLEEVES AND VALVES

TAPPING VALVES

1. TAPPING VALVES TO MEET ANSI/AWWA C509-87, STANDARD FOR RESILIENT SEATED GATE VALVES.
2. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
3. VALVES SHALL OPEN COUNTERCLOCKWISE.
4. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/AWWA C110/A21.10.
5. OUTLET CONNECTION: STANDARDIZED MECHANICAL JOINT.
6. STEM SEALS: O RING.
7. STEM CONSTRUCTION: NON-RISING.
8. SEATING: PARALLEL SEAT
9. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
10. BURIED TAPPING VALVES SHALL BE PROVIDED WITH A 2 INCH SQUARE WRENCH NUT AND CAST IRON VALVE BOX. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'-0 , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

TAPPING SLEEVES

1. AWWA C509, LATEST REVISION.
2. AWWA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
3. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
4. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
5. BOLTS AND NUTS, MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/AWWA C111/A21.11-90.
6. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/AWWA C110/A21.10-87, APPENDIX
7. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
8. ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD-APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES

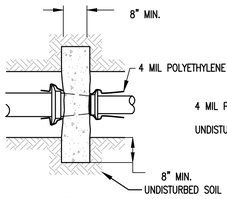
1. ACCEPTABLE MANUFACTURER'S: MUELLER, CLOW, OR EQUAL.
2. CLOW F-2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5 ¼ INCH SHAFT.
4. SIZE 664-A (40-60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F-2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.

CONCRETE

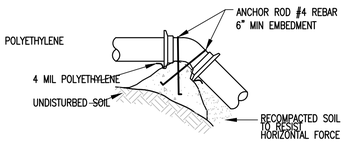
1. CONCRETE SHALL HAVE:
   A. MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
   B. AIR ENTRAINMENT OF 4% TO 6% BY VOLUME.
   C. WATER CEMENT RATIO OF 0.49 LBS. WATER/CEMENT.
   D. SLUMP OF 2 TO 4 INCHES.
1. CONCRETE SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
2. CONCRETE SHALL NOT BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
3. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURES FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
4. ALLOW TO SET AND CURE ALL THRUST BLOCKS, CONCRETE SUPPORTS, AND ANCHORS A MINIMUM OF 24 HOURS BEFORE BACKFILLING.
5. COMPLETELY CURE AND SET CONCRETE BEFORE ANY HYDROSTATIC OR LEAKAGE TESTING OF PIPELINE SYSTEMS.
6. NONSHRINK GROUT SHALL BE HALCO TRADEMARK, AS MANUFACTURED BY LEHN & FINK INDUSTRIAL PRODUCTS.
7. DO NOT PLACE ANY MORTAR OR GROUT WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT.
8. MORTAR FOR MANHOLES SHALL CONSIST OF THE FOLLOWING:
   A. CEMENT-TYPE II, ASTM C150.
   B. HYDRATED LIME-TYPE N, ASTM C207.
   C. SAND- ASTM C 33, FINE AGGREGATES FOR CONCRETE.
   D. WATER-CLEAN, SUITABLE FOR DRINKING.
10. MIX(BY VOLUME): 1 PART CEMENT, ½ PART LIME, 4 ½ PARTS SAND.

GENERAL

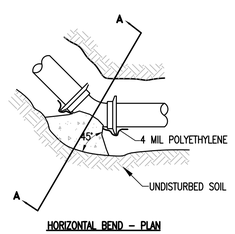
1. CONTRACTOR SHALL NOTIFY BURLINGTON DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS BEFORE BEGINNING WATER LINE WORK..
2. "AS BUILT" DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AT THE TIME OF COMPLETION OF THE SYSTEM.



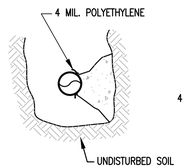
REDUCER – PLAN



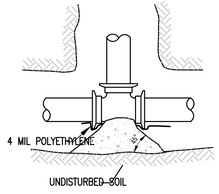
VERTICAL BEND – SECTION



HORIZONTAL BEND – PLAN



SECTION A–A

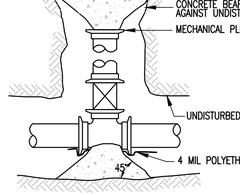


HORIZONTAL TEE – PLAN

MINIMUM BEARING SURFACE (SF) 150 PSI WORKING PRESSURE								
	PIPE DIA.	TEE	HYD.	90° BEND	45° BEND	22.5° BEND	11.25° BEND	END CAP
1,000 PSF SOIL BEARING CAPACITY	10"	16	–	16	6	3	2	16
	8"	10	–	10	4	2	1	10
	6"	7	7	7	2	1	0.5	7
	4"	3	–	3	1	0.5	0.5	3
	2"	1	–	1	0.5	0.5	0.5	1
3,000 PSF SOIL BEARING CAPACITY	10"	6	–	6	2	1	2	6
	8"	4	–	4	1.25	1	1	4
	6"	2	2	2	1	1	1	2
	4"	1	–	1	1	1	1	1
	2"	1	–	1	1	1	1	1
5,000 PSF SOIL BEARING CAPACITY	10"	4	–	4	1.25	1	1	4
	8"	2	–	2	1	1	1	2
	6"	1.25	1.25	1.25	1	1	1	1.25
	4"	1	–	1	1	1	1	1
	2"	1	–	1	1	1	1	1

THRUST BLOCK NOTES:

1. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER LINE TEES, HYDRANTS, BENDS, REDUCERS, AND END CAPS.
2. HYDROSTATIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
3. PLACE 4 MIL POLYETHYLENE BETWEEN FITTINGS AND THRUST BLOCKS.
4. CONCRETE SHALL HAVE 4000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AND AIR ENTRAINMENT OF 4 TO 6% BY VOLUME.
5. UTILIZE MEGALUG MECHANICAL JOINT RESTRAINTS ON ALL FITTINGS IN ADDITION TO CONCRETE THRUST BLOCKS.



CAPPED STUB WITH VALVE – PLAN

TYPICAL BEARING THRUST BLOCK

SCALE: NONE 1

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Revisions

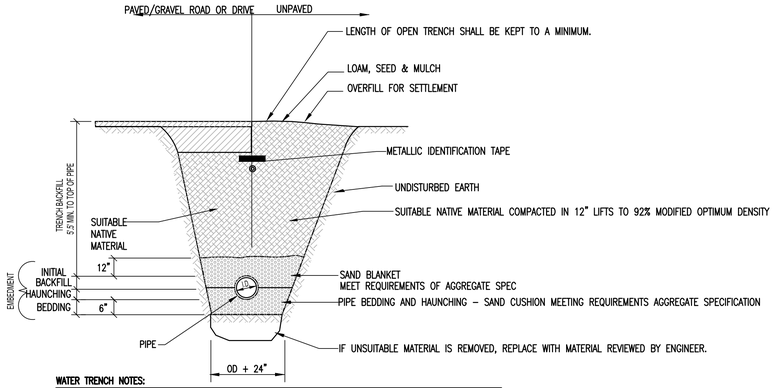
No.	Description	Date

WATER DETAILS

Project No.: 23167

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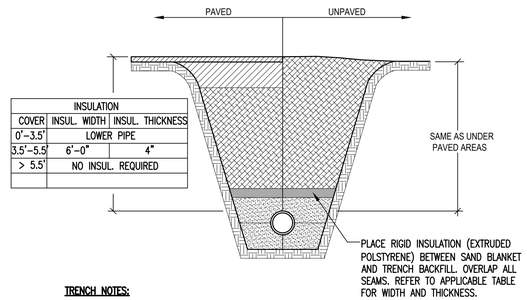


WATER TRENCH NOTES:

1. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
2. PROVIDE 6' MINIMUM COVER OVER WATER PIPE.
3. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.
4. COMPACT SOILS IN ACCORDANCE WITH SPECIFICATION
5. BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER OR OTHER UNSTABLE MATERIAL SHALL NOT BE USED FOR BACKFILL.

TYPICAL WATER TRENCH DETAIL

SCALE: NONE — 1



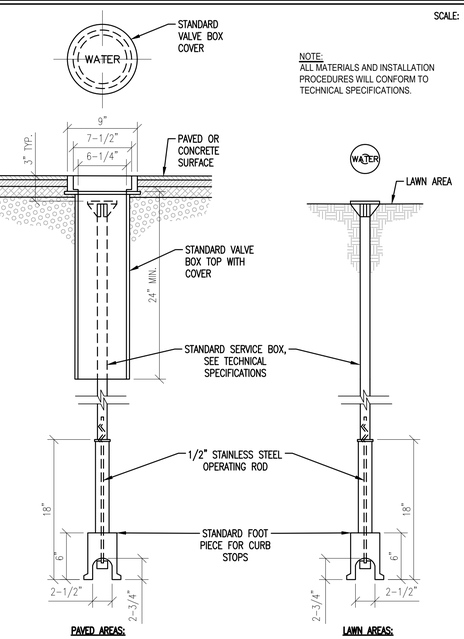
INSULATION		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3.5'	LOWER PIPE	
3.5'-5.5'	6'-0"	4"
> 5.5'	NO INSUL. REQUIRED	

TRENCH NOTES:

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

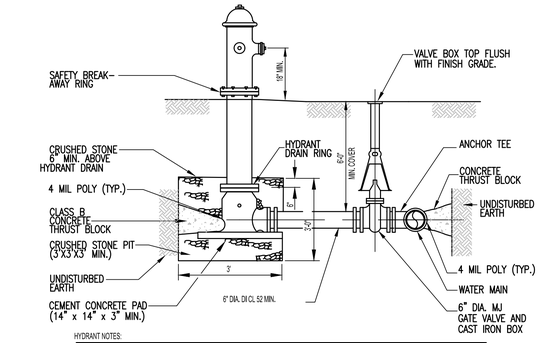
INSULATION OVER SHALLOW WATER LINE DETAIL

SCALE: NONE — 2



TYPICAL SERVICE BOX

NOT TO SCALE — 3

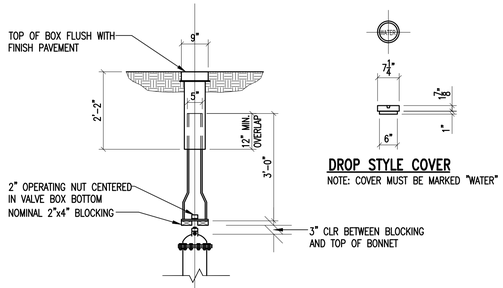


HYDRANT NOTES:

1. HYDRANTS WHICH ARE INSTALLED WHERE THE NATURAL GROUND WATER TABLE IS ABOVE THE HYDRANT WASTE ORIFICE AND WHERE HYDRANTS ARE LOCATED WITHIN 10' OF SEWER LINES SHALL HAVE THE ORIFICE PLUGGED. HYDRANTS WITH PLUGGED ORIFICES SHALL BE LABELED "ND" FOR NON-DRAINING IN 3" HIGH ORANGE PAINTED LETTERS ON THE BONNET FACING THE ROAD.

FIRE HYDRANT DETAIL

SCALE: NONE — 4



BOTTOM DETAIL

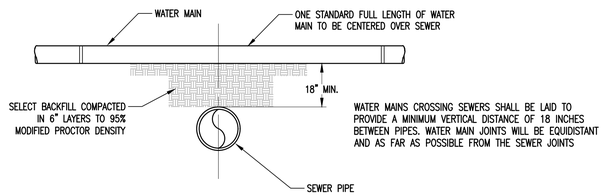
DROP STYLE COVER
NOTE: COVER MUST BE MARKED "WATER"

VALVE BOX NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. ALL PIPES SHOULD HAVE A MINIMUM DEPTH OF 5.5' FROM TOP OF PIPE TO FINISH GRADE.
3. ALL GATE VALVES SHALL BE OPEN RIGHT.

TYPICAL VALVE BOX DETAIL

SCALE: NONE — 5



WATER MAIN ABOVE SEWER

SEPARATION NOTES:

1. WATER MAIN RELATIONS TO SEWER SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" SO-CALLED TEN STATE STANDARDS.
2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPARATE TRENCH AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
3. WHEN IT IS IMPOSSIBLE TO MAINTAIN 18" VERTICAL SEPARATION OR WHERE THE SEWER MUST BE LAID ABOVE THE WATER MAIN; 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS; 2) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICH EVER IS GREATER; 3) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 psi FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS.

SANITARY SEWER/WATER LINE CROSSING

SCALE: NONE — 6



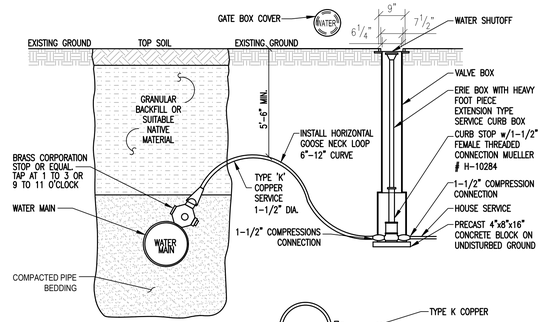
ELEVATION

NOTE:

1. SEE GATE VALVE DETAIL FOR ADDITIONAL REQUIREMENTS
2. AREA OF BEARING AGAINST UNDISTURBED SOIL SHALL BE THE SAME AS FOR 1/4" BEND (90°) THRUST BLOCK

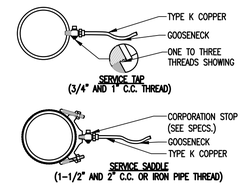
TAPPING SLEEVE AND VALVE

SCALE: NONE — 7



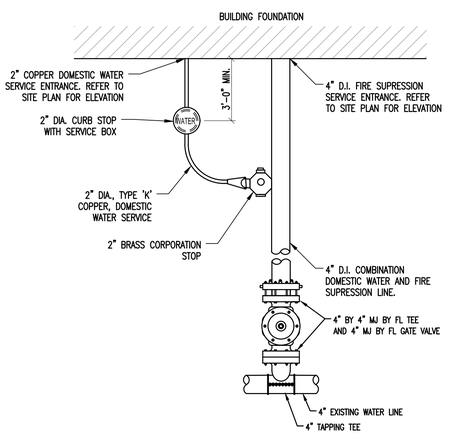
NOTES:

1. TEFLON THREADED SEALANT TAPE WILL BE USED ON ALL CORPORATION STOPS PRIOR TO INSTALLATION.
   A. SPIRAL WRAP COMPLETELY COVERING THE THREAD AREA WITH TWO WRAPS.
   B. PIPE DOPE OR OTHER LIQUID THREAD SEALANTS ARE NOT ACCEPTABLE.
2. LEAVE UP TO THREE THREADS SHOWING OUTSIDE OF PIPE. A TORQUE OF 35 POUNDS IS RECOMMENDED.



COPPER SERVICE CONNECTION DETAIL

NOT TO SCALE — 8



WATER SERVICE ENTRANCE DETAIL

SCALE: NONE — 9

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Revisions

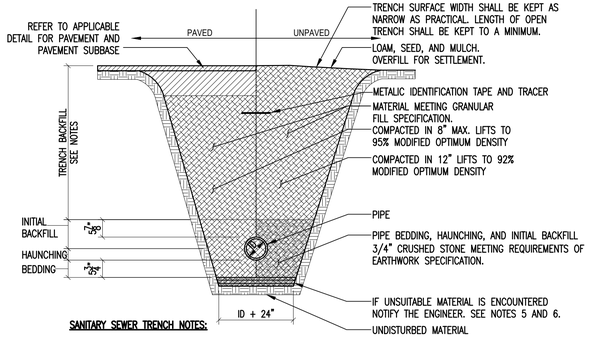
No.	Description	Date

WATER DETAILS

Project No.: 23167

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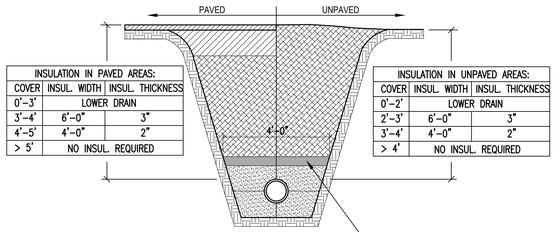


SANITARY SEWER TRENCH NOTES:

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. FOR BUILDING SEWERS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 4'–0". WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH LESS THAN 3'–0" UNDER DRIVEWAYS, EXTRA HEAVY CAST IRON OR OTHER HIGH STRENGTH PIPE SHALL BE USED. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
4. FOR SEWER COLLECTION SYSTEMS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 5'–0". THIS DEPTH SHALL BE INCREASED TO 6'–0" IN AREAS TO BE PLOWED DURING THE WINTER MONTHS. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
5. BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER OR OTHER UNSTABLE MATERIAL SHALL NOT BE USED FOR BACKFILL.
6. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
7. SEWERS ON 20 PERCENT SLOPES OR GREATER SHALL BE ANCHORED SECURELY WITH CONCRETE ANCHORS OR EQUIVALENT, SPACED AS FOLLOWS:
   A. NOT OVER 36 FEET CENTER TO CENTER ON GRADES 20 PERCENT AND UP TO 35 PERCENT
   B. NOT OVER 24 FEET CENTER TO CENTER ON GRADES 35 PERCENT AND UP TO 50 PERCENT
   C. NOT OVER 16 FEET CENTER TO CENTER ON GRADES 50 PERCENT AND OVER

SANITARY SEWER TRENCH

NOT TO SCALE 1



INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	LOWER DRAIN	
3'–4'	6'–0"	3"
4'–5'	4'–0"	2"
> 5'	NO INSUL. REQUIRED	

INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–2'	LOWER DRAIN	
2'–3'	6'–0"	3"
3'–4'	4'–0"	2"
> 4'	NO INSUL. REQUIRED	

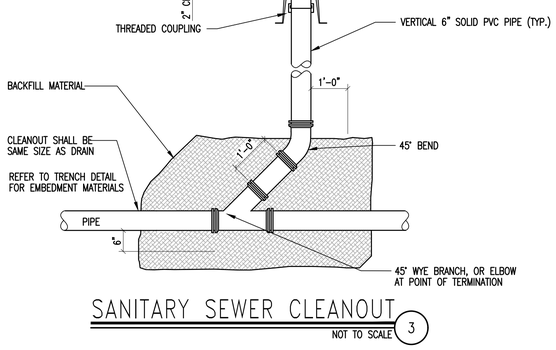
TRENCH NOTES:

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

2. RIGID EXTRUDED POLYSTYRENE INSULATION SHALL CONFORM WITH ASTM C578 – STANDARD SPECIFICATION FOR RIGID CELLULAR POLYSTYRENE THERMAL INSULATION AND SHALL BE DOW STYROFOAM HIGH LOAD 40 OR EQUIVALENT.

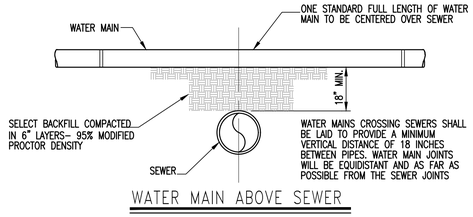
INSULATION OVER SHALLOW SANITARY SEWER

NOT TO SCALE 2



SANITARY SEWER CLEANOUT

NOT TO SCALE 3



WATER MAIN ABOVE SEWER

SEPARATION NOTES:

1. WATER MAIN RELATIONS TO SEWER SHALL BE IN ACCORDANCE WITH THE 'ENVIRONMENTAL PROTECTION RULES, CHAPTER 21, WATER SUPPLY RULE (VWSR), SECTIONS 8.5 AND 8.6'

2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPARATE TRENCH AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

3. WHEN IT IS IMPOSSIBLE TO MAINTAIN 18" VERTICAL SEPARATION OR WHERE THE SEWER MUST BE LAID ABOVE THE WATER MAIN; 1) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS.

SANITARY SEWER WATER SEPARATION

NOT TO SCALE 4

SEWER NOTES

CONTRACTOR SHALL CONFORM TO GUIDELINES DETAILED IN THE VERMONT STATE SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR READING AND FOLLOWING THE FULL COMPLETE EDITION PROVIDED BY THE STATE.

A. THE BUILDING SEWER SHALL BE CONSTRUCTED IN A MANNER WHICH WILL PREVENT LEAKING, BREAKING OR CLOGGING.

B. SIZING AND SLOPE: MINIMUM BUILDING SEWER SIZE IS 4 INCHES (UNLESS SHOWN ON THE PLAN) AND A MINIMUM SLOPE IS 1/8" PER FOOT.

C. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED AT EACH HORIZONTAL CHANGE IN DIRECTION OF THE BUILDING SEWER GREATER THAN 45 DEGREES AND WHERE INDICATED ON THE DESIGN DRAWINGS. BUILDING SEWER CHANGES IN DIRECTION WHICH EXCEED 45 DEGREES SHOULD BE MADE WITH TWO 45 DEGREE ELLS OR LONG SWEEP FITTINGS. MANHOLES ARE ACCEPTABLE IN LIEU OF CLEANOUTS. WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH OF LESS THAN 3 FEET UNDER DRIVEWAYS ARE ANTICIPATED, EXTRA HEAVY CAST IRON PIPE SHALL BE USED.

D. LEAKAGE: BUILDING SEWERS SHALL MEET THE LEAKAGE STANDARDS PRESCRIBED IN THE STATE OF VERMONT SPECIFICATIONS (EPR– CHAPTER 1). SEE BELOW FOR MORE DETAIL.

E. SLOPE, VELOCITY: ALL GRAVITY SEWER LINES SHALL BE INSTALLED WITH NOT LESS THAN THE SLOPES SHOWN BELOW:

PIPE SIZE (INCHES)	SLOPE (FEET/100 FEET)
4"	2%
6"	1%
8"	0.4%

F. CHANGES IN PIPE SIZE: WHEN A SMALLER SEWER JOINS A LARGE ONE, THE INVERT OF THE LARGER SEWER SHALL BE LOWERED SUFFICIENTLY TO MAINTAIN THE SAME ENERGY GRADIENT.

G. MATERIAL: PVC SDR 35, ASTM D3034, WITH PUSH–ON GASKETED JOINTS. GASKETS SHALL CONFORM TO ASTM D3212. SEWER JOINTS SHALL BE CONSTRUCTED TO MINIMIZE INFILTRATION AND TO PREVENT THE ENTRANCE OF ROOTS INTO THE SYSTEM.

H. TRENCHING: LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.

I. BEDDING: SEE TRENCH DETAIL DRAWING FOR MATERIALS. TRENCH BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL FREE FROM DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS.

J. LEAKAGE TESTS: UPON COMPLETION OF SEWER LINE CONSTRUCTION, THE SEWER LINE SHALL BE TESTED IN ACCORDANCE WITH THE STATE OF VERMONT SPECIFICATIONS (EPR – CHAPTER 1, APPENDIX "A").

LEAKAGE TESTS FOR GRAVITY SEWERS

PERFORM A PRESSURIZED AIR TEST ON THE GRAVITY LINE IN ACCORDANCE WITH THE VERMONT ENVIRONMENTAL PROTECTION RULES ON EACH SECTION OF THE GRAVITY SEWER. THE ENGINEER SHALL BE GIVEN 72 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.

PLUG ALL OPENINGS IN THE TEST SECTION. ADD AIR UNTIL THE INTERNAL PRESSURE OF THE LINE IS RAISED TO APPROXIMATELY 4.0 POUNDS/SQUARE INCH (PSI) GREATER THAN THE AVERAGE PRESSURE OF ANY GROUND WATER. AFTER THIS PRESSURE IS REACHED, ALLOW THE PRESSURE TO STABILIZE. THE PRESSURE WILL NORMALLY DROP AS THE AIR TEMPERATURE STABILIZES. THIS USUALLY TAKES 2 TO 5 MINUTES DEPENDING ON THE PIPE SIZE. THE PRESSURE MAY BE REDUCED TO 3.5 PSI BEFORE STARTING THE TEST.

WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE THE STARTING TEST PRESSURE OF 3.5 PSI ABOVE THE PIPE, START THE TEST. IF THE PRESSURE DROPS MORE THAN 1.0 PSI DURING THE TEST TIME, THE LINE IS PRESUMED TO HAVE FAILED THE TEST. IF A 1.0 PSI DROP DOES NOT OCCUR WITHIN THE TEST TIME, THE LINE HAS PASSED THE TEST. THE TEST TIME SHALL BE DERIVED FROM THE FOLLOWING TABLE. IF THE SECTION OF LINE TO BE TESTED INCLUDES MORE THAN ONE PIPE SIZE, CALCULATE THE TEST TIME FOR EACH SIZE AND ADD THE TEST TIMES TO ARRIVE AT THE TOTAL TEST TIME FOR THE SECTION.

PIPE SIZE (IN)	T (TIME) (MIN./100FT)
3	0.2
4	0.3
6	0.7
8	1.2

K. INSTALLATION: PIPE SHALL BE LAID WITH BELL ENDS FACING UPGRADE AND LAYING SHALL START AT THE DOWNGRADE END.

L. WATER LINE SEPARATION

a. HORIZONTAL SEPARATION: SEWERS SHALL BE LAID FLAT AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

WHERE IMPOSSIBLE OR IMPRACTICABLE TO MAINTAIN THE TEN FOOT SEWER/WATER PIPE HORIZONTAL SEPARATION, (DUE TO LEDGE, BOULDERS OR OTHER UNUSUAL CONDITIONS) THE WATER LINE MAY BE IN A SEPARATE TRENCH OR ON AN EARTH SHELF IN THE SEWER TRENCH PROVIDED THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHEREVER IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE SEWER LINE SHALL BE CONSTRUCTED USING PRESSURE PIPE TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO 50 PSI FOR 15 MINUTE PRIOR TO BACKFILLING.

b. CROSSINGS: SEWERS CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATER MAIN WITH AT LEAST 18 INCHES VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER AND THE OUTSIDE OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION;

1.) THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AWAY AS POSSIBLE FROM WATER JOINTS;
2.) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER;
3.) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS;
4.) WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

M. MANHOLES

a. DIAMETER: THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES; LARGE DIAMETERS ARE PREFERRED FOR CONNECTION TO LARGE DIAMETER SEWERS. A MINIMUM ACCESS DIAMETER OF 24 INCHES SHALL BE PROVIDED.
b. FLOW CHANNEL: FLOW CHANNELS SHALL BE PROVIDED IN THE BASE OF ALL MANHOLES AND THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
c. MANHOLES SHALL BE OF THE PRE–CAST CONCRETE OR POUR–IN PLACE CONCRETE TYPE. MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR.
d. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A RUBBER–GASKETED FLEXIBLE WATERTIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL TO TAKE PLACE.
e. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTING OF GRAVITY SEWERS UTILIZING THE WATER TESTING PROCEDURES TAKES INTO ACCOUNT THE LEAKAGE FROM ONE MANHOLE IN THE TEST SECTION. OTHERWISE, MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED WITH AND POINTED WITH AN APPROVED NON–SHRINKING MORTAR. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED AND THE PLUGS PLACED TO PREVENT BLOWOUT.

EACH MANHOLE SHALL BE CHECKED FOR INFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. A STABILIZATION PERIOD OF ONE HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST SIX HOURS BEGUN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE INFILTRATION. IF AN AIR TEST IF PERFORMED ON THE MANHOLE, INSTEAD OF THE WATER TEST, THE MANHOLE SHALL REMAIN UN–BACKFILLED DOWN TO THE SEWER LINE INVERTS DURING THE AIR TEST.

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Site Plan Review

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Revisions

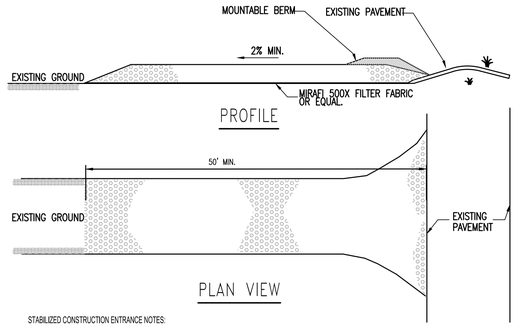
No.	Description	Date

SEWER DETAILS

Project No.: 23167

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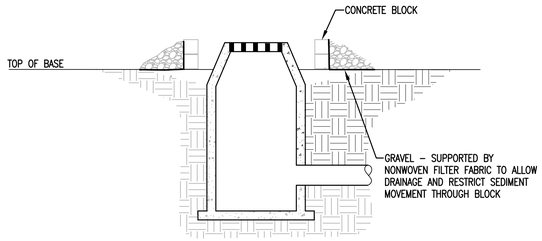


STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE 1-1/2" CRUSHED STONE.
2. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE — 1

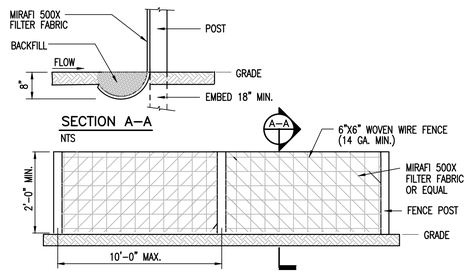


CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER FLOW.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, REMOVE GRAVEL AND BLOCK AND STABILIZE SURROUNDING AREA PER PLAN.
4. GRAVEL BAGS, GRATE GUARDS, FILTREXX OR SEDIGUARD INLET PROTECTION DEVICES MAY BE USED. SUBMIT PRODUCT INFORMATION TO ENGINEER FOR REVIEW PRIOR TO USE. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE LATEST EDITION OF THE VT EPSC STANDARDS AND SPECIFICATIONS.

STONE AND BLOCK CATCH BASIN PROTECTION DETAIL

SCALE: NONE — 2

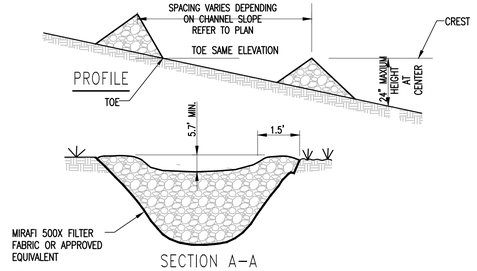


SILT FENCE NOTES:

1. SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR EQUAL, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2. CONSTRUCTED IN PLACE SILT FENCE:
   A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
   B. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP OF MID SECTION.
   C. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
3. INSPECTION SHALL BE FREQUENT (MINIMUM ONCE A WEEK AND AFTER EVERY RAINFALL). MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.

SILT FENCE DETAIL

SCALE: NONE — 3

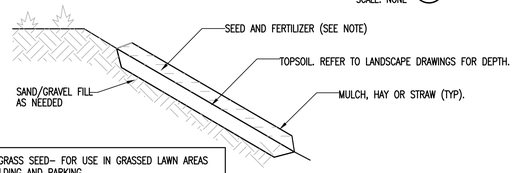


CHECK DAM NOTES

1. TYPE I STONE FILL WILL BE PLACED ON A FILTER FABRIC FOUNDATION AT THE GRADES AND LOCATIONS AS DESCRIBED HEREIN, AND TO MEET THE ABOVE DETAIL IN AREAS SHOWN ON PLANS
2. SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM FOR A MINIMUM OF 100' DOWNSTREAM OF DISTRUBED EARTH.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED WEEKLY (EVERY 7 DAYS) AND WITHIN 24 HOURS AFTER EACH RAIN.
6. REMOVE SEDIMENT COLLECTED BEHIND EACH DAM WHEN DEPTH OF SEDIMENT IS ONE HALF THE HEIGHT OF THE DAM.

STONE CHECK DAM DETAIL

SCALE: NONE — 4



URBAN MIX GRASS SEED- FOR USE IN GRASSED LAWN AREAS AROUND BUILDING AND PARKING		
% BY WEIGHT	LBS. LIVE SEED BY ACRE	TYPE OF SEED
44.44	20.0	CREEPING RED FESCUE
44.44	20.0	KENTUCKY BLUEGRASS
11.11	5.0	RYEGRASS
100	45.0 # LIVE SEED/ ACRE	

CONSERVATION MIX GRASS SEED- FOR USE IN ALL OTHER AREAS		
% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
50	15.0	SMOOTH BROMEGRASS
16.67	5.0	RYEGRASS
33.33	10.0	BIRDSFOOT TREFOIL
100	30.0 # LIVE SEED/ACRE	

FERTILIZER- 40 LBS. PER 1000S.F.
USE STANDARD 10-20-20 WHEN NO SOIL TEST DATA IS AVAILABLE
SPRING SEEDING
FALL SEEDING

LIME- 100 LBS. PER 1000S.F.
DOLOMITIC GROUND LIMESTONE
NOT LESS THAN 85% OF THE TOTAL CARBONATE

TOP SOIL
6" MINIMUM TOPSOIL

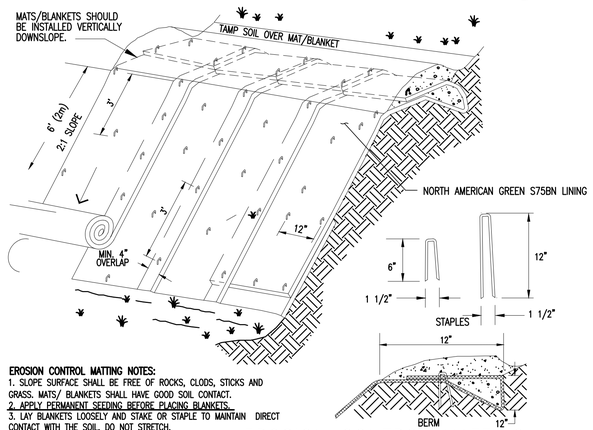
HAY OR STRAW MULCH- 90-100LBS PER 1000S.F. APPLY BINDER OR NETTING AS NEEDED

NOTES FOR SEEDED AND MULCHED AREAS

1. ALL DISTURBED SURFACES SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED WITHIN 7 DAYS OF DISTURBANCE.
2. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.
3. MULCH: TYPICALLY HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 90-100 LBS/1,000 SF. MULCH SHALL NOT BE PLACED ON SLOPES OF GREATER THAN 3:1. SEED IMPREGNATED EROSION CONTROL NETTING SHALL BE USED IN ITS PLACE.
4. SEED: SEEDING SHALL OCCUR AFTER APRIL 15 AND PRIOR TO SEPTEMBER 15TH IN ORDER TO ESTABLISH A STAND OF GRASS PRIOR TO GROUND FREEZING. SEED SHALL BE IN ACCORDANCE WITH SEED SPECIFICATION ON THIS SHEET.
5. COVER SEED WITH ¼ INCH SOIL UNLESS A HYDROSEEDER IS USED.
6. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
7. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.

SEEDED AND MULCHED AREAS DETAIL

SCALE: NONE — 5

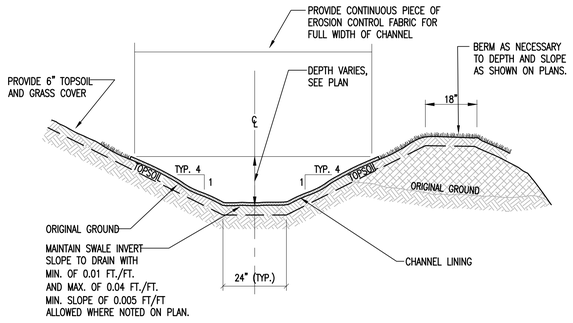


EROSION CONTROL MATTING NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. MATTING SHALL BE NATURAL FIBER.

EROSION CONTROL MATTING

SCALE: NONE — 6

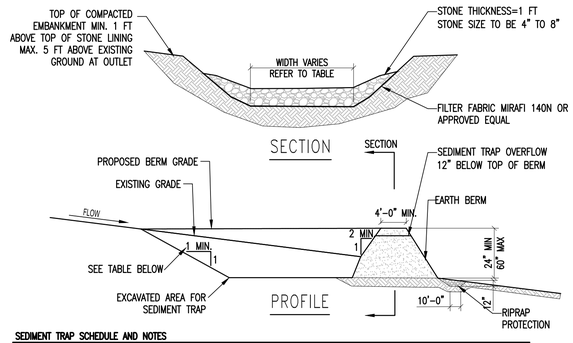


GRASSED SWALE NOTES:

1. PROVIDE CHANNEL LINING AS REQUIRED TO STABLIZE NEW VEGETATED SWALES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. LAP UPSTREAM BLANKET OVER DOWNSTREAM BLANKET MIN. OF 12"

GRASSED DRAINAGE SWALE DETAIL

SCALE: NONE — 7



SEDIMENT TRAP SCHEDULE AND NOTES

TRAP	DRAINAGE AREA IN ACRES	REQUIRED VOLUME OF SEDIMENT TRAP*	VOLUME PROVIDED	OVERFLOW WEIR ELEVATION	WEIR WIDTH	BOTTOM OF TRAP	TOP OF TRAP	SIDE SLOPE
TST-1	0.5	1800 CF	TBD	TBD	4'	TBD	TBD	2:1

* SEE NOTE 5 BELOW

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.

2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONE, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF EMBANKMENT SHALL BE FIVE (5) FEET, MEASURED AT CENTERLINE OF EMBANKMENT.

3. ANY EXCAVATED PORTION OF SEDIMENT TRAP SHALL HAVE 2:1 SLOPES OR FLATTER.

4. ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST EQUAL OR EXCEED THE HEIGHT OF EMBANKMENT.

5. THE VOLUME OF SEDIMENT STORAGE SHALL BE 3,600 CF PER ACRE OF CONTRIBUTORY DRAINAGE. MINIMUM VOLUMES AND OUTLET SIZES FOR EACH TRAP ARE LISTED IN THE SEDIMENT TRAP SCHEDULE SHOWN ABOVE.

6. FILTER CLOTH SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTIONS OF FABRIC MUST OVERLAP AT LEAST ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACE ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OUTLET CHANNEL.

7. STONE USED IN THE OUTLET CHANNEL SHALL BE FOUR (4) TO EIGHT (8) INCH RIP-RAP. TO PROVIDE A FILTERING EFFECT, A LAYER OF FILTER CLOTH SHALL BE EMBEDDED ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACE ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OUTLET CHANNEL.

8. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF OF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.

9. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRED AS NEEDED.

10. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.

11. THE STRUCTURE SHALL BE REMOVED AND AREA BROUGHT TO FINAL GRADE AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

12. DRAINAGE AREA FOR THIS PRACTICE IS LIMITED TO 15 ACRES OR LESS.

13. SEDIMENT TRAPS SHALL MEET THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES.

TEMPORARY SEDIMENT TRAP

NOT TO SCALE — 8

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Revisions

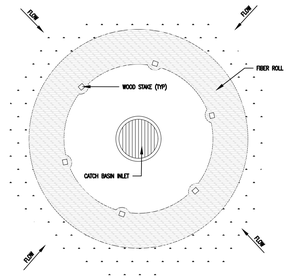
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EPSC DETAILS

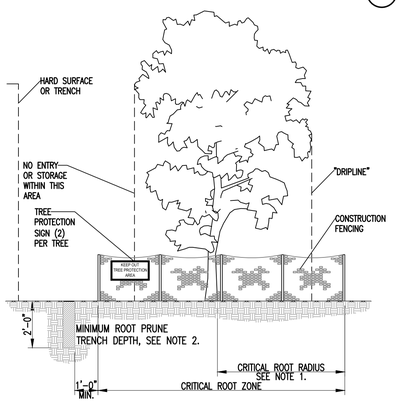
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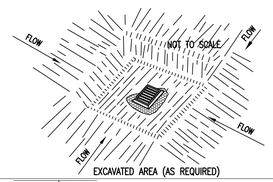
FIBER ROLL INLET PROTECTION DETAIL 1

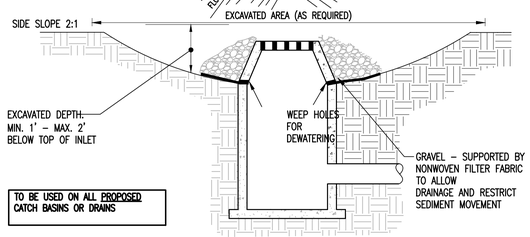


TREE PROTECTION NOTES:

1. TO CALCULATE THE CRITICAL ROOT RADIUS, ESTIMATE THE TREE'S HEIGHT AND MULTIPLE BY 40 PERCENT (0.40). THE RESULT IS THE APPROXIMATE DISTANCE FROM THE TREE TRUNK TO THE EDGE OF THE CONSTRUCTION FENCING.
2. FENCE SPECIMEN TREES AND GROUPS OF TREES. WHERE ROOF LOSS WILL OCCUR, ROOT PRUNE ONE FOOT BEYOND THE CONSTRUCTION FENCE USING A VIBRATING KNIFE OR NARROW TRENCHER – ALWAYS WITH SHARP BLADES TO MAKE CLEAN CUTS. BACKFILL IMMEDIATELY AND COVER WITH 3 INCHES OF MULCH.
3. INSTALL SILT FENCE ON THE INTERIOR OF THE CONSTRUCTION FENCING TO KEEP SOIL FROM DISTURBED AREAS OUT OF THE ROOT ZONES OF TREES TO BE SAVED.
4. FERTILIZE, WATER, AERATE AND OTHERWISE AID TREE HEALTH.
5. COORDINATE THE FINAL LOCATION OF THE CONSTRUCTION FENCING AND ROOT PRUNING WITH THE OWNER.

TREE PROTECTION DETAIL 2





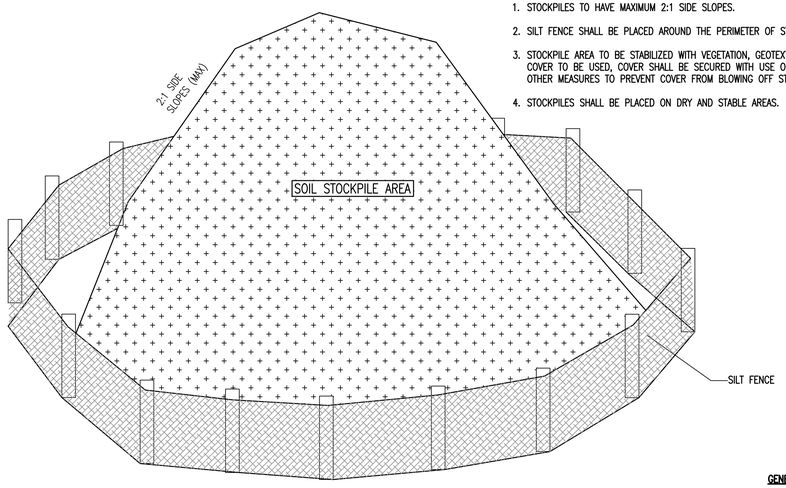
TO BE USED ON ALL PROPOSED CATCH BASINS OR DRAINS

CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. GRAVEL BAGS, GRATE GUARDS, FILTREXX OR SEDIGUARD INLET PROTECTION DEVICES MAY BE USED. SUBMIT PRODUCT INFORMATION TO ENGINEER FOR REVIEW PRIOR TO USE. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE LATEST EDITION OF THE VT EPSC STANDARDS AND SPECIFICATIONS.

EXCAVATED STORM DRAIN INLET PROTECTION DETAIL 3

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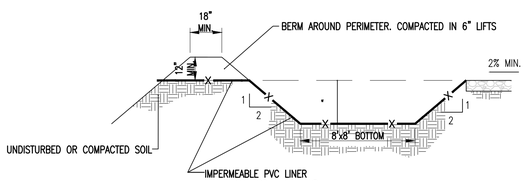


TEMPORARY SOIL STOCKPILE AREA DETAIL 4

SCALE: NONE

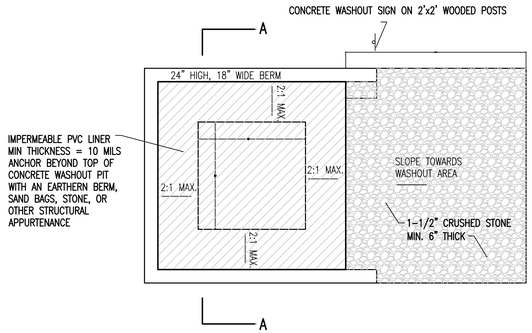
STOCKPILE NOTES

1. STOCKPILES TO HAVE MAXIMUM 2:1 SIDE SLOPES.
2. SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF STOCKPILE AREA.
3. STOCKPILE AREA TO BE STABILIZED WITH VEGETATION, GEOTEXTILE, OR COVER. IF COVER TO BE USED, COVER SHALL BE SECURED WITH USE OF SAND BAGS OR OTHER MEASURES TO PREVENT COVER FROM BLOWING OFF STOCKPILE.
4. STOCKPILES SHALL BE PLACED ON DRY AND STABLE AREAS.



CONCRETE WASHOUT AREA NOTES

1. ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED/REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHOULD BE PUMPED TO A STABILIZED AREA, SUCH AS A GRASS FILTER STRIP.
2. ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF-SITE.
3. DISPOSE OF THE HARDENED MATERIAL OFF-SITE IN AN APPROPRIATE FACILITY. ON-SITE DISPOSAL MAY BE ALLOWED IF THIS HAS BEEN APPROVED AND ACCEPTED AS PART OF THE PROJECTS SWPPP. IN THAT CASE, THE MATERIAL SHALL BE RECYCLED AS SPECIFIED, OR BURIED AND COVERED WITH A MINIMUM OF 2 FEET OF CLEAN COMPACTED EARTHFILL THAT IS PERMANENTLY STABILIZED TO PREVENT EROSION.
4. THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.
5. INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.
6. IN LEIU OF CONCRETE WASHOUT AREA, A PRE-FABRICATED WASHOUT MAY BE USED. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF SUCH PRE-FABRICATERD WASHOUT AREA TO DESIGN ENGINEER FOR REVIEW AND APPROVAL.



CONCRETE TRUCK WASHOUT AREA 5

SCALE: NONE

WINTER EROSION CONTROL NOTES

WINTER CONSTRUCTION PROCEDURES

1. DURING WINTER CONSTRUCTION, INSPECTIONS BY THE ON-SITE PLAN COORDINATOR SHALL OCCUR DAILY WHEN AREAS ARE UN-STABLE, AND WEEKLY PRIOR TO ANY FORECASTED RAIN, THAW OR SPRING MELT WHEN TEMPORARY STABILIZATION IS IN PLACE.

2. IN AREAS TO BE STABILIZED BY VEGETATION, ALL SEEDING MUST BE COMPLETED BY SEPTEMBER 15 TO ALLOW GROWTH TO OCCUR PRIOR TO THE GROUND FREEZING. STABILIZATION OF ALL OTHER DISTURBED AREAS SHALL BE COMPLETED BY OCTOBER 15.

3. ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING SHALL BE INSTALLED.

4. LIMITS OF DISTURBANCE SHALL BE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.

5. SNOW WILL NOT BE PILED WITHIN 25 FEET OF PERIMETER CONTROLS (SUCH AS SILT FENCE) TO ALLOW FOR CLEARING AND MAINTENANCE. SNOW IS TO BE REMOVED FROM ALL STRUCTURAL EROSION PREVENTION AND SEDIMENTATION CONTROL MEASURES FOLLOWING EACH SIGNIFICANT SNOWFALL. NO SNOW STORAGE UP-GRADIENT OF DISTURBANCE. NO SNOW DISPOSAL IN SEDIMENT PONDS/BASINS. IF NECESSARY, SNOW/ICE MUST BE REMOVED PRIOR TO STABILIZATION OF DISTURBED AREAS. ACCESS POINTS SHALL BE ENLARGED AND STABILIZED TO ALLOW FOR SNOW STOCKPILING.

6. IN AREAS OF DISTURBANCE WITHIN 100 FT OF A RECEIVING WATER, SILT FENCE SHALL BE REINFORCED OR ELSE REPLACED WITH PERIMETER DIKES, SWALES OR OTHER PRACTICES RESISTANT TO THE FORCES OF SNOW LOADS.

7. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

8. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE BY OCTOBER 15, OR IF NOT POSSIBLE, THEN PRIOR TO GROUND FREEZE.

9. MULCH IS TO BE APPLIED AT THE END OF EACH WORKDAY TO ALL EXPOSED AREAS THAT HAVE NOT YET REACHED FINAL GRADE AT TWICE THE RATE INDICATED IN THE SEEDING AND MULCHING DETAIL FOR THE REGULAR CONSTRUCTION SEASON. MULCH SHALL BE TRACKED IN OR STABILIZED WITH NETTING.

10. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
    A) IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
    B) DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.

11. SNOW AND ICE SHALL BE REMOVED TO LESS THAN 1" THICKNESS PRIOR TO STABILIZATION.

12. STONE STABILIZATION, 10 TO 20 FT WIDE IN AREAS SUCH AS THE PERIMETER OF BUILDINGS UNDER CONSTRUCTION WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED SHALL BE INSTALLED.

GENERAL EROSION CONTROL NOTES

1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE THE GENERAL CONTRACTOR, THIS INDIVIDUAL SHALL BE PRESENT ON-SITE FROM DAY-TO-DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ONSITE AT ALL TIMES.
2. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICAL DURATION AS APPROVED BY THE OWNER'S REP.
3. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED BY A TRUCK MOUNTED SPRAY BAR. CALCIUM CHLORIDE(AASHTO M 144) OR SODIUM CHLORIDE (AASHTO M 143) SHALL BE USED AS DIRECTED BY THE OWNER'S REP.
4. ALL EROSION AND STORMWATER CONTROL SYSTEMS SHALL BE INSPECTED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A STORM EVENT OF 0.5" OR GREATER. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AS THEY ACCUMULATE AND PLACED IN AREAS WHERE FURTHER EROSION IS UNLIKELY.
5. A REPORT, STAMPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, SHALL BE WRITTEN WITHIN 24 HOURS OF EACH INSPECTION THAT:
   A) DESCRIBES THE PROGRESS OF THE PROJECT, INCLUDING WHETHER ALL CONDITIONS OF THE PERMIT ARE BEING MET AND, IF NOT, WHICH REQUIREMENTS ARE NOT BEING MET;
   B) IF ANY REQUIREMENTS ARE NOT BEING MET, AN EXPLANATION OF THE CORRECTIVE ACTION(S) THAT WILL BE OR ARE BEING TAKEN TO BRING THE PROJECT INTO COMPLIANCE WITH APPLICABLE REQUIREMENTS AND THE DEADLINE BY WHICH SUCH ACTIONS WILL BE COMPLETED; AND
   C) INCLUDES PHOTOGRAPHS OF THE SITE THAT ARE REPRESENTATIVE OF THE PROJECT; AND
6. RETAIN A COPY OF THE REPORT PREPARED PURSUANT TO (5), ABOVE, ON-SITE FOR REVIEW DURING SITE INSPECTIONS BY FEDERAL, STATE, AND LOCAL OFFICIALS
7. ALL PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
8. DETENTION BASINS AND SWALES SHALL BE INSTALLED PRIOR TO ROUGH GRADING THE SITE.
9. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
10. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
11. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    – BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    – A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    – A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
    – EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
13. LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.
14. THE APPLICANT SHALL NOTIFY IN WRITING DES WETLANDS BUREAU AND THE LEBANON CONSERVATION COMMISSION OF THEIR INTENTION TO COMMENCE CONSTRUCTION NO LESS THAN FIVE (5) BUSINESS DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
15. APPROPRIATE SILTATION/EROSION/TURBIDITY CONTROLS SHALL BE IN PLACE PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND REMAIN IN PLACE UNTIL THE AREA IS STABILIZED. SILT FENCE(S) MUST BE REMOVED ONCE THE AREA IS STABILIZED.
16. DISCHARGE FROM DEWATERING OF WORK AREAS SHALL BE TO SEDIMENT BASINS THAT ARE:
    A) LOCATED IN UPLANDS;
    B) LINED WITH HAY BALES OR OTHER ACCEPTABLE SEDIMENT TRAPPING LINERS;
    C) SET BACK AS FAR AS POSSIBLE FROM WETLANDS AND SURFACE WATERS, IN ALL CASES WITH A MINIMUM OF 20 FEET OF UNDISTURBED VEGETATED BUFFER.
17. WITHIN THREE DAYS OF FINAL GRADING, ALL EXPOSED SOIL AREAS SHALL BE STABILIZED BY SEEDING AND MULCHING DURING THE GROWING SEASON, OR IF NOT WITHIN THE GROWING SEASON, BY MULCHING WITH TACK OR NETTING AND PINNING ON SLOPES STEEPER THAN 3:1.
18. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED WITHIN THE GROWING SEASON, ALL EXPOSED SOIL AREAS SHALL BE STABILIZED WITHIN 14 DAYS BY SEEDING AND MULCHING.
19. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED OUTSIDE THE GROWING SEASON, ALL EXPOSED AREAS SHALL BE STABILIZED WITHIN 14 DAYS BY MULCHING AND TACK. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED BY MATTING AND PINNING.
20. PROPER HEADWALLS SHALL BE CONSTRUCTED WITHIN SEVEN DAYS OF CULVERT INSTALLATION.

EROSION CONTROL CONSTRUCTION SEQUENCE:

1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE THE GENERAL CONTRACTOR, THIS INDIVIDUAL SHALL BE PRESENT ON SITE FROM DAY TO DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ONSITE AT ALL TIMES.
2. HOLD PRE-CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION, WITH THE CONTRACTOR, OWNER, AND ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ALL EROSION CONTROL MEASURES DELINEATED ON THE PLANS AND ANY ADDITIONAL MEASURES THAT ARE NECESSARY TO MINIMIZE EROSION. THE CONTRACTOR SHALL HAVE EROSION CONTROL MATERIALS AND INSTALLATION EQUIPMENT ON SITE AT ALL TIMES.
3. IF POSSIBLE, ALL TEMPORARY EROSION CONTROL MEASURES REQUIRED FOR WORK PROPOSED DURING THE WINTER (BETWEEN OCTOBER 15 AND MAY 1), SHALL BE INSTALLED PRIOR TO OCTOBER 1.
4. PRIOR TO ANY OTHER WORK, SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE EROSION CONTROL PLAN. THESE SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
5. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT.
6. INSTALL INLET PROTECTION ON EXISTING AND NEW CATCH BASINS.
7. ROUGH GRADE AND STOCKPILE TOPSOIL SURROUNDED BY SILT FENCE.
8. STABILIZE EXPOSED SLOPES AND SOILS AS SOON AS GRADED, AND MAINTAIN UNTIL ADEQUATELY VEGETATED.
9. COMPLETE FINAL GRADING OF SITE. PLACE TOPSOIL AND PERMANENTLY VEGETATE, LANDSCAPE, AND MULCH.
10. AFTER THE SITE IS APPROVED BY THE ENGINEER AS ADEQUATELY STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.

TEMPORARY/CONSTRUCTION EROSION CONTROL MEASURES:

1. SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE PLANS. THESE SHALL REMAIN IN PLACE UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
2. INSTALL STONE CHECK DAMS IN GRASS-LINED SWALES 50 FEET ON CENTER TO PREVENT SILT FROM WASHING INTO THE DRAINAGE SYSTEM DURING CONSTRUCTION. SEDIMENT SHALL BE REMOVED FROM BEHIND THE DAMS WHEN IT BECOMES 6 INCHES DEEP. STONE CHECK DAMS SHALL BE REMOVED WHEN VEGETATION IS ESTABLISHED.
3. DROP INLET PROTECTION SHALL BE PROVIDED AROUND ALL EXISTING AND PROPOSED CATCH BASINS. PROTECTION SHALL REMAIN UNTIL ALL DISTURBED AREAS ARE STABILIZED. SEDIMENT SHALL BE REMOVED FROM DROP INLET PROTECTION WHEN THE STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN IT NO LONGER DRAINS PROPERLY.
4. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE DISPOSED OF OFFSITE OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
5. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.

PERMANENT EROSION CONTROL MEASURES:

1. GRASS LINED SWALES SHALL BE TOP SOILED, SODDED AND FERTILIZED AREAS WHICH EXHIBIT SIGNS OF EROSION SHALL BE RE-SODDED IMMEDIATELY AND MAINTAINED UNTIL SOD HAS PERMANENT HOLD AND IS HEALTHY.
2. WHEN CONSTRUCTION IS COMPLETED IN AN AREA, IT SHALL BE IMMEDIATELY TOP SOILED, SEEDED, FERTILIZED AND MULCHED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING, UNTIL THE AREA IS INSPECTED AND ACCEPTED BY THE OWNER OR ENGINEER.
4. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
5. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN AREA SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A VERDUROUS STAND OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER, ARE PREDOMINATELY WEEDS SHALL BE PLOWED UP, FINE GRADED, FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO CAUSE DAMAGE TO NEW OR EXISTING PLANT MATERIAL.

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Revisions

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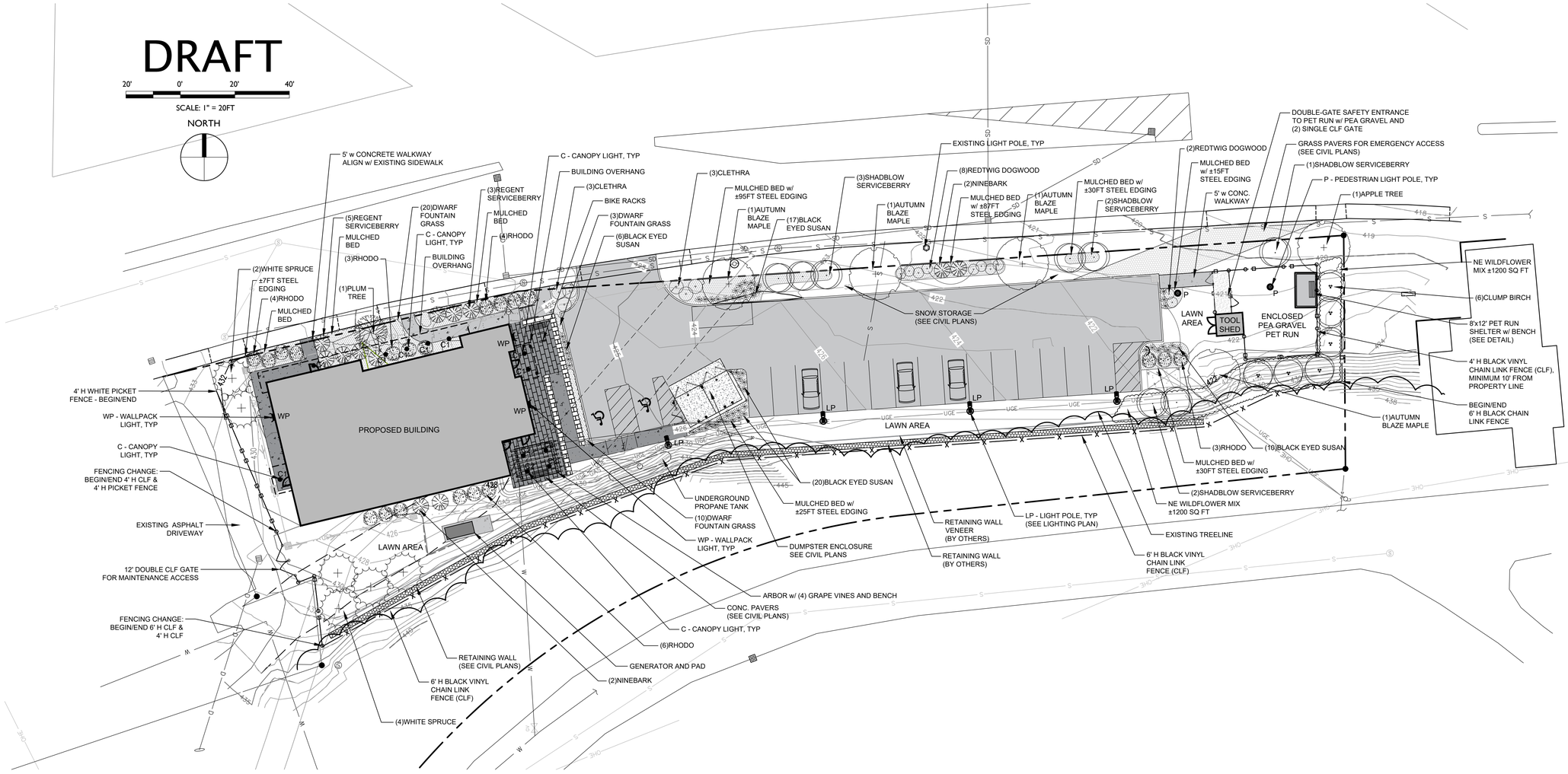
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DRAFT

20' 0' 20' 40'

SCALE: 1" = 20FT

NORTH



LANDSCAPE PLANT SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE
DECIDUOUS TREES			
4	ACER RUBRUM 'OCTOBER GLORY'	*OCTOBER GLORY RED MAPLE*	2.5" – 3" CALIPER
8	AMELANCHIER CANADENSIS	*SHADBLOW SERVICEBERRY*	5'–6' HT. B&B
6	BETULA PAPYRIFERA	*CLUMP WHITE BIRCH*	CLUMP 8'–10' HT.
1	MALUS SP.	*APPLE TREE*	2.5" – 3" CALIPER
1	PRUNIS CERASIFERA 'THUNDERCLOUD'	*THUNDERCLOUD PLUM*	2.5" – 3" CALIPER
EVERGREEN TREES			
6	PICEA GLAUCA	*WHITE SPRUCE*	8'–10' HT. B&B
SHRUBS			
8	AMELANCHIER ALNIFOLIA 'REGENT'	*REGENT SERVICEBERRY*	30"–36" HT, 7 GAL
6	CLETHRA ALNIFOLIA HUMMINGBIRD	*HUMMINGBIRD SUMMERSWEET*	24"–30" HT, 5 GAL
10	CORNUS SERICEA 'BAILEYI'	*BAILEY RED TWIG DOGWOOD*	24"–30" HT, 5 GAL
4	PHYSIOCARPUS OPULIFOLIUS DIABLO	*DIABLO NINEBARK*	24"–30" HT, 5 GAL
20	RHODODENDRON 'PJM ALBA'	*WHITE PJM RHODODENDRON*	24"–30" HT, 5 GAL
PERRENIALS AND GRASSES			
53	RUDBECKIA FULGIDA	*BLACK EYED SUSAN*	3 GAL
33	PENNISETUM ALOPECUROIDES	*DWARF FOUNTAIN GRASS*	3 GAL
VINES			
4	GRAPE	*VITUS SP.*	30"–36" HT, 7 GAL

LANDSCAPE NOTES

1. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE IS PROVIDED IN THE PLANT LIST FOR CONTRACTORS CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LIST AND THE NUMBER SHOWN ON THE DRAWING, THE GREATER NUMBER SHALL APPLY.

2. THE CONTRACTOR SHALL SUPPLY PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING AS SHOWN.

3. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT OR THE OWNER'S REPRESENTATIVE PRIOR TO ARRIVAL ON SITE.

4. ALL PLANT BEDS WILL BE TOP-DRESSED WITH 3" SHREDDED BARK MULCH.

5. THE CONTRACTOR SHALL LOCATE AND MARK ALL UTILITIES PRIOR TO PLANTING. ANY CONFLICTS BETWEEN PLANTING AND UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE OWNER SO THAT ALTERNATIVE PLANTING LOCATIONS CAN BE DETERMINED.

7. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER OR LANDSCAPE ARCHITECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTS AGAINST DAMAGE FROM ON-GOING CONSTRUCTION. PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL FORMAL ACCEPTANCE OF ALL PLANTINGS.

9. ALL OTHER DISTURBED AREAS NOT OTHERWISE INDICATED SHALL BE LOAMED AND SEEDED.

10. CONTRACTOR SHALL PRESERVE EXISTING TREES AND EXISTING PLANTINGS WHERE INDICATED.

11. CONTRACTOR SHALL PROVIDE A 2-YEAR GUARANTEE ON ALL INSTALLED PLANT MATERIAL.

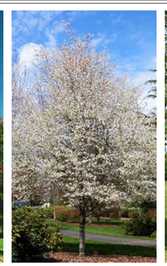
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PROPOSED PLANTS


OCTOBER GLORY MAPLE


SHADBLOW SERVICEBERRY

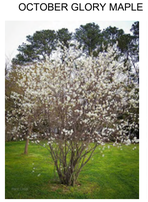

WHITE BIRCH


APPLE TREE


THUNDERCLOUD PLUM

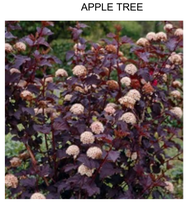

WHITE SPRUCE


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DIABLO NINEBARK


PJM WHITE RHODODENDRON


GRAPES


BLACK EYED SUSAN

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UPPER VALLEY HAVEN
EMERGENCY SHELTER

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Issue Date: May 29, 2024

Revisions

No.	Description	Date

Landscape Plan

Project No.: PA2314

L1.0

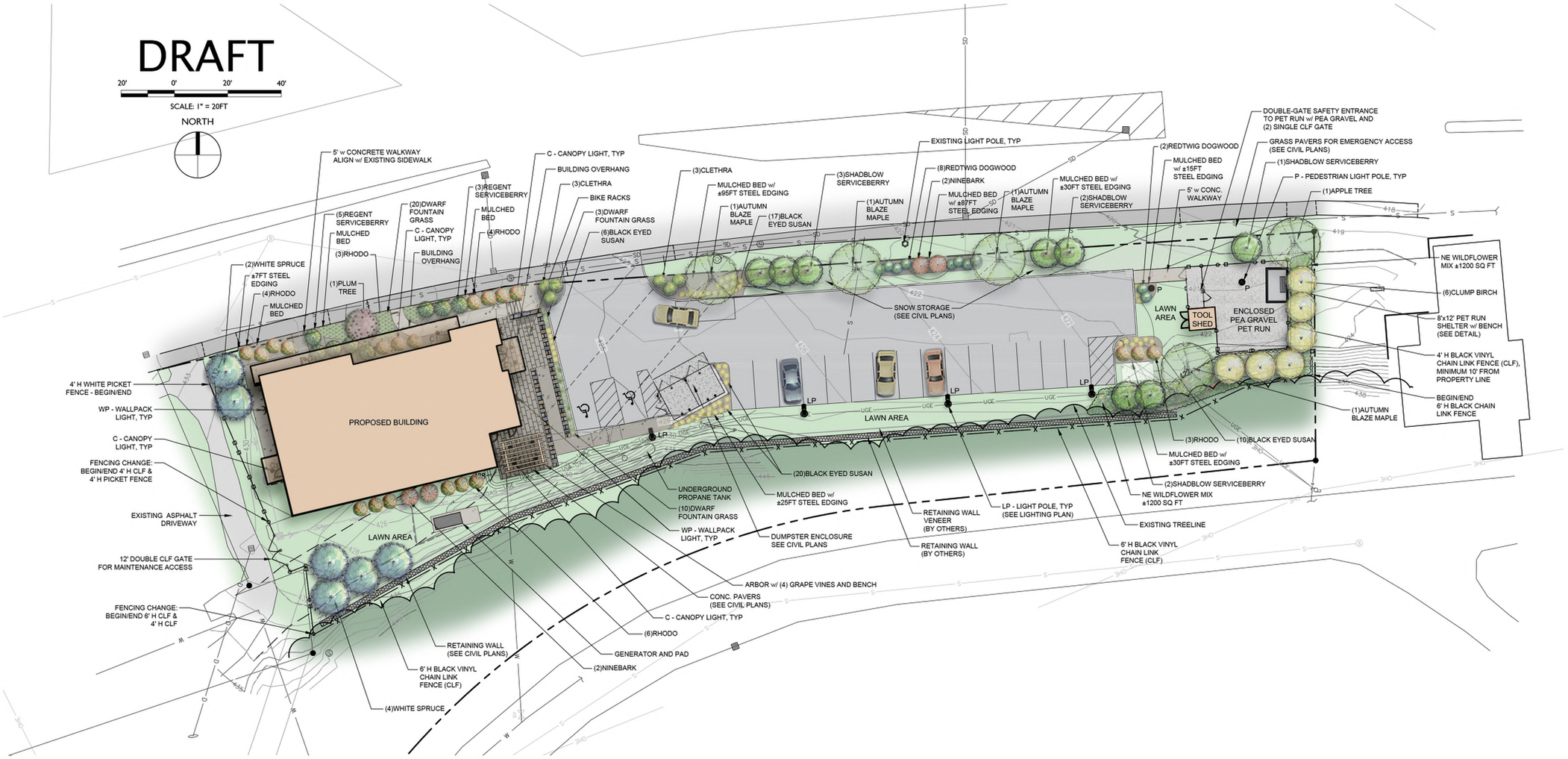
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DRAFT

20' 0' 20' 40'

SCALE: 1" = 20FT

NORTH



LANDSCAPE PLANT SCHEDULE

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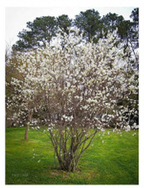

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DWARF FOUNTAIN GRASS


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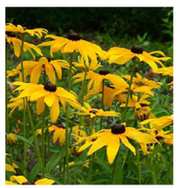

HUMMINGBIRD SUMMERSWEET


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UPPER VALLEY HAVEN
EMERGENCY SHELTER

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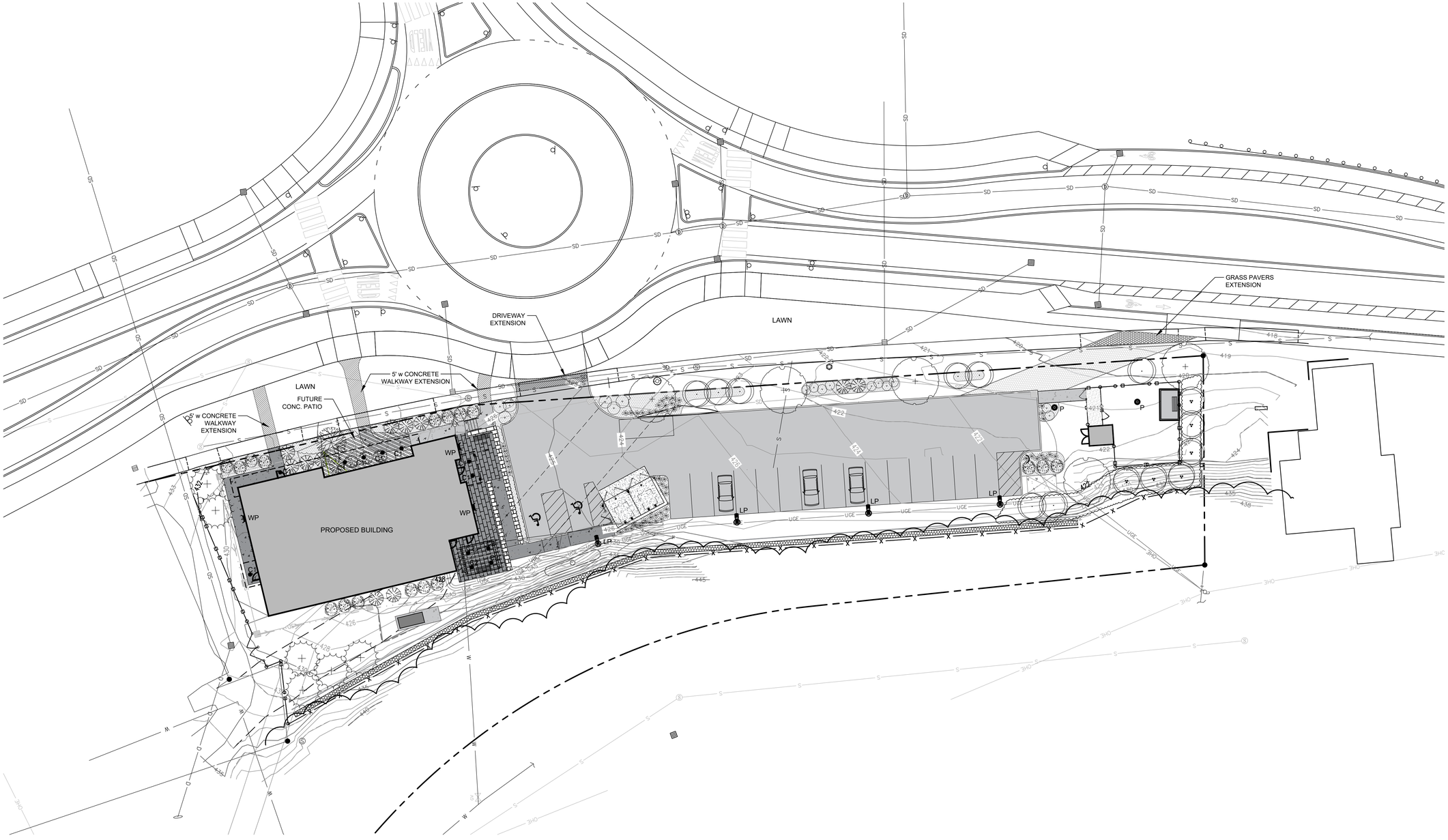
Landscape Plan

Project No.: PA2314

L1.0
(Color Version)

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SITE PLAN: CONNECTIONS TO PROPOSED ROUNDABOUT



ROUNDABOUT PHASE KEY:

= CONCRETE WALKWAY / DRIVEWAY EXTENSIONS TO ROUNDABOUT

= CONCRETE PATIO TO BE CONSTRUCTED AFTER ROUNDABOUT IS BUILT

= GRASS PAVER EXTENSION FOR EMERGENCY ACCESS PURPOSES

DRAFT

20' 0' 20' 40'

SCALE: 1" = 20FT

NORTH

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Landscape Plan w/ Roundabout

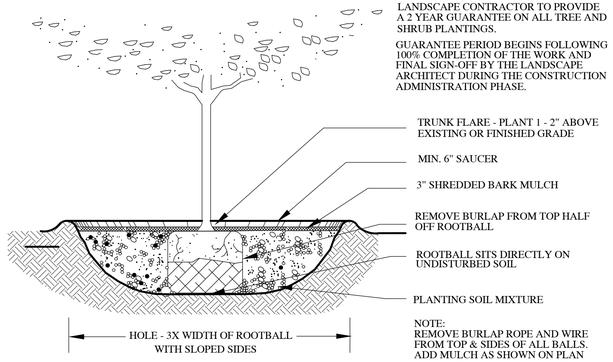
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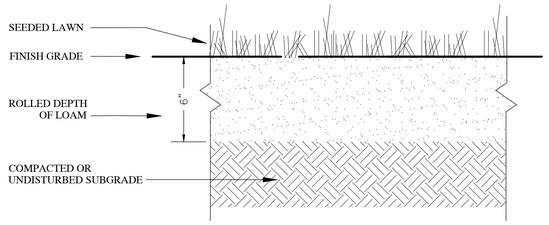
TREE PLANTING DETAIL

NOT TO SCALE



TURF PLANTING DETAIL

NOT TO SCALE



NOTES:

SEED ALL IDENTIFIED AREAS FOR LAWN AND ALL DISTURBED AREAS WITHIN 48 HOURS OF FINAL GRADING.

SEED AFTER APRIL 15TH AND BEFORE SEPTEMBER 15TH IN ORDER TO ESTABLISH BEFORE FREEZING TEMPERATURES.

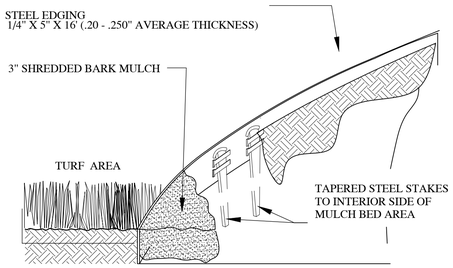
CONTRACTOR IS RESPONSIBLE TO WATER AND ESTABLISH SEEDED LAWN AREAS. WARRANTY SHALL BE 9 WEEKS FOLLOWING INSTALLATION PERIOD.

CONTRACTOR TO INCLUDE NECESSARY TOUCH-UP / RESEEDING FOR ANY AREAS WHERE GRASS SEED DOES NOT GERMINATE DURING THE WARRANTY PERIOD.

STEEL LANDSCAPE EDGING

NOT TO SCALE

STEEL LANDSCAPE EDGING AS MANUFACTURED BY:
SURE-LOC ALUMINUM EDGING CORPORATION - HOLLAND MI
TEL: 1-800-787-3562 OR APPROVED EQUAL



NOTES:
INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
SEE LANDSCAPE PLAN FOR LOCATION OF LAWN VS. MULCHED BED AREAS AND PLACEMENT OF STEEL EDGING.
CONTRACTOR TO PROVIDE SHOP DRAWING TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO MATERIALS ORDERING AND INSTALLATION.

SHRUB PLANTING DETAIL

NOT TO SCALE

GROUNDCOVER SPACING

NOT TO SCALE

BIKE RACK DETAIL

NOT TO SCALE

BIKE RACK NOTES:

1. BIKE RACK MFG.: DERO/HEAVY DUTY OR APPROVED EQUAL
2. FINISH: STAINLESS STEEL
3. MOUNTED: SURFACE MOUNTED TO CONC. PAD
4. CONTRACTOR TO SURFACE MOUNT PER MFG. SPECIFICATIONS

NE WILDFLOWER SEED MIX SPECS

NORTHEAST NATIVE WILDFLOWER SEED MIXTURE PLANTED IN AREAS SHOWN ON LANDSCAPE PLAN

NORTHEAST WILDFLOWER SEED MIXTURE TO CONTAIN A MAJORITY OF > 67% PERENNIAL VARIETIES TO INSURE GROWTH OF WILDFLOWER VEGETATION IN SUCCESSIVE YEARS.

NEWP.COM/SEED-MIXES OR APPROVED EQUAL

SLOPE PLANTING TYPE	QTY	SIZE
Custom Blend of Northeast Native Wildflower Mixture	± 1200 SF	SEED MIX



NE WILDFLOWER MIXTURE

6FT LONG SEATING BENCH

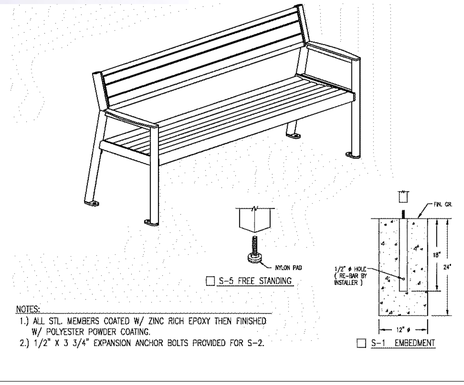
SCALE: NTS



NOTES:

1. INSTALL MODEL 500-60HS 6FT STEEL BENCH WITH STEEL SEAT. WITH BLACK POWDER COATED FINISH.
2. SEE PLAN FOR LOCATION OF BENCH
3. MANUFACTURER SHALL BE DUMOR OR APPROVED EQUAL.
4. CONTRACTOR SHALL INSTALL / SECURE BENCH WITH EMBEDED FOOTING AS PER MANUFACTURER SPECIFICATIONS.
5. CONTRACTOR TO PROVIDE SHOP DRAWING TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.

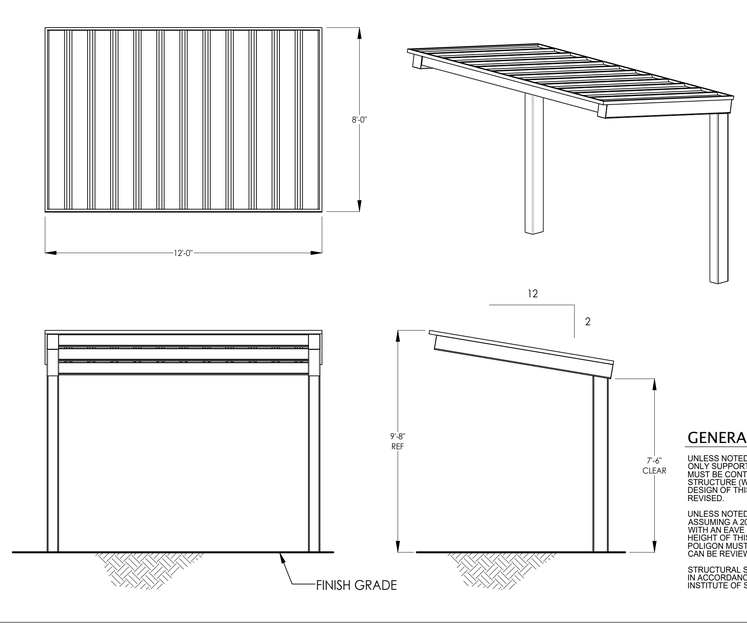
QTY
3

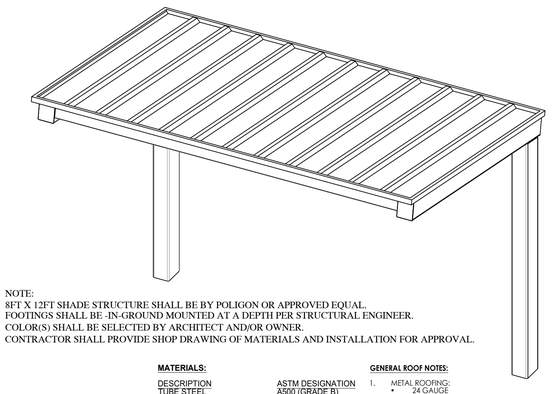


NOTES:
1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED FOR S-2.

8FT X 12FT SHADE STRUCTURE DETAIL

SCALE: NTS





NOTE:
8FT X 12FT SHADE STRUCTURE SHALL BE BY POLIGON OR APPROVED EQUAL.
FOOTINGS SHALL BE -IN-GROUND MOUNTED AT A DEPTH PER STRUCTURAL ENGINEER.
COLOR(S) SHALL BE SELECTED BY ARCHITECT AND/OR OWNER.
CONTRACTOR SHALL PROVIDE SHOP DRAWING OF MATERIALS AND INSTALLATION FOR APPROVAL.

MATERIALS:

DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE B)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED STRUCTURAL STEEL PLATE	A1003 (GRADE 50)
ROOF PANELS (STEEL)	A36
	A653

GENERAL ROOF NOTES:

1. METAL ROOFING:
   - 24 GAUGE
   - GALVALUME COATED
   - KYNAR 500 PAINTED
2. TRIM COLOR MATCHES ROOF
3. SEE POLIGON.COM FOR COLOR OPTIONS

GENERAL NOTES:

UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE. IF THAT SEPARATION DOES NOT EXIST, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL.

ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY CERTIFIED WELDERS AND CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED.

PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC WIRING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE BUILDING IS ERECTED.

DRAFT

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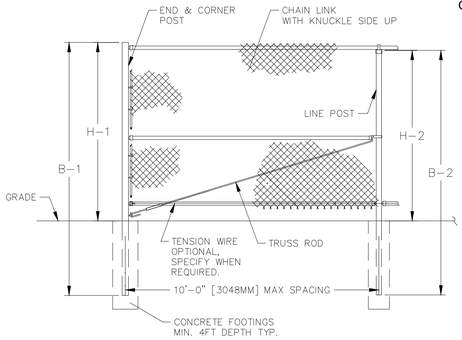
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BLACK VINYL CLF INSTALLATION DETAIL

NOT TO SCALE

SEE LANDSCAPE AND CIVIL PLANS FOR LOCATIONS OF 4' CLF AND 6' CLF



NOTES:

1. SEE PLAN FOR LOCATION AND LENGTH OF PROPOSED FENCING. (BEGIN / END CLF LABELS)
2. ALL CHAIN LINK FABRIC SHALL BE BLACK VINYL COATED.
3. ALL POSTS, BARS, RODS & HARDWARE SHALL BE BLACK POWDER COATED STEEL FENCE.
4. CONTRACTOR SHALL INCLUDE TOP AND BOTTOM RAILS ON ALL FENCING.
5. MANUFACTURER SHALL BE ANCHOR FENCE OR APPROVED EQUAL.
6. INSTALL FABRIC WITH KNUCKLE SIDE UP AND POINTED END DOWN.
7. CONTRACTOR TO PROVIDE SHOP DRAWING TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.

FENCE HEIGHT	END & CORNER POSTS		LINE POSTS	
NOMINAL HEIGHT	B-1 BAR LENGTH	H-1 HEIGHT ABOVE GRADE	B-2 BAR LENGTH	H-2 HEIGHT ABOVE GRADE
4'-0" [1219MM]	6'-0" [1829MM]	4'-0 5/8" [1219MM]	8'-8" [2642MM]	3'-8 7/8" [1117MM]
6'-0" [1829MM]	9'-0" [2743MM]	6'-0 5/8" [1845MM]	8'-8" [2642MM]	5'-8 7/8" [1749MM]

4FT HIGH WOOD PICKET FENCE DETAIL

NOT TO SCALE

4" X 4" PT. POST

2" X 4" STRINGER
STRINGER LOCATIONS SHALL MATCH HEIGHT OF TOP

1" X 3" PICKETS SPACED 2" APART OR TO MATCH SPACING OF EXISTING FENCE AT ST. PAUL'S

NOTES:

1. ALL NAILS AND HARDWARE TO BE HOT DIPPED GALVANIZED.
2. PICKETS TO BE HUNG WITH UNIFORM HEIGHT AND SPACING.
3. FENCE TO BE PAINTED (TWO COATS) WHITE. PAINT COLOR. SPECIFIC COLOR TO BE SELECTED BY OWNER AND/OR ARCHITECT.
4. POSTS TO BE SPACED 6FT O.C. AND/OR AS SHOWN ON PLAN. LENGTH OF FENCE AS SHOWN ON PLAN.
5. WOOD MATERIAL SHALL BE CEDAR OR APPROVED SUBSTITUTION.

4" X 4" PT. POST

CONCRETE FOOTING

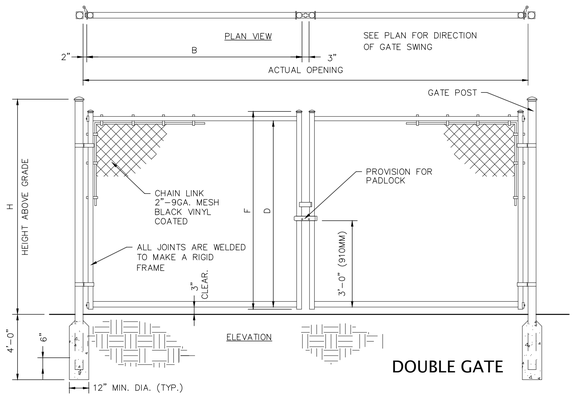
6" TAMPED GRAVEL BASE

COMPACTED SUBGRADE

CONTRACTOR TO PROVIDE SHOP DRAWING TO LANDSCAPE ARCHITECT FOR APPROVAL OF FENCE PRIOR TO MATERIALS ORDERING AND INSTALLATION.

CHAIN LINK FENCE GATE DETAIL

NOT TO SCALE



DOUBLE GATE

QTY	GATE TYPE	NOMINAL HEIGHT (H)	ACTUAL (F)	ACTUAL (D)	OPENING (B)
2	SINGLE	4'-0"	3'-10"	3'-8 1/2"	4'-0"
1	DOUBLE	4'-0"	3'-10"	3'-8 1/2"	6'-0"

ALL POSTS, TUBULAR STEEL INCLUDING RAILS, HARDWARE AND LOCKING MECHANISM SHALL BE POWDER COATED STEEL, PAINTED BLACK (TWO COATS).

FABRIC SURROUNDING PERIMETER OF PLAY AREA SHALL BE BLACK 9GA. MESH BLACK VINYL COATED WITH TOP AND BOTTOM RAILS THROUGHOUT.

SEE PLAN FOR 12FT WIDE DOUBLE GATE LOCATIONS.

TOP OF CONC. SONOTUBE FOOTINGS SHALL BE RECESSED 4 TO 6 INCHES FROM FINISHED GRADE.

PROVIDE SHOP DRAWING FOR APPROVAL FOR ALL PRODUCT MANUF. MATERIALS AND CONSTRUCTION DETAILS PRIOR TO ORDERING AND INSTALLATION.





DRAFT

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UPPER VALLEY HAVEN EMERGENCY SHELTER

Issued For:
SITE PLAN REVIEW

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Issue Date: May 29, 2024

Revisions

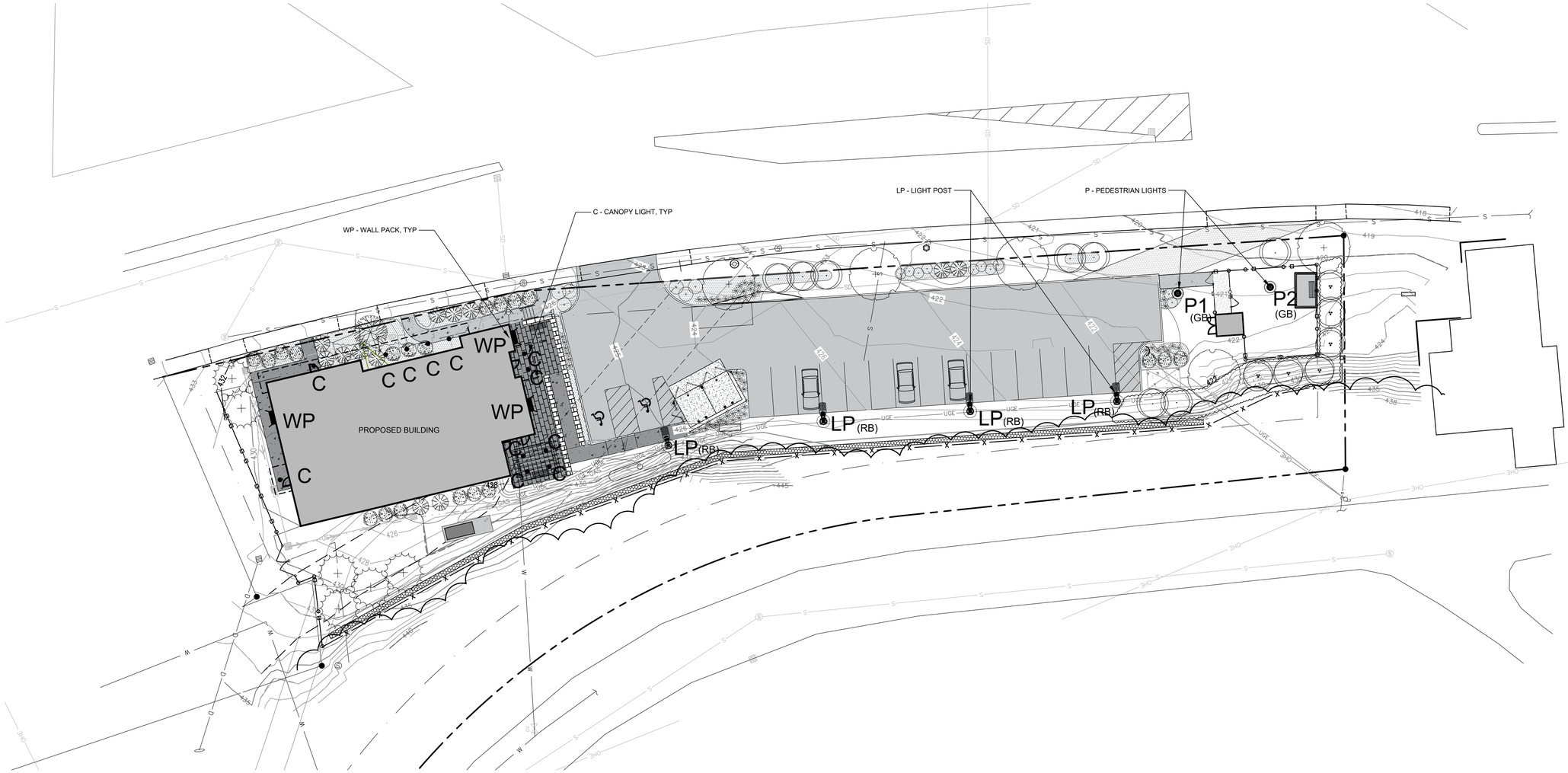
No.	Description	Date

Landscape Details

Project No.: PA2314

L3.1

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SITE LIGHTING KEY:

SYM	QTY	LABEL	DESCRIPTION
	4	LP	PROPOSED LIGHT POST
	2	P	PROPOSED PEDESTRIAN LIGHT
	3	WP	PROPOSED WALL PACK
	12	C	PROPOSED CANOPY LIGHT
		RB	RAISED CONCRETE BASE
		GB	AT GRADE CONCRETE BASE

LIGHTING NOTES:

1. LIGHTING DESIGN BY VISIBLE LIGHT, INC.
2. FIXTURE SYMBOLS ARE NOT TO SCALE
3. ALL FIXTURES ON THIS PLAN MEET IESNA QUALIFICATIONS.
4. REFER TO CIVIL PLANS FOR UTILITY LOCATIONS.
5. REFER TO ARCHITECTURAL ELEVATIONS FOR SPECIFIC WALL PACK LOCATIONS AND MOUNTING HEIGHTS.
6. 16 FT LIGHT POLE FIXTURE MOUNTING HEIGHT CALCULATED FROM FINISH GRADE. (SEE POLE BASE INSTALLATION DETAIL.)
7. ELECTRICAL ENGINEERING DESIGN, PANEL LOCATION, OPERATING SWITCH PLATES AND CONDUIT BY OTHERS.
8. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE ARCHITECT ON-SITE TO VERIFY LOCATION OF ALL LIGHT FIXTURES WALL PACKS AND LIGHT POLES PRIOR TO PLACEMENT AND INSTALLATION.

Lighting by: Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842

DRAFT

20' 0' 20' 40'

SCALE: 1" = 20FT

NORTH

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UPPER VALLEY HAVEN
EMERGENCY SHELTER

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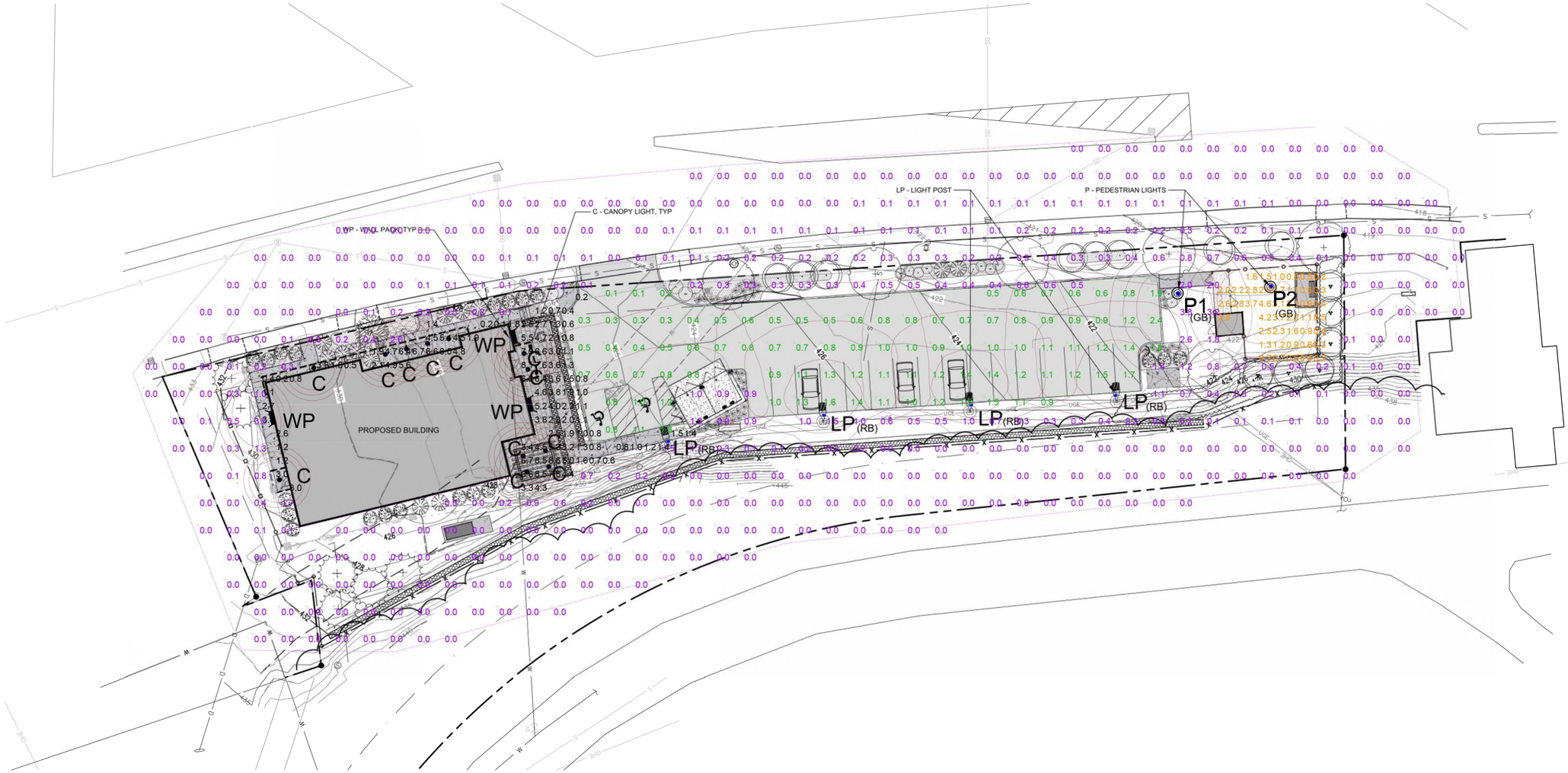
No.	Description	Date

Lighting Plan

Project No.: PA2314

L4.0

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SITE LIGHTING SCHEDULE:

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Wattage	Distribution	Wattage
•	C	12	Juno Lighting	JPDZ4 DB 1000LM 3000K 90CRI BWH	Juno Podz 4in LED Downlight; mounted at 10ft	LED	JPDZ4_DB_1000LM_3000K_90CRI_BWH.ies	789	0.9	13.6	DIRECT, SC-0=1.12, SC-90=1.12	13.6
	LP	4	Lithonia Lighting	DSX0 LED P1 30K 80CRI TFTM HS MVOLT SPA DDBXD with SSS 14 4C DM19AS DDBXD	D-Series Size 0 Area Fixture with Houseside Shield; mounted at 16ft (14ft pole on 2ft base)	LED	DSX0_LED_P1_30K_80CRI_TFTM_HS.ies	3577	0.9	33.21	TYPE IV, SHORT, BUG RATING: B1 - U0 - G1	33.21
◎	P1	1	Lithonia Lighting	RADPT P1 30K ASY MVOLT PT4 DDBXD with RSS 10 4B PT DDBXD	RADEAN Post-Top Fixture Asymmetric distribution; mounted at 10ft	LED	RADPT_P1_30K_ASY.ies	3021	0.9	25.4134	TYPE IV, VERY SHORT, BUG RATING: B1 - U1 - G1	25.4134
◎	P2	1	Lithonia Lighting	RADPT P1 30K ASY HS MVOLT PT4 DDBXD with RSS 10 4B PT DDBXD	RADEAN Post-Top Fixture Asymmetric distribution with house-side shield; mounted at 10ft	LED	RADPT_P1_30K_ASY_HS.ies	2720	0.9	25.4134	TYPE IV, VERY SHORT, BUG RATING: B1 - U2 - G2	25.4134
	WP	3	Lithonia Lighting	WDGE1 LED P1 30K 80CRI VF SRM MVOLT DDBXD	WDGE1 LED Wallpack; mounted at 10ft	LED	WDGE1_LED_P1_30K_80CRI_VF.ies	1161	0.9	10.0002	TYPE II, VERY SHORT, BUG RATING: B0 - U0 - G0	10.0002

LIGHTING STATISTICS:

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Dog Yard	+	1.5 fc	4.5 fc	0.2 fc	22.5:1	7.5:1
Outside of Parking Lot	+	0.2 fc	3.7 fc	0.0 fc	N/A	N/A
Parking Lot	+	0.9 fc	2.4 fc	0.1 fc	24.0:1	9.0:1
Walkway Around Building	+	3.1 fc	8.8 fc	0.1 fc	88.0:1	31.0:1

DRAFT

20' 0' 20' 40'

SCALE: 1" = 20FT

NORTH

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UPPER VALLEY HAVEN
EMERGENCY SHELTER

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Issue Date: May 29, 2024

Revisions

No.	Description	Date

Photometric Plan

Project No.: PA2314

L4.1

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LIGHT POLE FIXTURE SPECIFICATION Plan Label LP



D-Series Size 0
LED Area Luminaire

Buy American

Catalog Number	
Notes	
Type	

Hit the Tab key or mouse over the page to see all interactive elements.

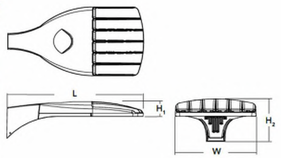
Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height$_1$:	3" (7.62 cm)
Height$_2$:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)



LIGHT FIXTURE NOTES:

THE D-SERIES SIZE 0 LIGHT POLE FIXTURE HAS ZERO UPLIGHT AND QUALIFIES AS A NIGHTTIME FRIENDLY PRODUCT, MEANING IT IS CONSISTENT WITH THE LEED AND GREEN GLOBES CRITERIA FOR ELIMINATING WASTEFUL UPLIGHT.

RECESSED DOWNLIGHT SPECIFICATION Plan Label C1 + C2

JPDZ4

JUNO

Podz™ LED Downlight Series
4" Canless Round and Square LED Downlight
New Construction or Remodel

Project:	
Fixture Type:	
Location:	
Contact/Phone:	

JPDZ4 Series



Complete remodel fixture shown



Complete new construction fixture shown

Product Features

Canless low profile 4" LED recessed downlight with deeply regressed light source and technology rich features offers performance up to 1200L and installation solutions for both new construction and remodel applications.

Patented color temperature and intensity configurable lighting fixture (US Patent No. 11,259,377 B2)

- Integrated light engine offers switchable LED color temperature and adjustable lumen output directly on module for easy switching
- Advanced color mixing technology provides consistent color rendering on the black body curve at all LED color temperatures while maintaining a high 90+ CRI
- Warmdim™ setting provides performance similar to incandescent light sources and warms the LED color temperature over the dimming range from 2850K to 1900K

Installation flexibility and ease

- Low profile integrated LED downlight less than 3" in height fits virtually anywhere
- Installs directly into the plenum - eliminates need for typical recessed housing
- Installs into new construction or remodel applications

Applications

- Ideal for a breadth of residential and commercial applications
- Shallow plenum installations
- IC rated - for direct contact with insulation
- Wet location listed - for use in shower and outdoor covered ceiling applications

WALL PACK LIGHT SPECIFICATION Plan Label WP



WDGE1 LED
Architectural Wall Sconce

Buy American

Catalog Number	
Notes	
Type	

Hit the Tab key or mouse over the page to see all interactive elements.

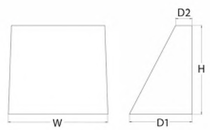
Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

Specifications

Depth (D1):	5.5"
Depth (D2):	1.5"
Height:	8"
Width:	9"
Weight: (without options)	9 lbs



PEDESTRIAN LIGHT POST SPECIFICATION Plan Label P



Radean Post Top
LED Area Luminaire

Buy American

Catalog Number	
Notes	
Type	

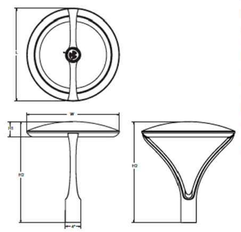
Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

The architecturally-inspired shape of the RADEAN™ post top area luminaire embodies the grace and strength of the RADEAN family. The twin copper-core cast aluminum arms support the slender superstructure, creating a beautiful sculpture by day transforming into a beacon of comfort by night. Triangular arms redirect reflection maintaining its visually quiet appearance. With sleek lines and simple silhouettes, these LED luminaires use specialized lighting and visual comfort to transform common areas like courtyards, outdoor retail locations, universities and corporate campuses into pedestrian-friendly nighttime environments.

Specifications

EPA:	1.02 ft² (0.105 m²)
Length:	24" (61cm)
Width:	24" (61cm)
H1 Luminaire Height:	4" (10.16cm)
H2 Luminaire Height:	26" (66.04cm)
Weight:	38lbs (17.24Kg)



Ordering Information **EXAMPLE:** RADPT LED P3 30K SYM MVOLT PT4 PIR DNAXD

RADPT LED

Series	Performance package	Color temperature	Distribution	Voltage	Mounting (required)
RADPT LED	P1 3,000 Lumens P2 5,000 Lumens P3 7,000 Lumens P4 10,000 Lumens P5 15,000 Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	SYM Symmetric type V ASY Asymmetric type IV PATH Pathway type III	MVOLT[7] 277[7] 120[7] 347 208[7] 480 240[7]	PT4[1] Slips inside a 4" OD round metal pole RADPT20 Slips over a 2 3/8" diameter tenon RADPT25 Slips over a 2 7/8" diameter tenon

Control options	Other options		Finish (required)	
Shipped installed NLTAIR2 nLight AIR 2.0 enabled[4] PIR Bi-level motion/sensor (100% to 30%)[4,5,6] PE Button photocell[5] FAO Field adjustable output[5,8]	SF Single fuse[7] DF Double fuse[7] R90 Rotated optics[9]	**Shipped installed** HS Houseside shield[10]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White	DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

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RADPT LED Rev. 04/19/22

LIGHT POLE SPECIFICATION

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — **These specifications are for USA standards only.** Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (11-gauge, 0.120"), or 50 KSI (7-gauge, 0.179"). Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 4" tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets 5A and 5B classifications of ASTM D3359. Powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

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.

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-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.
Specifications subject to change without notice.

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

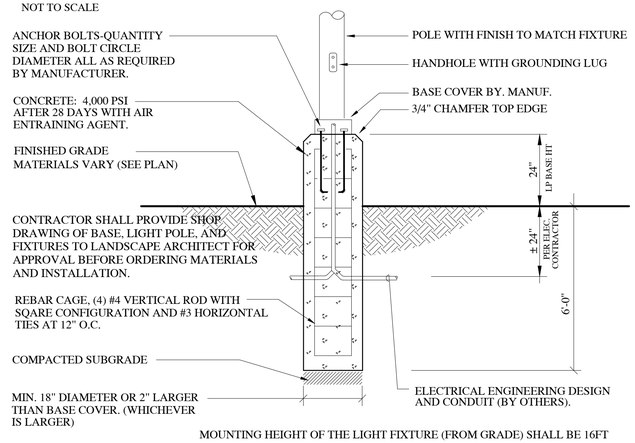
BAA

LIGHT FIXTURE NOTES:

CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL LIGHTING MATERIALS, FIXTURES, POLES AND INSTALLATION METHODS TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION AND INSTALLATION. CONTRACTOR SHALL COORDINATE WITH LANDSCAPE ARCHITECT ON SITE TO VERIFY AND MARK LOCATION OF ALL PROPOSED FIXTURES INCLUDING LIGHT POLES, WALL PACKS AND CAN LIGHTS PRIOR TO INSTALLATION.

(RB) RAISED LIGHT POLE BASE INSTALLATION DETAIL

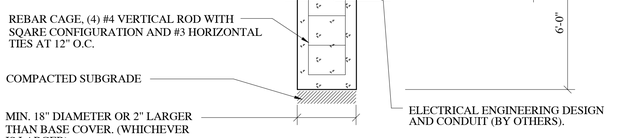
NOT TO SCALE



MOUNTING HEIGHT OF THE LIGHT FIXTURE (FROM GRADE) SHALL BE 16FT

(GB) AT-GRADE LIGHT POLE BASE INSTALLATION

NOT TO SCALE



MOUNTING HEIGHT OF THE LIGHT FIXTURE (FROM GRADE) SHALL BE 16FT

DRAFT

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Issue Date: May 29, 2024

Revisions

No.	Description	Date

Lighting Details

Project No.: PA2314

L4.2

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3 Roof plan
1/8" = 1'-0"



2 Second Floor Plan
1/8" = 1'-0"

GROSS SF AREAS

FIRST FLOOR:	4,480
SECOND FLOOR:	4,617
TOTAL:	9,097



1 First Floor Plan
1/8" = 1'-0"

PROJECT
NORTH

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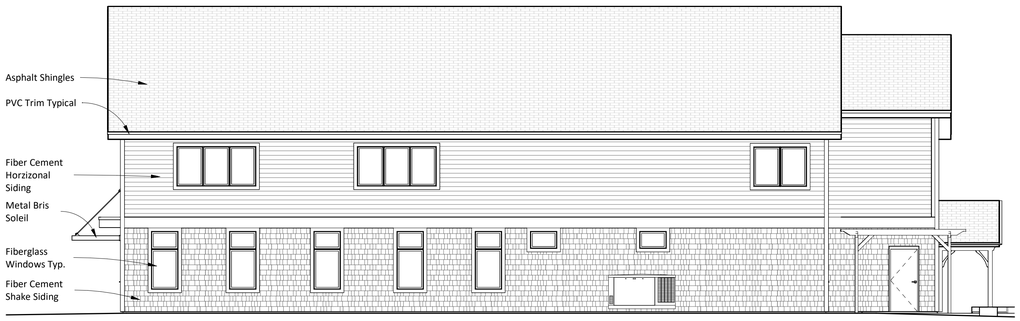
FLOOR PLANS

Project No.: Project Number

A-1

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4 NORTH
1/8" = 1'-0"



3 EAST
1/8" = 1'-0"



2 SOUTH
1/8" = 1'-0"



1 WEST
1/8" = 1'-0"

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Issued For:
SITE PLAN REVIEW

Preliminary Not For Construction

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Issue Date: MAY 30, 2024

Revisions

No.	Description	Date

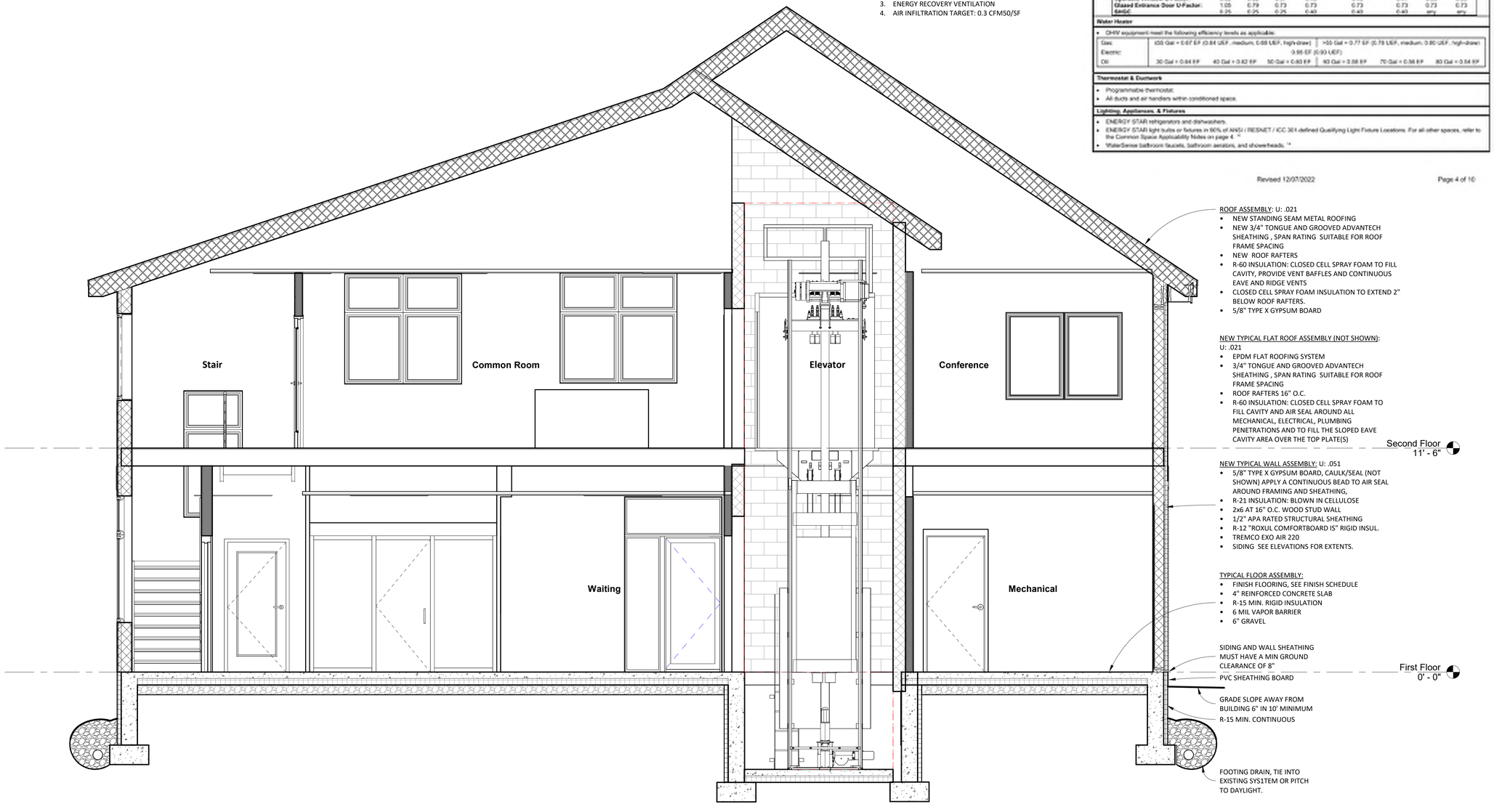
EXTERIOR ELEVATIONS

Project No.: Project Number

A-2

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MECHANICAL BASIS OF DESIGN:
ENERGY STAR, MULTIFAMILY NEW CONSTRUCTION NATIONAL PROGRAM REQUIREMENTS, VERSION 1.1 (REV. 03)

1. AIR SOURCE HEAT PUMPS
2. ELECTRIC RESISTANCE AS BACKUP
3. ENERGY RECOVERY VENTILATION
4. AIR INFILTRATION TARGET: 0.3 CFM50/SF

ENERGY STAR Multifamily New Construction
National Program Requirements, Version 1.1 (Rev. 03)

Hot Climates (2012 IECC Zones 1,2,3) [12]	Mixed and Cold Climates (2012 IECC Zones 4,5,6,7,8) [12]
Residential Cooling Equipment (Where Provided) in Dwelling Units or Common Spaces. If not listed here, see Rater Field Checklist Exhibit X.	
• Cooling equipment meets the applicable efficiency levels below:	
• 15 SEER / 12 EER AC. • Heat pump (See Residential Heating Equipment)	• 13 SEER AC. • Heat pump (See Residential Heating Equipment)
Residential Heating Equipment (Where Provided) in Dwelling Units or Common Spaces. If not listed here, see Rater Field Checklist Exhibit X.	
• Heating equipment meets the applicable efficiency levels be-low, dependent on fuel and system type.	
• 80 AFUE gas furnace. • 80 AFUE oil furnace. • 80 AFUE boiler. • 8.2 HSPF / 15 SEER / 12 EER air-source heat pump with electric or dual-fuel backup.	• 95 AFUE ENERGY STAR gas furnace (common spaces see Exhibit K). • 85 AFUE ENERGY STAR oil furnace. • 90 AFUE ENERGY STAR gas boiler. • 86 AFUE oil boiler. • Heat pump, with efficiency as follows: • CZ 4: 8.6 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 5: 9.25 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 6: 9.5 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 7-8: 3.6 COP / 17.1 EER ground-source w/ electric or dual-fuel backup.
Envelope, Windows, & Doors	
• Dwelling unit insulation levels meet 2012 IECC levels (Commercial, wood-frame) and Grade I installation per ANSI / RESNET / ICC 301. For common spaces, refer to Item 3.2 of the National Rater Design Review Checklist for insulation levels.	

Climate Zone:	CZ 1	CZ 2	CZ 3	CZ 4	CZ 4 C & 5	CZ 6	CZ 7	CZ 8
Slab Insulation R-Value:	0	0	0	10	10	15	15	20
Slab Insulation Depth (ft):	0	0	0	2	2	2	2	2
Basement Wall Continuous Insulation R-Value:	0	0	0	7.5	7.5	7.5	10	12.5
Wood Framed Floor U-Factor:	0.066	0.033	0.033	0.033	0.033	0.033	0.033	0.033
Mass Floor U-Factor:	0.322	0.087	0.076	0.074	0.064	0.057	0.051	0.051
Wall Assembly U-Factor:	0.064	0.064	0.064	0.064	0.064	0.061	0.061	0.036
Ceiling Assembly U-Factor:	0.027	0.027	0.027	0.027	0.021	0.021	0.021	0.021

- Infiltration rate: 0.30 CFM50/ft² of enclosure.
- Dwelling unit ENERGY STAR windows and doors, unless Class A/V, as illustrated below:

Window U-Factor:	0.40 in CZs 1,2	0.30 in CZ 3	0.30 in CZ 4	0.27 in CZs 5,6,7,8
Window SHGC:	0.25 in CZs 1,2	0.25 in CZ 3	0.40 in CZ 4	Any in CZs 5,6,7,8
Door U-Factor:	Opaque: 0.17	≤¼ lite: 0.25	>¼ lite: 0.30	
Door SHGC:	Opaque: Any	≤¼ lite: 0.25	>¼ lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7,8	

Class A/V fenestration and common spaces meet 2015 IgCC levels (Commercial fenestration U-Factor requirements) below. [13]

Climate Zone:	CZ 1	CZ 2	CZ 3	CZ 4	CZ 4 C & 5	CZ 6	CZ 7	CZ 8
Fixed Window U-Factor:	0.49	0.49	0.44	0.36	0.36	0.34	0.28	0.28
Operable Window U-Factor:	0.62	0.62	0.57	0.43	0.43	0.41	0.35	0.35
Glazed Entrance Door U-Factor:	1.05	0.79	0.73	0.73	0.73	0.73	0.73	0.73
SHGC:	0.25	0.25	0.25	0.40	0.40	0.40	any	any

Water Heater

- DHW equipment meet the following efficiency levels as applicable:

Gas:	≤55 Gal = 0.67 EF (0.64 UEF...medium; 0.68 UEF, high-draw)	>55 Gal = 0.77 EF (0.79 UEF, medium; 0.80 UEF...high-draw)
Electric:	0.95 EF (0.93 UEF)	
Oil:	30 Gal = 0.64 EF; 40 Gal = 0.62 EF; 50 Gal = 0.60 EF	60 Gal = 0.58 EF; 70 Gal = 0.56 EF; 80 Gal = 0.54 EF

Thermostat & Ductwork

- Programmable thermostat.
- All ducts and air handlers within conditioned space.

Lighting, Appliances, & Fixtures

- ENERGY STAR refrigerators and dishwashers.
- ENERGY STAR light bulbs or fixtures in 90% of ANSI / RESNET / ICC 301-defined Qualifying Light Fixture Locations. For all other spaces, refer to the Common Space Applicability Notes on page 4. [14]
- WaterSense bathroom faucets, bathroom aerators, and showerheads. [14]

Revised 12/07/2022 Page 4 of 10

ROOF ASSEMBLY: U: .021
- NEW STANDING SEAM METAL ROOFING
- NEW 3/4" TONGUE AND GROOVED ADVANTECH SHEATHING , SPAN RATING SUITABLE FOR ROOF FRAME SPACING
- NEW ROOF RAFTERS
- R-60 INSULATION: CLOSED CELL SPRAY FOAM TO FILL CAVITY, PROVIDE VENT BAFFLES AND CONTINUOUS EAVE AND RIDGE VENTS
- CLOSED CELL SPRAY FOAM INSULATION TO EXTEND 2" BELOW ROOF RAFTERS.
- 5/8" TYPE X GYPSUM BOARD

NEW TYPICAL FLAT ROOF ASSEMBLY (NOT SHOWN):
U: .021
- EPDM FLAT ROOFING SYSTEM
- 3/4" TONGUE AND GROOVED ADVANTECH SHEATHING , SPAN RATING SUITABLE FOR ROOF FRAME SPACING
- ROOF RAFTERS 16" O.C.
- R-60 INSULATION: CLOSED CELL SPRAY FOAM TO FILL CAVITY AND AIR SEAL AROUND ALL MECHANICAL, ELECTRICAL, PLUMBING PENETRATIONS AND TO FILL THE SLOPED EAVE CAVITY AREA OVER THE TOP PLATE(S)

NEW TYPICAL WALL ASSEMBLY: U: .051
- 5/8" TYPE X GYPSUM BOARD, CAULK/SEAL (NOT SHOWN) APPLY A CONTINUOUS BEAD TO AIR SEAL AROUND FRAMING AND SHEATHING,
- R-21 INSULATION: BLOWN IN CELLULOSE
- 2x6 AT 16" O.C. WOOD STUD WALL
- 1/2" APA RATED STRUCTURAL SHEATHING
- R-12 "ROXUL COMFORTBOARD IS" RIGID INSUL.
- TREMCO EXO AIR 220
- SIDING SEE ELEVATIONS FOR EXTENTS.

TYPICAL FLOOR ASSEMBLY:
- FINISH FLOORING, SEE FINISH SCHEDULE
- 4" REINFORCED CONCRETE SLAB
- R-15 MIN. RIGID INSULATION
- 6 MIL VAPOR BARRIER
- 6" GRAVEL

SIDING AND WALL SHEATHING MUST HAVE A MIN GROUND CLEARANCE OF 8"

PVC SHEATHING BOARD

GRADE SLOPE AWAY FROM BUILDING 6" IN 10' MINIMUM

R-15 MIN. CONTINUOUS

FOOTING DRAIN, TIE INTO EXISTING SYS1TEM OR PITCH TO DAYLIGHT.

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EMERGENCY SHELTER

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Issue Date: MAY 30, 2024

Revisions

No.	Description	Date

BUILDING SECTION

Project No.: Project Number

A-3

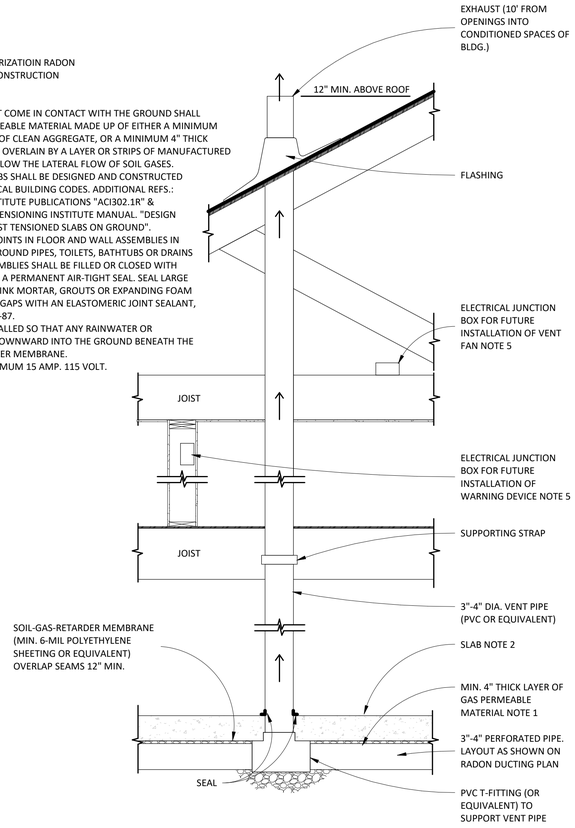
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PASSIVE SUB-SLAB DEPRESSUARIZATIOIN RADON CONTROL SYSTEM FOR NEW CONSTRUCTION

NOTES:

1. ALL CONCRETE SLABS THAT COME IN CONTACT WITH THE GROUND SHALL BE LAID OVER A GAS PERMEABLE MATERIAL MADE UP OF EITHER A MINIMUM 4" THICK UNIFORM LAYER OF CLEAN AGGREGATE, OR A MINIMUM 4" THICK UNIFORM LAYER OF SAND, OVERLAIN BY A LAYER OR STRIPS OF MANUFACTURED MATTING DESIGNED TO ALLOW THE LATERAL FLOW OF SOIL GASES.
2. ALL CONCRETE FLOOR SLABS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL BUILDING CODES. ADDITIONAL REFS.: AMERICAN CONCRETE INSTITUTE PUBLICATIONS "ACI302.1R" & ACI1332R", OR THE POST TENSIONING INSTITUTE MANUAL. "DESIGN AND COSTRUCTION OF POST TENSIONED SLABS ON GROUND".
3. ALL OPEINGS, GAPS AND JOINTS IN FLOOR AND WALL ASSEMBLIES IN CONTACT SOIL OR GAPS AROUND PIPES, TOILETS, BATHTUBS OR DRAINS PENETRATING THESE ASSEMBLIES SHALL BE FILLED OR CLOSED WITH MATERIALS THAT PROVIDE A PERMANENT AIR-TIGHT SEAL. SEAL LARGE OPENINGS WITH NON-SHRINK MORTAR, GROUTS OR EXPANDING FOAM MATERIALS AND SMALLER GAPS WITH AN ELASTOMERIC JOINT SEALANT, AS DEFINED IN ASTM C920-87.
4. VENT PIPES SHALL BE INSTALLED SO THAT ANY RAINWATER OR CONDENSATION DRAINS DOWNWARD INTO THE GROUND BENEATH THE SLAB OR SOIL-GAS-RETARDER MEMBRANE.
5. CIRCUITS SHOULD BE MINIMUM 15 AMP. 115 VOLT.



1 RADON PIPING DETAIL
1/2" = 1'-0"



Perspective from Northeast



Perspective from Northwest

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Issue Date: MAY 30, 2024

Revisions

No.	Description	Date

PERSPECTIVES AND RADON DETAIL

Project No.: Project Number

A-4

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DRM DOWNS RACHLIN MARTIN

May 20, 2024

Kimberly M. Butler
Tel: (802) 473-4274
kbutler@DRM.com

Via Hand Deliver

Jo-Ann Ells, Zoning Administrator
Hartford Planning & Development
Hartford Town Hall
171 Bridge Street
White River Junction, VT 05001

Re: **Upper Valley Haven, Inc.**
Revised 608 North Main Street Emergency Shelter Project

Dear Jo-Ann:

We represent the Upper Valley Haven, Inc. (the "Haven"), and we previously obtained Planning Commission approval in December 2023 concerning Application 23-21 for the Haven's proposed renovation of the existing former retail building into an emergency shelter at 608 North Main Street.

Following that approval, the Haven's geotechnical engineers provided follow up analysis that recommended that steel pins be installed in and through the building's foundation and into the hill behind the building to provide further stabilization in light of the proposed use of the building as an emergency shelter.

The projected cost to do such pinning of the current building was very high, and caused the Haven to reconsider its planned renovation of that building in its current location. The Haven is now returning to the Planning Commission for approval of an emergency shelter as before, but the current project design calls for removal of the former 25,000 Gifts building, and the construction of a new building on the western side of the property fronting North Main Street, as further discussed below (the "Project"). The new Project includes a hill stabilization plan, as described in the landscaping discussion below, but fortunately at a lower price point due to the simpler stabilization process that can be used.

Project Overview:

The subject property is a 4.54-acre parcel located at 608 North Main Street, SPAN No. 285-090-15787, and owned by CraftStudies Inc. (the "Property"). The Haven holds an option to purchase the Property from CraftStudies.

The Property is currently improved with a building containing a total of 7,787 square feet and parking area, as shown on the plans submitted with this application. The building on the Property dates back to 1950, and the Property was for many years used for retail, including as home to the 25,000 Gifts shop.

The Haven proposes to remove the existing building, and to construct a new two-story building on the western side of the Property, away from the hill that abuts the existing building.

The shelter building will have a footprint of 4,480 gross square feet, and contain a total of 9,057 gross square feet. Please see the building floor plans, elevations and perspective plans submitted with the application.

The new building is designed with the same number of beds as in the prior application, which is a total of 20 beds for overnight guests, and will include associated locker/storage space, bathrooms and shower facilities, lounge and common areas, a kitchen, and offices, and a place for two overflow single sleeping bunks. Please see the floor plans submitted with the application.

As with the prior application, the Haven Project will serve as an emergency shelter designed to meet the daily needs of those experiencing homelessness regardless of age, race, ethnicity, sex, gender identity, medical needs, companion animals, personal belongings, financial resources, or level of sobriety, without requiring guests to navigate waiting lists, complete paperwork, or provide evidence of need.

The shelter will provide dinner and breakfast to overnight guests, as well as warming or cooling stations during the winter and summer. During the day, Haven staff will provide day services to help people secure permanent housing. The Haven's program also includes providing space for other service providers to visit on a scheduled basis to assist Haven clients with removing barriers to obtaining housing.

Zoning Analysis:

The portion of the Property that borders North Main Street is located in the HCR Zoning District, and a portion of the remaining property is in the Residential Two (R-2) Zoning District. Because this Property has public water and sewer, it is a Class 1 lot. *See* Zoning Regulations § 260-19.

As we discussed in the prior application, emergency shelters were added to a category of uses under Section 4413 of the Vermont Planning and Development Act (the "Act"), found in Chapter 117 of Title 24 of the Vermont Statutes Annotated (V.S.A.). This category of uses includes state- or community-owned and operated institutions or facilities; public and private schools; churches and other places of worship, convents and parish houses; public and private hospitals; regional solid waste management facilities; and certain hazardous waste management facilities. This category of uses may now be regulated only with respect to the following matters:

- Location;
- Size;
- Height;
- Building bulk;
- Yards;
- Courts;
- Setbacks;
- Density of buildings;

- Off-street parking;
- Loading facilities;
- Traffic;
- Noise;
- Lighting;
- Landscaping; and
- Screening requirements.

In addition to limiting the scope of regulatory review, Section 4413 also provides that any regulations of such uses "shall not have the effect of interfering with the intended functional use." *See* 24 V.S.A. §4413(a)(2).

Finally, in Section 4413(a)(3), the Legislature specifically provided that "regulating the daily or seasonal hours of operation of an emergency shelter shall constitute interfering with the intended functional use" and is therefore impermissible.

As with our prior application, in light of the inclusion of emergency shelters under Act Section 4413, our Project zoning analysis is focused on the criteria set forth in Section 4413, rather than the Town's site plan review standards, although many of the criteria link with customary site plan considerations.

1. Location

A municipality is allowed to designate zoning districts within its borders for the uses specified under Section 4413, and may not exclude any of the uses from being located within the town's boundaries. The Town of Hartford zoning regulations currently do not designate any district in which an emergency shelter can be located.

As noted in our prior application, in the absence of any designation of zoning districts for location of the uses set out in Section 4413, the Vermont Supreme Court has confirmed that the uses set forth under Section 4413 are allowed anywhere within the municipality. See In re Appeal of Buildings and General Services, 176 VT 41 (2003).

2 & 4. Size; Building Bulk

As noted above, the Project will include the construction of a 9,097 gross square foot two-story building on the existing 4.54-acre Property. The new building footprint will be 4,480 gross square feet. This represents a lot-coverage ratio of 2.27%, which is well under the maximum lot coverage ratio of 90% for the IC district.

3. Height

The height of the shelter building will be 34 feet, 2 inches above ground level. Please see the building elevation plans included with the application.

5, 6, 14 & 15. Yards; Courts; Landscaping; Screening

The proposed landscaping and screening for the Project are shown on the landscaping plans submitted with this application. The landscaping plan involves the same plantings as in the prior application, and no new species are proposed for this design.

As with the prior application, a strong benefit of the Project is the extensive landscaping that the Haven will make to the site, as shown on the landscaping plan. The Project will result in the removal of the existing parking area and building, and the creation of an updated parking area and beautifully landscaped areas around the site and along North Main Street. The area behind the building will remain undeveloped and in a natural state.

As noted above, the current retail building will be removed, and the basement area will be filled and graded. The Haven's geotechnical engineers have recommended the installation of a stabilization wall along the base of the rear hill, even though the new building does not touch up on that area. This wall will help stabilize and maintain the rear bank area. The stabilization wall will be constructed using corrugated rusted steel panels to blend into area landscaping, and the Haven expects to cover any visible sections with additional plantings and/or stonework.

7. Setbacks

The new shelter building is in conformance with the setback requirements for Class 1 lots in the I-C District, including the 10-foot front and side setbacks and the 20-foot rear setback, as all shown on the site plan included with the application.

8. Density of buildings

The renovated building will have a total of gross square footage of 9,097 square feet on the 4.54-acre lot, and well within the density requirements of the IC district.

9. Off-street parking

The Property currently has 14 off-street parking spaces, including two ADA accessible parking spaces, all of which will be retained. With the revised site design, there is room for eighteen parking spaces, and the design includes provision for two future electric vehicle charging stations The parking layout is show on the site plan included with the application.

These spaces will provide sufficient parking for Haven staff and volunteers, visiting service providers, and shelter guests. Based on its experience operating the existing Haven facilities, and as will be confirmed in an updated traffic and parking study from the Wall Consultant Group, at any given time, approximately 5 guests will have cars. As shown on the site and landscaping plans, the parking area will be separated from North Main Street by landscaping.

10. Loading facilities

The Property does not have any loading facilities, and deliveries will be received via the parking area for movement into the building.

11. Traffic

The Property is currently accessed directly from North Main Street via two existing curb cuts to the paved parking area. The Haven plans to close the western curb cut to have a single point of access to the Property. This access point also has been coordinated with the potential redesign by the Vermont Agency of Transportation of the North Main Street area that would involve the State's installation of a roundabout for the intersection of North Main Street (US Route 5) and US Route 4 as shown the site plan with roundabout.

As with the prior application, the Department of Public Works will not require a fire lane in front of the Building.

With the revised site plan for the new shelter location, the dumpster location is easily accessible from the access point for safe entry and exit patterns from the roadway as shown on the turning plans for garbage truck and ambulance included with the application.

Traffic to and from the Property is anticipated to be less than the traffic generated from the Property when it was used for retail purposes. The Haven has requested an updated traffic study from The Wall Consultant Group to confirm there will be no negative impact on area traffic as a result of the Project, and will submit that study as soon as received.

In addition, the Property is accessible from existing bus routes, and area sidewalks will provide access by pedestrians and bicyclists. As shown on the site plans and landscape detail plan, the Haven will install outdoor bike racks on the Property.

12. Noise

Any noise from the Property will not exceed 70 decibels at or beyond the property line and will be customary to the surrounding area. Additionally, Haven will implement Operating Procedures for the low barrier shelter, which will require quiet hours to be observed within the Building between 9:30pm and 7:00am each day.

During the construction period, any loud equipment will not be operated on Sundays or between the hours of 5:30 p.m. and 7:00.a.m., except in emergency situations. Construction is anticipated to last 8-12 months. Installation of the bank stabilization wall is expected to be less than two weeks Once construction is complete, the Project will not require or use any excessively loud equipment.

13. Lighting

The parking area and walkways will be illuminated with down-shielded lights, and any lighting will not be visible beyond the boundaries of the Property. Light is shown on the landscaping and lighting plans submitted with the application.

On behalf of the Haven, we appreciate your review of the attached Application to the Planning Commission, and welcome any questions that you may have.

Best regards,

Kim Butler

Kimberly M. Butler

KMB

Enclosures: Plan set

cc: Michael Redmond (via email; w/enc.)
Studio Nexus Architects (via email; w/enc.)

DRM DOWNS RACHLIN MARTIN

May 29, 2024

Kimberly M. Butler
Tel: (802) 473-4274
kbutler@DRM.com

Via Hand Delivery

Jo-Ann Ells, Zoning Administrator
Hartford Planning & Development
Hartford Town Hall
171 Bridge Street
White River Junction, VT 05001

Re: Proposed Emergency Shelter, 608 N. Main Street, Lot 45-0003-000
Response to May 23, 2024 Review Comments/Questions

Dear Jo-Ann:

On behalf of the applicant Upper Valley Havey, Inc., we wanted to share with you are responses to the comments/questions received from you via May 23, 2024 memorandum. For ease of review, we have included the comments/questions and our responses below.

1. Please submit a check for $609.85 to cover the application fee.

   Completed; fee submitted on May 21, 2024.

2. Please confirm that you understand that you retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

   To determine what State Environmental Permits may be required for your project, The Vermont Agency of Natural Resources (ANR) recommends that you use ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website Welcome to DEC | Department of Environmental Conservation (vermont.gov) and going to the "Permit Navigator Tool" Permit Navigator (force.com)

   If further assistance is needed, please contact the Community Assistance Specialist for our area:

   Jeff McMahon, Community Assistance Specialist Jeff.McMahon@Vermont.gov
   802-477-2241

   We confirm that we understand that we retain this obligation and will do so.

3. Please contact the Fire Marshal, Tom Peltier, to discuss emergency vehicle access and requirements for a Public Building permit. tpeltier@hartford-vt.org (802-299-7013). Please update the top of page 5 of Kim Butler's letter of May 20, 2024 regarding fire lane as necessary (the DPW is not the department that requires fire lanes).

We have been in contact with Tom Peltier, and have included updated drawings C2.3 and C.2.7 for fire truck ingress and egress.

4. If you have not done so already, I encourage you to talk to Hartford's Environmental Sustainability Coordinator, Dana Clawson, about energy efficiency options for your project. (dclawson@hartford-vt.org)

   We have been in contact with Efficiency Vermont (EV) and per our funder's requirements the project will meet EV's High Performance energy efficiency standards.

   Drawings have been provided to Dana Clawson indicating that the basis of design is to follow Energy Star's prescriptive requirements.

5. Any approval will include a condition that your engineer certify that no changes, other than those required by the Planning Commission, were made to the final plans that are submitted for the Zoning Permit. Please confirm your understanding.

   We confirm our understanding of this condition.

6. Any approval will include a condition that, in addition to the required hard copy, the final approved plans are emailed to the Zoning Administrator.

   We confirm our understanding of this condition.

7. If you agree to allow the Hartford Historic Preservation Commission to photo-document the building before it is removed, please contact Hartford Town Planner, Matt Osborn (295-3075) to coordinate a site visit.

   We confirm that we will contact Matt Osborn to schedule a site visit.

8. Please change references to the zoning district in Kim Butler's letter of May 20, 2024 from "I-C" to "HCR." .

   Our revised letter is attached with that correction.

9. Please submit the updated traffic and parking study.

   The updated traffic and parking study from Wall Consulting Group is attached.

10. Please update the site plan to indicate where delivery vehicles (such as UPS/Fed Ex) will park.

    A location for delivery vehicles is now shown on the site plan. Please see Plan C2.0 and note C22.

11. Drainage from the site enters the US Route 5 drainage network without treatment or detention. A Section 1111 permit is necessary for this work. Please confirm that Agency of Transportation's Hydraulic Department has approved this connection.

    We have emailed the plans to Taylor Sisson of VTrans for review of the proposed connections. We will submit the Section 1111 permit as soon as feasible.

12. This new layout proposes a new 2" domestic service off a relocated 6" combined line. The minimum size line for new construction serving both domestic and a fire hydrant is 8". Please propose a new 8" main.

    The main is now called out as an 8"ductile iron pipe.

13. The new hydrant appears to be in an awkward location within plantings on private property. Please discuss this with the Fire Marshal and Brian Horbal at VTrans (brian.horbal@vermont.gov) and amend the plans to show the hydrant in the right-of-way in a location approved by Tom and Brian (with and without the roundabout).

    The hydrant has been moved to the property line for the interim phase location. We have also requested a review by Tom Peltier and Brian Horbal for both the interim and final hydrant locations.

14. The project will require an allocation for water/sewer from the DPW.

    We acknowledge that we understand this requirement and will submit a request to the DPW for the allocation.

15. What is the purpose of the mountable curb on the east side of the lot?

    The mountable curb is for snow plows and also moving equipment in and out of the maintenance shed it will also provide emergency fire truck access to the grass pavers fire lane.

16. Sheet driven retaining wall

    - Please provide an engineered design of the wall

      Final engineering design for the wall is costly and will be provided after the project has been approved. Initial meetings with the structural, geotechnical engineer, and the geotechnical Design/Build contractor have yielded the responses noted below.

    - Please have the engineer designing the wall provide information regarding the potential impacts of construction of the wall on the existing hillside, and surrounding properties, structures, and roadways

      Construction of the wall is estimated to last less than two weeks. During construction, there will be noise and vibrations. We will conduct preconstruction surveys of

foundations of basements and road areas, and seismographs will be set outside of the construction zone to ensure that all is kept within tolerances and thresholds to avoid any damage, and there are not usually any issues with installation of a wall of this type. This type of wall construction is less impactful than a compaction roller.

- The layout of the wall is over or through an existing 6" water main coming from Fairview Terrace. The aging 6" cast iron water main is undersized and will not survive the installation of the sheet driven retaining wall. Please propose a new water main complete with profile with necessary details including those of the retaining wall and the pipe penetration through it.

  We have proposed a new water line connection off Fairview Terrace and are showing a pipe casing through the sheet piling. The pipe will have to be disconnected during sheet piling work and the casing installed through the finished sheet piling, then the pipe will be fed through the casing and connected to the existing 6" tee at Fairview Terrace. Pipe profiles will be provided to the DPW for review.

17. Please contact the DPW regarding easement requirements for the relocated water line

    We will do so, and we will work the Town and our attorney for an easement agreement needed.

18. Please provide turning movements plans for a garbage truck, ambulance, and Hartford's ladder truck with and without the roundabout.

    Turning movements have been provided for the roundabout plan. Please see revised sheets C2.5 – C2.7. A 14' wide ladder truck fire access lane has been provided off the end of the parking lot to the existing curb cut as indicated by Note C23 on sheet C2.0. A fire truck turning plan has been created for the interim and final site plan configuration see sheets C2.4 and C2.7.

19. How will a vehicle exit the parking area if all parking spaces are full?

    We have revised the parking plan change the last parking space at the end of the parking lot into a crosshatched space for turnaround purposes.

20. The design of the pet run area on the civil drawings does not appear to match the design on the landscape plans.

    The Landscape Architect and Civil Engineer have coordinated drawings to match in design. It should be noted that we have also removed the direct connection from the sidewalk to the pet run area on both the civil and landscape plans.

21. Please explain the intent of providing direct access from the public sidewalk to the pet run area.

The direct access from the pet run to the sidewalk has been removed. Access to the pet run is now internal from within the parcel.

22. Have you discussed the improvements in the right-of-way with the State?

    This will be included in the 1111 permit to the State to be submitted as soon as feasible.

23. Is the location of the proposed snow storage area appropriate and adequate given the proposed landscaping in this area?

    Yes, the snow storage area is more than adequate. The landscape area around the parking area has been maintained (mostly) as a lawn area; other minor areas here include perennial planting beds with seasonal plantings. The perennial planting beds can also be available for snow storage during the winter season if necessary.

24. How will the shed be accessed when there is snow?

    The shed is for garden tools and access is not necessary during the winter months.

25. Please include foot candles on the lighting plan.

    We acknowledge this requirement and will do so. We have included the photometric plan. Please see Plan L4.1.

26. Please acknowledge that you understand that lighting must not create excessive off-site or sky glow and if the Zoning Administrator determines that lighting does not meet this condition, you will be required to comply.

    We acknowledge this requirement. In addition it should be noted that all fixtures specified are dark-sky friendly, are downcasting, and include house-side shields where necessary as to not create any off-site glow. See photometric plan sheet L4.1 for further information and photometric levels.

27. What will be done to guarantee that the landscaping is maintained in a healthy condition?

    The landscaping selected for the project includes native species and hardy varieties which will easily thrive once established and rooted-in place. As for establishing the landscape, the specifications and landscape notes include a 2-year landscape maintenance guarantee period as depicted on plan L1.0, note #11. We believe specifying native and hardy species along with the 2-year guarantee demonstrates the plantings will be well established, thriving, and in a healthy condition.

28. Please outline how the proposed landscaping meets the following sections of the Zoning Regulations:

    Section 260-24 (8) (b)

The site shall be designed and landscaped to minimize negative visual impacts and maximize safety. Plantings may be required for this purpose, both within the lot and between it and any public road or adjacent property. Plants shall not be invasive to Vermont, shall be selected for their ability to survive under special conditions found in a parking lot, and shall be protected from damage by vehicles and maintenance equipment, including snow removal and storage.

Overall, the goal is to provide a welcoming and colorful landscape pallet that is inviting, yet will be low-maintenance once the plantings establish. To that end, we have included a diversity of tree, shrubs, perennials, and wildflower plantings. This includes Vermont native species, and salt tolerant varieties. The landscape plan, and the 2-year guaranteed establishment period provides additional assurance to establish a thriving landscape. We believe the landscape pallet provides an adequate landscape approach that is compatible with adjacent properties, colorful, welcoming, and designed without interfering against vehicular site clearances. The landscape area around the parking area has been maintained (mostly) as a lawn area; other minor areas here include perennial planting beds with seasonal plantings. These perennial planting beds can also be available for snow storage during the winter season if necessary, and the plan includes native and hardy varieties that can survive well and easily be maintained once established.

Section 260-27

A. Open space requirements. Except in the Central Business and Village Business Districts, no development shall take place which leaves less than 15% of the lot in open space. This requirement does not apply to single- and two-family residences.

We have calculated all the area of the lot minus the parking area, dumpster enclosure, building envelope, patio entry area, and the two accessory structures, and have determined the remaining open space area of the lot to be ±80% (minimum 15% requirement). We would also note: of the 80% remaining open space area, the area of "un-useable" steep-sloped conditions is ±44% of the site; therefore the remaining "useable open space" is approximately ±36% (minimum 15% requirement).

B. Plantings. The following provisions shall apply to the planting element of all landscape plans submitted for site development plan approval:

(1) Plant materials included in landscape plans may be trees, shrubs, lawns, flower gardens, ground covers, cropland, pasture, meadows, wetlands and forests.

The proposed landscape plans include trees, shrubs, lawns, flower gardens, wildflower mixture, ground cover plantings and perennials. See plan L1.0.

(2) Natural cover shall be retained on a site to the extent possible and reasonable. Site clearing shall be kept to the minimum required for the construction of buildings and improvements.

The proposed landscape and site layout plan maintains much of the existing natural cover / existing landscaping along the sloped portion (Southern area) of the site. The clearing work and location the building has been placed within the roadside, pre-developed and (more) level portion of the property. Much of the property will remain undeveloped, intact, and undisturbed as practical. See plan L1.0.

(3) Plantings included in landscape plans receiving site development plan approval shall be maintained in a healthy, growing condition. Where forest, cropland and "natural" areas are included, provision shall be made for their ongoing maintenance.

As previously stated, the landscaping selected for the project includes healthy, native species and hardy varieties which will easily thrive once established and rooted-in place. The 2-year landscape maintenance guarantee period helps to ensure the plantings will be maintained in a healthy, growing condition. The existing / remaining forested area is very steep and inaccessible but will remain untouched and provide a natural buffer to the abutting residential properties. See plan L1.0.

(4) The choice and placement of plantings in parking areas shall take into account the special hazards of salt, vehicles and maintenance equipment, and include provision for adequate and safe snow removal.

The specified plantings include salt-tolerant/hardy varieties. In addition, the placement of all trees, shrubs and groundcover plantings include adequate room for periodic maintenance access with additional provisions for snow storage areas as shown on the plans. See the landscape plans and civil plans for further notes and location of snow storage areas.

(5) Any landscape plan submitted for site development plan approval shall show the locations and types of plants to be removed as well as the species, sizes, quantities and locations of all new plants to be installed. Additional information may be required by the Planning Commission under the provisions of § 260-45 below.

The proposed landscape plans include the locations, types, species, sizes and quantities of all new plants to be installed. Please see Plan L1.0 & Landscape Schedule).

Section 260-45 C (3)

Adequacy of landscaping, screening, and setbacks in achieving maximum compatibility with and protection of adjacent properties by screening from them any glare produced by interior or exterior lights and unsightly areas such as storage areas, and parking lots; assurance that landscape materials will not interfere with visibility or safety and that they are of a type that can survive and be maintained as proposed.

As previously stated, the goal is to provide a welcoming and colorful landscape pallet that is inviting, yet will be low-maintenance once the plantings establish. To that end, we have included a diversity of tree, shrubs, perennials, and wildflower plantings. This includes

Vermont native species, and salt tolerant varieties. The landscape plan, and the 2-year guaranteed establishment period provides additional assurance to establish a thriving landscape. We believe the landscape pallet provides an adequate landscape approach that is compatible with adjacent properties, colorful, welcoming, and designed without interfering against vehicular site clearances. Last, and as stated previously, the plan includes native and hardy varieties that can survive well and easily be maintained once established.

29. Please outline how the application conforms with section 260-27 C of the Hartford Zoning Regulations which states:

    C. **Grading and drainage**. The following provisions shall apply to any changes which affect drainage of water to or from a property:

    (1) Any changes in grading shall be made so that runoff is directed to established drainage courses and will not cause ponding or flooding of other properties, or exceed the capacity of downstream drainage facilities.

    (2) When possible, drainage systems shall be designed so that water runoff existing prior to site development shall not be increased after development.

    (3) All changes in grade shall be controlled so as not to cause a nuisance or damage to other properties or erosion of topsoil.

    Impervious surfaces will be reduced by approximately 900 sf with this project therefore runoff rates will be unchanged or slightly reduced by construction of the proposed facility. The site drainage network has been designed to keep water from ponding on site and creating a nuisance and grades have been designed to convey drainage away from structures and be collected by a series of drainage swales, curbing and catch basins. Drainage will be routed into the existing and proposed stormwater infrastructure in Route 5.

30. Please acknowledge that during construction of the proposed project erosion and sediment control measures as specified in the most current edition of the Low Risk Site Handbook for Erosion Prevention and Sediment Control published by the Vermont Department of Environmental Conservation will be followed.

    We acknowledge this requirement.

31. Any approval will include a condition requiring you to submit a set of approved plans to the Department of Planning and Development Services for distribution to the Department of Public Works. Please acknowledge that you understand this requirement.

    We acknowledge this requirement.

32. Please acknowledge that you understand the following:

Before you commence construction, you need to schedule a preconstruction meeting with the Department of Public Works (DPW). You need to contact the DPW at least two weeks before you want to hold this meeting.

If this meeting results in any revisions to the approved plans, you must contact me to discuss amending your permit.

We acknowledge this requirement.

33. Please acknowledge that you understand that once the project is complete and before I can issue a Certificate of Occupancy you need to submit:

    - Written verification from a Professional Engineer licensed by the State of Vermont certifying that the project was constructed in compliance with the approved civil plans and Findings of Fact.
    - Written verification from a Landscape Architect certifying that the plantings and amenities were installed in compliance with the approved plans and Findings of Fact.
    - Written verification from your architect certifying that the building was constructed in compliance with the approved architectural plans and Findings of Fact.
    - Written verification from the DPW that they have inspected and approved the water, sewer and hydrant.
    - AutoCAD release 21 or earlier record drawing of the approved site development with swing ties for the water, wastewater, and stormwater systems on an USB Flash Drive to the DPW
    - A PDF of the record drawing to me
    - A copy of an Energy Code Certificate as recorded in the Land Records

    Please acknowledge that you understand these requirements.

    We acknowledge that we understand these requirements.

34. Please email all application materials, including your response to this memo, and revised plans to me.

    All application materials, including this response, and revised plans will be sent electronically in addition to physical copies being provided.

35. Please submit 8 copies of all application materials, including your response to this memo and revised plans. Please staple and fold the plan sets. Please submit plans that are larger than 11”x17” as some of the 11”x17”plans are difficult to read.

Application material, including plan copies, being provided.

Please let us know if you have any questions on the foregoing or need any additional information.

Best,



Kimberly M. Butler

cc: Michael Redmond
James Wasser
Doug Sonsalla

Memo

Submitted To: Michael Redmond, Upper Valley Haven

Submitted By: Erica Wygonik, PhD, PE, Consulting Transportation Engineer

Project Name: Upper Valley Haven – Transportation Assessment

Date: 30 May 2024

WCG has completed an assessment of the expected transportation impacts resulting from the proposed emergency shelter located at 608 Main Street in White River Junction, Vermont. This memorandum summarizes our assessment.

Summary and Conclusion

- The project is located at 608 Main Street in White River Junction, Vermont.
- The existing site is the former home of the 25,000 Gifts retail shop, and more recently the Listen furniture store.
- The project proposes constructing a new building that will provide an emergency shelter with 20 beds as well as some office and program space for staff, volunteers and visiting outside services. The existing building will be removed.
- A future VTrans project to install a roundabout is planned for the intersection of US-5 & US-4. The driveway for the proposed project would be designed to serve as a 4th leg of the roundabout.
- The project is estimated to result in an increase of 4 trips in the AM peak hour and 4 trips in the PM peak hour.
- There are three state designated high crash locations within 0.5 miles of the project site. Four additional HCLs are within 1 mile of the project location.
- Ten property-damage only and two injury crashes were reported in the most recent 5-year period data is available (2018-2022) within the stopping sight distance of the proposed driveway. Eight of the crashes appear to be intersection-related and will be mitigated by the planned roundabout at the US-5 & US-4 intersection.
- Sight distances along the roadway exceed requirements.
- The acceptable sight distances and crash experience indicate the roadway will continue to operate safely.
- The estimated number of vehicles on site is projected to be no more than 17 vehicles. The planned 17 parking spaces are adequate to handle projected demands.

Based on the analysis conducted for this report, the proposed project is not expected to impact the condition or capacity of the affected roads and associated infrastructure. The proposed project will not cause or exacerbate any unreasonable congestion or unsafe conditions on the

local roadway network and will not unnecessarily or unreasonably endanger the public's investment in any local roads, highways, or related infrastructure.

Proposed Project

The project is located at 608 Main Street in White River Junction, Vermont in the Hartford Growth Center. The existing site is the former home of the 25,000 Gifts store and, more recently, the Listen Furniture store. The project proposes to convert the former retail space into a 20-bed emergency shelter. The site will be accessed from a narrowed curb cut on US-5 directly across from Woodstock Road (US-4).

The site plan dated 20 May 2024 in Figure 1 illustrates the proposed project including the renovated building along with the updated parking lot, sidewalks, and driveway. The site plan dated 20 May 2024 in Figure 2 illustrates how the access will be adapted when the VTrans roundabout project at the intersection of US-5 & US-4 is complete.

FIGURE 1: EXCERPT OF 5/20/2024 SITE PLAN (STUDIO NEXUS, ENGINEERING VENTURES, & PARK ARCHITECTURE; WCG MARKUP)

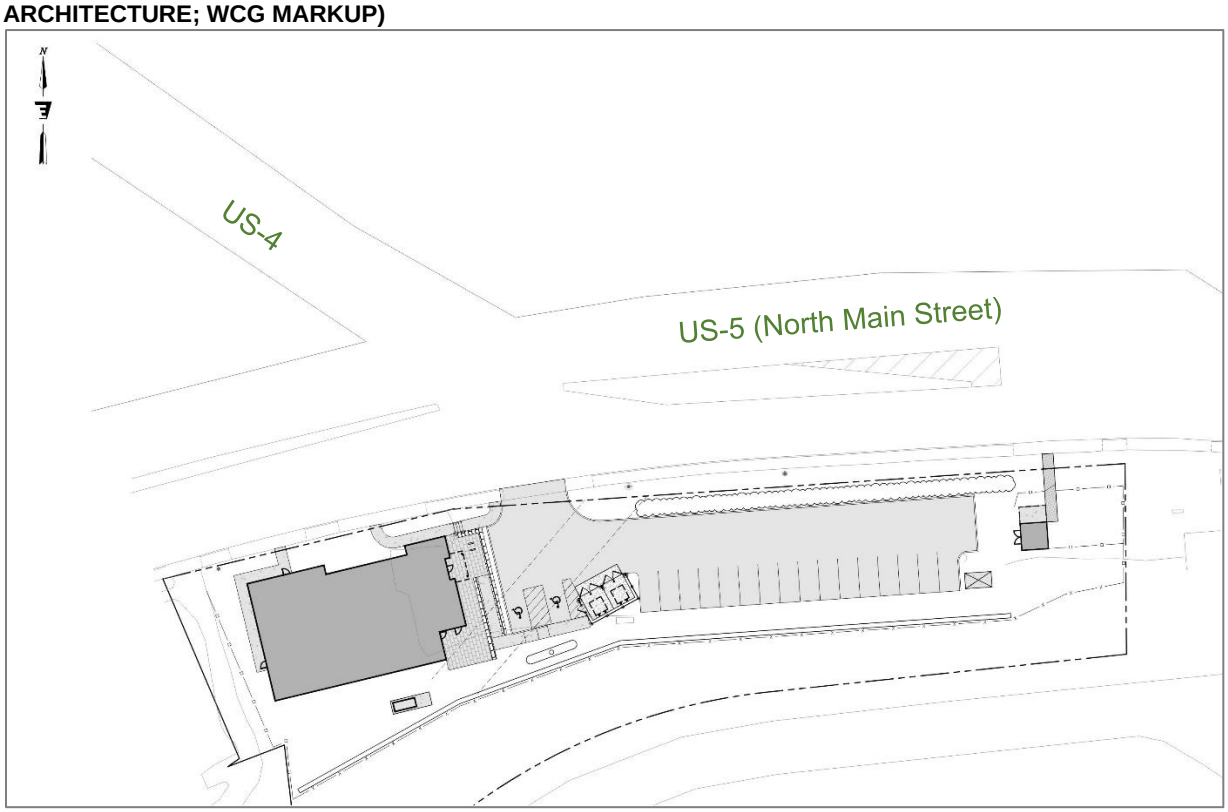
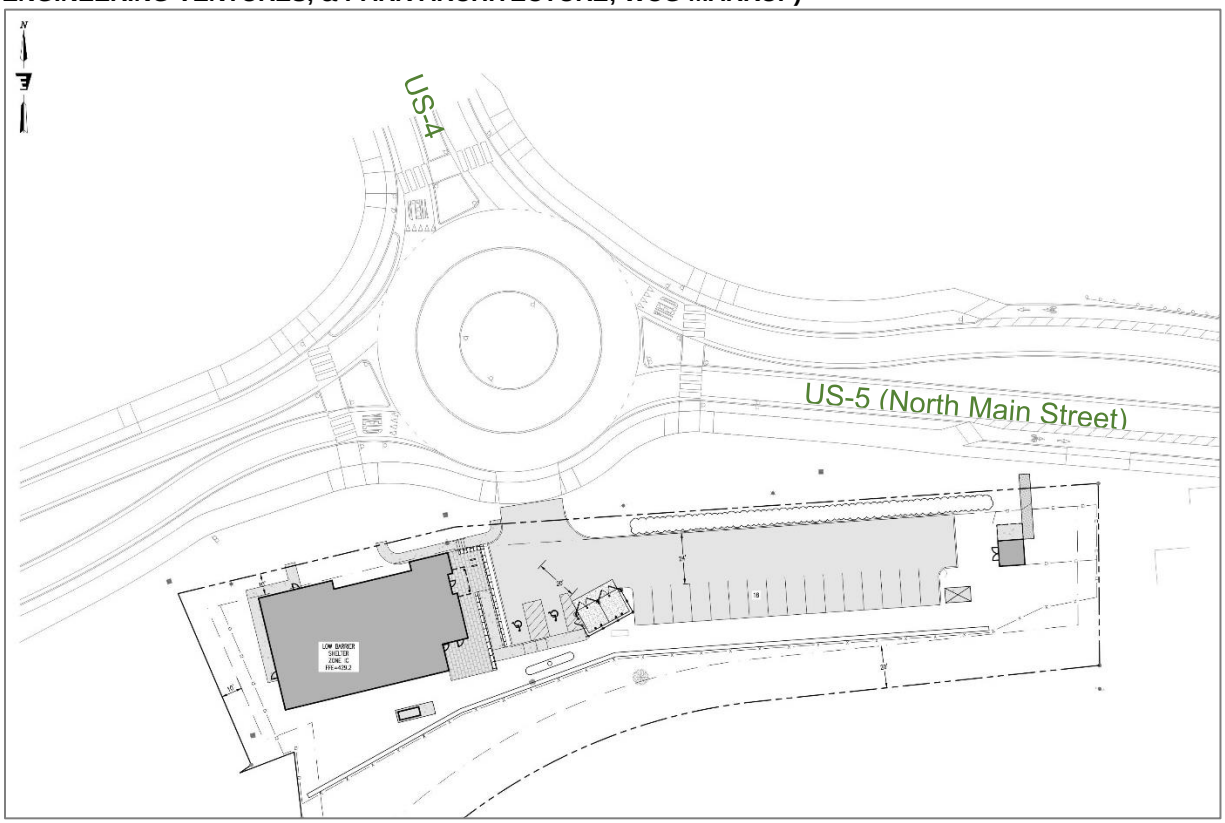


FIGURE 2: EXCERPT OF 5/20/2024 SITE PLAN SHOWING ROUNDABOUT CONNECTION (STUDIO NEXUS, ENGINEERING VENTURES, & PARK ARCHITECTURE; WCG MARKUP)



Existing Transportation Network

The proposed project is located on US-5 directly across from the intersection with US-4 (Woodstock Road). US-5 is a state-controlled highway classified as a major collector. The roadway has two travel lanes in each direction, approximately 12’ wide, with narrow shoulders. Northbound US-5 has a 12’ wide left turn lane, and southbound US-5 has a right-turn slip lane. US-4 also has a right-turn slip lane as it approaches US-5. The speed limit along US-5 is posted at 40 mph proximate to the driveway. US-5 slopes downward from east to west, with a 7.7 percent downgrade, according to the route log.

An automated traffic recorder, station Y232 located approximately 900 feet east of the site on US-5, was last counted over 7 days in 2018. The 2022 AADT was reported as 8,139 vehicles per day (vpd), grown annually from the 2018 count. An automatic traffic recorder (Y223), approximately 2000 feet southwest of the driveway, observed traffic volumes over six consecutive days in May 2016. The online transportation data management system shows a projected 2022 AADT of 7,716 vpd grown annually from that count.

There is a sidewalk along the south/east side of US-5 proximate to the project driveway, extending from Sykes Avenue to Downtown White River Junction. A stop for the Advance Transit Orange Route, which runs at 30-minute headways, is approximately 2000’ east of the

project site, accessible via the sidewalk. A drop-off-only stop for the Advance Transit Yellow and Orange Routes, which run on 30-minute headways, is approximately 2000' southwest of the project site, accessible via the sidewalk. Long-distance transit service is accessible via the sidewalk approximately 3000' south of the project at the bus station on Sykes Avenue.

Trip Generation

Base Trip Generation

Trip generation refers to the number of vehicle trips originating at or destined for a particular land use development. The proposed project will generate trip ends from the land use being developed: an emergency shelter.

Data from the Institute of Transportation Engineers (ITE) can be applied to estimate trip generation associated with the existing and proposed land uses. WCG consulted the ITE Trip Generation Manual, 11th Edition to estimate base vehicle trips. Base vehicle trips are the total estimated vehicle trips prior to any reductions associated with internal capture, pass-by, or transportation demand management (TDM) features.

The most applicable land use relevant to the existing site is ITE Land Use Code (LUC) 890 Furniture Store, described as:

> *A furniture store is a full-service retail facility that specializes in the sale of furniture and often carpeting. A furniture store is generally large and may include storage areas. The site in the database include both traditional retail furniture stores and warehouse stores with showrooms. Although some home accessories may be sold, a furniture store primarily focuses on the sale of pre-assembled furniture.*

Table 1 documents the estimated base vehicle trip generation using the land use described above.

TABLE 1: ESTIMATED BASE VEHICLE TRIP GENERATION OF THE EXISTING SITE

Existing Trip Gen				AM Peak Hour			PM Peak Hour		
				Base			Base		
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total
890	Furniture Store	3.86	KSF	1	0	1	1	1	2

The most applicable land use relevant to the proposed site is ITE Land Use Code (LUC) 223 Affordable Housing, described as:

> *Affordable housing includes all multifamily housing that is rented at below market rate to households that include at least one employed member. Eligibility to live in affordable housing can be a function of limited household income and resident age.*

Table 2 documents the estimated ITE base vehicle trip generation for the proposed emergency shelter using the Affordable Housing land use.

TABLE 2: ESTIMATED BASE VEHICLE TRIP GENERATION OF THE PROPOSED SITE

Proposed Build				AM Peak Hour			PM Peak Hour		
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total
223	Affordable Housing	20	bedrooms	3	6	9	3	2	5

While LUC 223, Affordable Housing, is the most applicable land use in the ITE data set, it reflects permanent housing and is likely to overestimate the traffic generated by the site, as the number of trips generated by a household correlates with income, with lower incomes correlated with lower trip generation rates.[1] As such, the estimated number of trips in Table 2 provides an upper estimate of the amount of traffic likely to be generated by the site. Using the ratios between Permanent Supportive Housing and Affordable Housing trip generation rates provided by LA DOT[2], the Haven emergency shelter is estimated to generate approximately 2 AM peak hour and 2 PM peak hour trips.

Discussions with the Haven indicate they anticipate 4-5 guests out of 20 overnight guests would bring a vehicle. Few would arrive or depart during the peak hours. The proposed project also includes daytime supportive services. Some guests would remain on site to access these services, and others would arrive during the day to access the services. In addition, small numbers of Haven staff, external service providers, and volunteers will arrive and depart throughout the day. The Haven anticipates during the AM peak (7:00-9:00 AM) 6 staff will arrive, 2 staff will depart, and 1 shelter guest with a car will depart. Assuming half of that activity occurs during the peak hour (7:30-8:30 AM) results in 5 total AM peak hour trips (3 Enter, 2 Exit). During the PM peak (4:00-6:00 PM), the Haven anticipates 2 shelter guests with cars will arrive, 2 guests with cars will depart, 2 staff arrive, 4 staff depart, and up to 2 volunteers will arrive. Assuming half of that activity occurs during the PM peak hour (4:30-5:30 PM) results in 6 total PM peak hour trips (3 Enter, 3 Exit). This site-specific analysis indicates 5 trips would occur during the AM peak hour and 6 trips would arrive during the PM peak hour.

Table 3 illustrates the results from the 3 methods of estimating trip generation for the site. The site-specific estimates align fairly closely with projected estimates, suggesting the future trip generation will be close to these. Since the site-specific estimates best reflect the actual function of the proposed project, they are used throughout the rest of the report.

[1] https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf

[2] LA Dot Transportation Assessment Guidelines 2020 for example show trip generation rates for 'Permanent Supportive' housing is approximately 15% in the AM peak hour and 34% of that for Affordable Family Housing (which is comparable to the ITE LU 223). https://ladot.lacity.org/sites/default/files/documents/2020-transportation-assessment-guidelines_final_2020.07.27.pdf

TABLE 3: TRIP GENERATION ESTIMATES FROM THREE SOURCES: ITE TRIP GENERATION, LA DOT, SITE-SPECIFIC ESTIMATES

Proposed Build				AM Peak Hour			PM Peak Hour			Weekday
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total	Total
223	Affordable Housing	20	bedrooms	3	6	9	3	2	5	0
	LA DOT Permanent Supportive			1	1	2	1	1	2	0
	Site Specific Calculation			**3**	**2**	**5**	**3**	**3**	**6**	0

Net New Trip Generation

The resulting net base trip generation for the site is the net difference between that from the existing site and the primary trips from the proposed project. Table 4 documents the resulting net new trip generation.

TABLE 4: ESTIMATED NET NEW VEHICLE TRIP GENERATION OF THE PROPOSED SITE

	AM Peak Hour			PM Peak Hour		
Estimated Base Trip Generation, Existing Site	1	0	1	1	1	2
Estimated Base Trip Generation, Proposed Site	3	2	5	3	3	6
Net Change, Existing → Proposed	**2**	**2**	**4**	**2**	**2**	**4**

As shown in Table 4, the proposed project is anticipated to result in an increase of 4 trips in the AM peak hour and 4 trips in the PM peak hour.

Given the site's proposed design with access to a sidewalk network and transit service, some access to the site by alternative modes is anticipated. Using VTrans TDM Measure Guidelines, and considering the project has access to 30-minute headway transit in a designated growth center, a number of adjustments to trip generation could be made to account for alternative modes. A 4% reduction in trip generation could be applied due to the design of the site supporting transit and walk access, a 0.5% reduction could be applied due to the presence of bike racks, and 1% due to the presence of showers on site. However, given that the peak hour trip generation is projected to be so low, and that trips should be rounded up to the nearest whole number, the resulting number of trips for the purpose of these calculations is not likely to change.

VTrans guidelines specify that a traffic study should be considered if the proposed development will generate 75 or more peak hour trips.[3] The estimated new external vehicle trip generation is negligible compared to the peak hour threshold meriting further evaluation.

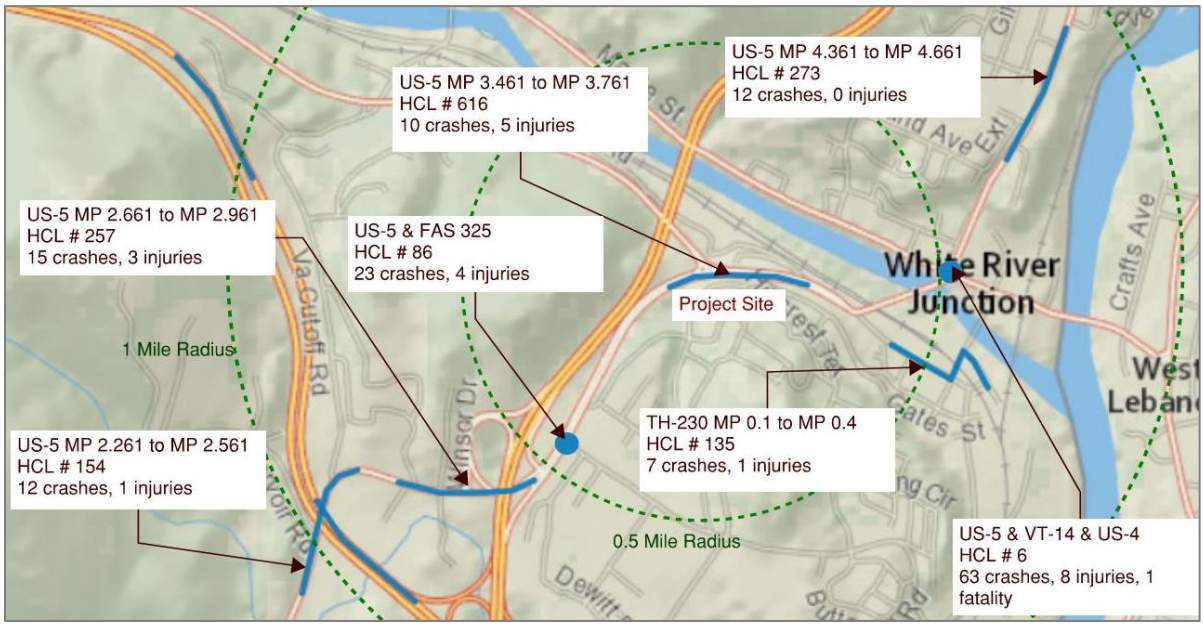
Crash Review

WCG reviewed the most recent high crash location (HCL) report prepared by VTrans using 2012-2016 crash data. According to the HCL report, there are two HCL segments within 0.5 miles of the project site – along US-5 proximate to the site and along North Main Street in

[3] Vermont Agency of Transportation, Policy and Planning Division, Development Review and Permitting Services, *Traffic Impact Study Guidelines* (April 2019).

downtown White River Junction. There is also an HCL intersection at the US-5 & Sykes Avenue intersection. The HCL proximate to the site includes the roundabout planned for the US-5 & US-4 intersection, and the HCL at the US-5 & Sykes Avenue intersection has been addressed through the recent completion of a roundabout at that location. The HCL along North Main Street no longer would qualify as an HCL as only 3 crashes were reported in the most recent 5 years currently available (2018-2022). Four additional HCLs are located between 0.5 and 1 mile from the project site. (Figure 3).

FIGURE 3: NEAREST HCL SEGMENTS AND INTERSECTIONS RELATIVE TO THE PROJECT SITE



WCG reviewed all reported crashes in the online database along US-5 within the stopping sight distance of the driveway in the most recent complete 5 years. Ten property-damage only and two injury crashes were reported in this period (2018-2022). Eight of the crashes appear to be intersection-related and will be mitigated by the planned roundabout at the US-5 & US-4 intersection.

Given the existing operations and crash experience, the proposed project is not expected to cause or worsen unsafe conditions.

Sight Distance

As defined in the 2018 publication *A Policy on Geometric Design of Highways and Streets*, from the American Association of State Highway and Transportation Officials (AASHTO), sight distance is the "the length of roadway ahead that is visible to the driver."[4] Sight distances of

[4] American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets, Seventh Edition (Washington D.C.: American Association of State Highway and Transportation Officials, 2018). Page 3-2.

sufficient length are necessary at all points along a roadway to ensure vehicles can safely stop or avoid colliding with potential obstructions or other vehicles on the roadway.

Standard practice in assessing intersection safety and operations involves measuring two separate sight distances – **stopping sight distance** and **intersection sight distance**.

Stopping sight distance (SSD) is the visible distance along a roadway between an advancing motorist and a potential obstacle in the roadway. It is measured from a point representing the approaching driver's eye and a point representing an obstacle in the roadway.[5] Stopping sight distances of adequate length are needed along all roadways, both at and away from intersections, so that drivers travelling at design speeds can react to potential obstacles and safely brake to avoid collisions. Design minimum stopping sight distances are calculated based on factors such as design speed, response times, and grades as reported in the *2018 Policy on Geometric Design of Highways and Streets*.[6]

Intersection sight distance (ISD) is the distance available along the major road travelled way corresponding with the maximum visibility between an advancing motorist on the major road and an entering motorist on an intersecting minor road. It is measured between a point representing the advancing driver's eye above the major road and a point representing the entering driver's eye above the intersecting road.[7]

The *2018 Policy on Geometric Design of Highways and Streets* states that the available intersection sight distance should be at least equal to the required stopping sight distance along the major road.

> *"Sight distance is also provided at intersections to allow the drivers of stopped vehicles a sufficient view of the intersecting highway to decide when to enter the intersecting highway or to cross it. If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions."*

However, when possible, it is desirable to have intersection sight distances that exceed the design minimum stopping sight distances to offer improved operations, such that major road traffic need not decelerate to accommodate entering traffic.

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[5] As noted in the 2018 Policy on Geometric Design of Highways and Streets (page 3-15), the height of the driver's eye is assumed to be 3.5' above the road surface and the height of a potential obstacle is 2.0' above the road surface.

[6] American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets, Seventh Edition (Washington D.C.: American Association of State Highway and Transportation Officials, 2018). Page 3-5 to 3-6.

[7] As noted in the 2018 Policy on Geometric Design of Highways and Streets (page 3-16), the height of the driver's eye of the approaching vehicle is assumed to be 3.5' above the road surface of the major road and the height of the driver's eye of the entering vehicle is assumed to 3.5' above the minor road surface. The decision point offset from the travel way varies with sight conditions (page 9-38); in this case we assume the decision point is 15-feet from the travel way.

> *"However, in some cases a major-road vehicle may need to stop or slow to accommodate the maneuver by a minor road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."*

Based on the posted speed limit of 40 mph and the downgrade approaching the driveway from the southwest (~7.7%), the design minimum stopping sight distance is 355 feet approaching from the south. Given the upgrade of approximately 7.7% approaching from the northeast, the stopping sight distance is 270 feet. The target minimum intersection sight distance for turning traffic at the proposed driveways is 385 feet to the left and 445 feet to the right.

ISD and SSD were measured at the proposed driveway. The resulting ISD and SSD observations are detailed in the following pictures and tables.

FIGURE 4: DRIVER'S PERSPECTIVE TO THE LEFT (SOUTH) AND RIGHT (NORTH) FROM THE PROPOSED SITE DRIVEWAY



TABLE 5: REQUIRED AND MEASURED SIGHT DISTANCES AT THE EXISTING SITE DRIVEWAY

	Required Minimum	Design Target	Measured
Stopping Sight Distance	from north: 280' from south: 355'	n/a	>500' **(met)** 400' **(met)**
Intersection Sight Distance	right, to north: 280' left, to south: 355'	right, to north: 445' left, to south: 385'	right, to north: >500' **(met)** left, to south: 400' **(met)**

The observed intersection and stopping sight distances at the existing site driveway exceed required and preferred minimum distances.

Parking

As noted above, discussions with the Haven indicate they anticipate 4-5 guests out of 20 would bring a vehicle overnight, and up to 7 guests would be on-site with vehicles during the day. In addition, up to 7 staff, up to 4 external service providers, and up to 6 volunteers will be on site at

any given time. These maximums would not occur at the same time, and the Haven has discretion over how many volunteers are scheduled and how many outside service providers are present at any given time. They are also able to dictate the number of parking spaces volunteers and outside service providers can access at a given time. Based on anticipated schedules, no more than 17 vehicles are expected on site at any given time. This peak is projected to occur during the midday period. The planned 17 parking spaces on site are adequate to handle projected demands. Details regarding parking demand throughout the day are attached.

Attachments

Hour Starting	Enter	Exit	In Lot	notes
Overnight			7	4-5 shelter guests park overnight, 2 staff park overnight
7:00 AM	**0**	**1**	**6**	1 guest leaves, 4 staff arrive
8:00 AM	**2**	**2**	**6**	2 staff arrive, 2 staff leave
9:00 AM	4	1	9	1 guest leaves, 4 staff arrive
10:00 AM	6	0	15	2 guests arrive, 3 outside service providers arrive, 1 staff arrives
11:00 AM	2	0	**17**	2 volunteers arrive
12:00 PM	2	3	16	2 guests arrive, 3 outside service providers leave
1:00 PM	5	4	**17**	3 outsider service providers arrive, 2 guests arrive, 2 guests leave, 2 volunteers leave
2:00 PM	2	2	**17**	2 guests arrive, 2 guests leave
3:00 PM	0	5	12	3 outside service providers leave, 2 guests leave
4:00 PM	**2**	**4**	**10**	2 staff arrive, 2 staff leave, 2 guests leave
5:00 PM	**4**	**2**	**12**	2 guests arrive, 2 volunteers arrive, 2 staff leave
6:00 PM	4	0	16	4 outside service providers arrive
7:00 PM	0	5	11	2 volunteers leave, 3 staff leave
8:00 PM	0	4	7	4 outside service providers leave
12:00 AM	2	2	7	2 staff arrive, 2 staff leave

Memorandum

To: Michael Redmond

Cc: Kim Butler, Adam Morse, Doug Sonsalla, Jim Wasser, Chris Holzwarth, Tom Peltier, and Dana Clawson

From: Jo-Ann Ells

Date: May 23, 2024

Re: Proposed Emergency Shelter / 608 North Main Street

Please submit a response to the following comments/questions on your application for an Emergency Shelter before **9:00 a.m., Friday, May 31, 2024.** If you are unable to meet this deadline, please contact me as soon as possible to discuss the deadline to have your application heard at the next round of Public Hearings.

Prior to the Planning Commission Hearing, you will receive an agenda, draft Findings of Fact, and additional staff comments if there are any. Please feel free to contact me at any time during this process.

1. Please submit a check for $609.85 to cover the application fee.

2. Please confirm that you understand that you retain the obligation to identify, apply for, and obtain any relevant local and state permits for this project.

   To determine what State Environmental Permits may be required for your project, The Vermont Agency of Natural Resources (ANR) recommends that you use ANR's Permit Navigator Tool by going to the VT Department of Environmental Conservation website Welcome to DEC | Department of Environmental Conservation (vermont.gov) and going to the "Permit Navigator Tool" Permit Navigator (force.com)

   If further assistance is needed, please contact the Community Assistance Specialist for our area:

   Jeff McMahon, Community Assistance Specialist Jeff.McMahon@Vermont.gov
   802-477-2241

3. Please contact the Fire Marshal, Tom Peltier, to discuss emergency vehicle access and requirements for a Public Building permit. tpeltier@hartford-vt.org (802-299-7013). Please update the top of page 5 of Kim Butler's letter of May 20, 2024 regarding fire lane as necessary (the DPW is not the department that requires fire lanes).

4. If you have not done so already, I encourage you to talk to Hartford's Environmental Sustainability Coordinator, Dana Clawson, about energy efficiency options for your project. (dclawson@hartford-vt.org)

5. Any approval will include a condition that your engineer certify that no changes, other than those required by the Planning Commission, were made to the final plans that are submitted for the Zoning Permit. Please confirm your understanding.

6. Any approval will include a condition that, in addition to the required hard copy, the final approved plans are emailed to the Zoning Administrator.

7. If you agree to allow the Hartford Historic Preservation Commission to photo-document the building before it is removed, please contact Hartford Town Planner, Matt Osborn (295-3075) to coordinate a site visit.

8. Please change references to the zoning district in Kim Butler's letter of May 20, 2024 from "I-C" to "HCR."

9. Please submit the updated traffic and parking study.

10. Please update the site plan to indicate where delivery vehicles (such as UPS/Fed Ex) will park.

11. Drainage from the site enters the US Route 5 drainage network without treatment or detention. A Section 1111 permit is necessary for this work. Please confirm that Agency of Transportation's Hydraulic Department has approved this connection.

12. This new layout proposes a new 2" domestic service off a relocated 6" combined line. The minimum size line for new construction serving both domestic and a fire hydrant is 8". Please propose a new 8" main.

13. The new hydrant appears to be in an awkward location within plantings on private property. Please discuss this with the Fire Marshal and Brian Horbal at VTrans (brian.horbal@vermont.gov) and amend the plans to show the hydrant in

the right-of-way in n a location approved by Tom and Brian (with and without the roundabout).

14. The project will require an allocation for water/sewer from the DPW.

15. What is the purpose of the mountable curb on the east side of the lot?

16. Sheet driven retaining wall

    - Please provide an engineered design of the wall
    - Please have the engineer designing the wall provide information regarding the potential impacts of construction of the wall on the existing hillside, and surrounding properties, structures, and roadways
    - The layout of the wall is over or through an existing 6" water main coming from Fairview Terrace. The aging 6" cast iron water main is undersized and will not survive the installation of the sheet driven retaining wall. Please propose a new water main complete with profile with necessary details including those of the retaining wall and the pipe penetration through it.

17. Please contact the DPW regarding easement requirements for the relocated water line.

18. Please provide turning movements plans for a garbage truck, ambulance, and Hartford's ladder truck with and without the roundabout.

19. How will a vehicle exit the parking area if all parking spaces are full?

20. The design of the pet run area on the civil drawings does not appear to match the design on the landscape plans.

21. Please explain the intent of providing direct access from the public sidewalk to the pet run area.

22. Have you discussed the improvements in the right-of-way with the State?

23. Is the location of the proposed snow storage area appropriate and adequate given the proposed landscaping in this area?

24. How will the shed be accessed when there is snow?

25. Please include foot candles on the lighting plan.

26. Please acknowledge that you understand that lighting must not create excessive off-site or sky glow and if the Zoning Administrator determines that lighting does not meet this condition, you will be required to comply.

27. What will be done to guarantee that the landscaping is maintained in a healthy condition?

28. Please outline how the proposed landscaping meets the following sections of the Zoning Regulations:

    Section 260-24 (8) (b)

    The site shall be designed and landscaped to minimize negative visual impacts and maximize safety. Plantings may be required for this purpose, both within the lot and between it and any public road or adjacent property. Plants shall not be invasive to Vermont, shall be selected for their ability to survive under special conditions found in a parking lot, and shall be protected from damage by vehicles and maintenance equipment, including snow removal and storage.

    Section 260-27

    A. Open space requirements. Except in the Central Business and Village Business Districts, no development shall take place which leaves less than 15% of the lot in open space. This requirement does not apply to single- and two-family residences.

    B. Plantings. The following provisions shall apply to the planting element of all landscape plans submitted for site development plan approval:

        (1) Plant materials included in landscape plans may be trees, shrubs, lawns, flower gardens, ground covers, cropland, pasture, meadows, wetlands and forests.
        (2) Natural cover shall be retained on a site to the extent possible and reasonable. Site clearing shall be kept to the minimum required for the construction of buildings and improvements.
        (3) Plantings included in landscape plans receiving site development plan approval shall be maintained in a healthy, growing condition. Where forest, cropland and "natural" areas are included, provision shall be made for their ongoing maintenance.
        (4) The choice and placement of plantings in parking areas shall take into account the special hazards of salt, vehicles and maintenance equipment, and include provision for adequate and safe snow removal.
        (5) Any landscape plan submitted for site development plan approval shall show the locations and types of plants to be removed as well as

the species, sizes, quantities and locations of all new plants to be installed. Additional information may be required by the Planning Commission under the provisions of § 260-45 below.

Section 260-45 C (3)

Adequacy of landscaping, screening, and setbacks in achieving maximum compatibility with and protection of adjacent properties by screening from them any glare produced by interior or exterior lights and unsightly areas such as storage areas, and parking lots; assurance that landscape materials will not interfere with visibility or safety and that they are of a type that can survive and be maintained as proposed.

29. Please outline how the application conforms with section 260-27 C of the Hartford Zoning Regulations which states:

    C. **Grading and drainage.** The following provisions shall apply to any changes which affect drainage of water to or from a property:
    (1) Any changes in grading shall be made so that runoff is directed to established drainage courses and will not cause ponding or flooding of other properties, or exceed the capacity of downstream drainage facilities.
    (2) When possible, drainage systems shall be designed so that water runoff existing prior to site development shall not be increased after development.
    (3) All changes in grade shall be controlled so as not to cause a nuisance or damage to other properties or erosion of topsoil.

30. Please acknowledge that during construction of the proposed project erosion and sediment control measures as specified in the most current edition of the *Low Risk Site Handbook for Erosion Prevention and Sediment Control* published by the Vermont Department of Environmental Conservation will be followed.

31. Any approval will include a condition requiring you to submit a set of approved plans to the Department of Planning and Development Services for distribution to the Department of Public Works. Please acknowledge that you understand this requirement.

32. Please acknowledge that you understand the following:

    Before you commence construction, you need to schedule a preconstruction meeting with the Department of Public Works (DPW). You need to contact the DPW at least two weeks before you want to hold this meeting.

If this meeting results in any revisions to the approved plans, you must contact me to discuss amending your permit.

33. Please acknowledge that you understand that once the project is complete and before I can issue a Certificate of Occupancy you need to submit:

    - Written verification from a Professional Engineer licensed by the State of Vermont certifying that the project was constructed in compliance with the approved civil plans and Findings of Fact.
    - Written verification from a Landscape Architect certifying that the plantings and amenities were installed in compliance with the approved plans and Findings of Fact.
    - Written verification from your architect certifying that the building was constructed in compliance with the approved architectural plans and Findings of Fact.
    - Written verification from the DPW that they have inspected and approved the water, sewer and hydrant.
    - AutoCAD release 21 or earlier record drawing of the approved site development with swing ties for the water, wastewater, and stormwater systems on an USB Flash Drive to the DPW
    - A PDF of the record drawing to me
    - A copy of an Energy Code Certificate as recorded in the Land Records

    Please acknowledge that you understand these requirements.

34. Please email all application materials, including your response to this memo, and revised plans to me.

35. Please submit 8 copies of all application materials, including your response to this memo and revised plans. Please staple and fold the plan sets. Please submit plans that are larger than 11”x17” as some of the 11”x17”plans are difficult to read.