TOWN OF JACKSON
PLANNING & BUILDING DEPARTMENT

TRANSMITTAL MEMO

Town of Jackson
- ☒ Public Works/Engineering
- ☒ Building
- ☐ Title Company
- ☒ Town Attorney
- ☒ Police

Joint Town/County
- ☒ Parks and Recreation
- ☒ Pathways
- ☒ Housing Department

Teton County
- ☐ Planning Division
- ☐ Engineer
- ☐ Surveyor- *Nelson*
- ☐ Assessor
- ☐ Clerk and Recorder
- ☐ Road and Levee

State of Wyoming
- ☐ Teton Conservation
- ☐ WYDOT
- ☐ TC School District #1
- ☐ Game and Fish
- ☐ DEQ

Federal Agencies
- ☐ Army Corp of Engineers

Utility Providers
- ☐ Qwest
- ☐ Lower Valley Energy
- ☐ Bresnan Communications

Special Districts
- ☒ START
- ☒ Jackson Hole Fire/EMS
- ☐ Irrigation Company

Date: March 9, 2023

Item #: P22-253

Planner: Katelyn Page

Phone: 733-0440 ext. 1302

Email: kpage@jacksonwy.gov

Owner
245 265 Millward, LLC c/o Kaikoa LLC
3610 N. Moose Wilson Road
Wilson, WY 83014

Applicant
Northworks Architects and Planners
PO Box 4027
Jackson, WY 83001

REQUESTS:

The applicant is **re-submitting** their revisions in response to previous departmental reviews for a Development Plan for a mixed use development at the properties located at 265 and 245 N. Millward, legally known as LOTS 3-4-5 and LOT 6, BLK. 2, JACKSON (MOS T-26D) PIDNs: 22-41-16-28-4-05-003 and 22-41-16-28-4-05-004.

For questions, please call Katelyn Page at 733-0440, x1302 or email to the address shown below. Thank you.

Please respond by:

RESPONSE: For Departments not using Trak-it, please send responses via email to:
alangley@jacksonwy.gov

MILLWARD STREET APARTMENTS

DEVELOPMENT PLAN RESUBMISSION

MARCH 8, 2023

NORTHWORKS | KAIKOA LLC | MATAROZZI PELSINGER BUILDERS

TABLE OF CONTENTS

01

COVER LETTER

NORTHWORKS

Paul Anthony
Planning Director
Town of Jackson
P.O. Box 1687
Jackson, WY 83001

March 8, 2023

Re: Development Plan: 245 & 265 Millward Street

Dear Mr. Anthony,

Please accept this updated Development Plan application for the redevelopment of the property located at 245-265 N. Millward Steet. Included in this application are the following items:

1. Cover Letter, with:
    a. Summary List of Changes since 01/12/23 submission
    b. Responses to the 11/18/22 Town of Jackson Project Reviews
2. Application
3. Letter of Authorization
4. Project Narrative
5. Responses to Findings
6. LDR Compliance
7. Housing Mitigation Plan
8. Drawings – Architecture, Landscape, & Civil
9. Construction Management Plan
10. Engineering Report

The proposed project implements the goals noted in the Jackson/Teton County Comprehensive Plan. It conforms with the Town of Jackson land development regulations and design guidelines.

The project is a mixed-use building totaling approximately 41,000 square feet including commercial space at the street level and two additional levels of residential units. Upon completion, the project will provide the city with 48 additional housing units in an elegant structure with a planted green roof.

Please note that the basement floor has been removed from the project for this resubmission, and thus the parking calculations and workforce housing calculations have been revised.

Please notify me with any questions you may have. We look forward to working with you on this project.

Sincerely,

Kimberly Daul
Project Architect, Northworks Architects

Summary List of Changes

Following Jan. 12th Submission, Jan 18th Town Council Meeting, & Public Comment

Updated March 8, 2023

01 Cover Letter – Notes on Department Reviews

- P. 10 (Cover Letter P. 7 of 11) – **Addressed transformer location concern.**
  Per the LDRs section 6.1.10-C-2a, utilities such as transformers are not required to adhere to structure or site development setbacks.

04 Project Narrative

- P. 20 – Updated unit numbers.

05 Responses to Findings

- P. 22 – Updated unit numbers.

06 LDR Compliance

- P. 25 – Corrected lot size areas.
- P. 30-33 – Updated unit counts and areas.
- P. 33 – Addressed vehicle turning and delivery concerns.

07 Housing Mitigation Plan

- P. 37-40 – Updated unit counts and areas.

08 Drawings

- P.42, 43, 47 (A0.01, A0.10, A1.50) – **Reduced the building's bulk along the alley facade**.
  The central balconies were pushed back to introduce more planted green space along the alley. Deeper setbacks were also introduced at the two residential corridors, where more greenery was added and the roof overhang removed. The third-floor balcony roof was removed to reduce bulk at the courtyard.
- P. 44-45 (A1.01-A1.02) & P. 70-77 (L0.2-L4.1) – **LSR area was increased, parking spaces removed, and snow storage added.** The side yards are now planted along the full length of the property to the north and south. The 10% LSR requirement is now met at ground level.

	Previous Area (sf)	New Area (sf)	LSR Increase (sf)
Ground Level	1,454	**2,720**	**1,266**
Second Floor	1,747	**1,821.7**	**74.7**
Total	3,201	**4,541.7**	**1,340.7**

- P. 44 (A1.01) – **Fencing was added along the north and south property lines.**
  Six-foot fencing was added to further screen the parking area and transformer.
- P. 44 (A1.01) – **Hammerhead parking turnouts were added**.
  These are 3'-8" deep and 14'-0" wide, which allow for proper vehicle turning per the Civil turning analysis diagrams.
- P. 44 (A1.01) – **Two laundry rooms were combined into one central room.**
  A fire riser room was also added next to the laundry room.
- P.46 (A1.03) – **Reduced unit count to 48 units**.
  The four interior courtyard corner units on Level 3 were combined with adjacent studios to

form larger units, reducing the overall unit count.

- P.51-54 – **Unit Mix overview was updated.**
  Color coding of deed-restricted units changed. Reduced plan to 48 units total.
- P.55-57 (A2.00-A2.02) – **Bulk reduced at alley elevation.**
  Overhangs eliminated at corridors; central balcony pushed back and its roof eliminated.
- P. 67,68 – **New alley renderings**.
  These show the introduction of more green space along the alley façade, the recessed corridor walls and recessed central balcony, and new fencing.
- P. 70-77 (L0.2-L4.1) – **Landscape plans were updated.**
  In addition to adding LSR area as mentioned above, planting plans were updated.
- P.82, 83, 84 (C2.0, C3.0, 3.1) – **Civil plans were updated.**
  The site plan, utility plan, power plan, and grading plan now includes the parking hammerheads and full alley width. The site's stormwater strategy has been improved.
- P.92-93 (C4.3, Existing Alley Survey) – **Proposed and existing alley site plans were drawn, and a new stormwater retention strategy was proposed.**
  The alley and its existing encroachments have been surveyed. Excess stormwater is being retained pre-post on site.

09 Construction Management Plan

No changes.

10 Engineering Report

- P.112-115 – **Stormwater retention & alley updates.**
  The Engineering Report now includes the development of the alley, plus updates to the stormwater retention and snow storage strategies. The 'Grading, Drainage, and Stormwater Management' section of the report explains how the stormwater will be detained and treated.
- P.116, 162-175 – **A study of the alley traffic was performed**.
  Volumes I and II of the "Institute of Transportation Engineers" were utilized to assess vehicular traffic impacts to the alley associated with the proposed development. The Trip Generation calculations in Appendix IV (p.161) show that the alley is adequately sized to handle the number of vehicles making one-way trips for each day of the week.

Building Dept. (10/27/2022 8:56 AM KS)
The structures must meet the current adopted building codes of the Town of Jackson at the time of permit submittal. The project will meet all adopted building codes.

Fire Dept. (10/18/2022 12:55 PM KP)
Lisa Potzernitz email
Project will be subject to:

- NFPA 13 (2019) – Standard for Automatic Sprinkler Systems. A stamped set of automatic sprinkler and fire alarm plans will be submitted to this office for review and approval prior to any work being done. Rough-In, testing and final inspections of the life safety systems can be scheduled through this office. Plans will be submitted prior to any work being done.
- NFPA 101 (2021) – Life Safety Code
- International Fire Code (2021)
- Chapter 5, Fire Service Features
- Chapter 6, Section 604, Elevator Operation, Maintenance and Fire Service Keys
- Chapter 9, Fire Protection & Life Safety Systems
- Chapter 10, Means of Egress
- NEC (2020) including emergency lighting specific to short term rental property

All above codes will be met.

Housing Dept. (11/17/2022 12:55 PM KM)

The applicant is requesting approval of a Development Plan for approximately 46,000 square feet of mixed-use development in a three-story structure on four Town lots. The first floor is to be composed of commercial space and covered parking, and the second and third floors are to be composed of six short-term rental units and 46 apartments. Note that in this resubmission, the basement has been eliminated. The project is now approximately 41,000 square feet, and the distribution of restricted and short-term rental units has been updated.

Affordable Workforce Housing Standards:
The applicant asserts that credits for employee generation from existing uses on the site exceed the housing mitigation requirement for the proposed development and use. If affirmed by Planning Staff, no housing mitigation is required. If not, any required housing mitigation shall follow the amount and type standards specified in LDR Sections 6.3.3 and 6.3.4 and shall be subject to the recommended conditions of approval listed below.

Workforce Housing Floor Area Bonus:
The applicant proposes using the Workforce Housing Floor Area Bonus tool to obtain additional unrestricted residential Floor Area in exchange for permanent restriction of some dwelling units for Workforce occupancy. Of the 46 proposed apartments, 18 will be permanently deed restricted for Workforce occupancy. The Workforce units are identified in the unit mix plans included in application materials, but floor plans are not labeled and scaled to make a clear confirmation that all unit types meet Livability Standards. Based on my initial inspection with an approximated scale, proposed floor plans meet Livability Standards with the following exceptions that must be addressed prior to finalizing building plans for Building Permit application submittal:

All Unit Plans submitted for Building Permit will comply with the below requirements.
Unit 1, One-bedroom, Accessible:

- The kitchen area is small (approximately 76 sf), but the adjacent entryway closet provides additional storage and potential pantry space. For accessibility, please extend the entryway closet doors across the

7’ closet frontage and install a built-in shelving system to accommodate jackets/boots, convenient storage of household and kitchen items, as well as linens since individual linen closets are not provided.
- Sink must be 30” minimum width.
- Functional furniture layout must include space for dining area that seats at least two people.

Units 2-6, 9-12, 15-18, Studio:
- The kitchen area is small (approximately 74 sf), but the adjacent entryway closet provides additional storage and potential pantry space. For accessibility, please extend the entryway closet doors across the 6’ closet frontage and install a built-in shelving system to accommodate jackets/boots, convenient storage of household and kitchen items as well as linens since individual linen closets are not provided.
- Must have minimum 4’ lineal upper cabinets in kitchen.

Unit 7, Two-bedroom:
- Must have minimum 6’ lineal upper cabinets in kitchen (or include cabinet storage in kitchen island).
- Please include functional furniture layout that demonstrates minimum four-person seating dining area.
- Bedroom closets are between 4-5’ width where 6’ is required. There also are not individual linen closets Consider options to expand bedroom closets and add individual linen closets. Alternatively, please extend the entryway closet doors across the 8’ entryway closet frontage and install a built-in shelving system to accommodate household items with hooks and shoe storage installed on the wall across from the entryway closet.

Unit 8, Two-bedroom:
- Please label closet in kitchen (I think this is washer/dryer?) and rectangles in entryway/kitchen (cabinets and counters maybe? Built-ins?)
- The first bedroom is small (only 85sf including closet) and the closet is smaller than the required 6’ wide dimension. For accessibility and storage, please extend the entryway closet doors across the 8’ closet frontage and install a built-in shelving system to accommodate both jackets/boots and convenient storage of household items. Also consider adding built-in shelving or linen storage in bathroom to increase storage options for first bedroom.

Unit 13, Two-bedroom:
- Bedroom closets do not meet 6’ minimum width requirement and there are no individual linen closets, but the entryway closet provides additional storage. For accessibility, please extend the entryway closet doors across the 7’ closet frontage and install a built-in shelving system to accommodate both jackets/boots and convenient storage of household items and linens.

Applicable to all restricted units:
- Parking: each restricted unit needs access to at least one parking space on site.
- Additional storage: please identify where additional storage for large and/or outdoor items is located for each unit (40 sf for 2bdrms, 30sf for 1bdrms, 25sf for studios) by labelling lockers and their sizes.
- Countertops must be new, durable and cleanable material.
- Appliances must be new Energy Star, UL listed with 1-year warranty.
- Please label cubic capacity of each refrigerator and ensure that each meets minimum capacity for applicable unit type.
- Garbage disposals are required in restricted units if they are included in market (unrestricted) units.
- Flooring must be new carpet, wood, tile, vinyl, linoleum or concrete with 10-year warranty. Water resistant (no carpet) permitted in kitchen and bathroom.
- No visible mechanical features or fuse boxes in living/dining areas.
- At least one window in each living/dining and bedroom must open.
- Bedroom closets must include installed shelf over rod.
- Furnace/ boiler/water heater must be appropriately sized for number of residents and have minimum 5-year warranty.
- Noise mitigation material must be installed in shared walls, ceilings, and floors

- Please label the enclosed spaces in each unit as mechanical or applicable use so they are not mistaken as closets.

All Unit Plans submitted for Building Permit will comply with the above requirements.

Process & Conditions of Approval:

The following conditions of approval are recommended by the Housing Department to be included upon approval of this Development Plan.

1. Required components of livability. Each required Workforce housing unit shall include, at a minimum, the components of Livability Standards required by Sec. 2-3 of the Housing Department Rules and Regulations.
   Prior to applicant's submittal of Building Permit,
   - ☐ the Livability Standards Questionnaire (https://www.tetoncountywy.gov/DocumentCenter/View/15860/Livability-Standards-Questionnaire-Interactive) shall be completed for each unit type and submitted to the Housing Department for review along with floor plans that include dimensions and a functional furniture placement diagram.
   - ☐ a letter from the Housing Department will be issued to the applicant stating whether the unit(s) are compliant with Livability Standards or whether there are required changes.
   - ☐ a Livability Standards Letter from the Housing Department that confirms approval is required to be included in any Building Permit application.

   Prior to issuance of Certificate of Occupancy,
   - ☐ the Housing Department shall inspect the site to ensure units were built to approved plans.

2. **Deed Restriction.** To ensure continued compliance with the standards of the Town of Jackson Land Development Regulations and the Housing Department Rules & Regulations, the property shall be subject to a deed restriction for Workforce housing, on all applicable dwelling units, in perpetuity, in a form established and approved by the Housing Department.
   Prior to issuance of Certificate of Occupancy,
   - ☐ a special restriction drafted by the Housing Department using the applicable approved Restriction Template will be recorded on the units/property. The applicant will be responsible for payment of recording fees.
   - ☐ the leasing agent or person managing residents shall attend a Compliance Conference with the Housing Department to learn how Workforce and Affordable households are qualified for residency in restricted units.

   The requirements above will be met.

Thank you for the opportunity to review this Development Plan. Please contact me with any questions.

Parks and Rec (11/15/2022 12:58 PM AL)

- Provide "native shrub" selection for Millward streetscape. Plant Species have been added to L0.3 and L4.0.
- Would like to see a tree pit detail. TOJ standard tree pit detail has been added to L5.1.
- Notification of clearance requirements for 5' wide clear zone on sidewalks and potential impacts/trimming requirements of species selection. Sidewalk shown on all sheets have been updated to comply with TOJ standards. Shrubs and perennials are set back against building in raised planters and should not impact clear zone.

Planning Dept. (11/17/2022 8:28 AM KP)

General

- Update narrative to reflect unit number of 46 rather than 44 units. Please update this unit count anywhere else it is misstated in application packet. Updated in Narrative.
- Confirm Gross Site Area and update throughout if needed. L0.6 shows 29,100.6 sf and FAR calculations reference 28,000 sf. Historic plat shows 4 lots x 140' x 50' = 28,000 sf. Updated in narrative, civil, and

landscape drawings to reflect the correct Gross Site Area of **28,076 SF**. This is from Nelson's survey, which notes the areas of the lots being combined (Lots 3-5 are 21,014 SF and Lot 6 is 7,062 SF = 28,076 SF).

- Verify floor area calculations for Commercial spaces (retail/office) in terms of housing mitigation and parking calculations. Commercial floor area devoted to circulation, storage, mechanical etc. should be included in those numbers. For example, Pg 29 of submittal packet (housing mitigation calc) and pg 23 (parking calcs) reference Office 3,391 sf and retail 5,132 sf (total 8,523 sf). However, Pg 22 Floor area Summary shows total Commercial space of 8,523+1,224 = 9,747 sf. Apply in calcs where needed. Updated in LDR Compliance.
- Trash & recycling enclosure required. Revise plans to show location of trash enclosure or call out location if currently present. Updated on A1.01, which shows two new walls to the west of the trash area (parallel to the alley) that will screen the trash and recycling from view. We believe that adding additional screening walls and/or doors/gates to access the trash enclosure will make it exceedingly difficult to roll away the dumpsters out for trash pickup. We have designed an ADA accessible path for approaching the dumpsters and believe that adding gates to screen them at the front will make it more difficult for a disabled person to take out the trash.
- Planning Dept. highly suggests incorporating screening between the parking facility and side property lines. Consider fencing or landscaping options. Planted areas have been extended along the north and south property lines, as shown in A1.01 and L0.3 and L4.0.
- Planning Dept. highly suggests incorporating information on exterior lighting plan. Reflected ceiling plans and cut sheets of potential light fixtures have been added; see A1.61-63.
- If transformer in northwest corner is over 4' it must adhere to structure setbacks. Per the LDRs section 6.1.10 C 2a, utilities such as transformers are not required to adhere to structure or site development setbacks. We have coordinated the transformer and power vault location with LVE per their desired setbacks: 3' from the alley and 2' from the north property line.
- Transformer door may not swing into the alley right of way. Planning / Engineering may require at least a 2' setback to accommodate access. Transformer location was revised for transformer door to not swing into alley. Items were coordinated with LVE. The transformer is set back 3' from the alley and 2' from the north property line.

(Added 11.18.22) - Floor Area Summary Table unit descriptions (1 and 2 bedroom) do not match floor plans which show predominately studio units. Update all tables, references, narratives etc. to accurately reflect number of studio, 1-bd, and 2-bd units proposed. Updated in LDR Compliance.

Lot Standards – Building setbacks

- Revise plans to show dimension for distance between eastern property line and building. Updated on A1.01.
- Revise plans to show distance between existing "encroaching building" to the south and the proposed structure on 245 / 265 N. Millward. Updated on A1.01.

Lot Standards – Landscape

- LSR calculations (L0.6) appear to be calculated off "proposed structures" instead of Gross Site Area. Revise LSR calcs to base off gross site area. Correct LSR calculations have been provided on L0.3, L0.4 and L4.0.
- Landscape plan and LSR calcs will need to update to accommodate wider sidewalk and furnishing area required by "Trees-in-grates". All site plans have been updated to reflect the TOJ sidewalk and furnishing requirements for trees in grates.
- Check landscape and site plans for consistency. Landscaping shown on landscape plans near alley corners but not shown on site plan. Site and landscaping plans have been coordinated.

Bulk Standards –

- Show dimensions on "first floor plan" and "second floor plan" (pgs 35-36 of packet submittal) for calculations that min 70% of lot width has ground and 2nd story building façade in primary street setback range (0'-10' as measured from back of pedestrian frontage). Similar to how stepback is shown on page 37

third floor plan. Calculated by dividing the façade width located in the specified setback range by the width of the lot. Updated on A1.01, A1.02, and A1.03.

Form Standards –

- Pedestrian Frontage – Sec. 2.2.1.C.2 Trees in grates – Revise plans to show required dimensions for sidewalk and hardscape minimums. Trees in grates requires planting area of min 5' width (4' is shown) and clear sidewalk min of 6' (5'-4 1/16" is shown). Back of curb 13.5' is met. Note: landscape plan will need to update to reflect these changes and LSR calcs. Site plans have been updated to reflect the Trees in Grates Requirements for pedestrian frontage. Updated LSR calcs have been provided on L0.3, L0.4 and L4.0.
- Building Frontage (Shopfront vs. Office Frontage). Revise LDR compliance table to select only one (it is not tied to use) and to list subcategory compliance, specifically story height, transparency, blank walls, ped access. Revise elevations and floor plans to call out subcategory compliance (for frontage type) such as transparency requirements. May be similar to applicant providing stepback calcs on pg 37 of submittal packet. Updated in LDR Compliance table and in architectural plans and elevations. **See A2.00 for façade calculations.**

Parking Facility (See LDR section 6.6.2 and Resolution 09-25 (Underground Parking))

- Walkways in parking facility must be a min of 4' for ADA adjacent walkways (3' shown). It is suggested that other walkways not serving ADA spaces also be a min of 4'.
- It appears parking calculations do not accurately capture total commercial SF. Circulation, mechanical, storage sf devoted to commercial uses are accounted for in sf used for parking calcs. Revise parking calculations to include this SF. Staff calculates total parking requirement is increased from 84 (applicant) to 87 spaces. Addressed in LDR Compliance, Parking and Loading Standards.
- Revise plans to show dimensions of on street parking spaces. Updated on A1.01.
- Revise plans to show dimensions of shorter compact parking spaces. Updated on A1.01.
- Please verify consistent dimensions for parking spaces in parking facility. It appears dimensions vary across different plans. Updated on A1.01.
- Revise ADA van space to be 8' wide with min 8' adjacent aisle. (11' + 5' shown). Updated on A1.01.
- Revise plans to account for pillars near parking spaces and show dimensions. Required width of parking spaces does not include structural pillars. Spaces with encroaching support pillars must be wide/long enough to capture the encroaching pillars plus the minimum required width or length of parking space. Per latest feedback via email, we have updated the plans such that some columns encroach partway into the typical 9'-0" parking spaces, but not into any compact or ADA spaces.
- Maximum of 8 compact parking spaces are allowed for parking plan with total of 54 onsite spaces. 9 are shown. On A1.01, the column grids and parking layout were updated so that we now only have 6 compact spaces.
- Update all plans (civil, landscape, architecture) to consistently show location of ADA and compact spaces. Updated architecture, civil, and landscape sheets. See A1.01.
- Applicant may apply parking facility dimensions provided in Resolution 09-25 for covered parking facilities. Applicant may choose to adjust plans to reflect Resolution 09-25 standards. Updated on A1.01.
- Revise plans to include 2' wheel stops at minimum for any parking space where vehicle overhang would impede amenities like walkways, storage locker doors, or bike rack (etc.). Planning Dept. suggests adding 2' wheel stops for all parking spaces. Updated on A1.01.

Parking Management Plan

- Include a Parking Management Plan with resubmittal. Staff believes there will be parking management challenges for the building that should be addressed as part of the Development Plan review, particularly with shared parking and a proposed administrative adjustment. A Parking Management Plan should include (1) which residential, lodging, and commercial units will have dedicated onsite parking (2) which units will have shared parking (3) hours of shared parking or example of daily schedule (ex: what hours will residents be able to park in shared spaces) (4) how enforcement will work (5) how management

information is shared with residents/commercial units (6) what signage will be used (7) any aspects of flexibility (ex: what will happen if a resident with shared parking is out of town for a week and needs to leave car in the parking facility?) Parking Management Plan has been added to LDR Compliance section.

Housing Mitigation and Livability

- See draft Affordable Workforce Housing Mitigation Calculator provided by Planning Dept. Existing uses must be verified for use as "credit". Existing Apartment use does not offer a credit. Proposed Retail and Office floor area should include circulation, mechanical, storage etc. space. Verify floor area numbers. Housing Mitigation Plan has been updated.
- See forthcoming additional review comments from the Housing Department. Will comply.

Public Works Dept. (11/10/2022 12:09 PM JSIL)
Pre-Ap Comments - SUFFICIENT

P22-253
10/27/2022
Jeff Silliman, 733-3079

The engineering division has reviewed your application for a [PERMIT TYPE] submitted on and with application materials as dated above. *The following comments are being provided for use in preparation of future applications and are required for sufficiency.

PROJECT SPECIFIC COMMENTS

1) Civil sheets do not match architectural sheets for parking dimensions. Parking spaces accessed from alley should have 22' minimum depth. See A1.01 for dimensions of parking spaces. Removed from civil drawings.
2) Show that ADA routes and sidewalks meets slope requirements. Slopes are provided for ADA routes and sidewalks in Civil Drawings.
3) Public Access Easement may be needed for sidewalk. Will comply.
4) Crane Agreement may be required. Contractor will provide if required.
5) Encroachment agreement may be needed for Shoring. Contractor will provide if required.
6) Construction Management Plan may require council approval. Noted.
7) Provide route map for various stages of construction for deliveries to and from staging area at Cache/Snow King Ave. Route map added to last page of Construction Management Plan.
8) Public Works recommends that the applicant/developer be required to pave the unpaved portion of the alleyway, from West Gill Avenue north. Coordinate limits of paving with Public Works prior to building permit submittal. The applicant will work with the Town to coordinate alley paving.
9) Capacity fees will be assessed at the building permit review process. Noted.
10) If irrigation system planned include type of backflow preventer, location, and whether irrigation will be metered separately from domestic. See C3.2 for irrigation schematic. Drip irrigation will be used for all planted areas. Irrigation will *not* be separately metered; there will be one meter for domestic and irrigation. Backflow preventer will be shown on mechanical plans. Irrigation plan to be design-build by contractor.

TOJ CODE:

5.7 GRADING, EROSION CONTROL, AND STORMWATER

5.7.2 Grading Standards: Provide a grading plan that shows compliance with this section. Plan shall include existing and proposed site contours with elevation labels, spot elevations, high and low points, grade breaks. See sheets C4.0-C4.2 for grading plans meeting ToJ Code 5.7.2-5.7.3.
5.7.3 Erosion Control Standards: Provide an erosion control plan that shows compliance with this section. See sheets C4.0-C4.2 for grading plans meeting ToJ Code 5.7.2-5.7.3.
5.7.4 Stormwater Management Standards: Provide an erosion control plan that shows compliance with

this section. See sheets C3.0, C3.4, & C3.5 for stormwater design meeting 5.7.4 and see engineering report for stormwater calculations

6.4 OPERATIONAL STANDARDS

6.4.1 Outside Storage: Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section. Route map to prefab module storage near Snow King has been added to CMP.

6.4.3 Noise: Provide a statement to address compliance with this section. Updated in CMP.

6.4.4 Vibration: Provide a statement to address compliance with this section. Updated in CMP.

7.7 – REQUIRED UTILITIES

7.7.2 Potable Water Supply:

1. Provide a water supply plan and estimated average day, maximum day, and maximum hour, required fire flows, and per capita maximum daily demands. Demands shall be determined by one of the following: Wyoming DEQ Chapter 12 Section 8 (equivalent per capita water use shall be at least 125 gpd and 340 gpd for average and maximum day respectively); Wyoming DEQ Chapter 25 Tables 1 and 2 with consumption and irrigation factored in, metered water supply data from another development where similar water demands have been demonstrated, AWWA M22 method, or other Town Engineer approved source. See Engineering Report water system and Appendix III for design calculations.
2. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side. No easements are required.
3. Provide a water system analysis indicating the required domestic and fire flow demands. Identify impacts to or upgrade requirements for the existing distribution, supply, or treatment system. See Exhibit 1 - Fire Flow Exhibit - for modeling results of fire flow.
4. Show compliance with state regulations, construction standards, connections for lots of record, provisions for system expansion, and fire protection. Provide information on planned metering and backflow prevention locations. State regulations are not applicable to water services; however, design is compliant with DEQ regulations. See sheet C3.2 for metering and backflow prevention and location.
5. State whether the water system will be privately or publicly owned. Water services over 2-inch in diameter require engineering design. Water mains larger than 8-inch and or longer than 250 feet require a Wyoming DEQ permit. See sheet C3.0 for connection to ToJ public water system. All water facilities on property are privately owned in accordance with ToJ title 13.

7.7.3 Sanitary Sewer System:

1. Provide a sanitary sewer wastewater plan and estimated average day, maximum day, and peak hour for the design of the project, per capita design flows, extraneous flows, and industrial and/or commercial waste volumes. Volumes shall be determined by one of the following: Wyoming DEQ Chapter 25 Tables 1 and 2; metered water supply data from another development where similar water demands have been demonstrated; or other Town Engineer approved source. See Engineering Report sewer system and Appendix III for design calculations.
2. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side. No easements are required.
3. Provide a sanitary sewer analysis. Identify downstream impacts on existing sewers, lift stations, and treatment facilities. See Engineering Report water system and Appendix III for design calculations.
4. Show compliance with state regulations, construction standards, maximum allowable infiltration, connections for lots of record, provisions for system expansion. See sheets C1.0-C4.2 for compliance with state regulations, construction standards, maximum allowable infiltration, connections for lots of record, provisions for system expansion. Plan were prepared by licensed professionals and design is compliant with state regulations. All plans and details are compliant with Town of Jackson standards.

(END OF COMMENTS)

02

APPLICATION

PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave.
P.O. Box 1687
Jackson, WY 83001

ph: (307) 733-0440
www.townofjackson.com

For Office Use Only

Fees Paid_____ Date & Time Received _____

Application #s _____ _____ _____

Please note: *Applications received after 3 PM will be processed the next business day.*

PROJECT.

Name/Description: Millward Workforce Apartments

Physical Address: 245 & 265 N. Millward St., Jackson, WY 83001

Lot, Subdivision: Lot 3-4-5, Blk. 2, Jackson (MOS T-26D) PIDN: 22-41-16-28-4-05-003

PROPERTY OWNER.

Name: 245 265 Millward LLC C/O Kaikoa LLC (Stuart Suna) Phone: 718-310-7724

Mailing Address: 3610 N Moose-Wilson Rd, Wilson, WY ZIP: 83014

E-mail: stuartsuna@gmail.com

APPLICANT/AGENT.

Name: Northworks Architects & Planners, LLC Phone: 307-201-5324

Mailing Address: PO Box 4207, Jackson, WY ZIP: 83001

E-mail: ajanak@nwks.com

DESIGNATED PRIMARY CONTACT.

_____Property Owner X_____Applicant/Agent

TYPE OF APPLICATION. *Please check all that apply; review the type of application at www.townofjackson/200/Planning*

Use Permit

_____Basic Use

_____Conditional Use

_____Special Use

Relief from the LDRs

_____Administrative Adjustment

_____Variance

_____Beneficial Use Determination

_____Appeal of an Admin. Decision

Physical Development

_____Sketch Plan

X_____Development Plan

_____Design Review

Subdivision/Development Option

_____ Subdivision Plat

_____Boundary Adjustment (replat)

_____Boundary Adjustment (no plat)

_____Development Option Plan

Interpretations

_____Formal Interpretation

_____Zoning Compliance Verification

Amendments to the LDRs

_____LDR Text Amendment

_____Map Amendment

Miscellaneous

_____**Other:**_____

_____Environmental Analysis

PRE-SUBMITTAL STEPS. *To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.*

Pre-application Conference #: P22-097 Environmental Analysis #: _____

Original Permit #: _____ Date of Neighborhood Meeting: _____

SUBMITTAL REQUIREMENTS. *Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.*

Have you attached the following?

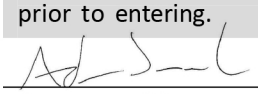
X **Application Fee.** Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.

X **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF.

X **Response to Submittal Requirements**. The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.



Signature of Property Owner or Authorized Applicant/Agent

09/15/2022

Date

Adam Janak, Northworks Architects and Planners LLC

Name Printed

Partner

Title

03

LETTER OF AUTHORIZATION

Town of Jackson
150 E Pearl Avenue
PO Box 1687, Jackson, WY 83001
P: (307)733-3932 F: (307)739-0919
www.jacksonwy.gov

Date: 4/12/2022

LETTER OF AUTHORIZATION

NAMING APPLICANT AS OWNER'S AGENT

PRINT full name of property owner as listed on the deed when it is an individual OR print full name and title of President or Principal Officer when the owner listed on the deed is a corporation or an entity other than an individual : STUART SUNA, MANAGER

Being duly sworn, deposes and says that 245 265 Millward LLC is the owner in fee of the premises located at:
Name of property owner as listed on deed

Address of Premises: 245 and 265 N. Millward St.

Legal Description: Lots 2-3-4-5, Block 2 Original Town of Jackson, Plat 100
Please attach additional sheet for additional addresses and legal descriptions

And, that the person named as follows: Name of Applicant/agent: Northworks Architects and Planners, LLC

Mailing address of Applicant/agent: PO Box 4027 Jackson, WY 83001

Email address of Applicant/agent: ajanak@nwks.com

Phone Number of Applicant/agent: 307-201-5324

Is authorized to act as property owner's agent and be the applicant for the application(s) checked below for a permit to perform the work specified is this(these) application(s) at the premises listed above:

☑ Development/Subdivision Plat Permit Application ☑ Building Permit Application

☑ Public Right of Way Permit ☐ Grading and Erosion Control Permit ☐ Business License Application

☑ Demolition Permit ☑ Other (describe) Pre-Application Conference

Under penalty of perjury, the undersigned swears that the foregoing is true and, if signing on behalf of a corporation, partnership, limited liability company or other entity, the undersigned swears that this authorization is given with the appropriate approval of such entity, if required.

Property Owner Signature

MANAGER LLC
Title if signed by officer, partner or member of corporation, LLC (secretary or corporate owner) partnership or other non-individual Owner

STATE OF WYOMING)
) SS.
COUNTY OF TETON)

The foregoing instrument was acknowledged before me by STUART SUNA this 12TH day of APRIL, 2022. WITNESS my hand and official seal. MANAGER, 245-265 MILLWARD LLC

Notary Public

My commission expires: 11/15/2024

GEORGE P. PUTNAM - NOTARY PUBLIC
COUNTY OF TETON STATE OF WYOMING
MY COMMISSION EXPIRES NOV. 15, 2024

04

PROJECT NARRATIVE

Millward Street Apartments

Project Narrative

Overview:

The proposed project is located at 245 & 265 N. Millward Street, one block north of Miller Park and one block east of Flat Creek. For purposes of this application, we are referring to the project as "Millward Street Apartments" or "MSA". MSA will be a mixed-use building with ground floor commercial space and apartment units on the second and third floors.

Existing Site:

The site currently has existing structures including a motel-style apartment building and a one-story residence, to be demolished and/or relocated. Another residence to the south of the property encroaches approximately 1 ft. into MSA's property line, plus an encroaching carport. The proposed building is designed to accommodate the building encroachment from the south while the encroaching carport and fence will be relocated to allow full use of the site.

Program:

The approximately 41,000 square foot project will include commercial space at the ground floor. On the second and third floors above, 48 prefabricated modular apartments will include a mixture of studios, one, two, and three-bedroom units. Each apartment unit will have access to a private balcony, facing either Millward Street, the central courtyard, or towards views to the north and south. The building will utilize the Town's 2:1 workforce housing floor area bonus tool to construct 37 apartments (17 restricted to workforce) in addition to by-right commercial space and 11 apartments recognized for short term rental.

The project meets the town's landscape requirements via raised planters and benches to enliven the streetscape and with landscaping on the north and south property lines and on the western side of the building adjacent to the alley access drive. Addition landscaping is provided in the Level 2 green roof courtyard. The green roof will feature a rolling topography and raised tree planters, which will be visible to enjoy from the street, in addition to enhancing the quality of the central apartment units.

On-Site parking is located at grade, fully shielded from view from Millward Street and accessed via an alley that runs parallel to Millward along the rear of the building. The project proposes 51 parking spaces on-site, which requires an administrative adjustment to reduce required on-site parking by 3 spaces (a 5.56% reduction). 13 parking spaces for the commercial floor area will be provided through a combination of 9 on-street spaces and 4 spaces provided through the Downtown fee-in-lieu parking program.

Conclusion:

This Development Plan application complies with the Town of Jackson Land Development Regulations, Design Guidelines, and applicable provisions of the Jackson/Teton County Comprehensive Plan. The proposed development received unanimous approval from the DRC on September 14, 2022.

05

RESPONSES TO FINDINGS

Millward Street Apartments

Findings

The following six findings for Development Plan approval per LDR Section 8.3.3.C can be made as follows:

1. Is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan;

Complies. The proposed project lies within District 2: Town Commercial Core, articulated in the Illustration of Our Vision chapter of the Comprehensive Plan and as further identified within Sub Area 2.3 Downtown. The proposed development plan will support and promote a vibrant mixed-use pedestrian friendly environment where Commercial Residential-2 (CR-2) Zoning provides predictable guidance for streetscapes, pedestrian frontages, building frontages and parking. The project further allows realization of desired character-defining mix of building bulk and scale with a three-story building, architectural form. Pedestrian sidewalk and streetscape characteristics are proposed to include landscape planters and enhance the pedestrian experience. On-site parking will be screened from the primary street view with loading off the rear alley.

2. Achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable;

Complies. The properties do not lie within either the Natural Resource Overlay (NRO) or Scenic Resources Overlay (SRO);

3. Does not have significant impact on public facilities and services, including transportation, potable water and wastewater facilities, parks, schools, police, fire, and EMS facilities;

Complies. The proposed project will not have significant impacts on public facilities and services. Currently there are 28 motel units, 5 rental apartments, and one detached residential use on the subject properties that connect to the Town of Jackson potable water distribution and wastewater collection systems. The proposed development will provide a mix of commercial development and residential rental units totaling 48 units (32 studios, 4 one-bedrooms, 10 two-bedrooms, and 2 three-bedrooms) with the building owner managing master leases to house seasonal and long-term employees of local businesses. The single building design will consolidate several sewer connections within the project to reduce connection points to the Town wastewater system. It is anticipated public transportation via START will be utilized by many seasonal tenants who will not have their own vehicles reducing overall traffic demands on town and county roadways. New utility connections to the Town of Jackson services will be incorporated as part of this project and the alley will be paved. Impacts to schools and parks will be minimal as the one and two-bedroom residential composition of the project will be less likely to be rented to larger families with multiple children. Impacts on police, fire and EMS facilities will not be significant as the proposed building design will improve on the current structures by providing fire sprinkler systems throughout the proposed building.

4. Complies with the Town of Jackson Design Guidelines, if applicable;

Complies. All proposed development in this project complies with Zone specific standards for Design Guideline. The project has been reviewed twice by the Town of Jackson Design Review Committee and received favorable recommendation for approval on September 13, 2022.

5. Complies with all relevant standards of these LDRs and other Town Ordinances;

Complies. As fully articulated within the details of this application, the proposed development of the subject property into the proposed mixed use with all relevant standards of the Land Development Regulations (LDRs) for the Commercial Residential 2 (CR-2) zone as they stand as the implementation, in regulatory form, of the stated vision and desires of the Jackson/Teton County Comprehensive Plan adopted May 2012.

Further, the proposed project is consistent with other adopted Town Ordinances as included in The Municipal Code adopted by the Town Council through and including Ordinance No. 1319, dated June 21, 2022.

6. Is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.

Complies. The subject property has not received any applicable development permits or approvals related to the proposed physical development.

06

LDR COMPLIANCE

Millward Street Apartments

Zoning Compliance Verification

PROJECT INFORMATION

LOT 6, BLK. 2, JACKSON (MOS T-26D)
245 N Millward St
Jackson, WY 83001
PIDN: 22-41-16-28-4-05-004
Lot Size: 0.16 Acres (7,062 sf)

LOT 3-4-5, BLK. 2, JACKSON (MOS T-26D)
265 N Millward St
Jackson, WY 83001
PIDN: 22-41-16-28-4-05-003
Lot Size: 0.48 Acres (21,014 sf)

2.2.12. CR-2: COMMERCIAL RESIDENTIAL-2

Town of Jackson Applicable LDRs

1. Lot Standards				
Building Setbacks (Sec 9.4.8.)				
General	**Source**	**Notes**	**Proposed**	**Complies**
Primary street setback range (min.-max)	ToJ LDR Section 2.2.12. B.1	0’ – 10’	0’ – 10’	Yes
Secondary street setback range (min.-max)	ToJ LDR Section 2.2.12. B.1	0’ – 10’	0’	Yes
Side interior (min.)	ToJ LDR Section 2.2.12. B.1	5’	5’	Yes
Rear (min.)	ToJ LDR Section 2.2.12. B.1	10’	10’	Yes
Abutting protected zone	ToJ LDR Section 2.2.12. B.1	10’		n/a
Landscaping (Div. 5.5.)				
Landscape surface ratio (min.)	ToJ LDR Section 2.2.12. B.1	10%		Yes
Plant units (min.)	ToJ LDR Section 2.2.12. B.1	1/1,000 sf of landscape area		Yes
Parking lot (all uses)	ToJ LDR Section 2.2.12. B.1	1/12 parking spaces		Yes
Fencing				
Height in any street or side yard (max)	ToJ LDR Section 2.2.12. B.1	4’		n/a
Height in rear yard (max)	ToJ LDR Section 2.2.12. B.1	6’		n/a
Setback from pedestrian frontage	ToJ LDR Section 2.2.12. B.1	1’		n/a

Setback from side or rear lot line (min.)	ToJ LDR Section 2.2.12. B.1	0’	0’	n/a
Parking Setbacks (Sec. 9.4.8.)				
Primary street, above ground (min.)	ToJ LDR Section 2.2.12. B.1	30’		Yes
Secondary street, surface parking (min.)	ToJ LDR Section 2.2.12. B.1	30’		n/a
Secondary street, tuck under, enclosed, or structured parking screened by building (min.)	ToJ LDR Section 2.2.12. B.1	0’	0’	Yes
Access				
Curb cut width (mx)	ToJ LDR Section 2.2.12. B.1	24’	24’	Yes
2. Bulk Standards				
Street Façade (Sec. 9.4.11.)				
Width of ground and 2nd story in primary street setback range	ToJ LDR Section 2.2.12. B.2			Yes, see A1.01 & A1.02. Lot width = 200’-7”
% of lot width (min.)	ToJ LDR Section 2.2.12. B.2	70%	L1: 86% L2: 72%	L1 width = 173’-2” L2 width = 145’-3”
Length from street corner (min.)	ToJ LDR Section 2.2.12. B.2	30’		n/a
Width of ground and 2nd story in secondary street setback range	ToJ LDR Section 2.2.12. B.2			n/a
% of lot width (min.)	ToJ LDR Section 2.2.12. B.2	35%		n/a
Length from street corner (min.)	ToJ LDR Section 2.2.12. B.2	30’		n/a
Building Height (Sec. 9.4.9.)				
Height (max) if roof pitch ≥5/12	ToJ LDR Section 2.2.12. B.2	46’		n/a
Height (max) if roof pitch <5/12	ToJ LDR Section 2.2.12. B.2	42’	42’	Yes
Stories (max)	ToJ LDR Section 2.2.12. B.2	3	3	Yes
Height (min.) in any street setback range	ToJ LDR Section 2.2.12. B.2	2 stories or 24’ min.	37’ typ.	Yes
Building Stepback (Sec. 9.4.12.)				
Stepback for any 3rd story street façade or street façade over 30’ (min.)	ToJ LDR Section 2.2.12. B.2	10’	10’	Yes
Encroachment in stepback (max % of overall façade width)	ToJ LDR Section 2.2.12. B.2	60%	60%	Yes
A building with only residential use that	ToJ LDR Section 2.2.12. B.2			n/a

has at least 4 units is exempt from stepback requirement				
Scale of Development				
Floor area ratio (FAR) (max) (E.3.)	ToJ LDR Section 2.2.12. B.2	.46 + .34 for Lodging- .80 Total		Yes, see calculations in paragraph + tables below.
Deed restricted housing exemption (Sec. 7.8.3.)	ToJ LDR Section 2.2.12. B.2			
Workforce housing floor area bonus (Sec. 7.8.4.)	ToJ LDR Section 2.2.12. B.2	2:1	2:1	Yes
3. Form Standards				
Pedestrian Frontage				
Trees in grates	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.C.2	6 spaced max. 40’	Yes
Building Frontage Options				
Shopfront	ToJ LDR Section 2.2.12. B.3	Ground Story Height: 12’ min Upper Story Height: 9’ min Ground Floor Elevation: 0’-2’ Transparency, Ground Story, Primary Street: 60% Transparency, Ground Story, Secondary Street: 30% Transparency, Upper Story, Primary Street: 20% Blank Wall Area, Primary Street: 15’ max Blank Wall Area, Secondary Street: 30’ max Ped. Access Entrance: Req Entrance Spacing: 50’ max	12’ average 9’-4”, 9’-6” Varies 6”-12” higher than T/curb 60% n/a L2: 23% L3: 25% 13’-9” n/a 6 entries 47’ max	Yes; See A2.00 for calcs. Yes Yes; Levels 1A, 1B, 1C step down to align with sidewalk; See Civil drawings Yes n/a Yes Yes Yes n/a Yes Yes
Office	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.D.2		n/a
Residential	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.D.3.		n/a
Lodging	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.D.4.		n/a
Parking Type Options				
On-street parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.1	Yes	Yes
Surface parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.2.		n/a

Tuck-under parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.4	Yes	Seeking administrative adjustment
Enclosed parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.3.		n/a
Structured parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.5.		n/a
Underground parking	ToJ LDR Section 2.2.12. B.3	See sec. 2.2.1.E.6.		n/a
4. Environmental Standards				
Natural Resource Setback (min) (Sec 5.1.1.)				
Cache Creek south of Cache Creek Dr.	ToJ LDR Section 2.2.12. B.4	20'		n/a
Flat Creek north of Hansen	ToJ LDR Section 2.2.12. B.4	25'		n/a
Flat Creek south of Hansen	ToJ LDR Section 2.2.12. B.4	50'		n/a
Wetland	ToJ LDR Section 2.2.12. B.4	30'		n/a
Irrigation Ditch Setback (min) (Sec. 7.7.4.D.)				
Irrigation Ditch	ToJ LDR Section 2.2.12. B.4	15'		n/a
Natural Resource Overlay (NRO)(Sec. 5.2.1.)				
5. Scenic Standards				
Exterior Lighting (Sec 5.3.1.)				
Light trespass is prohibited	ToJ LDR Section 2.2.12. B.5			Yes
All lights over 600 lumen shall be fully shielded.	ToJ LDR Section 2.2.12. B.5			Yes
Max lumens per sf of site development	ToJ LDR Section 2.2.12. B.5	3	TBD	Yes
Lumens per site (max)	ToJ LDR Section 2.2.12. B.5			Yes
All fixtures		100,000		Yes
Unshielded fixtures		5,500		Yes
Light color	ToJ LDR Section 2.2.12. B.5	<3000 Kelvin		Yes
Scenic Resource Overlay (SRO)(Sec. 5.3.2.)				
6. Natural Hazards to Avoid				
Steep Slopes (Sec 5.4.1.)				
Development prohibited	ToJ LDR Section 2.2.12. B.6	Slopes>25%		n/a
Hillside CUP required	ToJ LDR Section 2.2.12. B.6	Parcel with average cross-slope > 10%		n/a
Areas of Unstable Soils (sec. 5.4.2.)				
Fault Area (sec. 5.4.3.)				
Floodplains (sec 5.4.4.)				
Wildland Urban Interface (sec. 5.4.5.)				
7. Signs (nonresidential) (Div. 5.6.)				

Number of signs (max)	ToJ LDR Section 2.2.12. B.7	3 per business per frontage	TBD	Yes
Background color	ToJ LDR Section 2.2.12. B.7	No white or yellow	TBD	Yes
Sign Area				
Total sign area (max)	ToJ LDR Section 2.2.12. B.7	3 sf per linear ft of street façade width up to 150 sf	TBD	Yes
Penalty	ToJ LDR Section 2.2.12. B.7	10% per projecting and freestanding sign		
Sign Type Standards				
Canopy Sign	ToJ LDR Section 2.2.12. B.7			
Clearance (min)	ToJ LDR Section 2.2.12. B.7	7'6" from average grade		
Setback (min)	ToJ LDR Section 2.2.12. B.7	18" from back of curb		
Freestanding sign	ToJ LDR Section 2.2.12. B.7			
Height (max)	ToJ LDR Section 2.2.12.B.7	6'		
Setback (min)	ToJ LDR Section 2.2.12. B.7	5'		
Projecting sign	ToJ LDR Section 2.2.12. B.7			
Height (max)	ToJ LDR Section 2.2.12. B.7	24' above grade		
Clearance (min)	ToJ LDR Section 2.2.12. B.7	7'6" from average grade		
Setback (min)	ToJ LDR Section 2.2.12. B.7	18" from back of curb		
Window Sign	ToJ LDR Section 2.2.12. B.7			
Window surface coverage (max)	ToJ LDR Section 2.2.12. B.7	25% up to 16 sf		
Temporary signs	ToJ LDR Section 2.2.12. B.7	(sec 5.6.1.)		
8. Grading, Erosion Control, Stormwater				
Grading (sec 5.7.2.)				
Erosion Control (sec 5.7.3.)				
Erosion shall be controlled at all times	ToJ LDR Section 2.2.12. B.8			Yes
Stormwater Management (sec.5.7.4.)				
No increase in peak flow rate or velocity across property lines	ToJ LDR Section 2.2.12. B.8			Yes

9. Physical Development Permits Required							
Physical Development	**Sketch Plan (Sec. 8.3.1.)**	**Development Plan (Sec. 8.3.2.)**	**Building Permit (Sec. 8.3.3.)**	**DRC Review (Sec. 8.2.6.)**	**Sign Permit (Sec. 8.3.5.)**	**Grading Permit (Sec. 8.3.4.)**	**Floodplain Permit**

>13,800 sf	--	X	X	X		Sec.5.7.1.	n/a
Sign					X	Sec.5.7.1.	n/a

1. Allowed Uses				2. Use Requirements	
Use	**Permit**	**Individual Use (max)**	**Density (max)**	**Parking (min.) (Div. 6.2.) (E.1.)**	**Affordable Workforce Housing Units (min) (Div.6.3.)**
Residential					
Attached Single-Family Unit	B	8,000	n/a	1/DU if <2 bedrooms and <5090 sf; otherwise 1.5/DU	0.000017*sf + (Exp(-14.17 + 1.59*Ln(sf)))/2.176
Lodging					
Short-term rental Unit (6.1.5.c.)	B(LO)	n/a	n/a	1/DU if <2 bedrooms and <5090 sf; otherwise 1.5/DU	0.204*bedrooms
Commercial Uses					
Office (6.1.6.B.)	B	n/a	n/a	2.47/1,000 sf	0.000493*sf
Retail (6.1.6.C.)	B	12,500 sf excluding basement storage	n/a	3.37/1,000 sf	0.000431*sf
Service (6.1.6.D.)	B		n/a	2.25/1,000 sf	0.000431*sf
Restaurant/Bar (6.1.6.E.)	B		n/a	1/73 sf dining area + 1/40 sf bar area	0.001197*sf

Div. 2.2.12.B.9 - Physical Development Permit Threshold

The proposed project includes approximately 13,538 sf. of by-right floor area (including associated circulation space). Per LDR Section 8.3.2, this by-right floor area is within the 6,900 - 13,800 sf. limit requiring a Development Plan. The gross floor area of the project is approximately 41,076 sf., including 27,539 sf achieved by employing the 2:1 housing incentive program. In accordance with LDR Section 7.8.4.C this additional floor area is exempt from calculations of physical development thresholds. The following table illustrates project by-right floor area by use for the purposes of calculating Development Permit thresholds.

By-Right Development Summary	
Gross Site Area	28,076 sf
Allowed FAR (.46)	12,915
Short Term - FAR Bonus (.34)	9,546
Total Allowed FAR	22,461
Proposed By-Right Uses	
By-Right Commercial	4,094
By-Right Short-Term Rental	7,763
By-Right Circulation	1,681
Total	**13,538**
Development Plan Threshold	13,800

Div. 7.8.4 – Workforce Housing Incentive Program

The proposed project utilizes the 2:1 workforce housing incentive program as allowed for properties within the CR-2 zone district. The total workforce bonus floor area proposed is 27,539 sf., with 9,423 sf. allocated as workforce restricted apartments, and 14,276 sf. allocated as workforce unrestricted apartments and 3,840 sf of associated circulation floor area.

The proposed restricted floor area of 9,423 sf. will be a total of 17 apartments, comprised of 14 studio units, 1 one-bedroom and 2 two-bedroom units. These apartments will be subject to a workforce housing deed restriction for residential rental use to be recorded with the County Clerk prior to certificate of occupancy in accordance with standards of the Jackson/Teton County Housing Department. The proposed 14,276 sf. of unrestricted floor area will be a total of 20 apartments, comprised of 11 studio units, 2 one-bedroom units, 6 two-bedroom units, and 1 three-bedroom unit.

The following table shows required and proposed 2:1 workforce bonus allocation. Circulation space has been allocated to by-right and 2:1 space as shown on the attached floor area plans.

2:1 Workforce Housing Floor Area Bonus Allocation (sf.)		
Gross Building Floor Area	**41,076**	
By-Right Floor Area	13,538	
Total Workforce Bonus Floor Area	27,539	
	2:1 Allocation	**Proposed**
2:1 Bonus Workforce Restricted	9,179	9,423
2:1 Bonus Workforce Market	18,359	14,276
2:1 Bonus Workforce Circulation		3,840
By-Right Short Term Rental		7,763
By-Right Commerical		4,094
By-Right Circulation		1,681
Gross Building Floor Area		**41,076**

Table showing Floor Area Summary by Unit type, refer to Floor Area Plans

Millward Street Apartments Floor Area Summary Table			
Floor Area by Type	**Sq. Ft.**	**Bedrooms**	**Units**
2:1 Bonus Restricted	**10,318**	**5**	**17**
Studio	6,930	--	14
1 BR	495	1	1
2 BR	1,998	4	2
Access & Circulation	758	--	--
2:1 Bonus Market	**17,221**	**17**	**20**
Studio	5,445	--	11
1 BR	990	2	2
2 BR	6,326	12	6
3 BR	1515	3	1
Access & Circulation	2,945	--	--
By-Right Short Term	**9,298**	**8**	**11**
Studio	3,465	--	7
1 BR	495	1	1
2 BR	2,288	4	2
3 BR	1,515	3	1
Acess & Circulation	1,535	--	--
By-Right Commercial	**4,094**	n/a	n/a
By-Right Circulation / Access	**146**	n/a	n/a
Grand Total	**41,076**	**30**	**48**

Div. 6.2 – Parking and Loading Standards

The proposed project will provide a mix of commercial and residential uses and provide parking in accordance with parking standards of the CR-2 Zone, Division 6.2. Parking and Loading Standards.

Table 1. shows 66.14 total required parking spaces for the proposed building uses. A total of 67 spaces are proposed for the project. 13 spaces (12.14 rounded up) are required for planned commercial office and retail space and will be provided through a combination of 9 on-street spaces adjacent to the property on Millward Street and 4 spaces purchased through the Town's fee-in-lieu parking program. Fixed bicycle parking is proposed at several locations on the site for 10 bikes and exceeds the 2.6 required spaces for commercial uses.

Downtown Parking Fee-in-lieu – Level 1 (up to 5 spaces) cost per space: $8,500

Proposed Fee-In-Lieu - 4 Spaces X $8,500 = $34,000

Table 1. also shows required parking for the proposed lodging use (short term rental) and residential apartment uses based on bedroom/floor area sizes. A total of 54 spaces including 3 disability spaces are required on-site for residential and lodging uses. As shown on the attached site plan, a total of 51 spaces (including 3 disability spaces) are proposed on-site. In compliance with LDRs, access is provided off the rear alley and all parking is set back 30 feet and screened from Millward St. by the street-facing commercial floor area. 14 spaces have direct access off the alley with the remaining 37 spaces accessed from a centrally located drive isle leading to two interior double loaded parking bays.

In accordance with Division 6.2.2.A.1, an Administrative Adjustment request is being made under separate application to the Planning Director to reduce the on-site required parking by 3 spaces (a 5.56% reduction). This request is being made due to physical limitations to the amount of on-site parking relative to efficient building space utilization and in light of the residential rental focus of the project geared toward long-term master leases with employers and an overall lower parking demand from tenants occupying the units. The project also benefits from proximity to services within the Town of Jackson and public START transportation. Notwithstanding the 3 space Administrative Adjustment request, all 48 residential units will have at least one parking space on-site, not counting the additional 3 ADA spaces provided.

Table 1. Required and Proposed Parking

Required Parking				Proposed Parking Plan				
Use	SF	Units	Spaces Required	Proposed On-Site*	Fee-in-Lieu	On Street	Admin. Adjustment	Total Proposed
Commercial			**12.14**					**13**
Office	1,838		4.54		2	3		5
Retail	2,256		7.60		2	6		8
Lodging - Short Term Rental			**12.5**					**12**
Studio - <500 sf		7	7	5			3	8
1 BR - <500 sf		1	1	1				1
2 BR		2	3	2				2
3 BR		1	1.5	1				1
Residential - Apartment			**41.5**					**42**
Studio < 500 sf		25	25	25				25
1 BR - <500 sf		3	3	3				3
2 BR		8	12	12				12
3 BR		1	1.5	2				2
Total	4,094	**48**	**66.14**	**51**	4	9	3	**67**

* Includes 3 Accessible parking spaces

Off-Street loading is provided via the 21' wide access drive isle (18' min. width) located off the alley with turn around access provided via the two parking access isles underneath the building.

Approximately 2,000 sf of parking and loading area will remain outside of the tuck-under parking limits. 125 sf. of snow storage is provided on-site within side yard setbacks. This exceeds the required 2.5% (~45 sf.) of uncovered parking and loading areas.

Vehicle Turning
Turning analyses were performed to show that a 2009 Ford Escape 4WD SUV can enter or exit a typical parking spot without making more than 3 turns. The 2009 Ford Escape is 14.55' long, 5.9' wide, and a turning radius of 19.79'.

The same analysis was performed for a Mercedes Sprint Van, which can also enter and exit in under 3 turns. The Mercedes Sprinter Van is 17.4' long, 6.5' wide, and a turning radius of 20.17'. This is similar to the dimensions of a Chevy Tahoe. All analyses were performed under slow speeds and turning on the spot was utilized.

Garbage Truck Turnaround
Garbage trucks will be able to back into the parking entry aisle up to 24 feet past the property line, and turn around to drive back down the alley, which was confirmed in a turning analysis diagram. The vehicle that was used to perform the analysis was a Hino 338 M Refuse Truck. A two-point turn was performed to properly turn the truck around. The Hino 338 M Refuse Truck is 27.88 long', 8' wide, with a turning radius of 27.4', and an overall body height of 10.75'. The clear ceiling height ranges from 12' to 14'.

Deliveries
FedEx delivery trucks are most likely to drop off packages along Millward Street. However, deliverers may also approach the building from the alley and cart deliveries up the access ramp and through the garage. Per a vehicle turning analysis, FedEx delivery trucks are also able to turn around in the alley at the parking entrance aisle. The vehicle used to perform the analysis was a Solo M850 SlimLine Bus, which is slightly smaller than the Hino 338 Refuse Truck.

Design Guidelines

A. Public Space

Use – MSA incorporates open space using a variety of methods including an attractive pedestrian frontage along Millward St, recessed balconies at the second and third floors on all faces of the building, and a central green roof at the second and third level of inner courtyard.

In adherence with the Town of Jackson Land Development Regulations (TOJ LDRs), the re-designed public right-of-way includes the potential for increased walking area up to 13'-6" in width, new street trees, and pedestrian scaled lighting to enhance the public experience and create an inviting entry way into each commercial space and ground floor access point for the residential units. The design of the building, particularly at the street level will support the future desired characteristics of the district noted as: "active uses, such as retail and service, are encouraged on the ground level, often with lodging, residential, or office on the upper floors.".

Location – The two (2) common entries and lobbies from Millward Street provide efficient circulation space to the units above, amenities below, and interior access to the parking garage at the rear of the building.

Connections – The shared lobbies are connected to the pedestrian experience through two access points on Millward Street as well as from the parking garage at the north of the building. Each access point provides paths of circulation to common stairwells and elevators, which serve every unit on the second and third floors. The entries for the residential units and commercial spaces will prove to be activated by daily use and will increase the pedestrian activity throughout the building – not just from the private parking garage.

Scale & Variety – The massing of the building and the public spaces along Millward Street are maximized for commercial use and adequately sized to provide a comfortable pedestrian experience.

Screening – The design will use street trees along Millward Street to screen pedestrians from the street. Additionally, architectural and interior design features will support flexibility between privacy and daylighting.

B. Composition

Composition, Proportion, Rhythm, Surfaces & Massing – The design uses material changes and massing elements to create visual interest at the scale of the pedestrian, bicycle and automobile.

Sense of Entry & Place - Several aspects in the design of the building create a sense of entry and place. The entryways into each ground level commercial space and to the shared lobbies are highlighted by exterior landscape elements and recessed from the building facade provide a clear indication of entry, embrace the street, and support a general sense of procession into the building.

Adjacent Buildings – The composition of the building addresses the adjacent buildings with complimentary materials.

C. Massing

Mass & Height – The building mass and height are like that of the hotel across the street and those in the general vicinity. The design utilizes recessed entries, changes in building height, subtractive second and third story balconies and landscaping to break up the façades and give the building a human scale. The proposed building adheres to the height standards outlined by the TOJ LDRs – reinforcing a sense of appropriate scale within the existing neighborhood context and benefiting the pedestrian experience.

Additive & Subtractive Massing – The building elevations have several areas where additive and subtractive massing methodologies are used. The ground level entries into the lobbies and commercial spaces along Millward St are recessed (subtracted) while the stairwells project further toward the street, creating depth (additive). Exterior terraces at the second and third levels are recessed along the sides of the building to create interest and a sense of layering along the visible elevations of the building. The central green roof bisects the entire building to subtract from the overall massing and provide natural light and balconies to non-street facing units.

Volume Complexity – The design of the building allows for the appropriate density on site and includes a variable building mass that clearly defines appropriate transitions from the public realm to the private. The differentiation of the building elevations on each of the public facades speaks to the differing programmatic requirements of the building and uses a variety of design elements, material and pattern relative to the specific frontage each elevation is addressing. While the Millward St façade engages the pedestrian in scale of access, the west façade is mainly comprised of structured parking for automobile access, and secondary vertical circulation to residential units above.

Roofs – The building will have flat roofs at varying elevations. All snow from roofs will be contained on and within the structure.

D. **Street Wall** – The design of the building provides an attractive street wall along Millward St. Recesses in the street wall will provide access to the lobbies and commercial spaces and will provide interior access points to the apartments above. In this manner, the building balances the articulation of the façade to create a rhythm that holds the streetscape and defines the public realm while breaking up the mass of the building and creating visual interest for the streetscape experience.

Materials

Application of Materials – The application of each building material serves to define certain building elements as unique spaces or components of the program while creating an attractive façade that has an overall sense of unity.

Material Selection – The primary material palette for the building includes prefinished wood siding, stained wood soffits, dark metal accents, and cast in place board-formed concrete. The materials are in harmony with other building materials used on nearby buildings and throughout downtown Jackson.

07

HOUSING MITIGATION PLAN

Millward Street Apartments

Affordable Workforce Housing – Division 6.3 Housing Mitigation Plan

In accordance with LDR Division 6.3 - Affordable Workforce Housing Standards, the following housing mitigation plan responds to standards for required employee generating development associated with the proposed development.

A. LDR Sec. 6.3.2 - Applicability:

The proposed redevelopment of existing lodging use on 265 N. Millward St. and detached residential use on 245 N. Millward St. will bring a new composition of commercial lodging and residential use. The current motel use contains 28 units, 5 employee apartments and a single detached residential unit located on the adjacent lot to the south of Angler Inn property included with this redevelopment project. The proposed use changes will provide 4,094 sf of commercial floor area (including mechanical areas), 11 short-term lodging units, and 37 apartment units. Proposed uses within the new building will cause employee generating development, however, it will not exceed employee generating development of historic uses. The proposed 37 apartment units are realized through the 2:1 Workforce Housing incentives included in Division 7.8 of the LDRs and are exempt from Division 6.3 standards.

B. LDR Sec. 6.3.3 – Calculation of Requirement:

According to Sec. 6.3.3.A.4. a change of use requires affordable workforce housing to be calculated based on the difference between existing and proposed uses.

Existing uses on the property prior to December 18, 1995, include:

- Lodging use – 28 units (265 N. Millward)
- Apartment -local occupancy – 2,572 sf (265 N. Millward) – NO CREDIT GIVEN
- Detached Residential Use – 861 sf. (245 N. Millward)

According to the Affordable Housing Calculator (see attached page 1 worksheet) based on all qualifying existing uses, the workforce housing credit is **2.879 units**.

Proposed non-exempt uses within the project include:

- Commercial Office use – 1,838 sf.
- Commercial Retail – 2,256 sf.
- Lodging – Short Term Rental– 11 Units (15 bedrooms – including 7 studio units)

When applying the housing requirements to the proposed non-exempt uses the housing required is **2.472 units**.

According to the Affordable Housing Calculator (see attached page 1 worksheet), after considering the credit for existing uses (2.879 units) the final workforce housing requirement for all proposed non-exempt uses is **0.0 units**.

C. LDR Section 6.3.4 – Tabulation of Unit Types:

No units are required.

D. LDR Section 6.3.5 – Method of Provision:

No Affordable Workforce Housing mitigation associated with new employee generating development is proposed.

E. **Livability Standards**

Workforce restricted apartments as part of the 2:1 Workforce Housing Bonus will comply with applicable Livability Standards in the Jackson/Teton County Housing Department Rules and Regulations.

Housing Mitigation Plan

updated 1/8/21

Development of a new house, hotel, or commercial space generates the need for employees. The construction workforce builds the space, the commercial workforce or residential service workforce works in the space, and first responders are needed to protect the space. Only about 27% of the employees generated by development can afford housing in the community, but the community's "community first" character goal is that 65% of employees live locally. To bridge this affordability gap, each development is required to include affordable workforce housing proportional to the employees it generates. These housing mitigation requirements are established in Division 6.3 of the Land Development Regulations. This worksheet is intended to assist in meeting the requirements for a project. However, an error in the worksheet does not amend the actual standard; if you find an error please notify the Planning Department. Fill in the highlighted cells, all the other cells will autopopulate.

Calculating the Requirement (Sec. 6.3.2 & 6.3.3)

Step 1: Location — Town of Jackson

The applicable regulations vary by jurisdiction please identify the location of your project using the above dropdown options.

The required housing is based on the existing and proposed use of the site. Step 2 is to enter the existing use and Step 3 is to enter the proposed use. Section 6.3.2 of the LDRs establishes the applicability of the affordable workforce housing standards and Section 6.3.3 establishes the specifics on calculation of the requirement. Enter each use in its own row, add rows if needed. If a building has multiple units with the same use, describe each unit in its own row. (For example: if a duplex is composed of a 2,300 sf attached unit and a 1,700 sf attached unit, put each unit in its own row do not put in 4,000 sf of attached single-family.) If a unit type (e.g. apartment floor plan, or commercial tennant space) is replicated exactly multiple times, you may use the "Use Quantity" column to avoid adding multiple rows.

Step 2: Existing Development

Housing is only required for new development. Please describe the existing use of the site so that it can be credited from the housing requirement. The definition of existing use is Section 6.3.2.A.1 of the LDRs. Generally, the existing use to enter is the use with the highest housing requirement that either existed in 1995, or has been permitted since 1995. Please attach proof of existence.

Existing Use (Sec. 6.3.2.A)	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Required
Conventional Lodging	0.102*bedrooms	28		1	2.860
Detached Single-Family Unit (Unre	0.000017*sf+(Exp(-15.49+1.59*Ln(sf)))/2.176	0	861	1	0.019
				1	

Existing Workforce Housing Credit 2.879

Step 3: Proposed Development

Please describe the proposed use of the site to determine if affordable workforce housing is required as part of the development. Describe the end result of the proposed development. (For example: in the case of an addition do not enter the square footage of the addition, enter the size of the unit upon completion of the addition.)

Proposed Use	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Required
Retail	0.000216*sf		2256	1	**0.487**
Office	0.000247*sf		1838	1	**0.453**
Short-Term Rental Unit	0.102*bedrooms	15		1	**1.532**

Affordable Workforce Housing Required: 0.000 units Fee-in-Lieu Amount: $ -

If the amount of required affordable workforce housing is less than one unit, you may pay the above fee in-lieu of providing the required housing. If you elect to pay the fee, your Housing Mitgation Plan is complete. If the requirement is greater than one unit, or you would like to provide a unit to meet the requirement, please proceed to the Unit Type Sheet.

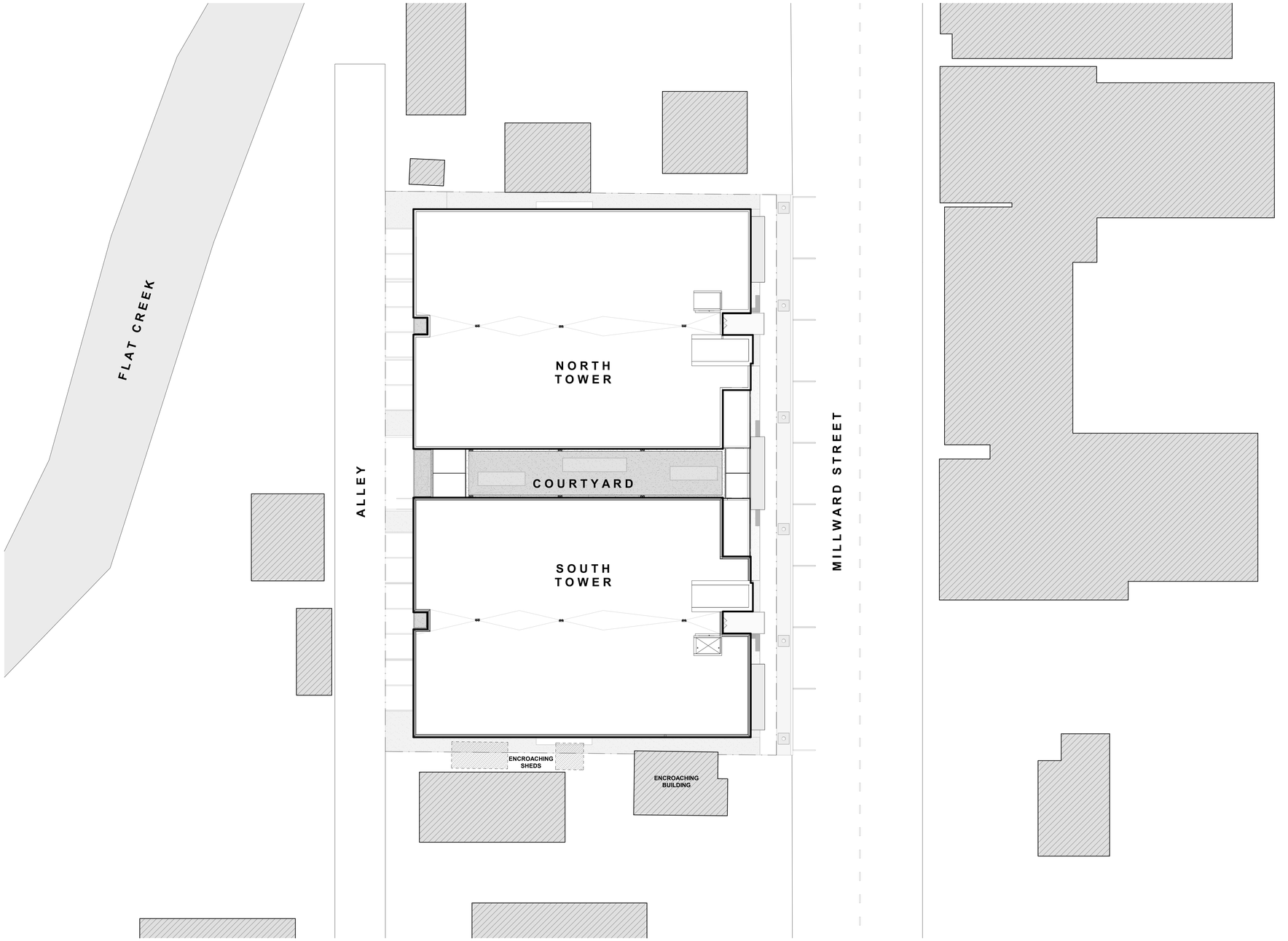
245 & 265 N. Millward St. Current Uses

Milward Units - Current			
Unit #	Bedroom	Use	Sf.
Stone house	2	Res- Detached	861
Central Apt. Upstairs	1	Apartment	--
Central Apt. Downstairs	1	Apartment	--
Back Apt. Downstairs	2	Apartment	--
Back Apt. Upstairs (2 BR)	2	Apartment	--
Back Apt. Upstairs (1 BR)	1	Apartment	--
230	1	Lodging	
231	1	Lodging	
232	1	Lodging	
233	1	Lodging	
234	1	Lodging	
235	1	Lodging	
240	1	Lodging	
241	1	Lodging	
242	1	Lodging	
243	1	Lodging	
244	1	Lodging	
245	1	Lodging	
250	1	Lodging	
251	1	Lodging	
252	1	Lodging	
253	1	Lodging	
254	1	Lodging	
255	1	Lodging	
256	1	Lodging	
257	1	Lodging	
260	1	Lodging	
261	1	Lodging	
262	1	Lodging	
263	1	Lodging	
264	1	Lodging	
265	1	Lodging	
266	1	Lodging	
267	1	Lodging	
	37		861

08

DRAWINGS

ARCHITECTURE
LANDSCAPE
CIVIL



1 ARCHITECTURAL SITE PLAN
1/16" = 1'-0"

NORTH

0 8 16 32 64

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324

Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

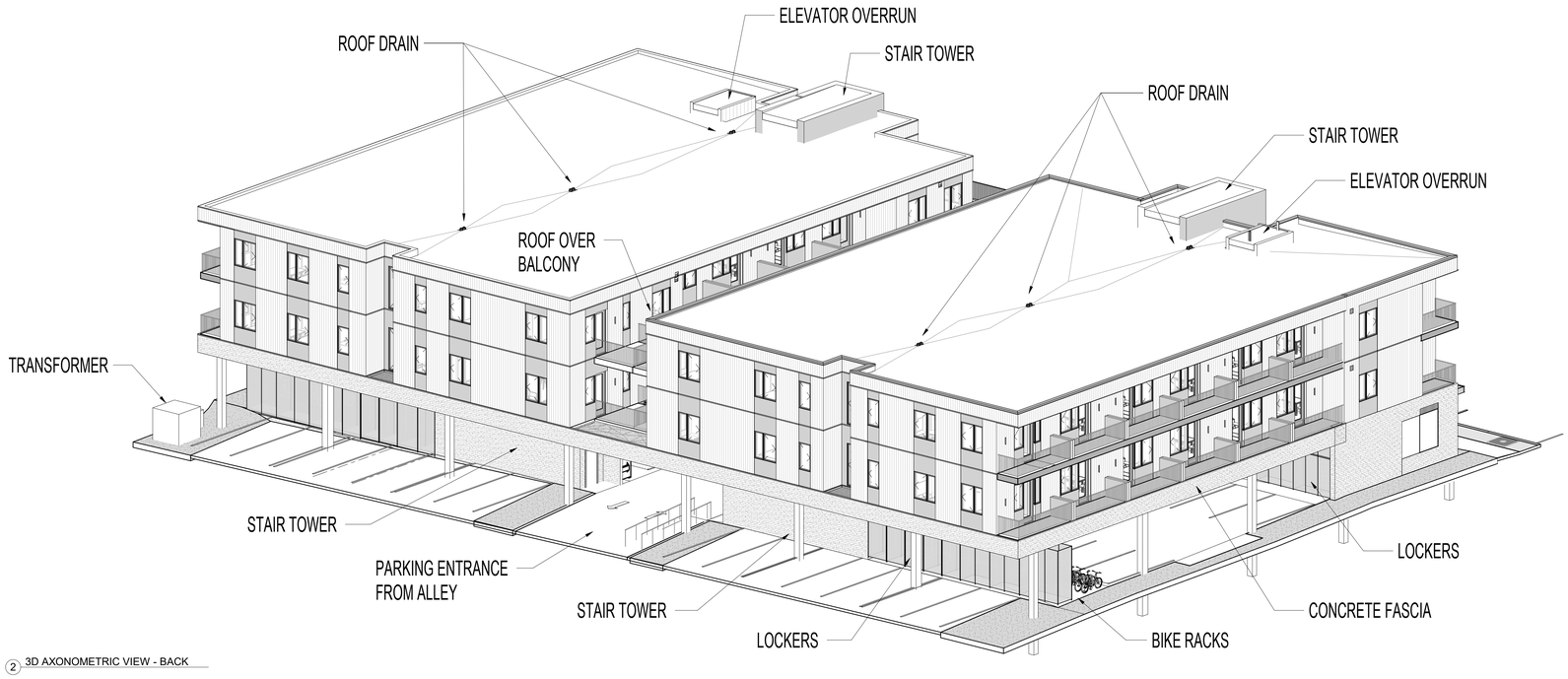
REGISTERED ARCHITECT
EDMUND
AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

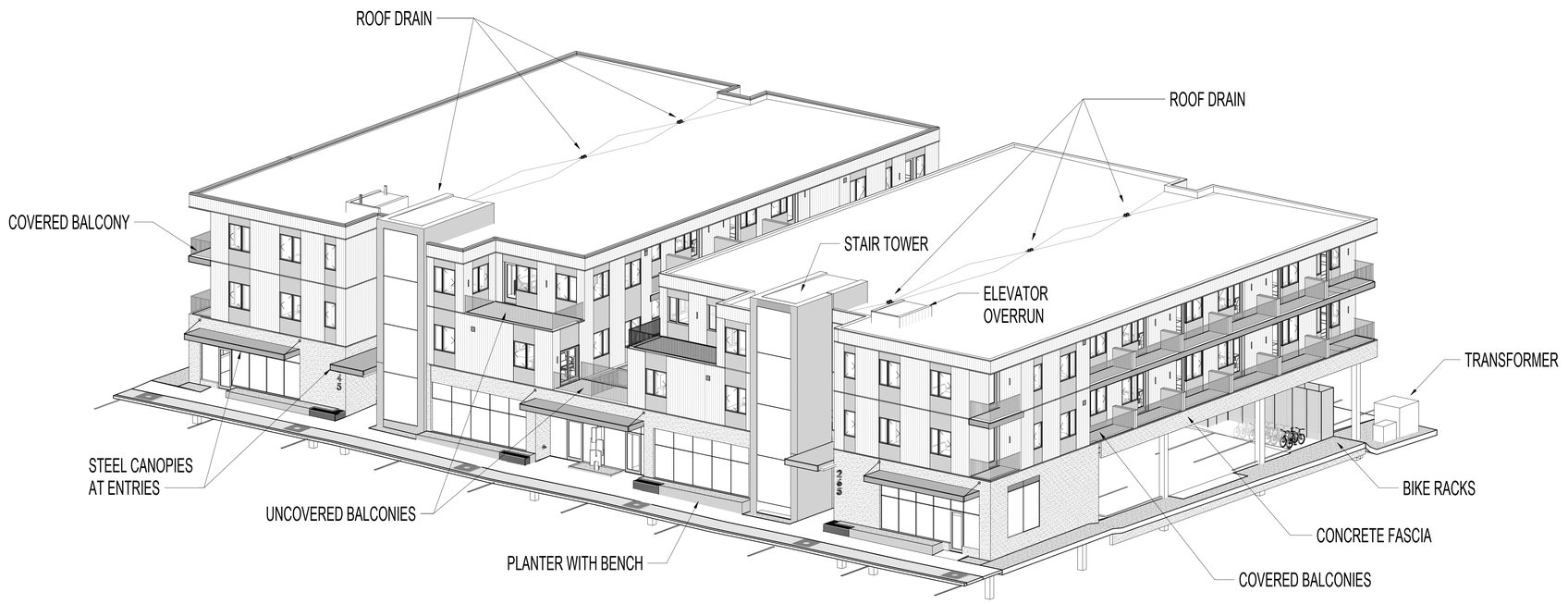
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD/CK/JB	Drawn By
Checker	Checked By
Discipline	Drawing No.
	A0.01

Drawing Name
ARCHITECTURAL SITE PLAN



2 3D AXONOMETRIC VIEW - BACK



1 3D AXONOMETRIC VIEW - FRONT

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3304
STATE OF WYOMING

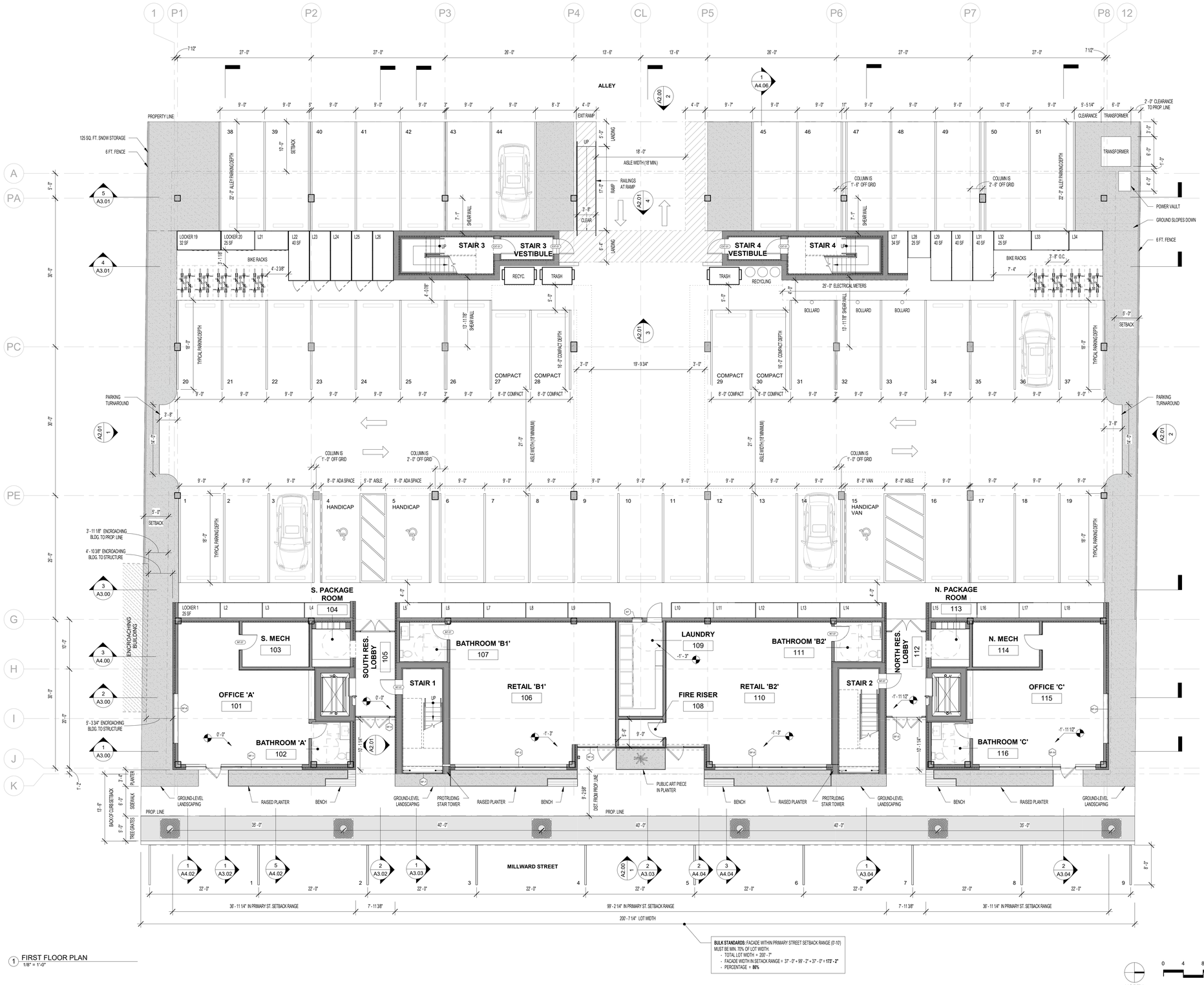
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD	Drawn By
Checker	Checked By
Discipline	Drawing No.

A0.10

Drawing Name
3D AXONOMETRIC VIEWS



BULK STANDARDS: FACADE WITHIN PRIMARY STREET SETBACK RANGE (0-10') MUST BE MIN. 70% OF LOT WIDTH.
- TOTAL LOT WIDTH = 200' - 7"
- FACADE WIDTH IN SETBACK RANGE = 37' - 0" + 99' - 2" + 37' - 0" = **173' - 2"**
- PERCENTAGE = **86%**

1 FIRST FLOOR PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

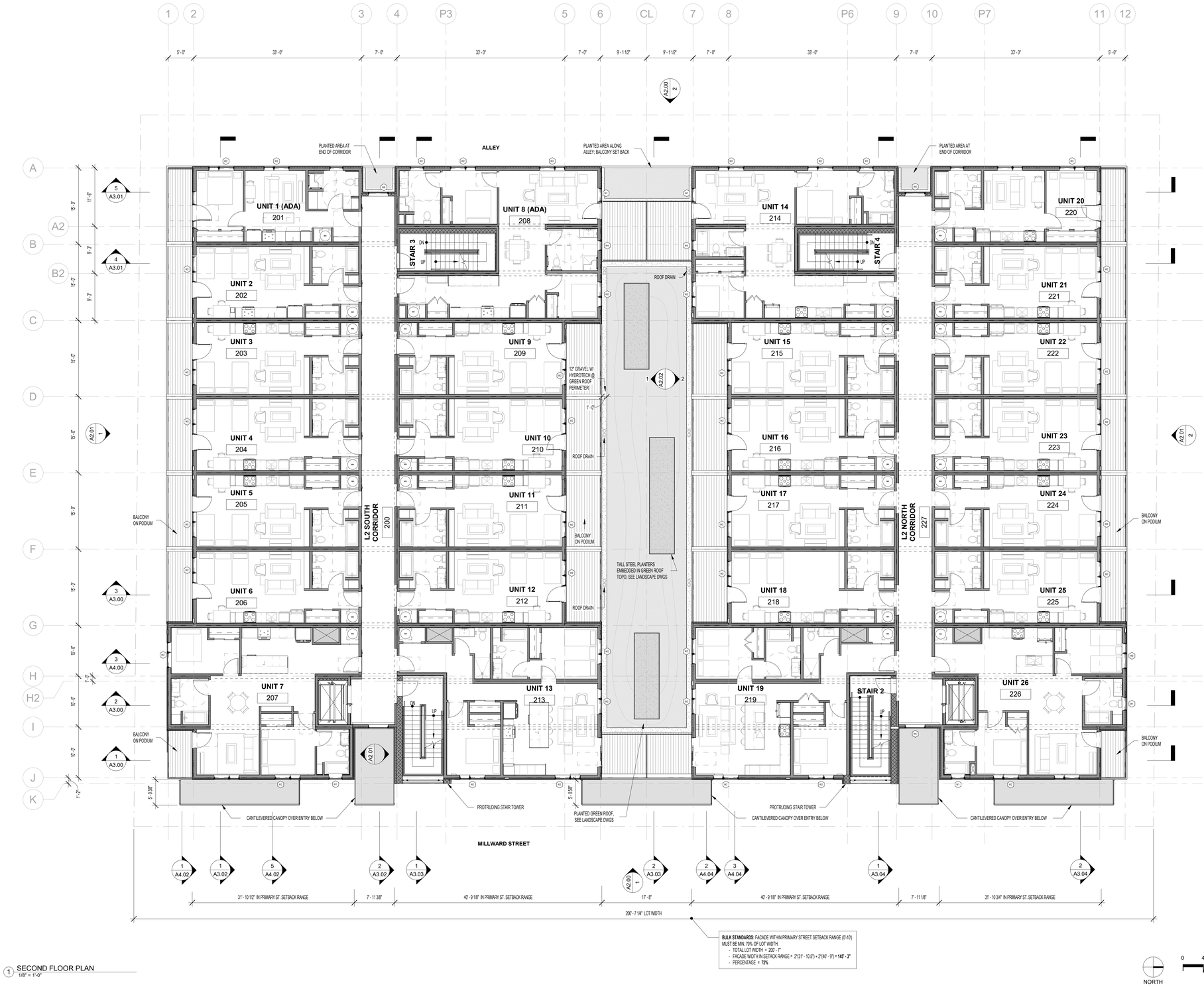
2210	Project No.
CK/KD/LA	Drawn By
Checker	Checked By
Discipline	Drawing No.

A1.01

Drawing Name
FIRST FLOOR PLAN

UNIT TYPE LEGEND

UNIT TYPE	BEDS	UNIT #	FLOOR	NOTES	BALC. DEPTH
A.1	1 BR	1	L2	ADA TYPE A UNIT	5'-0"
A.2	1 BR	20	L2	MIRRORED UNIT 27	5'-0"
		27	L3		
		42	L3	MIRRORED UNIT 27	
B.1	0 BR	2, 4, 6	L2		5'-0"
		22, 24	L2	ROTATED	
		28, 30, 32	L3		
		44, 46	L3	ROTATED	
B.2	0 BR	3, 5	L2	MIRRORED	5'-0"
		21, 23, 25	L2	MIRRORED, ROTATED	
		29, 31	L3	MIRRORED	
		43, 45, 47	L3	MIRRORED, ROTATED	
B.3	0 BR	9, 11	L2		7'-0"
		16, 18	L2	ROTATED	
		36	L3		
		39	L3	ROTATED	
B.4	0 BR	10, 12	L2	MIRRORED	7'-0"
		15, 17	L2	MIRRORED, ROTATED	
		35	L3	MIRRORED	
		40	L3	MIRRORED, ROTATED	
C	2 BR	7	L2		5'-0"
		26	L2	MIRRORED	
		33	L3		
		48	L3	MIRRORED	
D.1	2 BR	8	L2	ADA TYPE A UNIT	8'-8"
D.2	2 BR	14	L2		8'-8"
		34	L3		
D.3	3 BR	38	L3	MIRRORED	
E	2 BR	13	L2		8'-8"
		19	L2	MIRRORED	
F	2 BR	37	L3		21'-0"
		41	L3	MIRRORED	



BULK STANDARDS: FACADE WITHIN PRIMARY STREET SETBACK RANGE (0'-10') MUST BE MIN. 70% OF LOT WIDTH.
- TOTAL LOT WIDTH = 200' - 7"
- FACADE WIDTH IN SETBACK RANGE = 2*(31' - 10.5") + 2*(40' - 9") = **145' - 3"**
- PERCENTAGE = **72%**

1 SECOND FLOOR PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

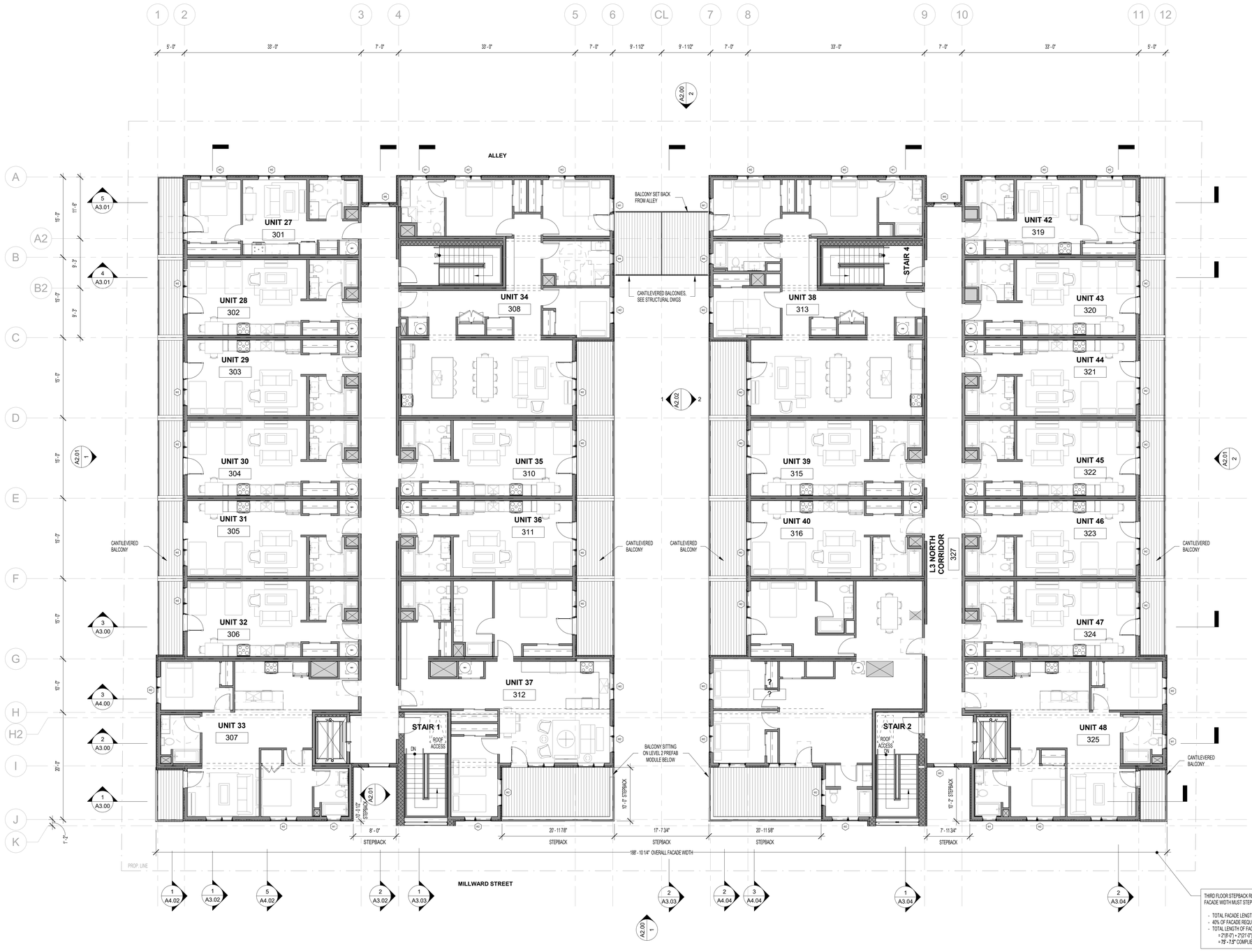
2210	Project No.
CK/KD/LA	Drawn By
Checker	Checked By
Discipline	Drawing No.

A1.02

Drawing Name
SECOND FLOOR PLAN

UNIT TYPE LEGEND

UNIT TYPE	BEDS	UNIT #	FLOOR	NOTES	BALC. DEPTH
A.1	1 BR	1	L2	ADA TYPE A UNIT	5'-0"
A.2	1 BR	20	L2	MIRRORED UNIT 27	5'-0"
		27	L3		
		42	L3	MIRRORED UNIT 27	
B.1	0 BR	2, 4, 6	L2		5'-0"
		22, 24	L2	ROTATED	
		28, 30, 32	L3		
		44, 46	L3	ROTATED	
B.2	0 BR	3, 5	L2	MIRRORED	5'-0"
		21, 23, 25	L2	MIRRORED, ROTATED	
		29, 31	L3	MIRRORED	
		43, 45, 47	L3	MIRRORED, ROTATED	
B.3	0 BR	9, 11	L2		7'-0"
		16, 18	L2	ROTATED	
		36	L3		
		39	L3	ROTATED	
B.4	0 BR	10, 12	L2	MIRRORED	7'-0"
		15, 17	L2	MIRRORED, ROTATED	
		35	L3	MIRRORED	
		40	L3	MIRRORED, ROTATED	
C	2 BR	7	L2		5'-0"
		26	L2	MIRRORED	
		33	L3		
		48	L3	MIRRORED	
D.1	2 BR	8	L2	ADA TYPE A UNIT	8'-8"
D.2	2 BR	14	L2		8'-8"
		34	L3		
D.3	3 BR	38	L3	MIRRORED	
E	2 BR	13	L2		8'-8"
		19	L2	MIRRORED	
F	2 BR	37	L3		21'-0"
		41	L3	MIRRORED	



1 THIRD FLOOR PLAN
1/8" = 1'-0"

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324

Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

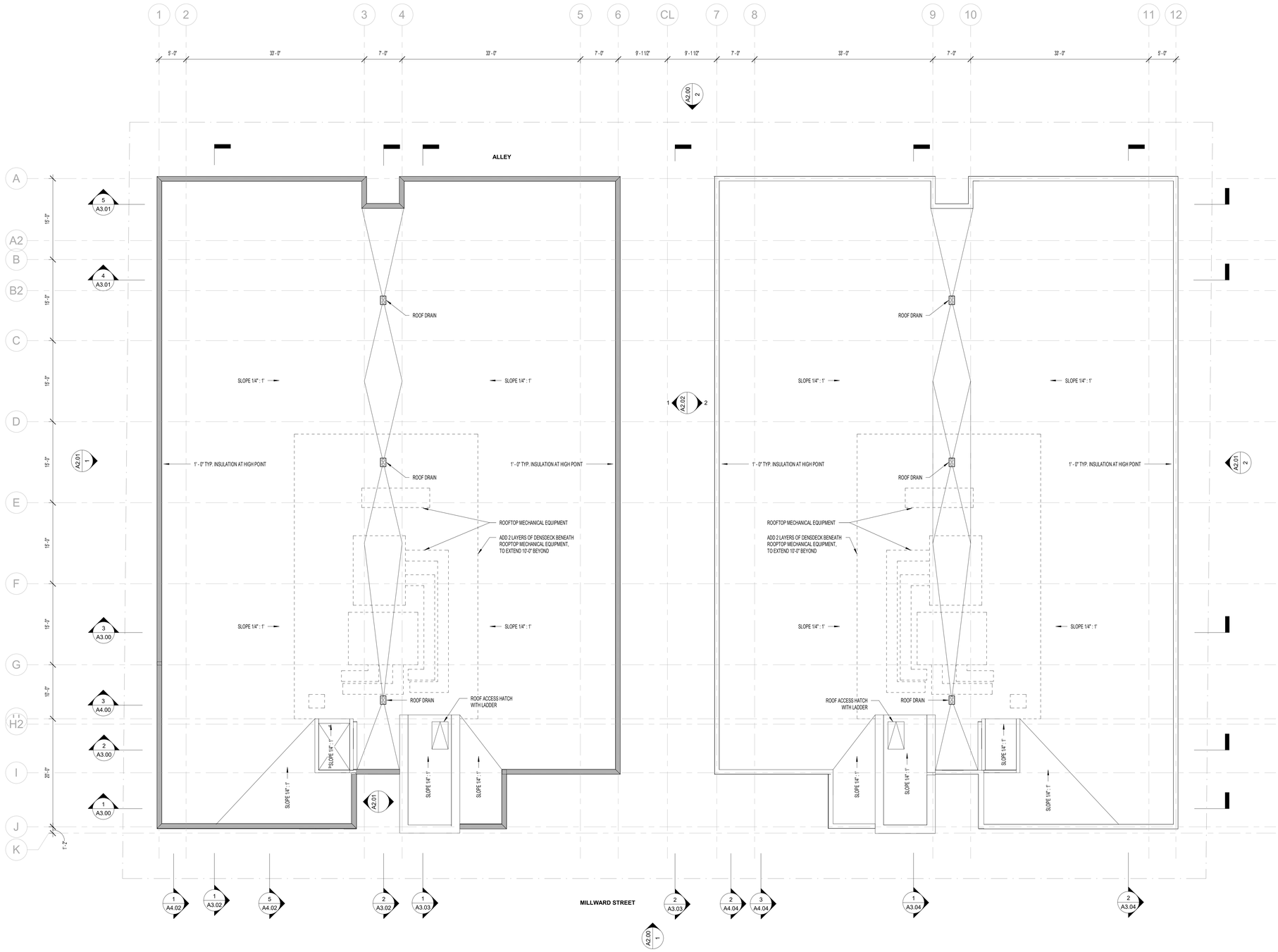
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
CK/KD/LA	Drawn By
Checker	Checked By
Discipline	Drawing No.

A1.03

Drawing Name
THIRD FLOOR PLAN



1 ROOF PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

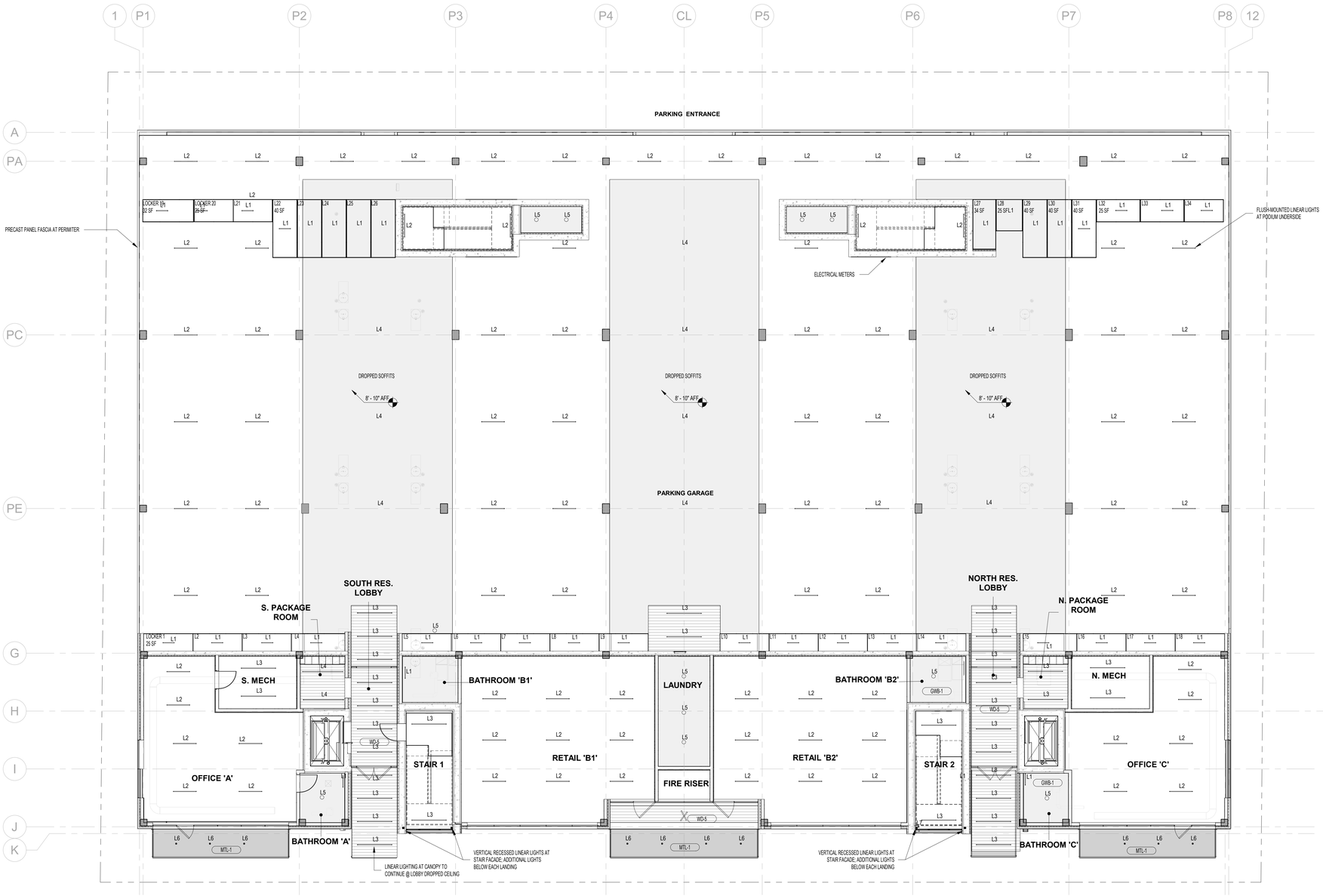
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD	Drawn By
Checker	Checked By
Discipline	Drawing No.

A1.50

Drawing Name
ROOF PLAN



1 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

RCP LEGEND

Fx	RECESSED LIGHT FIXTURE	Fx	STANDARD EXHAUST FAN
Fx	ADJUSTABLE RECESSED LIGHT FIXTURE		DUCT
Fx	CEILING-MOUNTED LIGHT FIXTURE		RETURN
Fx	WALL-MOUNTED LIGHT FIXTURE		DIFFUSER
Fx	LINEAR CEILING-MOUNTED LIGHT FIXTURE	CO SD	HARDWIRED SMOKE / CARBON MONOXIDE DETECTOR W/ BATTERY BACKUP
Fx	HARDWIRED PORTRAIT LIGHT FIXTURE		
Fx	HARDWIRED LINEAR COVE/TASK LIGHT FIXTURE		
	WALL SWITCH		
	DIMMER SWITCH		
	THREE-WAY SWITCH		
	JAMB SWITCH		
	EXHAUST FAN SWITCH		

ELECTRICAL NOTES:
1. ALL ELECTRICAL WORK SHALL FULLY COMPLY WITH CURRENT EDITIONS OF ALL APPLICABLE CODES.
2. GENERAL CONTRACTOR TO COORDINATE WALKTHROUGH WITH OWNER & ARCHITECT TO VERIFY FINAL LOCATIONS OF ALL FIXTURES & SWITCHES PRIOR TO INSTALLATION.
3. ELECTRICIAN TO COORDINATE WITH GENERAL CONTRACTOR, ARCHITECT, & HVAC CONTRACTOR FOR LOCATIONS OF ALL THERMOSTATS & THERMOSTATIC SENSORS.
4. ELECTRICIAN & GENERAL CONTRACTOR TO COORDINATE WORK WITH ALL THIRD-PARTY CONTRACTORS (SECURITY, AUDIO/VIDEO, HOME AUTOMATION AND SIMILAR).

LOW VOLTAGE NOTES:
1. ALL SPEAKER WIRE SHALL BE FOUR CONDUCTOR WIRE (UNLESS OTHERWISE NOTED)
2. ALL SPEAKER WIRED TO SINGLE HOMERUN POINT (UNLESS OTHERWISE NOTED)

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

MATERIAL LEGEND

CONC-1	CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2	CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3	SEALED, POLISHED CONCRETE
CPT-1	HIGH-TRAFFIC CARPET FLOOR
CPT-2	CARPET FLOOR
CT-1	CERAMIC FLOOR TILE AT BATHROOMS
CT-2	CERAMIC WALL TILE AT BATHROOMS
CT-3	CERAMIC WALL TILE, KITCHEN BACKSPLASH
GL-1	1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2	1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3	1" IGU W/ LOW-E COATING ON #2, CLEAR VISION
GWB-1	GYPSUM WALLBOARD
GWB-2	MOISTURE-RESISTANT GYPSUM WALLBOARD
LV-1	COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER
MTL-1	ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2	COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3	STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4	COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5	COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6	WELDED WIRE CAGE STORAGE LOCKERS
MTL-7	12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS
WD-1	EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2	EXTERIOR WOOD DECKING
WD-3	EXTERIOR T&G WOOD SOFFIT
WD-4	T&G INTERIOR HARDWOOD FLOOR
WD-5	WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6	WOOD INTERIOR WALL PANEL
WT-1	WINDOW SHADE
ST-1	STONE EXTERIOR

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD	Drawn By
Checker	Checked By
Discipline	Drawing No.
	A1.61

Drawing Name
FIRST FLOOR REFLECTED CEILING PLAN

1 SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

RCP LEGEND

Fx	RECESSED LIGHT FIXTURE	Fx	STANDARD EXHAUST FAN
Fx	ADJUSTABLE RECESSED LIGHT FIXTURE		DUCT
Fx	CEILING-MOUNTED LIGHT FIXTURE		RETURN
Fx	WALL-MOUNTED LIGHT FIXTURE		DIFFUSER
Fx	LINEAR CEILING-MOUNTED LIGHT FIXTURE	CO SD	HARDWIRED SMOKE / CARBON MONOXIDE DETECTOR W/ BATTERY BACKUP
Fx	HARDWIRED PORTRAIT LIGHT FIXTURE		
Fx	HARDWIRED LINEAR COVE/TASK LIGHT FIXTURE		
	WALL SWITCH		
	DIMMER SWITCH		
	THREE-WAY SWITCH		
	JAMB SWITCH		
FAN	EXHAUST FAN SWITCH		

ELECTRICAL NOTES:
1. ALL ELECTRICAL WORK SHALL FULLY COMPLY WITH CURRENT EDITIONS OF ALL APPLICABLE CODES.
2. GENERAL CONTRACTOR TO COORDINATE WALKTHROUGH WITH OWNER & ARCHITECT TO VERIFY FINAL LOCATIONS OF ALL FIXTURES & SWITCHES PRIOR TO INSTALLATION.
3. ELECTRICIAN TO COORDINATE WITH GENERAL CONTRACTOR, ARCHITECT, & HVAC CONTRACTOR FOR LOCATIONS OF ALL THERMOSTATS & THERMOSTATIC SENSORS.
4. ELECTRICIAN & GENERAL CONTRACTOR TO COORDINATE WORK WITH ALL THIRD-PARTY CONTRACTORS (SECURITY, AUDIO/VIDEO, HOME AUTOMATION AND SIMILAR).

LOW VOLTAGE NOTES:
1. ALL SPEAKER WIRE SHALL BE FOUR CONDUCTOR WIRE (UNLESS OTHERWISE NOTED)
2. ALL SPEAKER WIRED TO SINGLE HOMERUN POINT (UNLESS OTHERWISE NOTED)

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

MATERIAL LEGEND

CONC-1	CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2	CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3	SEALED, POLISHED CONCRETE
CPT-1	HIGH-TRAFFIC CARPET FLOOR
CPT-2	CARPET FLOOR
CT-1	CERAMIC FLOOR TILE AT BATHROOMS
CT-2	CERAMIC WALL TILE AT BATHROOMS
CT-3	CERAMIC WALL TILE, KITCHEN BACKSPLASH
GL-1	1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2	1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3	1" IGU W/ LOW-E COATING ON #2, CLEAR VISION
GWB-1	GYPSUM WALLBOARD
GWB-2	MOISTURE-RESISTANT GYPSUM WALLBOARD
LV-1	COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER
MTL-1	ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2	COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3	STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4	COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5	COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6	WELDED WIRE CAGE STORAGE LOCKERS
MTL-7	12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS
WD-1	EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2	EXTERIOR WOOD DECKING
WD-3	EXTERIOR T&G WOOD SOFFIT
WD-4	T&G INTERIOR HARDWOOD FLOOR
WD-5	WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6	WOOD INTERIOR WALL PANEL
WT-1	WINDOW SHADE
ST-1	STONE EXTERIOR

ISSUED	DATE	ISSUED FOR
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Author	Drawn By
Checker	Checked By
Discipline	Drawing No.
	A1.62

Drawing Name
SECOND FLOOR REFLECTED CEILING PLAN

1 LEVEL 3 CEILING PLAN
1/8" = 1'-0"

NORTH

0 4 8 16 32

RCP LEGEND

Fx	RECESSED LIGHT FIXTURE	Fx	STANDARD EXHAUST FAN
Fx	ADJUSTABLE RECESSED LIGHT FIXTURE		DUCT
Fx	CEILING-MOUNTED LIGHT FIXTURE		RETURN
Fx	WALL-MOUNTED LIGHT FIXTURE		DIFFUSER
Fx	LINEAR CEILING-MOUNTED LIGHT FIXTURE	CO SD	HARDWIRED SMOKE / CARBON MONOXIDE DETECTOR W/ BATTERY BACKUP
Fx	HARDWIRED PORTRAIT LIGHT FIXTURE		
Fx	HARDWIRED LINEAR COVE/TASK LIGHT FIXTURE		
	WALL SWITCH		
	DIMMER SWITCH		
	THREE-WAY SWITCH		
	JAMB SWITCH		
	EXHAUST FAN SWITCH		

ELECTRICAL NOTES:
1. ALL ELECTRICAL WORK SHALL FULLY COMPLY WITH CURRENT EDITIONS OF ALL APPLICABLE CODES.
2. GENERAL CONTRACTOR TO COORDINATE WALKTHROUGH WITH OWNER & ARCHITECT TO VERIFY FINAL LOCATIONS OF ALL FIXTURES & SWITCHES PRIOR TO INSTALLATION.
3. ELECTRICIAN TO COORDINATE WITH GENERAL CONTRACTOR, ARCHITECT, & HVAC CONTRACTOR FOR LOCATIONS OF ALL THERMOSTATS & THERMOSTATIC SENSORS.
4. ELECTRICIAN & GENERAL CONTRACTOR TO COORDINATE WORK WITH ALL THIRD-PARTY CONTRACTORS (SECURITY, AUDIO/VIDEO, HOME AUTOMATION AND SIMILAR).

LOW VOLTAGE NOTES:
1. ALL SPEAKER WIRE SHALL BE FOUR CONDUCTOR WIRE (UNLESS OTHERWISE NOTED)
2. ALL SPEAKER WIRED TO SINGLE HOMERUN POINT (UNLESS OTHERWISE NOTED)

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324

Jackson Hole, Wyoming 83001
www.nwks.com

MATERIAL LEGEND

CONC-1 CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2 CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3 SEALED, POLISHED CONCRETE

CPT-1 HIGH-TRAFFIC CARPET FLOOR
CPT-2 CARPET FLOOR

CT-1 CERAMIC FLOOR TILE AT BATHROOMS
CT-2 CERAMIC WALL TILE AT BATHROOMS
CT-3 CERAMIC WALL TILE, KITCHEN BACKSPLASH

GL-1 1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2 1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3 1" IGU W/ LOW-E COATING ON #2, CLEAR VISION

GWB-1 GYPSUM WALLBOARD
GWB-2 MOISTURE-RESISTANT GYPSUM WALLBOARD

LV-1 COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER

MTL-1 ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2 COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3 STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4 COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5 COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6 WELDED WIRE CAGE STORAGE LOCKERS
MTL-7 12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS

WD-1 EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2 EXTERIOR WOOD DECKING
WD-3 EXTERIOR T&G WOOD SOFFIT
WD-4 T&G INTERIOR HARDWOOD FLOOR
WD-5 WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6 WOOD INTERIOR WALL PANEL

WT-1 WINDOW SHADE

ST-1 STONE EXTERIOR

ISSUED	DATE	ISSUED FOR
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Author	Drawn By
Checker	Checked By
Discipline	Drawing No.

A1.63

Drawing Name
THIRD FLOOR REFLECTED CEILING PLAN

UNIT MIX OVERVIEW

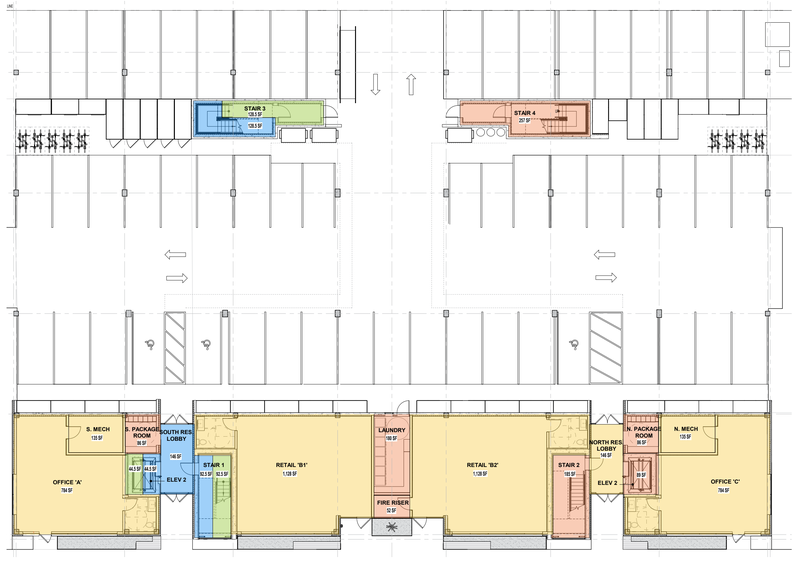
BUILDING AREA LEGEND

- BY-RIGHT COMMERCIAL
- BY-RIGHT SHORT TERM
- BONUS RESTRICTED
- BONUS MARKET

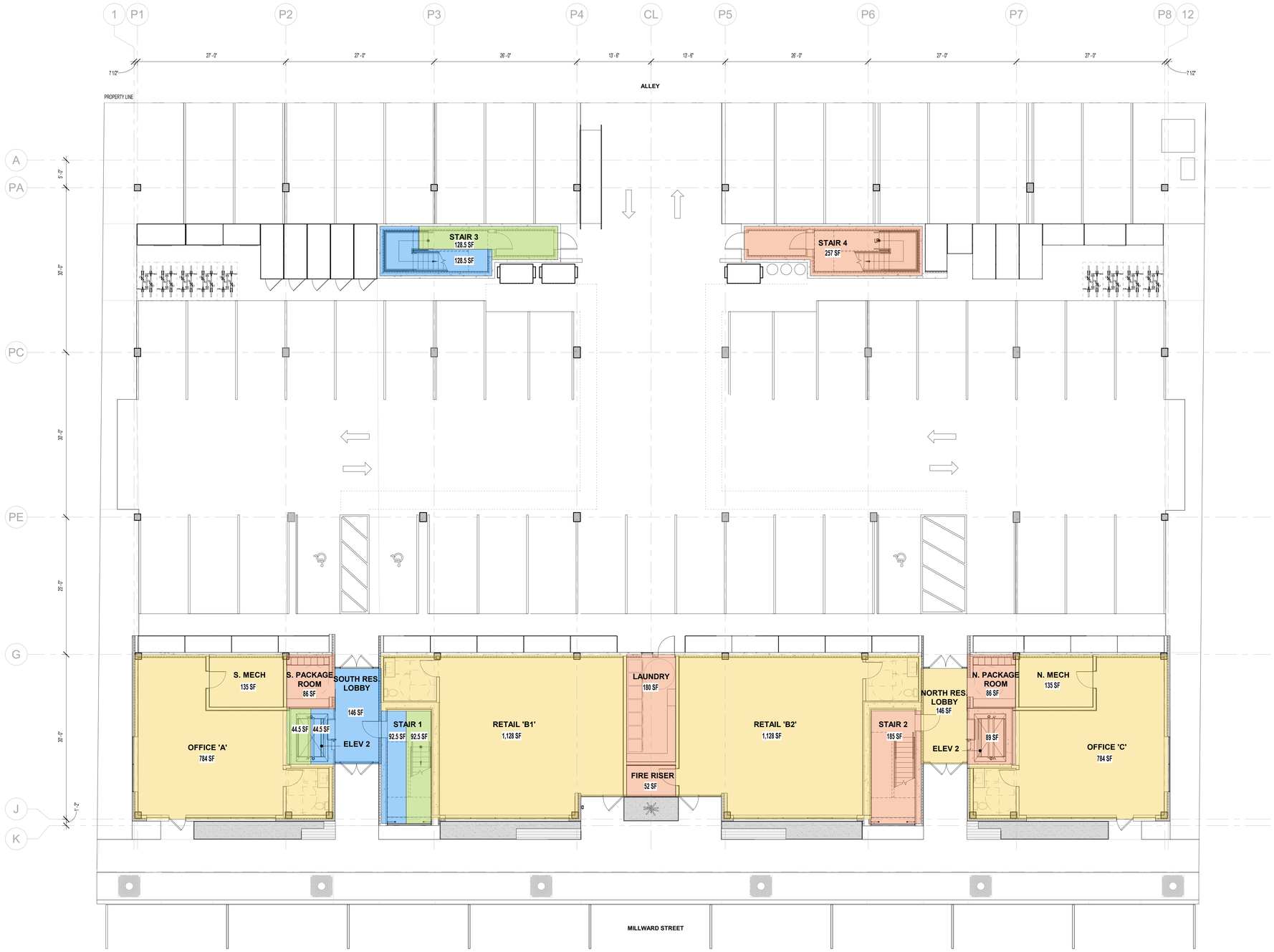
LEVEL 3

LEVEL 2

LEVEL 1



Millward Street Apartments Floor Area Summary Table			
Floor Area by Type	**Sq. Ft.**	**Bedrooms**	**Units**
First Floor	**5,852**		
2:1 Bonus Market Circulation	1,064	--	--
By-Right Commercial	4,094	--	--
By-Right Circulation	146	--	--
By-Right Short Term Circulation	412	--	--
Second Floor	**17,452**		**26**
2:1 Bonus Market			
Studio	1,980	--	4
1 Bedroom	495	1	1
2 Bedroom	4,038	8	4
2:1 Bonus Market Circulation	758	--	--
2:1 Bonus Restricted			
Studio	6,930	--	14
1 Bedroom	495	1	1
2 Bedroom	1,998	4	2
2:1 Bonus Restricted Circulation	758	--	--
By-Right Short Term Circulation	0	--	--
Third Floor	**17,772**		**22**
2:1 Bonus Market			
Studio	3,465	--	7
1 Bedroom	495	1	1
2 Bedroom	2,288	4	2
3 Bedroom	1,515	3	1
2:1 Bonus Market Circulation	1,123	--	--
By-Right Short Term			
Studio	3,465	--	7
1 Bedroom	495	1	1
2 Bedroom	2,288	4	2
3 Bedroom	1,515	3	1
By-Right Short Term Circulation	1,123	--	--



1 FIRST FLOOR AREA PLAN
1/8" = 1'-0"

UNIT TYPE LEGEND

UNIT TYPE	BEDS	UNIT #	FLOOR	NOTES	BALC. DEPTH
A.1	1 BR	1	L2	'TYPE A' ADA UNIT	5'-0"
A.2	1 BR	20	L2	MIRRORED UNIT 27	5'-0"
		27	L3		
		42	L3	MIRRORED UNIT 27	
B.1	0 BR	2, 4, 6	L2		5'-0"
		22, 24	L2	ROTATED	
		28, 30, 32	L3		
		44, 46	L3	ROTATED	
B.2	0 BR	3, 5	L2	MIRRORED	5'-0"
		21, 23, 25	L2	MIRRORED, ROTATED	
		29, 31	L3	MIRRORED	
		43, 45, 47	L3	MIRRORED, ROTATED	
B.3	0 BR	9, 11	L2		7'-0"
		16, 18	L2	ROTATED	
		36	L3		
		39	L3	ROTATED	
B.4	0 BR	10, 12	L2	MIRRORED	7'-0"
		15, 17	L2	MIRRORED, ROTATED	
		35	L3	MIRRORED	
		40	L3	MIRRORED, ROTATED	
C	2 BR	7	L2		5'-0"
		26	L2	MIRRORED	
		33	L3		
		48	L3	MIRRORED	
D.1	2 BR	8	L2		8'-8"
		14	L2	MIRRORED	
D.2	3 BR	34	L3		8'-8"
		38	L3	MIRRORED	
E	2 BR	13	L2		8'-8"
		19	L2	MIRRORED	
F	2 BR	37	L3		21'-0"
		41	L3	MIRRORED	

BUILDING AREA LEGEND

- BY-RIGHT COMMERCIAL
- BY-RIGHT SHORT TERM
- BONUS RESTRICTED
- BONUS MARKET

F.A.R. CALCULATIONS

FIRST FLOOR:	5,852 SF
SECOND FLOOR:	17,452 SF
THIRD FLOOR:	17,772 SF
TOTAL:	41,076 SF

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Author	Drawn By
Checker	Checked By
Discipline	Drawing No.

G2.01

Drawing Name
FIRST FLOOR AREA PLAN

1 SECOND FLOOR AREA PLAN
1/8" = 1'-0"

UNIT TYPE LEGEND

UNIT TYPE	BEDS	UNIT #	FLOOR	NOTES	BALC. DEPTH
A.1	1 BR	1	L2	'TYPE A' ADA UNIT	5'-0"
A.2	1 BR	20	L2	MIRRORED UNIT 27	5'-0"
		27	L3		
		42	L3	MIRRORED UNIT 27	
B.1	0 BR	2, 4, 6	L2		5'-0"
		22, 24	L2	ROTATED	
		28, 30, 32	L3		
		44, 46	L3	ROTATED	
B.2	0 BR	3, 5	L2	MIRRORED	5'-0"
		21, 23, 25	L2	MIRRORED, ROTATED	
		29, 31	L3	MIRRORED	
		43, 45, 47	L3	MIRRORED, ROTATED	
B.3	0 BR	9, 11	L2		7'-0"
		16, 18	L2	ROTATED	
		36	L3		
		39	L3	ROTATED	
B.4	0 BR	10, 12	L2	MIRRORED	7'-0"
		15, 17	L2	MIRRORED, ROTATED	
		35	L3	MIRRORED	
		40	L3	MIRRORED, ROTATED	
C	2 BR	7	L2		5'-0"
		26	L2	MIRRORED	
		33	L3		
		48	L3	MIRRORED	
D.1	2 BR	8	L2		8'-8"
		14	L2	MIRRORED	
D.2	3 BR	34	L3		8'-8"
		38	L3	MIRRORED	
E	2 BR	13	L2		8'-8"
		19	L2	MIRRORED	
F	2 BR	37	L3		21'-0"
		41	L3	MIRRORED	

BUILDING AREA LEGEND

- BY-RIGHT COMMERCIAL
- BY-RIGHT SHORT TERM
- BONUS RESTRICTED
- BONUS MARKET

F.A.R. CALCULATIONS

FIRST FLOOR:	5,852 SF
SECOND FLOOR:	17,452 SF
THIRD FLOOR:	17,772 SF
TOTAL:	41,076 SF

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Author	Drawn By
Checker	Checked By
Discipline	Drawing No.
	G2.02

Drawing Name
SECOND FLOOR AREA PLAN

1 THIRD FLOOR AREA PLAN
1/8" = 1'-0"

UNIT TYPE LEGEND

UNIT TYPE	BEDS	UNIT #	FLOOR	NOTES	BALC. DEPTH
A.1	1 BR	1	L2	'TYPE A' ADA UNIT	5'-0"
A.2	1 BR	20	L2	MIRRORED UNIT 27	5'-0"
		27	L3		
		42	L3	MIRRORED UNIT 27	
B.1	0 BR	2, 4, 6	L2		5'-0"
		22, 24	L2	ROTATED	
		28, 30, 32	L3		
		44, 46	L3	ROTATED	
B.2	0 BR	3, 5	L2	MIRRORED	5'-0"
		21, 23, 25	L2	MIRRORED, ROTATED	
		29, 31	L3	MIRRORED	
		43, 45, 47	L3	MIRRORED, ROTATED	
B.3	0 BR	9, 11	L2		7'-0"
		16, 18	L2	ROTATED	
		36	L3		
		39	L3	ROTATED	
B.4	0 BR	10, 12	L2	MIRRORED	7'-0"
		15, 17	L2	MIRRORED, ROTATED	
		35	L3	MIRRORED	
		40	L3	MIRRORED, ROTATED	
C	2 BR	7	L2		5'-0"
		26	L2	MIRRORED	
		33	L3		
		48	L3	MIRRORED	
D.1	2 BR	8	L2		8'-8"
		14	L2	MIRRORED	
D.2	3 BR	34	L3		8'-8"
		38	L3	MIRRORED	
E	2 BR	13	L2		8'-8"
		19	L2	MIRRORED	
F	2 BR	37	L3		21'-0"
		41	L3	MIRRORED	

BUILDING AREA LEGEND

- BY-RIGHT COMMERCIAL
- BY-RIGHT SHORT TERM
- BONUS RESTRICTED
- BONUS MARKET

F.A.R. CALCULATIONS

FIRST FLOOR:	5,852 SF
SECOND FLOOR:	17,452 SF
THIRD FLOOR:	17,772 SF
TOTAL:	41,076 SF

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

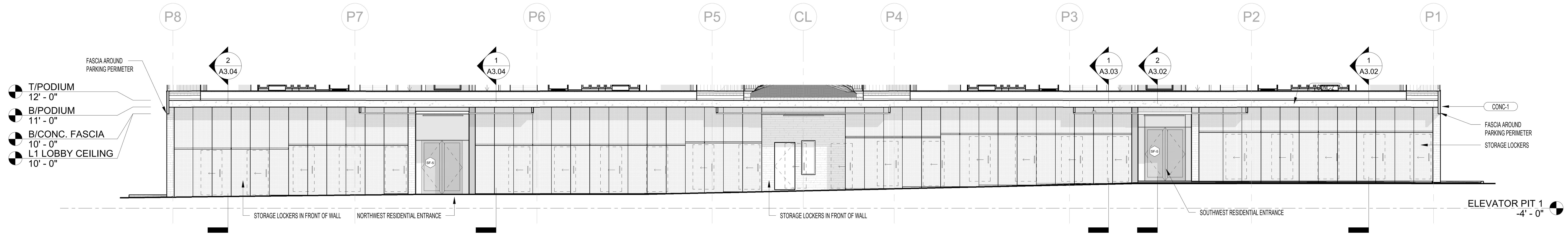
REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Author	Drawn By
Checker	Checked By
Discipline	Drawing No.
	G2.03

Drawing Name
THIRD FLOOR AREA PLAN



3 WEST ELEVATION - BACK OF FIRST FLOOR
1/8" = 1'-0"

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

1 EAST ELEVATION
1/8" = 1'-0"

GROUND STORY HEIGHT
AVERAGE CEILING HEIGHT IS ABOVE 12'-0".
THE GROUND STEPS DOWN TO LEVEL 1A, 1B, & 1C. ONLY LEVEL 1A HAS A CEILING HEIGHT LOWER THAN 12', AT 11'-0".

GROUND FLOOR CEILING HEIGHT LDR MINIMUM = 12'-0" AVERAGE (144")

With drop ceilings in lobbies

GROUND LEVEL	CEILING HEIGHT (in.)	AVG. BY FLOOR AREA (Does not include elev/stairs, uses half of ramps) FLOOR AREA (sq. ft.)	% OF TOTAL AREA
LEVEL 1A	132.00	1,022	22.04%
LEVEL 1A LOBBY	120.00	197	4.25%
LEVEL 1B	147.00	2,220	47.87%
LEVEL 1C LOBBY	143.25	197	4.25%
LEVEL 1C	155.25	1,002	21.60%
		4,638	TOTAL AREA
	WEIGHTED AVERAGE HEIGHT (in.)		144.17

UPPER STORY HEIGHT
LEVEL 2 CEILING HEIGHT IS 9'-4". LEVEL 3 CEILING HEIGHT IS 9'-6".
THERE ARE DROPPED CEILINGS IN THE CORRIDORS AND IN BATHROOMS AT 8'-0". LESS THAN 20% OF EACH STORY IS BELOW 9'-0".

GROUND FLOOR ELEVATION
VARIES 6"-12" ABOVE FROM INTERIOR FINISH FLOOR OF LEVEL 1A, 1B, & 1C TO THEIR ADJACENT CURBS.

TRANSPARENCY GROUND FLOOR, PRIMARY STREET
SHOPFRONT TRANSPARENCY AT GROUND FLOOR IS MEASURED BETWEEN 2' AND 12' ABOVE THE ADJACENT SIDEWALK.

TOTAL GROUND FLOOR FACADE AREA:	2397 SF	
TOTAL GLAZED AREA:	1445 SF	
PERCENT TRANSPARENT:	60% = 60% REQUIRED	

TRANSPARENCY UPPER STORIES, PRIMARY STREET

LEVEL 2:	TOTAL FACADE AREA:	1946 SF
	TOTAL GLAZED AREA:	454 SF
	PERCENT TRANSPARENT:	23% > 20% REQUIRED
LEVEL 3:	TOTAL FACADE AREA:	1827 SF
	TOTAL GLAZED AREA:	495 SF
	PERCENT TRANSPARENT:	27% > 20% REQUIRED

BLANK WALL AREA, PRIMARY STREET
NO WALLS ARE LONGER THAN 15'-0" IN A HORIZONTAL OR VERTICAL DIRECTION.

PEDESTRIAN ACCESS
YES, THERE IS PEDESTRIAN ACCESS FACING THE PRIMARY STREET.
ALL ENTRANCE SPACINGS ALONG THE PRIMARY STREET STREET ARE BELOW THE 50' MAXIMUM.

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

MATERIAL LEGEND

CONC-1 CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2 CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3 SEALED, POLISHED CONCRETE

CPT-1 HIGH-TRAFFIC CARPET FLOOR
CPT-2 CARPET FLOOR

CT-1 CERAMIC FLOOR TILE AT BATHROOMS
CT-2 CERAMIC WALL TILE AT BATHROOMS
CT-3 CERAMIC WALL TILE, KITCHEN BACKSPLASH

GL-1 1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2 1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3 1" IGU W/ LOW-E COATING ON #2, CLEAR VISION

GWB-1 GYPSUM WALLBOARD
GWB-2 MOISTURE-RESISTANT GYPSUM WALLBOARD

LV-1 COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER

MTL-1 ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2 COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3 STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4 COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5 COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6 WELDED WIRE CAGE STORAGE LOCKERS
MTL-7 12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS

WD-1 EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2 EXTERIOR WOOD DECKING
WD-3 EXTERIOR T&G WOOD SOFFIT
WD-4 T&G INTERIOR HARDWOOD FLOOR
WD-5 WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6 WOOD INTERIOR WALL PANEL

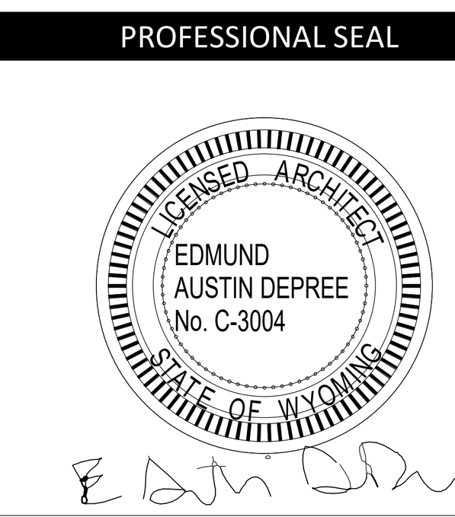
WT-1 WINDOW SHADE

ST-1 STONE EXTERIOR

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

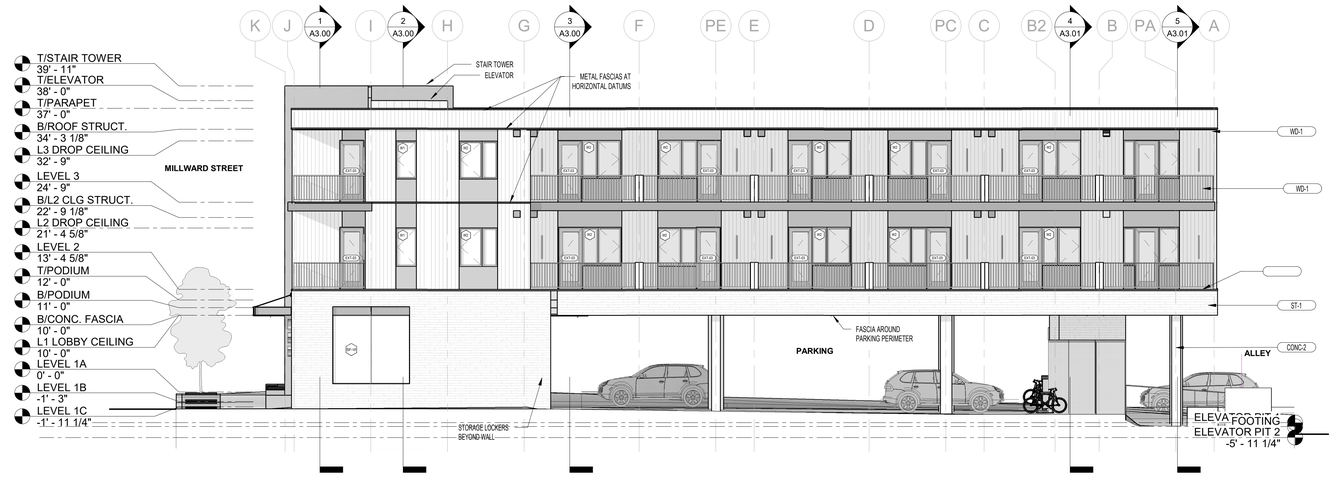


Project
Millward Street Apartments

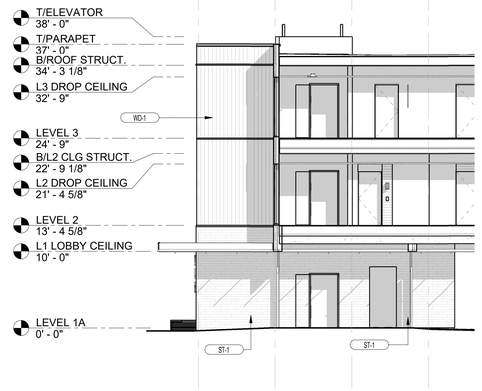
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD/CK	Drawn By
Checker	Checked By
Discipline	Drawing No. A2.00

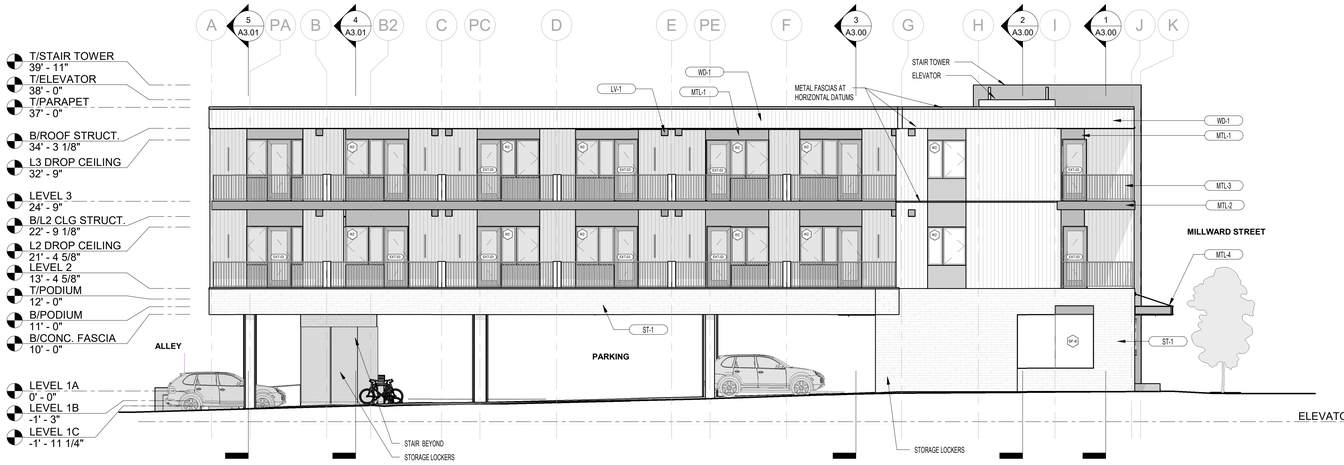
Drawing Name
EXTERIOR ELEVATIONS

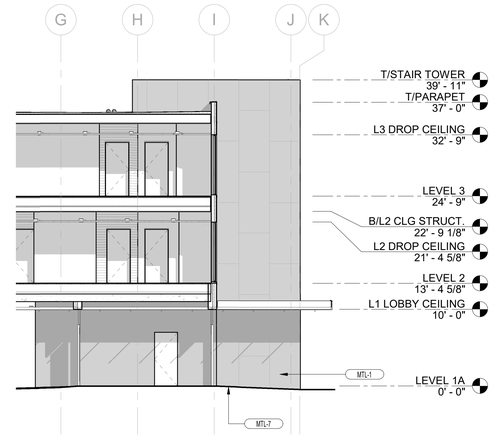


2 NORTH ELEVATION
1/8" = 1'-0"



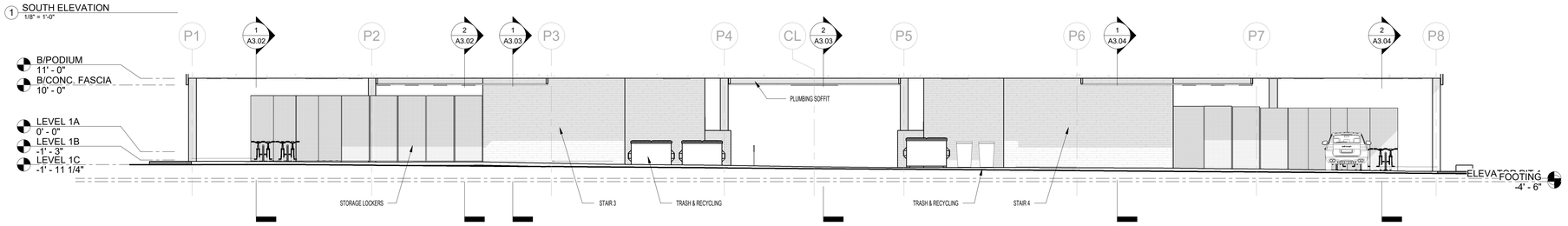
5 RESIDENTIAL ENTRY SOUTH ELEVATION
1/8" = 1'-0"



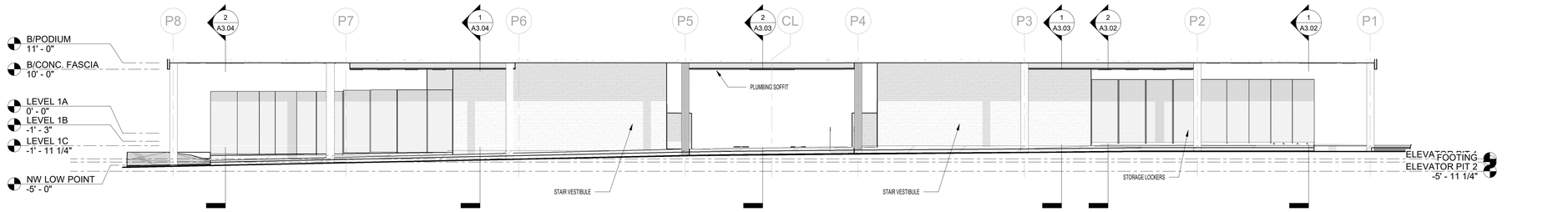


6 RESIDENTIAL ENTRY - NORTH ELEVATION
1/8" = 1'-0"

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



3 STAIRS 3 & 4 ELEVATION EAST
1/8" = 1'-0"



4 STAIRS 3 & 4 ELEVATION WEST
1/8" = 1'-0"

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

MATERIAL LEGEND

CONC-1	CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2	CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3	SEALED, POLISHED CONCRETE
CPT-1	HIGH-TRAFFIC CARPET FLOOR
CPT-2	CARPET FLOOR
CT-1	CERAMIC FLOOR TILE AT BATHROOMS
CT-2	CERAMIC WALL TILE AT BATHROOMS
CT-3	CERAMIC WALL TILE, KITCHEN BACKSPLASH
GL-1	1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2	1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3	1" IGU W/ LOW-E COATING ON #2, CLEAR VISION
GWB-1	GYPSUM WALLBOARD
GWB-2	MOISTURE-RESISTANT GYPSUM WALLBOARD
LV-1	COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER
MTL-1	ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2	COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3	STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4	COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5	COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6	WELDED WIRE CAGE STORAGE LOCKERS
MTL-7	12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS
WD-1	EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2	EXTERIOR WOOD DECKING
WD-3	EXTERIOR T&G WOOD SOFFIT
WD-4	T&G INTERIOR HARDWOOD FLOOR
WD-5	WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6	WOOD INTERIOR WALL PANEL
WT-1	WINDOW SHADE
ST-1	STONE EXTERIOR

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT EDMUND AUSTIN DEPREE No. C-3004 STATE OF WYOMING

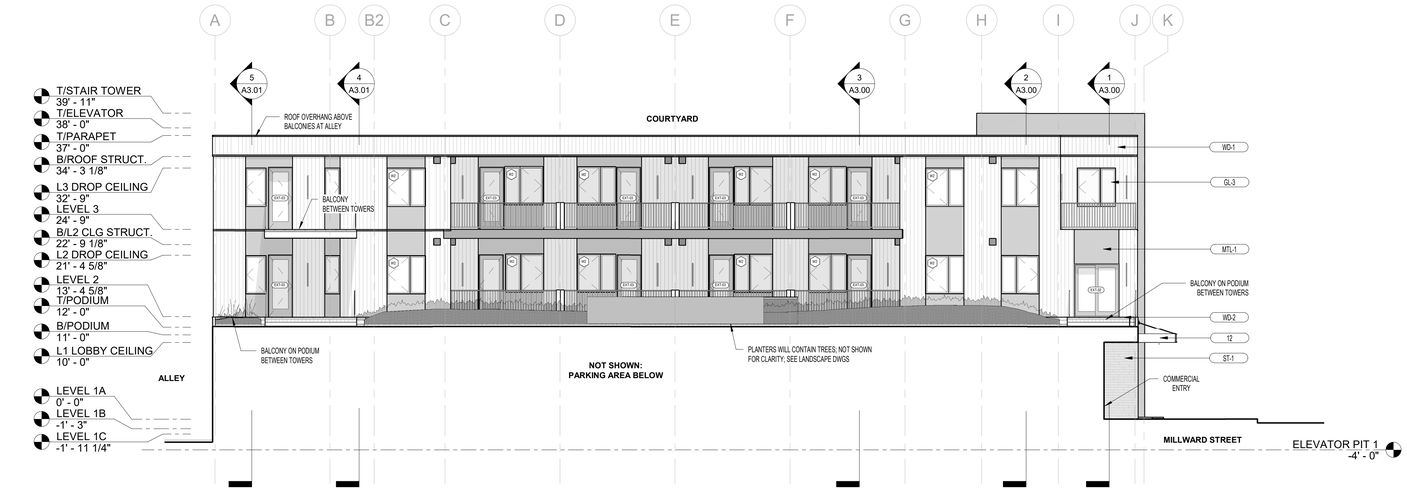
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

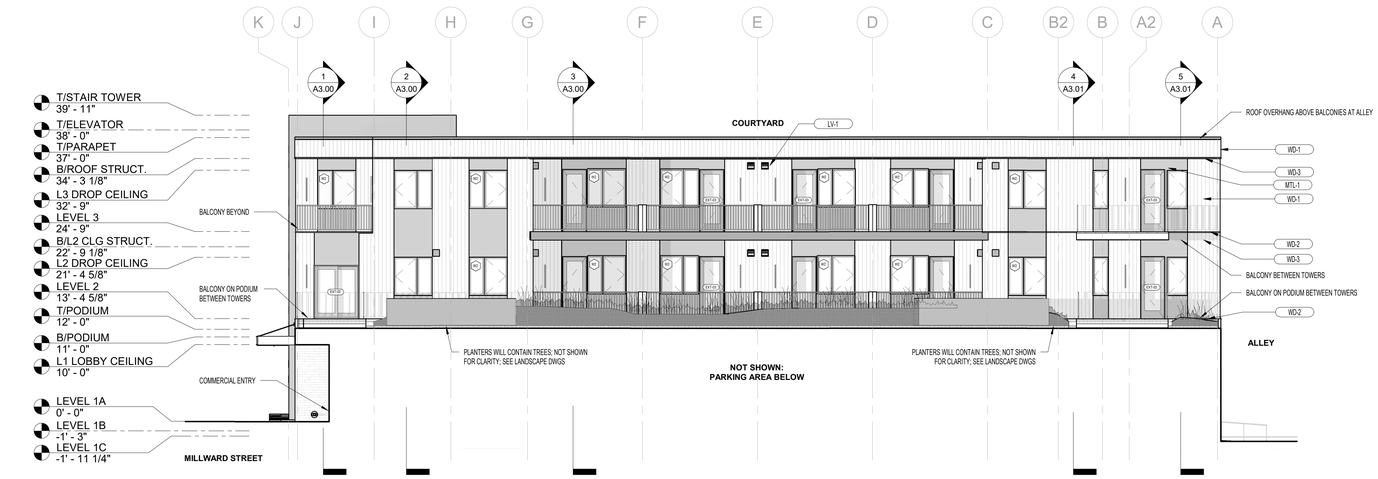
2210	Project No.
KD/CK	Drawn By
Checker	Checked By
Discipline	Drawing No.

A2.01

Drawing Name
EXTERIOR ELEVATIONS



2 NORTH COURTYARD ELEVATION
1/8" = 1'-0"



1 SOUTH COURTYARD ELEVATION
1/8" = 1'-0"

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

MATERIAL LEGEND

CONC-1	CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2	CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3	SEALED, POLISHED CONCRETE
CPT-1	HIGH-TRAFFIC CARPET FLOOR
CPT-2	CARPET FLOOR
CT-1	CERAMIC FLOOR TILE AT BATHROOMS
CT-2	CERAMIC WALL TILE AT BATHROOMS
CT-3	CERAMIC WALL TILE, KITCHEN BACKSPLASH
GL-1	1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2	1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3	1" IGU W/ LOW-E COATING ON #2, CLEAR VISION
GWB-1	GYPSUM WALLBOARD
GWB-2	MOISTURE-RESISTANT GYPSUM WALLBOARD
LV-1	COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER
MTL-1	ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2	COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3	STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4	COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5	COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6	WELDED WIRE CAGE STORAGE LOCKERS
MTL-7	12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS
WD-1	EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2	EXTERIOR WOOD DECKING
WD-3	EXTERIOR T&G WOOD SOFFIT
WD-4	T&G INTERIOR HARDWOOD FLOOR
WD-5	WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6	WOOD INTERIOR WALL PANEL
WT-1	WINDOW SHADE
ST-1	STONE EXTERIOR

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

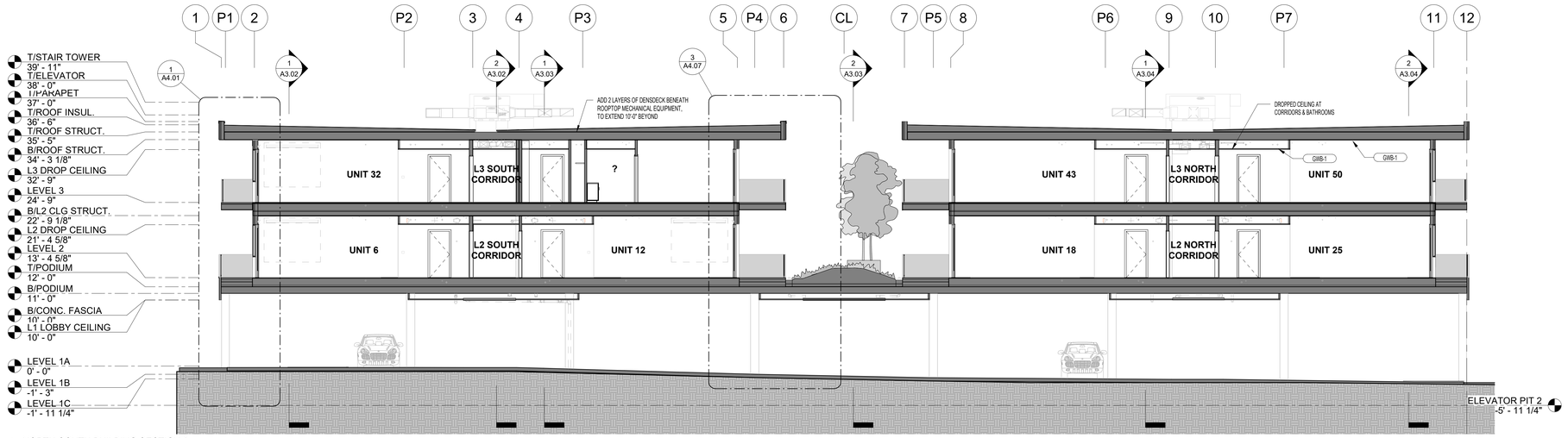
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

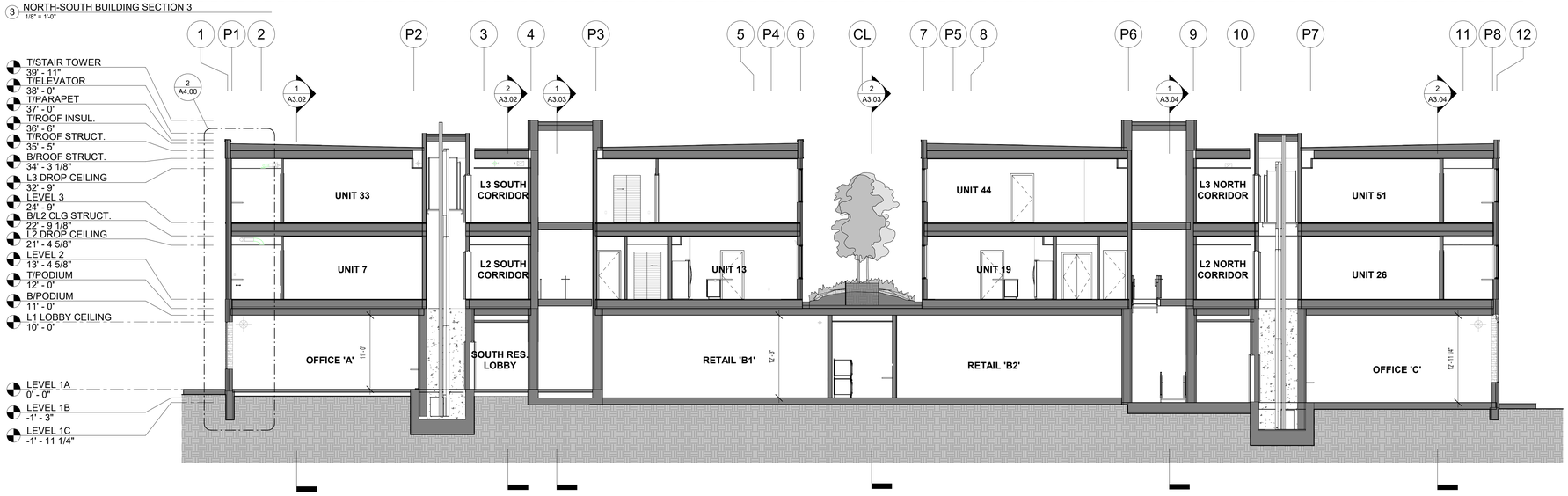
2210	Project No.
KD/CK	Drawn By
Checker	Checked By
Discipline	Drawing No.

A2.02

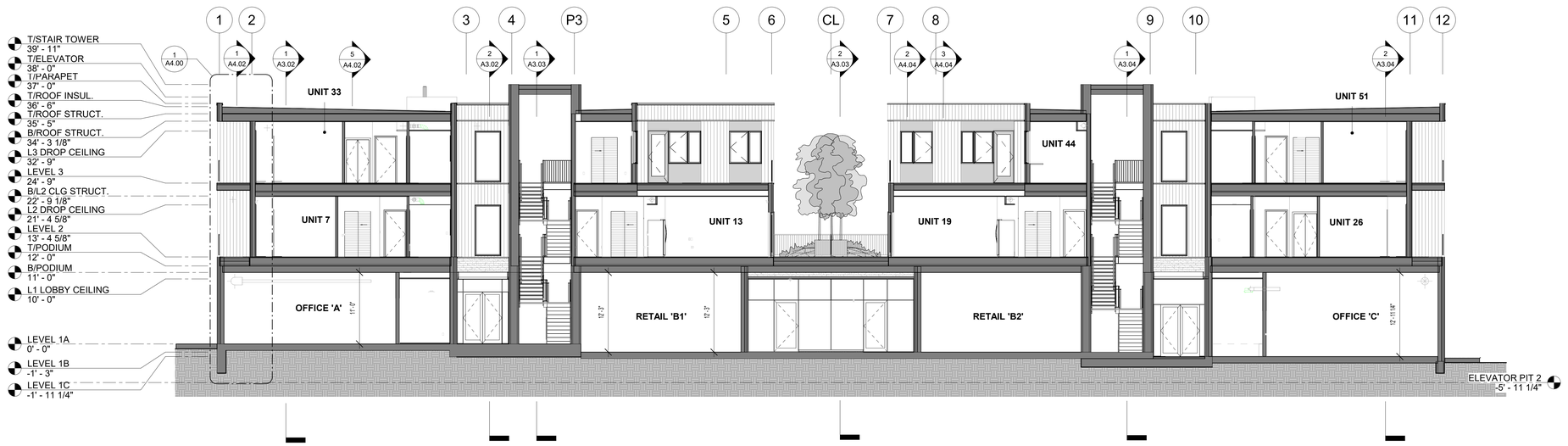
Drawing Name
EXTERIOR ELEVATIONS



3 NORTH-SOUTH BUILDING SECTION 3
1/8" = 1'-0"



2 NORTH-SOUTH BUILDING SECTION 2
1/8" = 1'-0"



1 NORTH-SOUTH BUILDING SECTION 1
1/8" = 1'-0"

0 4 8 16 32

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

MATERIAL LEGEND

CONC-1	CAST-IN-PLACE BOARD-FORMED CONCRETE, 6" BOARDS, HORIZONTAL ORIENTATION
CONC-2	CAST-IN-PLACE CONCRETE, ARCHITECTURAL FINISH
CONC-3	SEALED, POLISHED CONCRETE
CPT-1	HIGH-TRAFFIC CARPET FLOOR
CPT-2	CARPET FLOOR
CT-1	CERAMIC FLOOR TILE AT BATHROOMS
CT-2	CERAMIC WALL TILE AT BATHROOMS
CT-3	CERAMIC WALL TILE, KITCHEN BACKSPLASH
GL-1	1" STOREFRONT IGU W/ LOW-E COATING ON #2, CLEAR VISION
GL-2	1" STOREFRONT IGU W/ RIBBED GLASS AT INTERIOR
GL-3	1" IGU W/ LOW-E COATING ON #2, CLEAR VISION
GWB-1	GYPSUM WALLBOARD
GWB-2	MOISTURE-RESISTANT GYPSUM WALLBOARD
LV-1	COATED ALUMINUM DRAINABLE HORIZONTAL BLADE LOUVER
MTL-1	ALUMINUM COMPOSITE PANEL SYSTEM, REYNOBOND OR SIM., MATTE BLACK
MTL-2	COATED METAL AT FASCIA STRIPS & COPING, BLACK
MTL-3	STEEL GUARDRAILS & HANDRAILS, PAINTED BLACK
MTL-4	COATED GALVANIZED STRUCTURAL STEEL CHANNELS AT CANOPIES, BLACK
MTL-5	COATED ALUMINUM EXTERIOR MULLIONS & TRIM AT TYP. WINDOWS & DOORS
MTL-6	WELDED WIRE CAGE STORAGE LOCKERS
MTL-7	12-GAUGE HOT ROLLED STEEL VERTICAL SHEET PANELS
WD-1	EXTERIOR 1X6 (NOM.) STAINED CEDAR SIDING, VERTICAL ORIENTATION
WD-2	EXTERIOR WOOD DECKING
WD-3	EXTERIOR T&G WOOD SOFFIT
WD-4	T&G INTERIOR HARDWOOD FLOOR
WD-5	WOOD SLAT CEILING [BASIS OF DESIGN: USG TRUE WOOD GRILLES]
WD-6	WOOD INTERIOR WALL PANEL
WT-1	WINDOW SHADE
ST-1	STONE EXTERIOR

	ISSUED DATE	ISSUED FOR
1	06/17/2022	Issue for Schematic Pricing
2	11/14/2022	Issue for DD Pricing

Project Status

PROFESSIONAL SEAL

LICENSED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
KD/CK	Drawn By
Checker	Checked By
Discipline	Drawing No.
	A3.00

Drawing Name
BUILDING SECTIONS

BALCONY SCONCES (BLACK)

Lumiere

DESCRIPTION

Lanterra 9003-W1 (Up or Down) and 9003-W2 (Up and Down) are 3.25" O.D., line voltage cylinder fixtures with dimmable LED. The luminiare comes in various mountings, surface mount with integral driver in the housing, remote driver mount with round and square wall plates and square wall integral driver, all of which can be mounted over standard 4 inch j-box. The luminaire also comes with various beam optics and premium color tuning option. It also comes with various lens, louvers and colors or dichroic filters, which can combine up to two at once to create multiple lighting effects. The fixture may be used indoors or outdoors and carries IP66 rating.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Material
Housing, hood and mounting stem are precision-machined from corrosion resistant billet stock 6061-T6 aluminum.

Finish
Fixtures constructed from 6061-T6 aluminum are double protected by an ROHS complaint chemical film undercoating and polyester powder coat paint finish, surpassing the rigorous demands of the outdoor environment. A variety of standard colors are available.

Hood
Hood is removable and accepts up to two internal accessories at once (lenses, louvers and filters) to achieve multiple lighting effects. Weep holes prevents water and mineral stains from collecting on the lens, even in the straight up position. The flush lens design reduces fixture length, minimizes debris collection and prevents water and mineral stains from collecting on the lens.

Gasket
Housing and hood are sealed with a high temperature silicone O-ring gasket to prevent water intrusion.

Lens
Tempered glass lens, factory sealed with high temperature silicone O-ring to prevent water intrusion and breakage due to thermal stock.

Hardware
Stainless steel hardware is standard to provide maximum corrosion resistance.

Electrical
Long life LED system coupled with electronic driver (120-277V/50-60Hz) is compatible with TRIAC (Leading Edge Dimming), ELV (Trailing Edge Dimming) and 0-10V dimming to deliver optical performance. Light can be dimmed from 100-1% while maintaining constant CCT. It will operate in -30°C to 50°C unless noted otherwise. The driver incorporates surge protection. LED's are available in 2700K, 3000K, 3500K at 90CRI and 97CRI, 4000K at 80CRI and 97CRI, 5000K at 80CRI and are industry leading high output with 87% lumen maintenance at 60,000hrs.

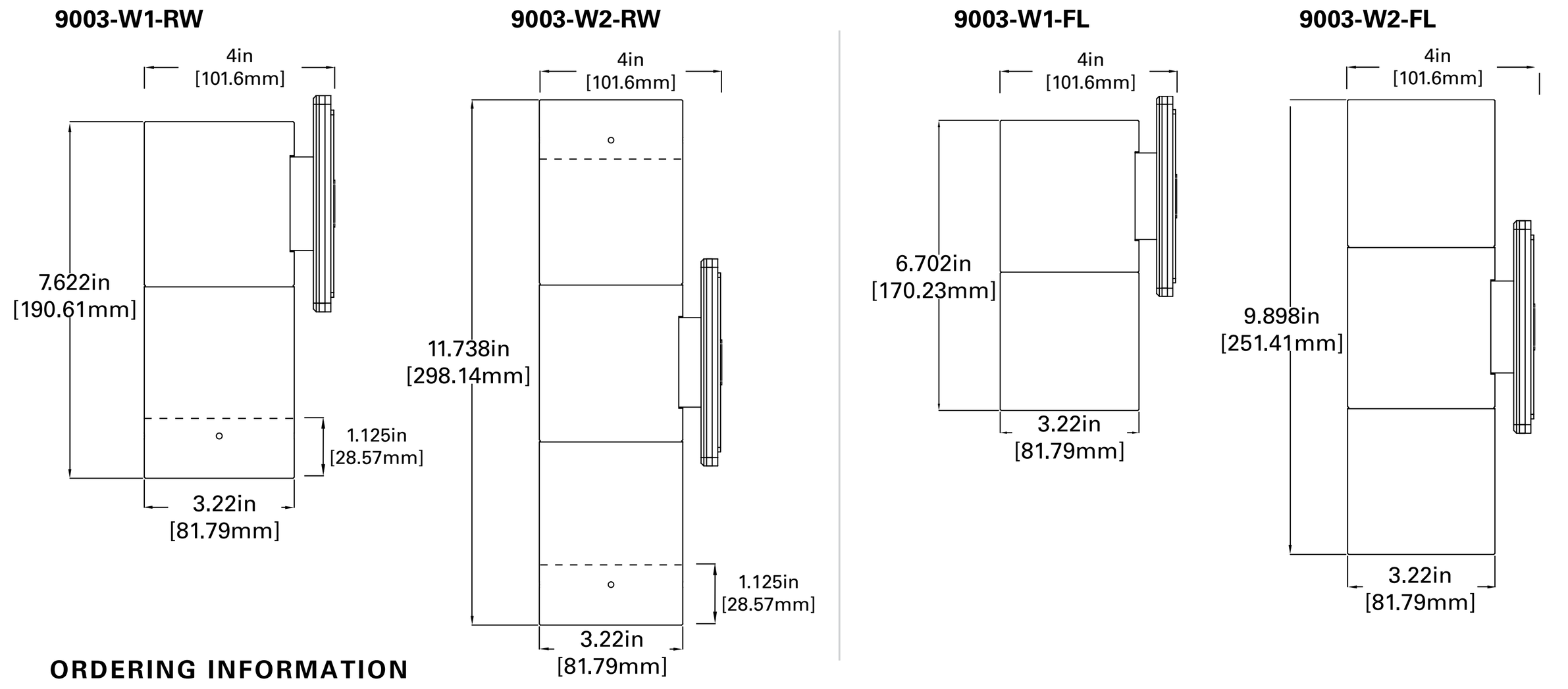
Compliance
Components are UL recognized and luminaires are cULus listed for 50˚C ambient environments unless noted otherwise, wet location listed, and ROHS compliant. IP66 Rated. Options to meet Buy American Act requirements.

Warranty
Lumiere warrants the Lanterra series of fixtures against defects in material and workmanship for five (5) years. Auxiliary equipment such as LED drivers carries the original manufacturer's warranty.

Lanterra 9003

LED
INTERIOR / EXTERIOR
CYLINDER FLOOD LIGHT
CERTIFICATION DATA
cULus - 1598
Wet Location Listed - IP66
LM79/LM80 Compliant
ROHS Compliant
10W LED, L70/102,000@25° Celcius
20W LED, L70/102,000@25° Celcius

DIMENSIONS



ORDERING INFORMATION

DOMESTIC PREFERENCES 9	SERIES	DIRECTION	HOOD	LED CCT & CRI	FIELD RE-PLACEABLE OPTIC 1	FIELD REPLACEABLE OPTIC 2 2	FINISH	LIGHT LEVEL	VOLTAGE	MOUNTING	OPTIONS
[Blank]=Standard **BAA**=Buy American Act	9003	W1 Up or Down W2 6 Up and Down	RW Standard-Recessed Lens with weep holes - Outdoor RI Recessed Lens with no weep holes - Indoor FL Flush lens hood	**Standard CRI** LED2790 - 2700K, 90 CRI LED 3090 - 3000K, 90 CRI LED 3590 - 3500K, 90 CRI LED 4080 - 4000K, 80 CRI LED 5080 - 5000K, 80 CRI **Premium CRI** LED 2797 - 2700K, 97 CRI LED 3097 - 3000K, 97 CRI LED 3597 - 3500K, 97 CRI LED 4097 - 4000K, 97 CRI	S Spot M Medium F Flood W Wide Flood	S Spot M Medium F Flood W Wide Flood	**Standard Paint Finish** BK Black BZ Bronze CS City Silver WT White	L1 Light Level 1 (10W) L2 Light Level 2 (20W) LC1 Light Level Color 1 (12W) LC2 Light Level Color 2 (20W)	Univ 120-277V	Surface Mount - Wall, Ceiling, Ground RSM Round Surface Mount-mounts directly to junction box Thermal Limitations (unless otherwise noted 50C) 9003-W2-xxx-LC2-xxx-RSM (40C) Remote Driver Housing WRR8 Remote Driver Housing - Round Wall Plate WRS8 Remote Driver Housing - Square Wall Plate Thermal Limitations (unless otherwise noted 50C) 9003-W2-xxx-LC2-xxx-WRx (40C) Integral Driver Mount WIS 3,4 Wall Integral Driver Plate Thermal Limitations (unless otherwise noted 45C) 9003-(W1,W2)-xx-L1-xx-WIS (50C)	SVPD2 5 Standalone integral sensor

Notes: 1. Order LC remote separately
2. Only available for double head option (W2)
3. 9003-W1 not available in LC2
4. 9003-W2 not available in L2, LC1 and LC2
5. Only available for Single head, Up or down (W1) with RSM only
6. W2 doubles input wattage listed
7. Only available for LEDCR
8. Remote Driver distance up to 60'
9. Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
10. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

COOPER Lighting Solutions

TD506024EN
6-2022

Specifications and dimensions subject to change without notice.

RECESSED ROUND CANOPY LIGHTS

HALO

HL36AR

3" Round Shallow Directional Remodeler LED Module and Trims

Typical Applications
Residential, Light Commercial

Interactive Menu

- Order Information page 2
- Product Specifications page 4
- Photometric Data page 5
- Energy & Performance Data page 3
- Dimming Guide
- Product Warranty

Product Certification

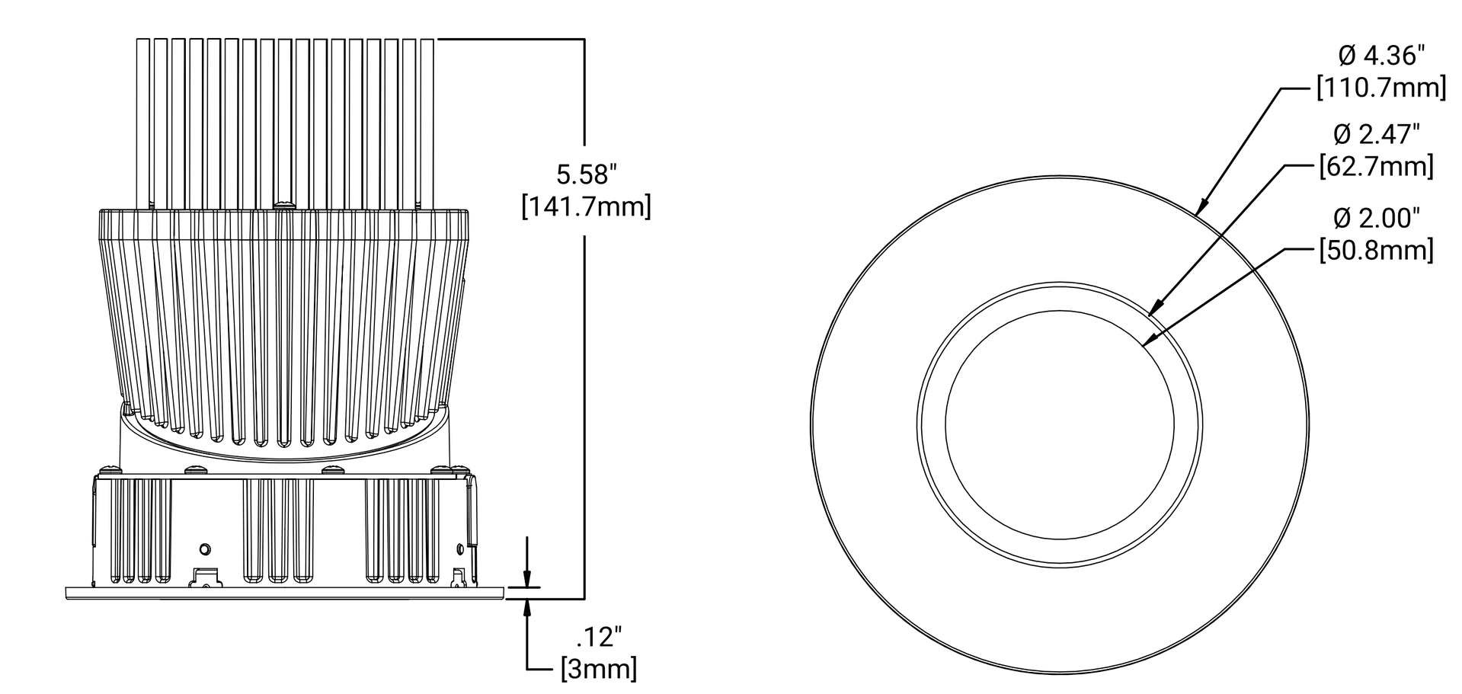
Refer to ENERGY STAR® Certified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

Product Features

Top Product Features

- Install from below the ceiling (does not require recessed housing or junction box)
- 2700K, 3000K, 3500K and 4000K fixed CCT; field interchangeable optics
- Delivers up to 1700 lumens; achieves L70 at 50,000 hours in IC and non-IC applications
- Flicker-free dimming down to 1%, available with LE/TE phase cut and 0-10V analog control
- Wet location listed for showers and protected ceilings with select trims

Dimensional and Mounting Details



COOPER Lighting Solutions

PS518153EN page 1
May 4, 2022 11:20 AM

RECESSED LINEAR CANOPY LIGHTS

BACKLIT ADDRESS NUMBER

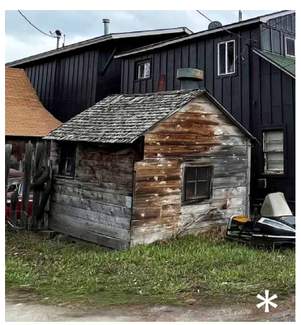
EAST - WEST STREET SECTION

NORTH - SOUTH STREET SECTION

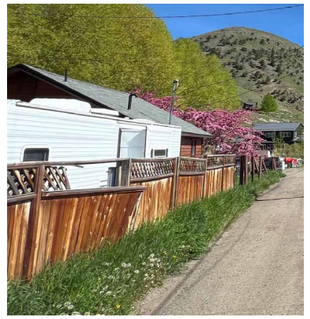
NEIGHBORHOOD CONTEXT

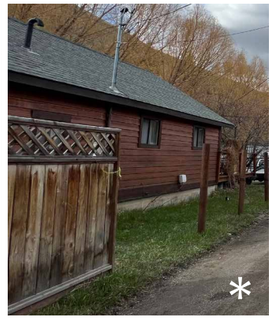
EAST
Homewood Suites,
Single Family Homes,
Multifamily Apartments

NORTH
Single Family Homes,
Inn on the Creek

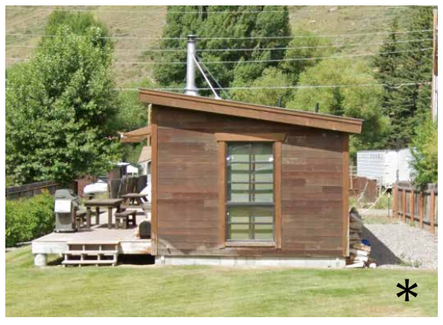


WEST
Single Family Homes





SOUTH
Single Family Homes

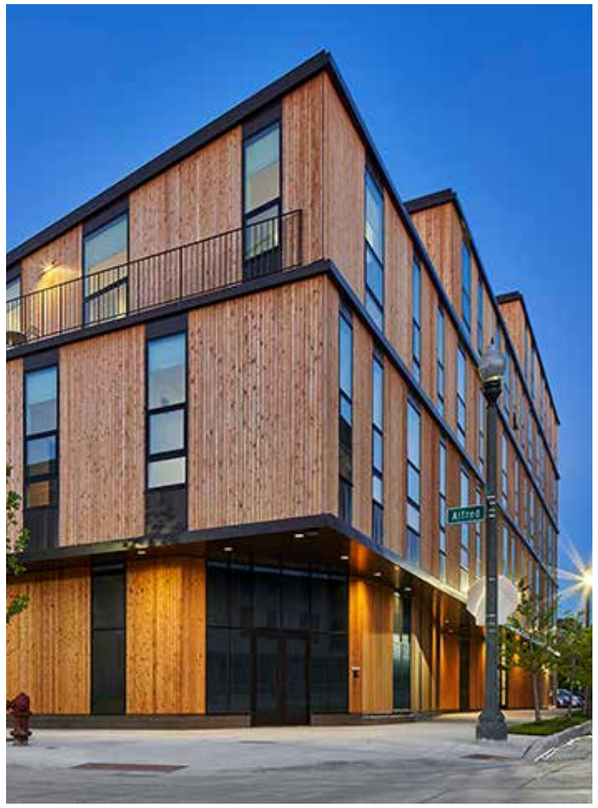


* Common material:
Wood boards, natural color

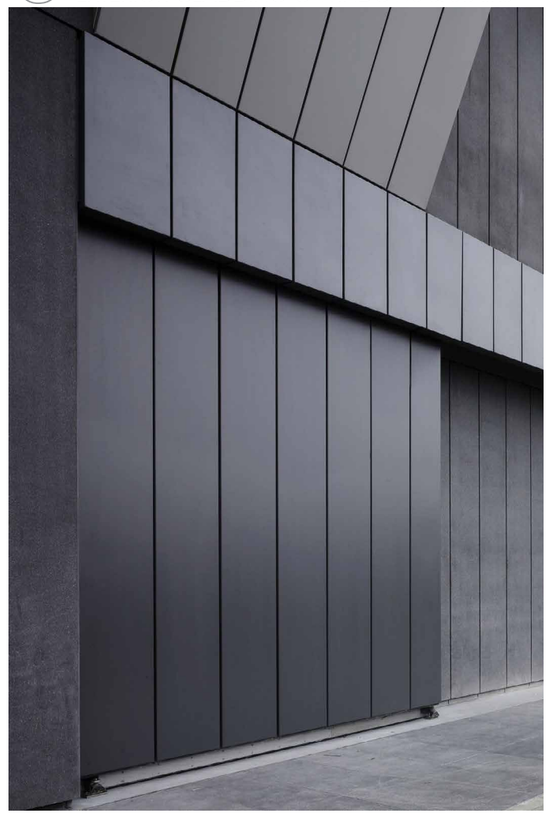
PROPOSED MATERIAL PALETTE

1 BOARD FORMED CONCRETE
EXTERIOR WALLS, LEVEL 1

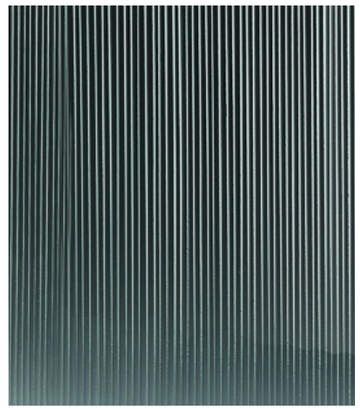
2 CEDAR SIDING
EXTERIOR WALLS, LEVELS 2 & 3, & ROOF FASCIAS



3 METAL PANEL RAINSCREEN
EXTERIOR CLADDING @ WINDOWS & STAIRS



4 FRITTED GLASS OR FLUTED BACKLIT GLASS
STAIR TOWERS ALONG MILLWARD ST.



NORTH

0 10 20 40 80

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN
LANDSCAPE
ARCHITECTS
DESIGN ▪ RECREATION ▪ ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision

Project Status

PROFESSIONAL SEAL

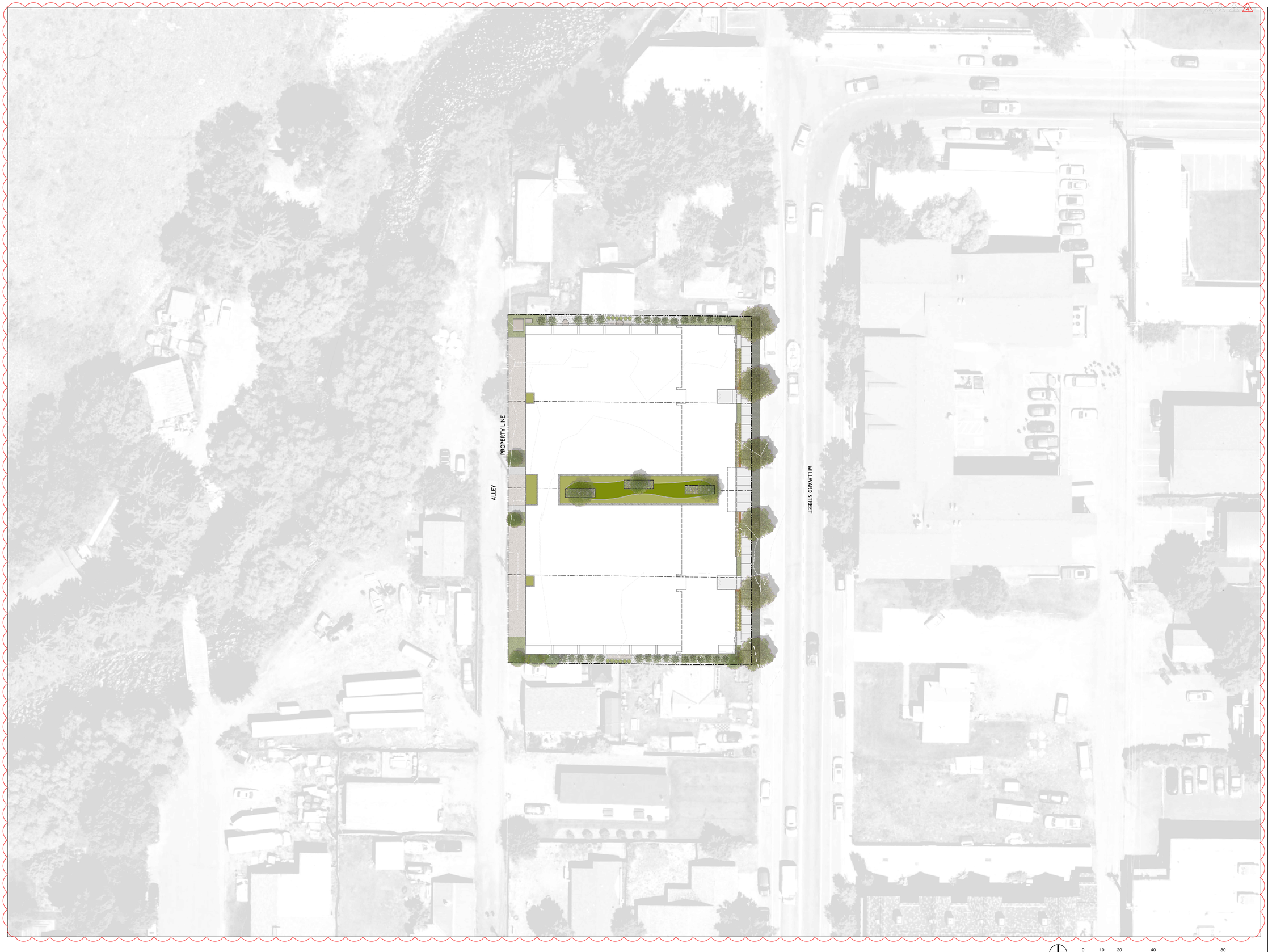
LICENSED ARCHITECT
EDMUND
AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L0.1

Drawing Name
EXISTING CONDITIONS



NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision 1
4	02/06/2023	Development Plan Revision 2
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision 3
8	03/06/2023	Development Plan Revision 4

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L0.2

Drawing Name
CONTEXT PLAN

Project Status

PLANT UNIT CALCULATIONS AND BOND REQUIREMENT

REQUIRED PLANT UNITS	1 / 1,000 SF of Landscape Area = 4 PLANT UNITS
ADDITIONAL PLANT UNITS SHOWN (NOT REQUIRED)	2 PLANT UNITS
TOTAL PROPOSED PLANT UNITS	6 PLANT UNITS
(6) PROPOSED PLANT UNITS	(6) 3" Caliper Trees (36) 6' Shrubs or Multi-Stem Trees (34) #5 Container Shrubs

All landscaping will comply with Div. 5.5 of Town of Jackson LDRs. The landscape material shown meets the (4) Plant Unit requirement. A bond for the (4) Plant Unit requirement and irrigation will be provided before the Building Permit is issued. The bond amount will be as follows:

(4) Plant Unit Required

Average Value of (1) Plant Unit = $2,600.00

Approximate Cost to Irrigate (1) Plant Unit = $2,300.00

Total Cost of Plant Unit & Irrigation = $4,900.00

Total Cost OF (4) Plant Unit & Irrigation x 125% for Bond Amount = $24,500

All plant material shall be irrigated by a pressurized subsurface irrigation system with automatic controller - See Planting & Irrigation Notes

LANDSCAPE SURFACE AREA CALCULATIONS

ZONING	CR-2
GROSS SITE AREA	28,076 SF / 0.64 ACRES
BASE SITE AREA(GROSS SITE AREA - FUTURE TOJ EASEMENT)	**26,875 SF**
PROPOSED STRUCTURES	9,538 SF
REQUIRED LANDSCAPE AREA/ LSR	**2,687.5 SF/ 10%**
PROPOSED LANDSCAPE AREA/ LSR	**4,541.7 SF/ 16.8%**
-GROUND LSR	**2,720 SF**
-ROOF LSR	**1,821.7 SF**

NORTH

0 5 10 20 40

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision 1
4	02/06/2023	Development Plan Revision 2
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision 3
8	03/06/2023	Development Plan Revision 4

Project Status

PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L0.3

Drawing Name
SITE PLAN

PLANT SCHEDULE OVERVIEW

TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Fraxinus pennsylvanica 'Patmore'	Patmore Green Ash	3" Cal.	B&B	4
	Populus tremula `Erecta`	European Columnar Aspen	3" Cal.	B&B	6
	Populus tremuloides	Quaking Aspen	3" Cal.	B&B	2
	Populus tremuloides	Quaking Aspen	Clump		3

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Cornus alba 'Elegantissima'	Silveredge Tatarian Dogwood	5 gal.		6
	Cornus sericea `Kelseyi`	Kelsey`s Dwarf Red Twig Dogwood	5 gal.		28
	Crataegus douglasii	Douglas Hawthorn	6`	B&B	33

PERENNIALS AND GRASSES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Astilbe x arendsii 'Happy Day'	Happy Day Astilbe	1 gal.		10
	Carex appalachica	Appalachian Sedge	1 gal.		50
	Deschampsia cespitosa	Tufted Hair Grass	1 gal.		40
	Hakonechloa macra	Japanese Forest Grass	1 gal.		14
	Helictotrichon sempervirens	Blue Oat Grass	1 gal.		12
	Nepeta x `Walker`s Low`	Walker`s Low Catmint	1 gal.		18

PLANT UNIT CALCULATIONS AND BOND REQUIREMENT

REQUIRED PLANT UNITS 1 / 1,000 SF of Landscape Area = 4 PLANT UNITS

ADDITIONAL PLANT UNITS SHOWN (NOT REQUIRED) 2 PLANT UNITS

TOTAL PROPOSED PLANT UNITS 6 PLANT UNITS

(6) PROPOSED PLANT UNITS
(6) 3" Caliper Trees
(36) 6' Shrubs or Multi-Stem Trees
(34) #5 Container Shrubs

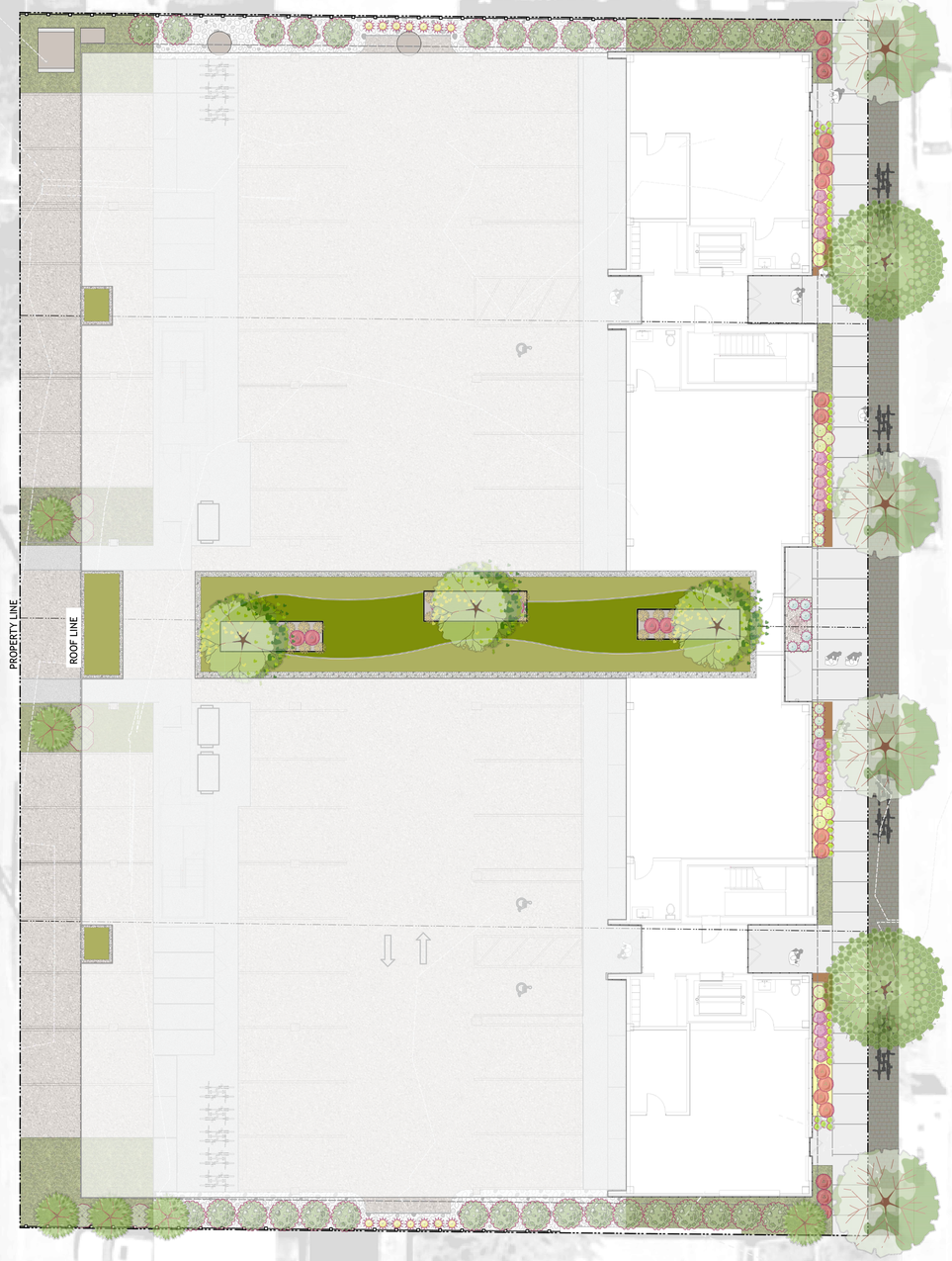
All landscaping will comply with Div. 5.5 of Town of Jackson LDRs. The landscape material shown meets the (4) Plant Unit requirement. A bond for the (4) Plant Unit requirement and irrigation will be provided before the Building Permit is issued. The bond amount will be as follows:

(4) Plant Unit Required
Average Value of (1) Plant Unit = $2,600.00
Approximate Cost to Irrigate (1) Plant Unit = $2,300.00
Total Cost of Plant Unit & Irrigation = $4,900.00
Total Cost OF (4) Plant Unit & Irrigation x 125% for Bond Amount = $24,500

All plant material shall be irrigated by a pressurized subsurface irrigation system with automatic controller - See Planting & Irrigation Notes

LANDSCAPE SURFACE AREA CALCULATIONS

ZONING	CR-2
GROSS SITE AREA	28,076 SF / 0.64 ACRES
BASE SITE AREA(GROSS SITE AREA - FUTURE TOJ EASEMENT)	**26,875 SF**
PROPOSED STRUCTURES	5,538 SF
REQUIRED LANDSCAPE AREA/ LSR	**2,687.5 SF/ 10%**
PROPOSED LANDSCAPE AREA/ LSR	**4,541.7 SF/ 16.8%**
-GROUND LSR	**2,720 SF**
-ROOF LSR	**1,821.7 SF**



NORTH
0 5 10 20 40

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision

Project Status

PROFESSIONAL SEAL

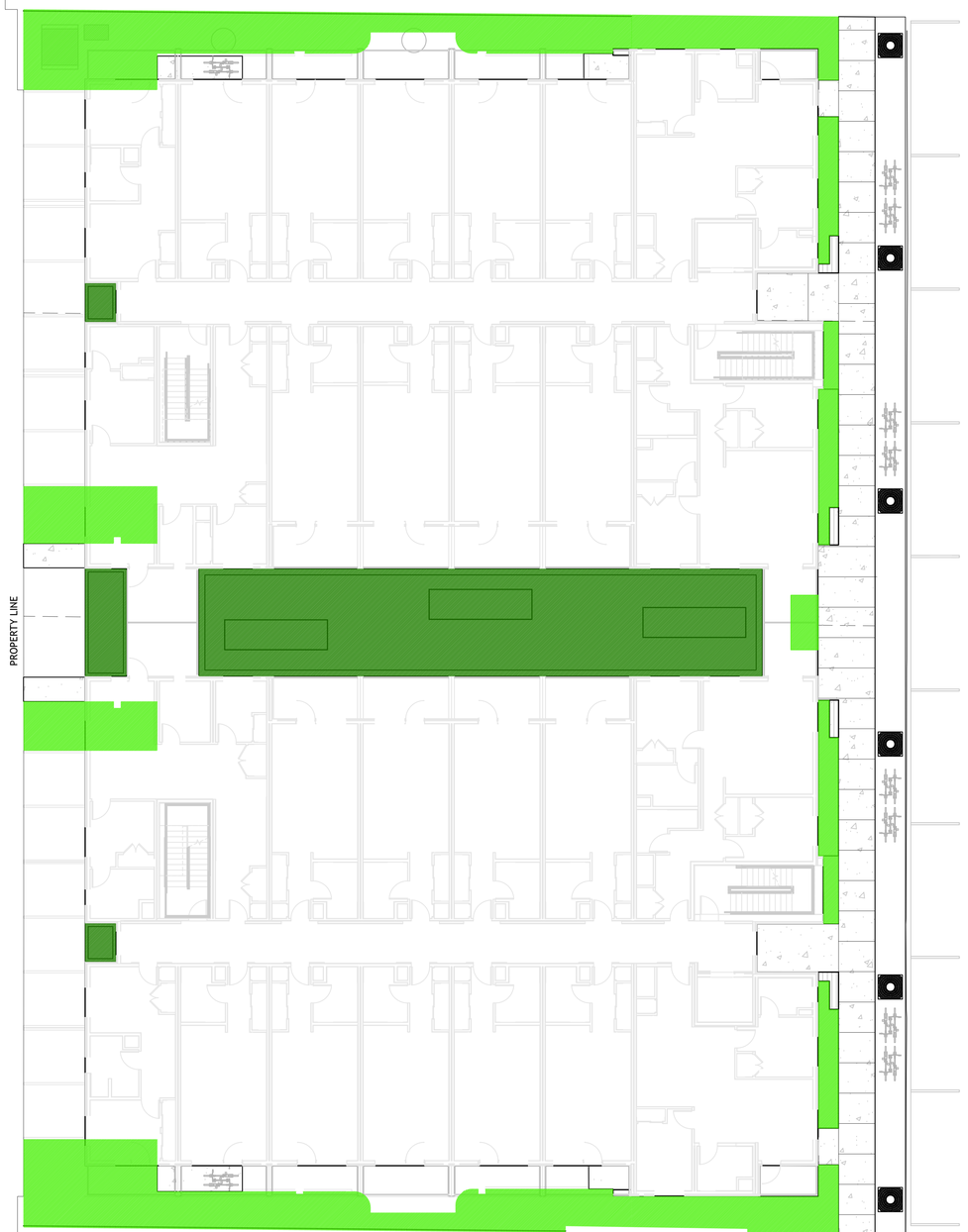
REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L0.3

Drawing Name
SITE PLAN



LEGEND

- PROPERTY BOUNDARY
- PARCEL LOTS
- EASEMENT
- FENCE
- DRIVEWAY
- ROADWAY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- GROUND LEVEL LSR
- GREEN ROOF LSR

LANDSCAPE SURFACE AREA CALCULATIONS

ZONING	CR-2
GROSS SITE AREA	28,076 SF / 0.64 ACRES
BASE SITE AREA(GROSS SITE AREA - FUTURE TOJ EASEMENT)	**26,875 SF**
PROPOSED STRUCTURES	5,538 SF
REQUIRED LANDSCAPE AREA/ LSR	**2,687.5 SF/ 10%**
PROPOSED LANDSCAPE AREA/ LSR	**4,541.7 SF/ 16.8%**
-GROUND LSR	**2,720 SF**
-ROOF LSR	**1,821.7 SF**

NORTH

0 5 10 20 40

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision

Project Status

PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

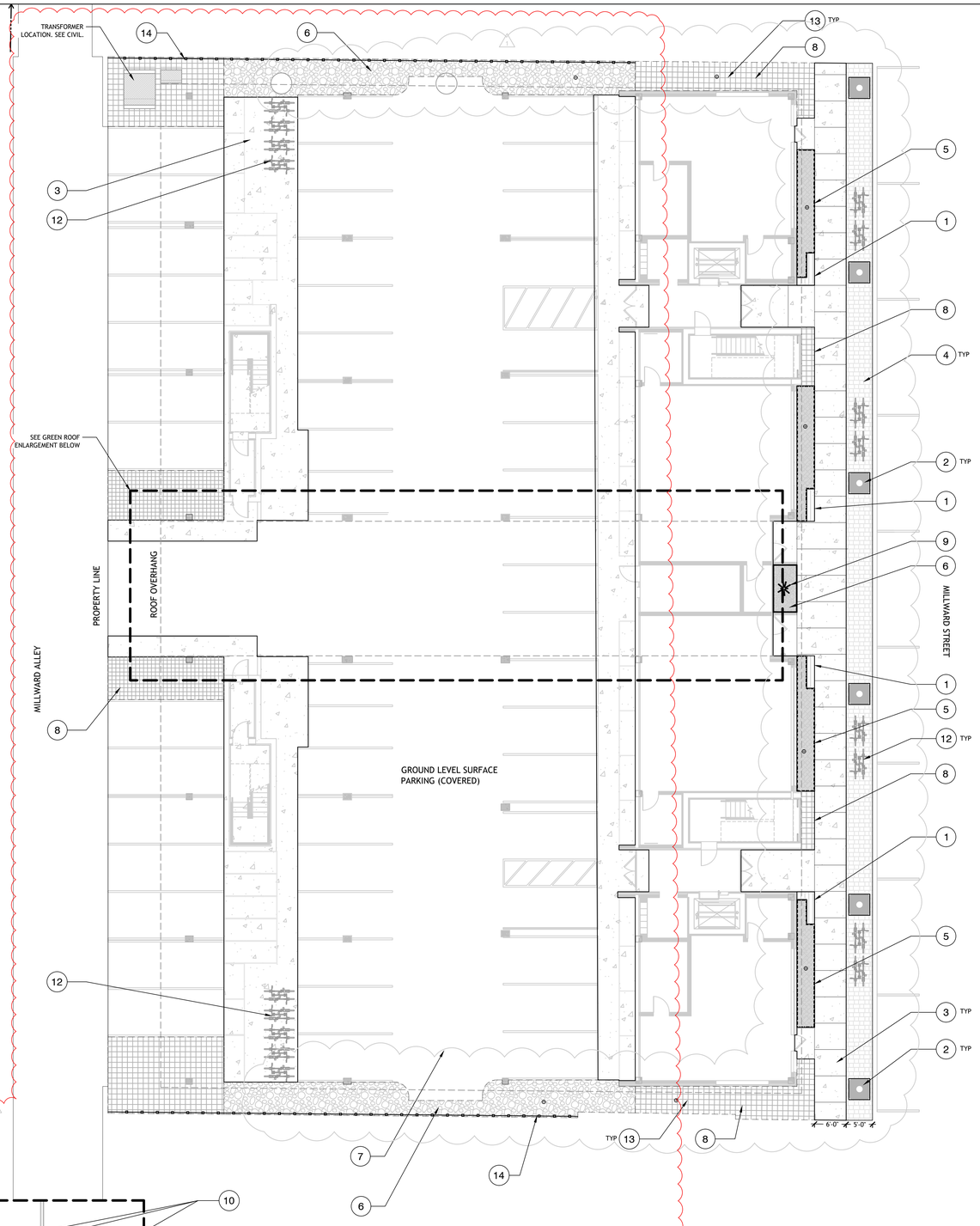
245 & 265 N. Millward St., Jackson, WY 83001

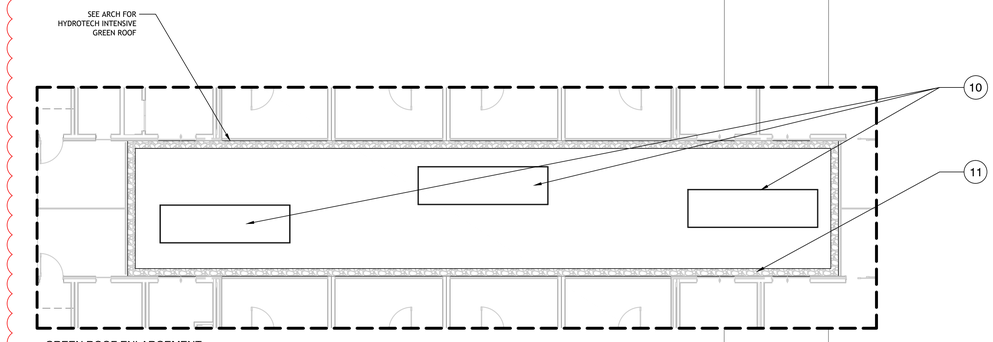
2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L0.4

Drawing Name
LSR DIAGRAM

MATERIAL NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY	DETAIL
1	CUSTOM CANTILEVERED BENCH OFF STEEL PLANTER WALL	42 sf	1/L5.0
2	TREES IN GRATE PER TOJ STANDARDS		2/L5.1
3	PEDESTRIAN CONCRETE. SEE CIVIL		
4	PAVERS PER TOJ STANDARDS. SEE CIVIL.	907 sf	
5	18" TALL RETAINING EDGER. SOIL IS FREE DRAINING TO SUBGRADE	253 lf	4/L5.0
6	3" MINUS RIVER COBBLE	949 sf	
7	ASPHALT PARKING LOT. SEE CIVIL		
8	AT GRADE PLANTER W/ NATIVE MEADOW SOD	1,086 sf	2/L5.0
9	ART PIECE SET IN RAISED PLANTER. ART PIECE TBD BY OWNER.		
10	CUSTOM PLANTERS ON GREEN ROOF	132 lf	1/L5.1
11	2"-4" DIAMETER RIVER COBBLE. TO BE APPROXIMATELY 4" DEPTH OVER GREEN ROOF DRAINS.	261 sf	
12	BIKE RACK		
13	LANDSCAPE AREA DRAIN IN PLANTER		5/L5.0
14	6` FENCE PER TOJ STANDARDS	189 lf	





GREEN ROOF ENLARGEMENT
1"=8'

NORTH

0 5 10 20 40
1"=10'

LEGEND

- PROPERTY BOUNDARY
- PARCEL LOTS
- EASEMENT
- FENCE
- DRIVEWAY
- ROADWAY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324

Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision

Project Status

PROFESSIONAL SEAL

REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

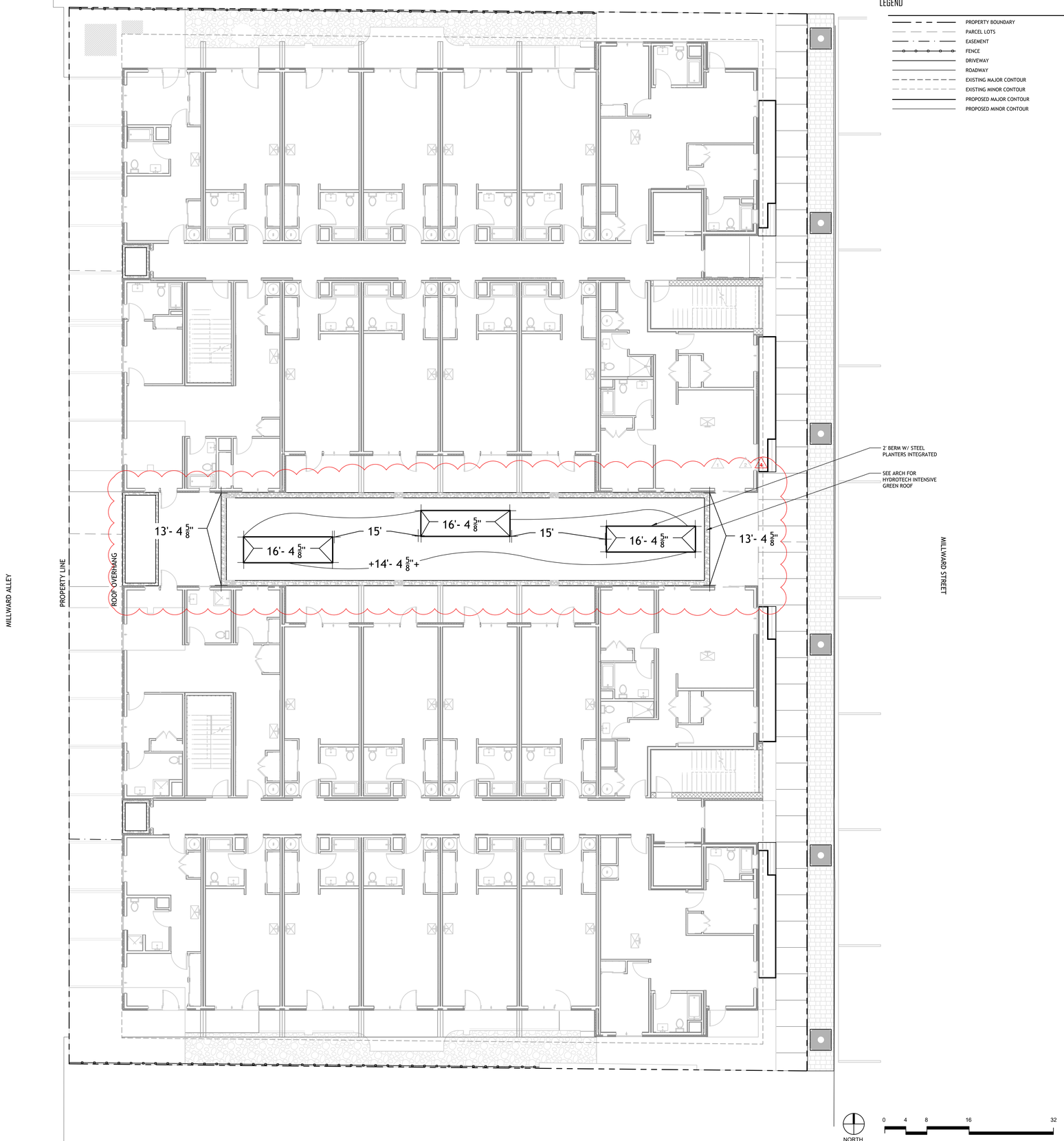
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L1.0

Drawing Name
MATERIALS PLAN: LEVEL 1

GRADING NOTES

1. **All contours and spot elevations given are relative to architectural elevations.**
2. **See Civil sheets for all grading information other than that on green roofs.**
3. Ensure all work complies with the project Grading & Erosion Control Permit (available from General Contractor). If site conditions vary from what is shown, contact the Landscape Architect for direction before proceeding.
4. Refer to Civil Engineer / Architecture drawings for all work related to utilities. Alert Civil Engineer and Landscape Architect of any conflicts for direction before proceeding.
5. Verify locations and timing of site improvements installed under other sections. If any part of the work cannot be completed due to site conditions, contact the Landscape Architect.
6. Excavation near underground utilities shall be done carefully and, if necessary, by hand. The Contractor is fully responsible for this work and any disruption to utilities or damage to the site and/or improvements shall be repaired immediately at no expense to the Owner.
7. Contractor is to fence entire Limits of Disturbance and do not allow vehicle access outside of fenced area. All grading work inside fence is to be performed in such a manner as to disturb the minimum possible area. Use tracked vehicles or place soil protection such as plywood or Geo Grid under wheeled vehicles to limit compaction to subgrade. Contractor and sub contractor parking is to be limited to future driveway and auto court for duration of project as much as is possible.
8. Coordinate rough grading work with related work by Others, including but not limited to building construction, site utilities, irrigation, and landscaping.
9. No slope to exceed 2:1.
10. Obtain approval of rough grading from Landscape Architect or Civil Engineer prior to placing finished grade. All subgrade that has seen vehicle traffic is to be scarified prior to approval of rough grade being requested. No vehicle traffic other than that necessary for final grading and planting is to be allowed inside approved areas.



NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision 4

Project Status

PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L2.0

Drawing Name
GRADING: GREEN ROOF

PLANT SCHEDULE LEVEL 1

TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
	Fraxinus pennsylvanica 'Patmore'	Patmore Green Ash	3" Cal.	B&B	4
	Populus tremula `Erecta`	European Columnar Aspen	3" Cal.	B&B	6
	Populus tremuloides	Quaking Aspen	3" Cal.	B&B	2
SHRUBS	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**
	Cornus alba 'Elegantissima'	Silveredge Tatarian Dogwood	5 gal.		6
	Cornus sericea `Kelseyi`	Kelsey`s Dwarf Red Twig Dogwood	5 gal.		18
	Crataegus douglasii	Douglas Hawthorn	6`	B&B	33
PERENNIALS AND GRASSES	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**
	Astilbe x arendsii 'Happy Day'	Happy Day Astilbe	1 gal.		10
	Carex appalachica	Appalachian Sedge	1 gal.		50
	Hakonechloa macra	Japanese Forest Grass	1 gal.		14
	Helictotrichon sempervirens	Blue Oat Grass	1 gal.		12
	Nepeta x `Walker`s Low`	Walker`s Low Catmint	1 gal.		18
GROUND COVERS	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**
	Native Meadow Sod		sod		1,407 sf

PLANTING & IRRIGATION NOTES

1. Refer to Civil Engineer's utility and grading plans. If site conditions vary from what is shown, contact the Landscape Architect and Civil Engineer for direction before proceeding.
2. Verify locations and timing of site improvements installed under other sections. If any part of the work cannot be completed due to site conditions, contact the Landscape Architect for direction before proceeding.
3. Excavation near underground utilities shall be done carefully and, if necessary, by hand. The Contractor is fully responsible for this work and any disruption to utilities or damage to the site and/or improvements shall be repaired immediately at no expense to the Owner.
4. Obtain approval of finish grading from Landscape Architect prior to installing any plant material. The finish grades of planting areas and lawns shall be ½ inches below adjacent edging or paving. Confirm mulch depth and whether lawns are to be seed or sod. Once finish grade has been approved, no vehicle or human traffic will be allowed into approved areas other than that necessary for planting to prevent topsoil compaction.
5. Confirm all plant counts and square footages. Quantities shown are provided as Owner information only. If quantities indicated in the plant list differ from symbols shown on the plans, then the plans shall govern the plant count.
6. For areas to receive sod or seed and/or to produce planting soil for areas indicated on details, amend suitable topsoil with organic compost to a ratio of 1 part compost to 4 parts topsoil by volume.
7. Compost mulch shall be organic, well-composted, stable, and weed-free organic matter, pH range of 5.5-8.0; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5 decisiemens/m; not to exceed 0.5 percent inert contaminants and free of substances toxic to planting, organic matter content 50 to 60 percent of dry weight. Source: Glacier Gold Compost or approved equal.
8. The Landscape Architect shall review all plant materials at the source or nursery or by photographs provided by Contractor prior to shipment. The Landscape Architect reserves the right to reject any unacceptable plant material either at the source or when delivered to the project site. All landscaping material shall comply with Wyoming Nursery Stock Law.
9. Carefully align and space plant materials as indicated in these notes, drawings, and details. The final location of plant materials is to be approved by the Landscape Architect on site prior to installation. The Contractor is responsible for staking or marking the location of all plant materials on site for review by the Landscape Architect. The Landscape Architect reserves the right to adjust the exact locations of plants on site.
10. All plants shall be planted at the same level with relation to finish grade as they were grown in the field or nursery.
11. No pruning of existing or newly planted trees or shrubs shall be allowed without the direction and approval of the Landscape Architect.
12. See irrigation design sheets for all irrigation information.
13. For ball & burlap trees, remove burlap from top ⅓ of rootball and entire wire basket as tree pits are backfilled.
14. All installed trees shall be staked. The Landscape Architect shall review and reserves the right to reject the method and/or installation of tree staking and guying systems prior to acceptance.
15. During construction and prior to final acceptance, Contractor shall observe the project site for the growth of noxious weeds. Contractor shall report the growth of noxious weeds to the Teton County Weed and Pest District Office. Contractor and Owner shall implement a weed control program to control noxious weeds.
16. After an area has been planted, no human or vehicle traffic other than that required for plant maintenance will be allowed inside said area to prevent plant damage. Contractor will be responsible for replacing all damaged plant material from planting until project completion. Note that this note does not affect any plant warranty offered by the landscape contractor.
17. All seed shall comply with Wyoming Seed Law. Seed shall be purchased from a licensed supplier by the Wyoming Department of Agriculture. Sources of seed and landscaping material shall be verified as not containing noxious weeds or exotic species.
18. Apply 16-16-8 fertilizer at the rate of 15 lbs per 1,000 SF and till into top 4" of areas to receive sod or seed.
19. Planting period for seed and sod shall be immediately after finish grading and irrigation installation are accepted but no later than September 30 for sod. Seed shall be installed after September 30 or no later than June 1.
20. All disturbed areas not receiving other treatment are to receive native seed. Contractor to verify exact amount in field. Field verification takes precedence over quantity listed.

PLANT UNIT SUMMARY AND BOND REQUIREMENTS

All landscaping will comply with Div. 5.5 of Town of Jackson LDRs. The landscape material shown meets the (4) Plant Unit requirement. A bond for the (4) Plant Unit requirement and irrigation will be provided before the Building Permit is issued. The bond amount will be as follows:

(4) Plant Unit Required

Average Value of (1) Plant Unit = $2,600.00

Approximate Cost to Irrigate (1) Plant Unit = $2,300.00

Total Cost of Plant Unit & Irrigation = $4,900.00

Total Cost of (4) Plant Units x 125% for Bond Amount = $24,500

All plant material shall be irrigated by a pressurized subsurface irrigation system with automatic controllier - See Planting & Irrigation Notes

REQUIRED PLANT UNITS	1/1,000 SF of Landscape Area =	4 PLANT UNITS
ADDITIONAL PLANT UNITS (NOT REQUIRED)		2 PLANT UNITS
TOTAL PROPOSED PLANT UNITS		**6 PLANT UNITS**
(6) PROPOSED PLANT UNITS	(6) 3" Caliper Trees (36) 6' Shrubs or Multi-Stem Trees (34) #5 Container Shrubs	

Site Development/LSR Calculations:

Zoning	CR-2
Gross Site Area	28,076 SF / 0.64 AC
Base Site Area (Gross Site Area - Future TOJ Easement)	**26,875 SF**
Landscape Surface Ratio (min)	2,687.5 SF / 10%
Proposed LSR	4,541.7 SF / 16.8%

TETON COUNTY WEED & PEST MANAGEMENT STRATEGIES

PRE-CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

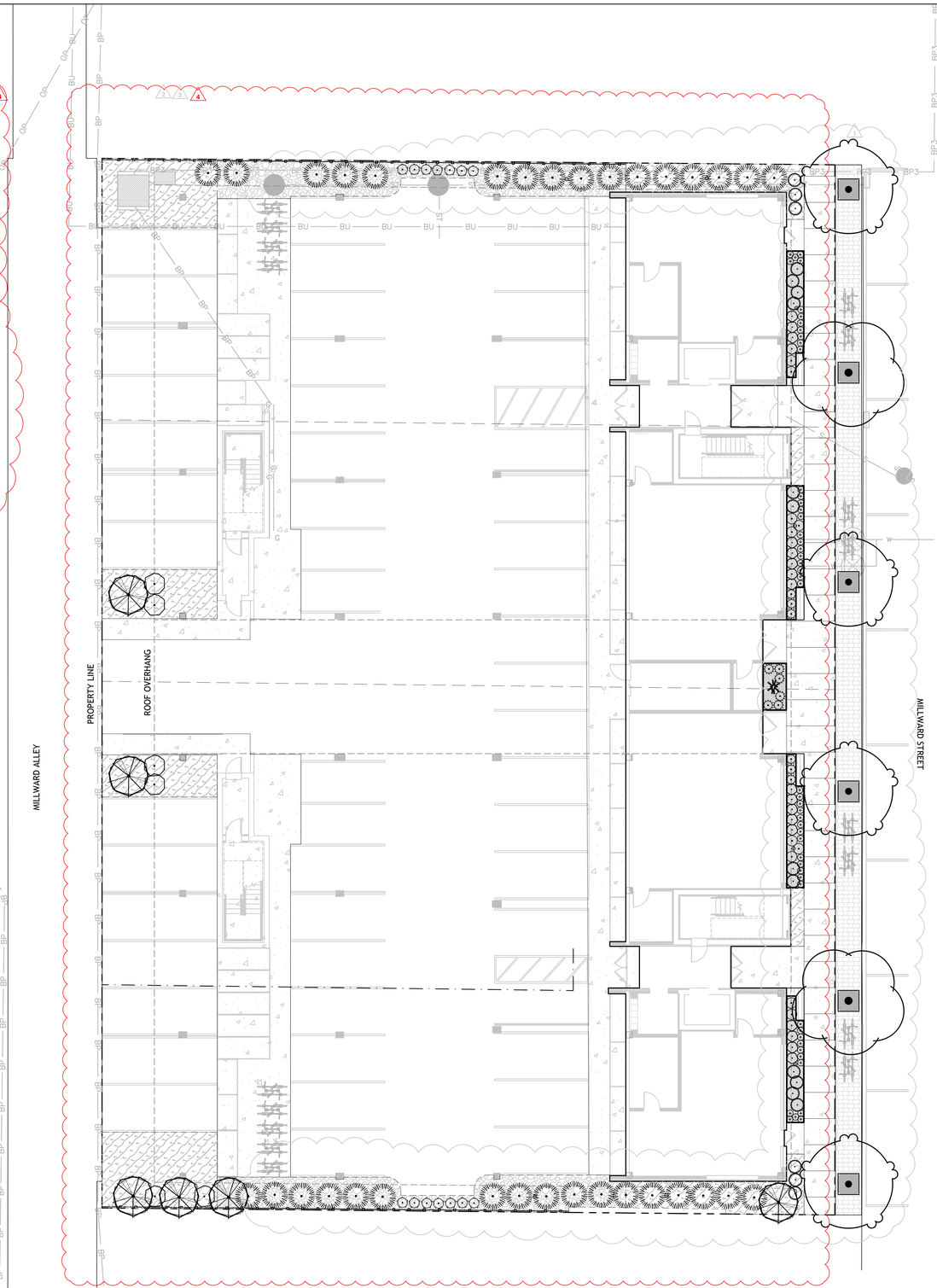
1. Prior to construction, Contractor shall contact the Teton County Weed & Pest, or other qualified professional, to conduct a site specific inventory of invasive species and create a species specific management plan in accordance with Teton County LDR 5.7.2.

ACTIVE CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

1. All construction equipment to be cleaned prior to entering the site.
2. Soil stockpiles to be routinely checked and treated for invasive species.
3. Disturbance outside of the construction zone and in areas where invasive species are present shall be minimized.
4. All areas outside of the construction zone shall be kept on active management using the control methods prescribed in the species specific management plan created prior to construction. This area shall be monitored and treated at least twice each growing season.

POST-CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

1. Re-vegetation to occur immediately after construction is complete to prevent the establishment of invasive species in disturbed areas.
2. Nursery stock shall be in accordance with W.S. 11-9-101-109 (Wyoming Nursery Stock Law), accompanied by a valid health certificate, and acquired through a dealer licensed by the Wyoming Department of Agriculture. Seeds shall be in accordance with W.S. 11-12-101-125 (Wyoming Seed Law), certified weed free, and acquired through a dealer licensed by the Wyoming Department of Agriculture.
3. Certified weed free straw, gravel, and soil shall be utilized where possible.
4. Teton County Weed & Pest shall be contacted to create a post-construction inventory.



LEGEND

- PROPERTY BOUNDARY
- PARCEL LOTS
- EASEMENT
- FENCE
- DRIVEWAY
- ROADWAY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

NORTH

0 5 10 20 40

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision

Project Status

PROFESSIONAL SEAL

REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No.

L4.0

Drawing Name
PLANTING PLAN: LEVEL 1

PLANT SCHEDULE GREENROOF

TREES	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	Populus tremuloides	Quaking Aspen	Clump	3
SHRUBS	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**QTY**
	Cornus sericea `Kelseyi`	Kelsey`s Dwarf Red Twig Dogwood	5 gal.	10
PERENNIALS AND GRASSES	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**QTY**
	Deschampsia cespitosa	Tufted Hair Grass	1 gal.	38
GROUND COVERS	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**QTY**
	Native Meadow Sod		sod	1,306 sf

PLANTING & IRRIGATION NOTES

1. Refer to Civil Engineer's utility and grading plans. If site conditions vary from what is shown, contact the Landscape Architect and Civil Engineer for direction before proceeding.
2. Verify locations and timing of site improvements installed under other sections. If any part of the work cannot be completed due to site conditions, contact the Landscape Architect for direction before proceeding.
3. Excavation near underground utilities shall be done carefully and, if necessary, by hand. The Contractor is fully responsible for this work and any disruption to utilities or damage to the site and/or improvements shall be repaired immediately at no expense to the Owner.
4. Obtain approval of finish grading from Landscape Architect prior to installing any plant material. The finish grades of planting areas and lawns shall be ½ inches below adjacent edging or paving. Confirm mulch depth and whether lawns are to be seed or sod. Once finish grade has been approved, no vehicle or human traffic will be allowed into approved areas other than that necessary for planting to prevent topsoil compaction.
5. Confirm all plant counts and square footages. Quantities shown are provided as Owner information only. If quantities indicated in the plant list differ from symbols shown on the plans, then the plans shall govern the plant count.
6. For areas to receive sod or seed and/or to produce planting soil for areas indicated on details, amend suitable topsoil with organic compost to a ratio of 1 part compost to 4 parts topsoil by volume.
7. Compost mulch shall be organic, well-composted, stable, and weed-free organic matter, pH range of 5.5-8.0; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5 decisiemens/m; not to exceed 0.5 percent inert contaminants and free of substances toxic to planting, organic matter content 50 to 60 percent of dry weight. Source: Glacier Gold Compost or approved equal.
8. The Landscape Architect shall review all plant materials at the source or nursery or by photographs provided by Contractor prior to shipment. The Landscape Architect reserves the right to reject any unacceptable plant material either at the source or when delivered to the project site. All landscaping material shall comply with Wyoming Nursery Stock Law.
9. Carefully align and space plant materials as indicated in these notes, drawings, and details. The final location of plant materials is to be approved by the Landscape Architect on site prior to installation. The Contractor is responsible for staking or marking the location of all plant materials on site for review by the Landscape Architect. The Landscape Architect reserves the right to adjust the exact locations of plants on site.
10. All plants shall be planted at the same level with relation to finish grade as they were grown in the field or nursery.
11. No pruning of existing or newly planted trees or shrubs shall be allowed without the direction and approval of the Landscape Architect.
12. See irrigation design sheets for all irrigation information.
13. For ball & burlap trees, remove burlap from top ⅓ of rootball and entire wire basket as tree pits are backfilled.
14. All installed trees shall be staked. The Landscape Architect shall review and reserves the right to reject the method and/or installation of tree staking and guying systems prior to acceptance.
15. During construction and prior to final acceptance, Contractor shall observe the project site for the growth of noxious weeds. Contractor shall report the growth of noxious weeds to the Teton County Weed and Pest District Office. Contractor and Owner shall implement a weed control program to control noxious weeds.
16. After an area has been planted, no human or vehicle traffic other than that required for plant maintenance will be allowed inside said area to prevent plant damage. Contractor will be responsible for replacing all damaged plant material from planting until project completion. Note that this note does not affect any plant warranty offered by the landscape contractor.
17. All seed shall comply with Wyoming Seed Law. Seed shall be purchased from a licensed supplier by the Wyoming Department of Agriculture. Sources of seed and landscaping material shall be verified as not containing noxious weeds or exotic species.
18. Apply 16-16-8 fertilizer at the rate of 15 lbs per 1,000 SF and till into top 4" of areas to receive sod or seed.
19. Planting period for seed and sod shall be immediately after finish grading and irrigation installation are accepted but no later than September 30 for sod. Seed shall be installed after September 30 or no later than June 1.
20. All disturbed areas not receiving other treatment are to receive native seed. Contractor to verify exact amount in field. Field verification takes precedence over quantity listed.

PLANT UNIT SUMMARY AND BOND REQUIREMENTS

All landscaping will comply with Div. 5.5 of Town of Jackson LDRs. The landscape material shown meets the (4) Plant Unit requirement. A bond for the (4) Plant Unit requirement and irrigation will be provided before the Building Permit is issued. The bond amount will be as follows:

(4) Plant Unit Required

Average Value of (1) Plant Unit = $2,600.00

Approximate Cost to Irrigate (1) Plant Unit = $2,300.00

Total Cost of Plant Unit & Irrigation = $4,900.00

Total Cost of (4) Plant Units x 125% for Bond Amount = $24,500

All plant material shall be irrigated by a pressurized subsurface irrigation system with automatic controller - See Planting & Irrigation Notes

REQUIRED PLANT UNITS	1/1,000 SF of Landscape Area = 4 PLANT UNITS	
ADDITIONAL PLANT UNITS (NOT REQUIRED)		2 PLANT UNITS
TOTAL PROPOSED PLANT UNITS		**6 PLANT UNITS**
(6) PROPOSED PLANT UNITS	(6) 3" Caliper Trees	
	(36) 6' Shrubs or Multi-Stem Trees	
	(34) #5 Container Shrubs	

Site Development/LSR Calculations:

Zoning	CR-2
Gross Site Area	28,076 SF / 0.64 AC
Base Site Area (Gross Site Area - Future TOJ Easement)	**26,875 SF**
Landscape Surface Ratio (min)	2,687.5 SF / 10%
Proposed LSR	4,541.7 SF / 16.8%

TETON COUNTY WEED & PEST MANAGEMENT STRATEGIES

PRE-CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

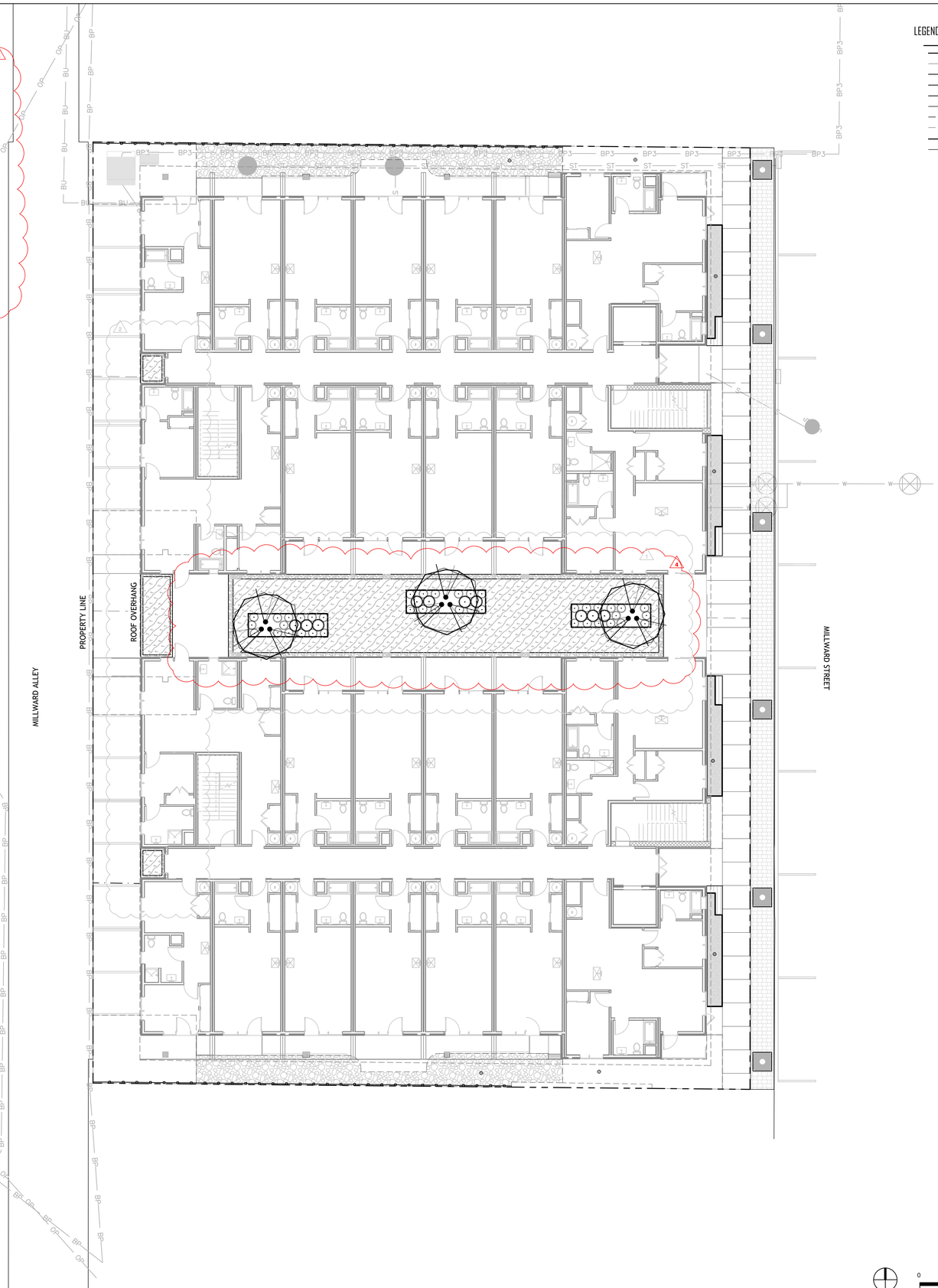
1. Prior to construction, Contractor shall contact the Teton County Weed & Pest, or other qualified professional, to conduct a site specific inventory of invasive species and create a species specific management plan in accordance with Teton County LDR 5.7.2.

ACTIVE CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

1. All construction equipment to be cleaned prior to entering the site.
2. Soil stockpiles to be routinely checked and treated for invasive species.
3. Disturbance outside of the construction zone and in areas where invasive species are present shall be minimized.
4. All areas outside of the construction zone shall be kept on active management using the control methods prescribed in the species specific management plan created prior to construction. This area shall be monitored and treated at least twice each growing season.

POST-CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR

1. Re-vegetation to occur immediately after construction is complete to prevent the establishment of invasive species in disturbed areas.
2. Nursery stock shall be in accordance with W.S. 11-9-101-109 (Wyoming Nursery Stock Law), accompanied by a valid health certificate, and acquired through a dealer licensed by the Wyoming Department of Agriculture. Seeds shall be in accordance with W.S. 11-12-101-125 (Wyoming Seed Law), certified weed free, and acquired through a dealer licensed by the Wyoming Department of Agriculture.
3. Certified weed free straw, gravel, and soil shall be utilized where possible.
4. Teton County Weed & Pest shall be contacted to create a post-construction inventory.



LEGEND

- PROPERTY BOUNDARY
- PARCEL LOTS
- EASEMENT
- FENCE
- DRIVEWAY
- ROADWAY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

NORTH

0 5 10 20 40

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324

Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision 4

Project Status

PROFESSIONAL SEAL

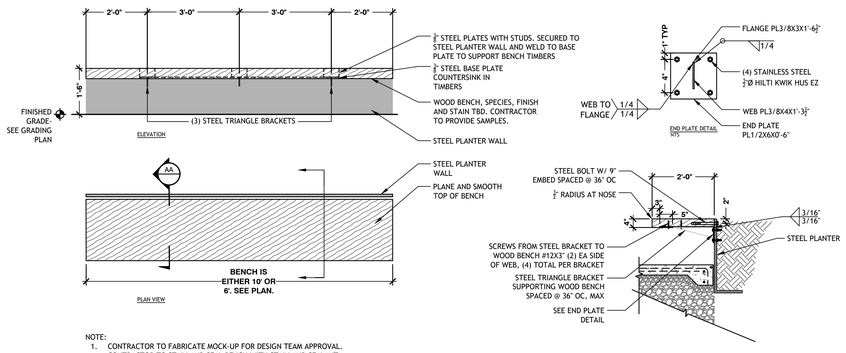
REGISTERED ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

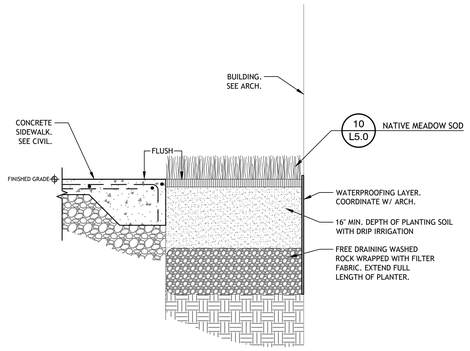
2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L4.1

Drawing Name
PLANTING PLAN: GREEN ROOF



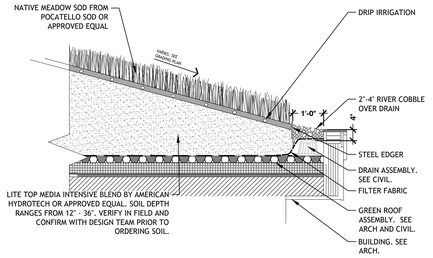
NOTE:
1. CONTRACTOR TO FABRICATE MOCK-UP FOR DESIGN TEAM APPROVAL. CONTRACTOR TO STAIN AND SEAL BENCH WITH STAIN AND SEALANT APPROVED FOR EXTERIOR USE. CONTRACTOR TO PROVIDE SAMPLES.

1 CUSTOM CANTILEVERED BENCH
1/2" = 1'-0"



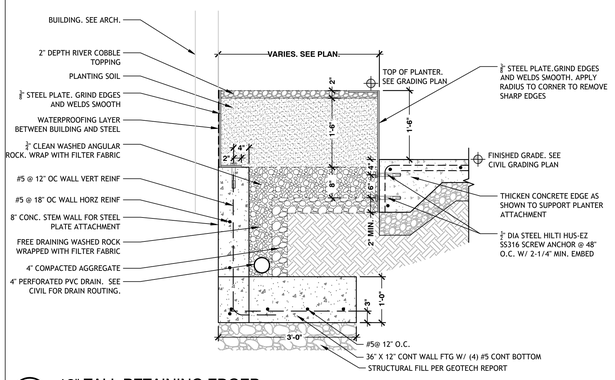
2 AT GRADE PLANTER
3/4" = 1'-0"

NOTES:
1. VERIFY DEPTH AND QUANTITY OF SOIL IN FIELD PRIOR TO ORDERING.
2. INSTALL ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. VERIFY SOD SQUARE FOOTAGE IN FIELD PRIOR TO ORDERING. CONFIRM SOD SUPPLIER WITH LANDSCAPE ARCHITECT. INSTALL SOD PER GREEN ROOF MANUFACTURER'S INSTRUCTIONS.
4. SEE ARCH FOR ALL INFORMATION ON STRUCTURE, DRAINAGE AND GREEN ROOF ASSEMBLY.
5. PROVIDE DRIP IRRIGATION TO GREEN ROOF. ALL IRRIGATION ASSOCIATED WITH GREEN ROOF IS TO BE ON SEPARATE ZONE FROM OTHER PLANT MATERIALS.



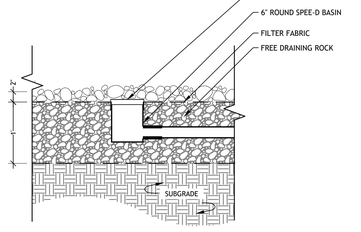
3 GREEN ROOF SOD
1/2" = 1'-0"

NOTES
1. PROVIDE DRIP IRRIGATION TO ALL PLANTERS
2. STEEL FINISH TO MATCH ARCH. PROVIDE SAMPLES FOR DESIGN TEAM APPROVAL
3. PROVIDE SHOP DRAWINGS FOR LANDSCAPE ARCHITECT REVIEW PRIOR TO FABRICATION



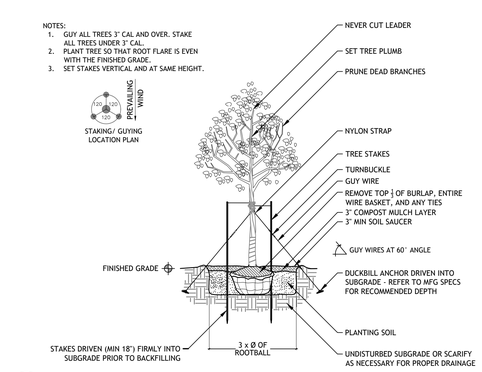
4 18" TALL RETAINING EDGER
3/4" = 1'-0"

NOTE:
1. SEE CIVIL DRAWINGS FOR SUBSURFACE DRAINAGE PLAN, INCLUDING DRY WELL LOCATIONS, PIPING ROUTES, AND CONNECTIONS

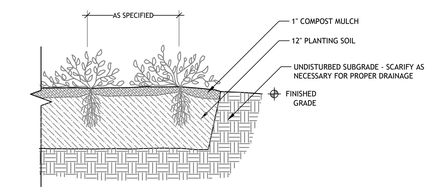


5 LANDSCAPE AREA DRAIN IN PLANTER
1" = 1'-0"

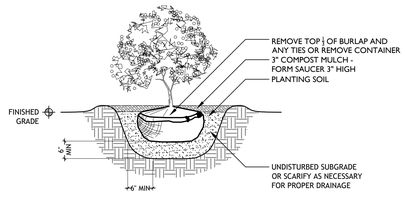
NOTES:
1. GUY ALL TREES 3" CAL AND OVER. STAKE ALL TREES UNDER 3" CAL.
2. PLANT TREE SO THAT ROOT FLARE IS EVEN WITH THE FINISHED GRADE.
3. SET STAKES VERTICAL AND AT SAME HEIGHT.



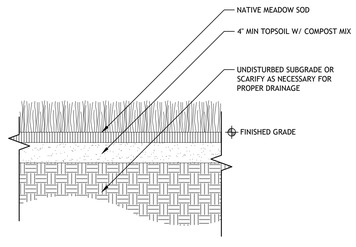
7 DECIDUOUS TREE
1/4" = 1'-0"



8 PERENNIAL PLANTING
1" = 1'-0"



9 SHRUB PLANTING
1/2" = 1'-0"



10 NATIVE MEADOW SOD
1" = 1'-0"

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision 1
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision
8	03/06/2023	Development Plan Revision 2

Project Status

PROFESSIONAL SEAL

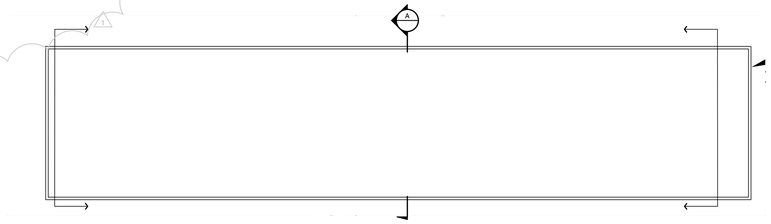
REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

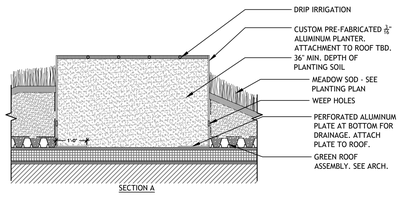
2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L5.0

Drawing Name
LANDSCAPE DETAILS

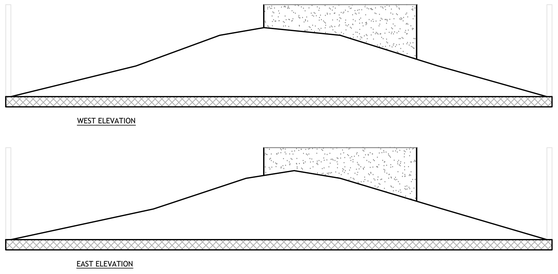


PLAN VIEW

NOTES
1. PROVIDE DRIP IRRIGATION TO ALL PLANTERS.
2. PLANTER FINISH IS TO BE POWDERCOATED, COLOR TBD. PROVIDE SAMPLES FOR DESIGN TEAM APPROVAL.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF PLANTER FOR LA REVIEW AND APPROVAL.
4. ATTACH PLANTER TO ROOF. ATTACHMENT METHOD IS TBD.



SECTION A

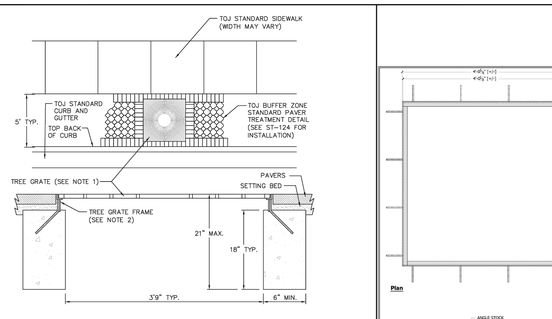


WEST ELEVATION

EAST ELEVATION

1 GREEN ROOF PLANTER A

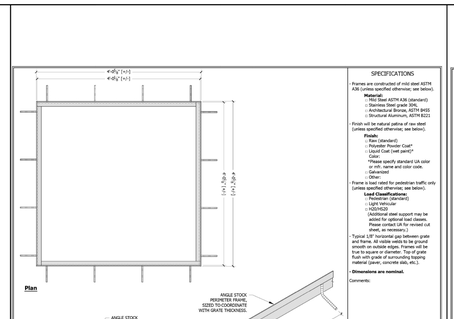
1/2" = 1'-0"



NOTES:
1. TREE GRATE SHALL BE 4' SQUARE FAN, MADE OF GREY IRON WITH A RAW NATURAL FINISH, MANUFACTURED BY URBAN ACCESSORIES, OR APPROVED EQUAL. SEE MANUFACTURERS SPECIFICATIONS FOR INSTALLATION.
2. TREE GRATE FRAME SHALL BE 4' SQUARE TYPE "P", PEDESTRIAN DUTY, MANUFACTURED BY URBAN ACCESSORIES, OR APPROVED EQUAL. SEE MANUFACTURERS SPECIFICATIONS FOR INSTALLATION.
3. CONCRETE TREE WELL AND TREE FRAME GRATE SHALL BE SQUARE AND CENTERED WITHIN THE 5' BUFFER ZONE. FORMS FOR THE TREE WELL SHALL BE SET AFTER COMPLETION OF THE CURB AND GUTTER AND SIDEWALK.

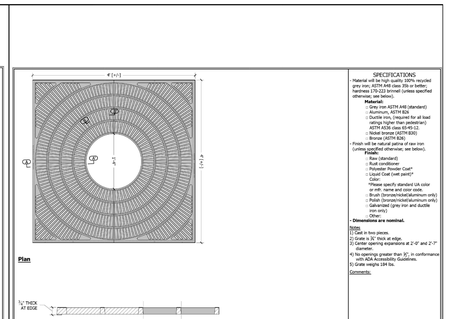
4 NOT TO SCALE

TOJ STANDARD LS-106
TREE WELL DETAIL



5 NOT TO SCALE

TOJ STANDARD
TREE GRATE FRAME



6 NOT TO SCALE

TOJ STANDARD
TREE GRATE

2 TOJ STANDARD- TREE IN GRATE

1/2" = 1'-0"

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

CAIRN LANDSCAPE ARCHITECTS
DESIGN • RECREATION • ECOLOGY

	ISSUED DATE	ISSUED FOR
1	10/28/2022	Check Set
2	11/15/2022	100% DD
3	12/23/2022	Development Plan Revision 1
4	02/06/2023	Development Plan Revision
5	02/06/2023	25% CD
6	02/17/2023	50% CD
7	02/24/2023	Development Plan Revision 2
8	03/06/2023	Development Plan Revision 3

Project Status

PROFESSIONAL SEAL

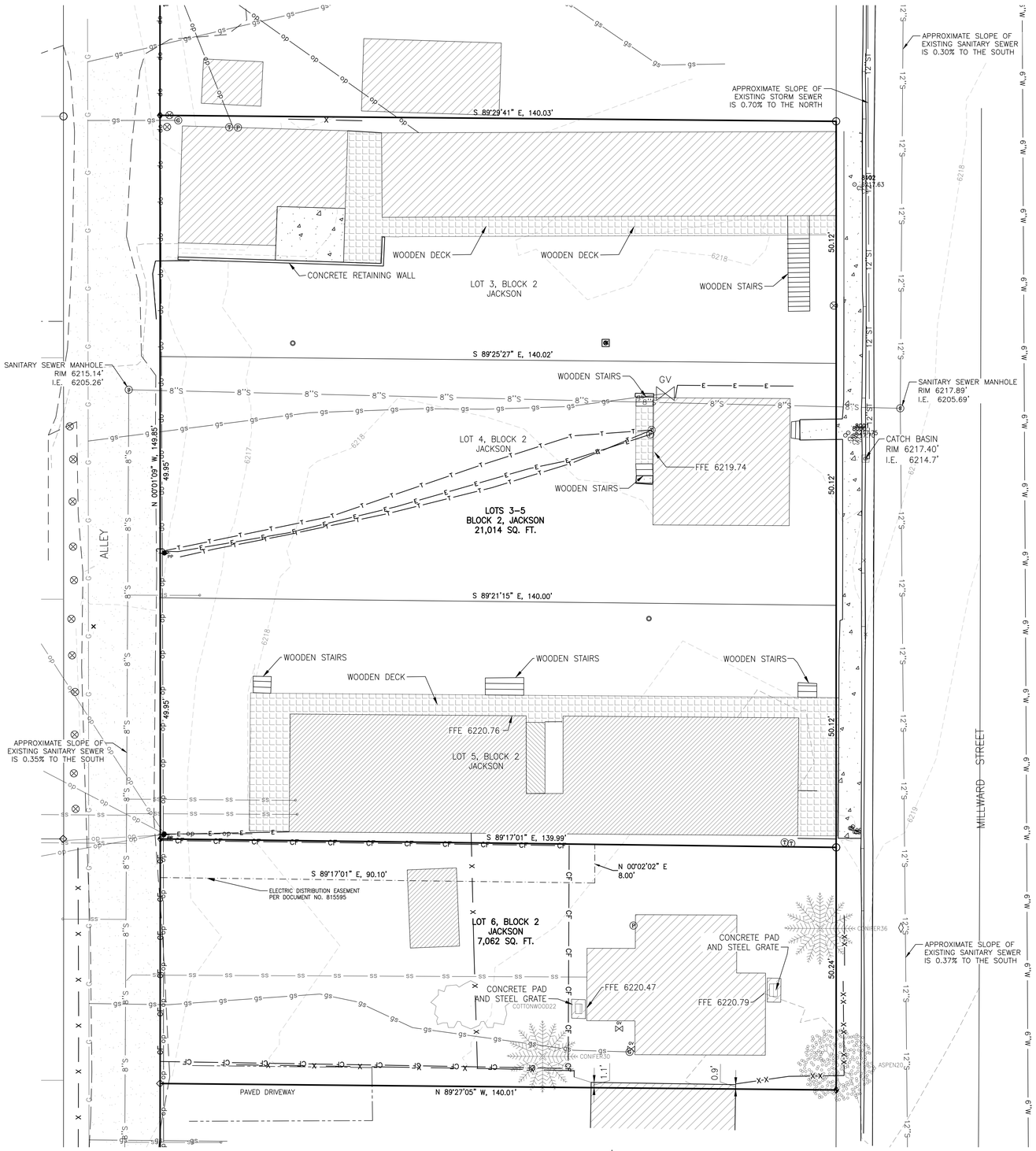
REGISTERED LANDSCAPE ARCHITECT
EDMUND AUSTIN DEPREE
No. C-3004
STATE OF WYOMING

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.
Drawer	Drawn By MA
Checker	Checked By HF
Discipline	Drawing No. L5.1

Drawing Name
LANDSCAPE DETAILS



EXISTING SITE PLAN

0 10 20

Vertical datum based on NAVD88 (geoid12b), derived from network gps observations.

NOTE:
THIS MAP WAS PREPARED WITHOUT BENEFIT OF TITLE REPORT AND IS SUBJECT TO ANY OTHER EASEMENTS, RESTRICTIONS, RESERVATIONS, RIGHTS-OF-WAY, AND CONDITIONS OF SIGHT AND/OR OF RECORD INCLUDING, BUT NOT LIMITED, TO THOSE SHOWN HEREON;

BUILDING SETBACKS PER TOJ CR-2 COMMERCIAL RESIDENTIAL ZONE

0-10' PRIMARY STREET
0-10' SECONDARY STREET
5' SIDE INTERIOR
10' REAR
10' ABUTTING PROTECTED ZONE

LEGEND

	=	PROPERTY LINE
	=	LOT LINE
	=	EASEMENT LINE
	=	CURB AND FLOWLINE
	=	EDGE OF PAVEMENT
	=	GRAVEL
	=	CONCRETE
S	=	SEWER LINE W/SIZE IF KNOWN
st	=	STORM SEWER LINE W/SIZE IF KNOWN
X	=	WOOD FENCE
X-X	=	RAIL FENCE
	=	GATE
G	=	GAS LINE
g	=	GAS LINE FROM LVE APPROX. FROM AERIAL IMAGE
gs	=	GAS SERVICE LINE APPROX. FROM LVE AERIAL IMAGE
op	=	OVERHEAD POWER LINE
op	=	OVERHEAD POWER APPROX. FROM LVE AERIAL IMAGE
bp	=	BURIED POWER- APPROX. PER LVE
E	=	UNDERGROUND ELECTRIC
T	=	UNDERGROUND CABLE
6"W	=	WATERLINE PER ~~APPROX. FROM TOWN GIS~~
	=	BUILDING
	=	DECK
	=	MONITORING WELL
	=	CATCH BASIN
CS	=	CURBSTOP
	=	ELECTRIC TRANSFORMER
T	=	TELEPHONE VAULT
GV	=	GAS VALVE
G	=	GAS METER
T	=	TELEPHONE PEDESTAL
P	=	ELECTRIC METER
S	=	SANITARY SEWER MANHOLE
ST	=	STORM SEWER MANHOLE
	=	CATCH BASIN
PP	=	POWER POLE
	=	GUY WIRE
	=	SIGN
	=	FOUND REBAR WITH CAP 13629
	=	NE REBAR WITH CAP 578
	=	FOUND REBAR
	=	STEEL BOLLARD
x 6220.0'	=	EXISTING SPOT ELEVATION

Sheet List Table

VICINITY MAP
PT. SE1/4 SE1/4
SECTION 28
T41N, R116W 6TH P.M.
TOWN OF JACKSON
TETON COUNTY, WY

0 200' 400'

NOTE:
- The site survey represented on this map show conditions determined by a field survey made on February 3, 2022 with 12 – 18 inches of snow on the ground and may not reflect changes made subsequent to that date.
- The map was prepared without benefit of a Title Report and is subject to any other Easements, Restrictions, Reservations, Rights-of-Way, and Conditions of sight and/or of record including, but not limited to, those shown hereon.
- Site development setbacks and building setbacks shall be verified with the planning department in the authority having jurisdiction prior to planning any development. It is also to be understood that other applicable codes, restrictions, covenants and regulations applicable to development and use should be determined prior to planning any development as these are not shown on this mapping.
- Underground utility locates were not completed for the purposes of this survey; however, some private utilities were marked for other purposes at the time of fieldwork. Nelson Engineering picked up all present paint markings, but these markings are incomplete and only represent portions of the property. Other underground utilities may exist.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

PROFESSIONAL SEAL

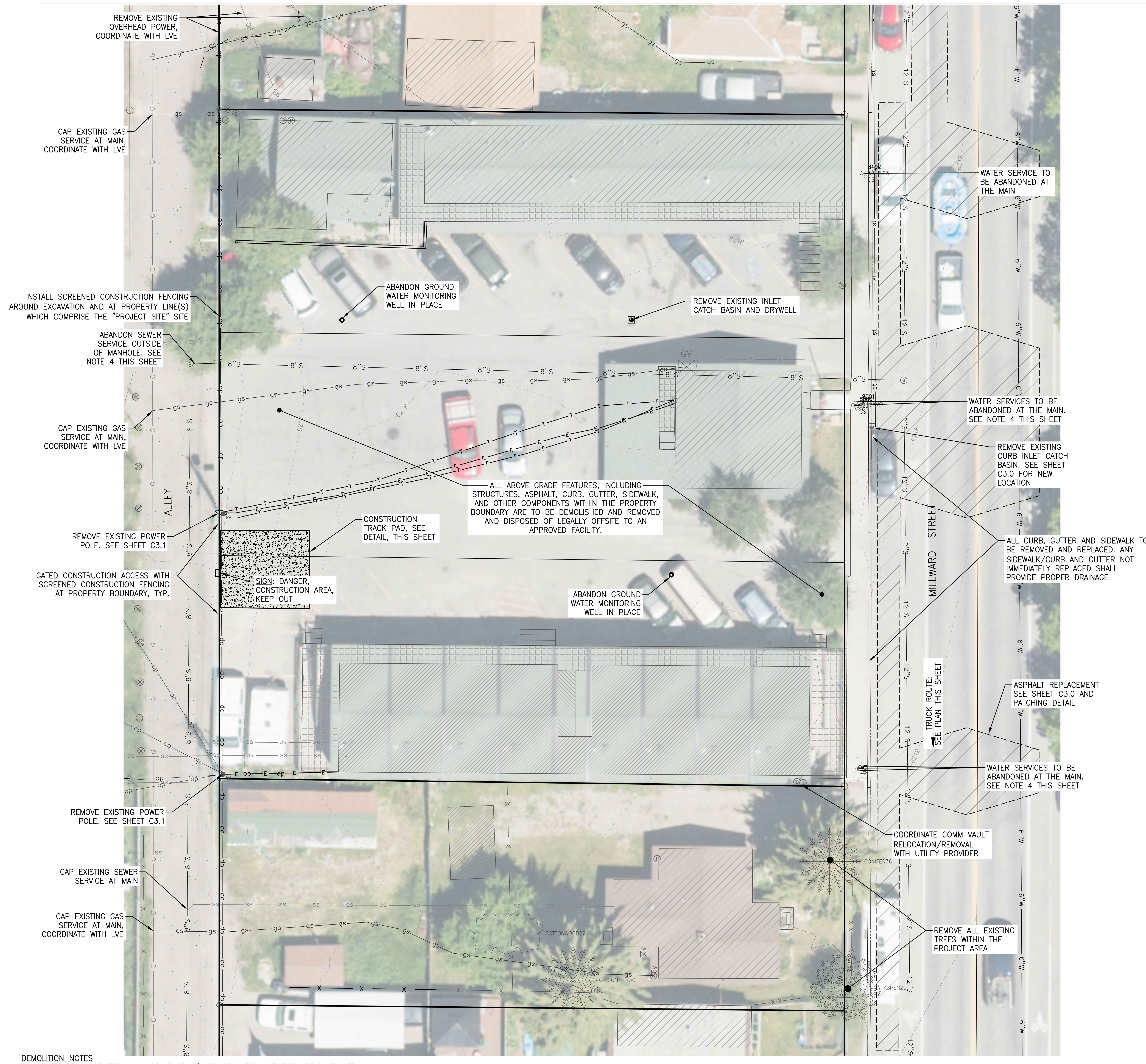
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C1.0

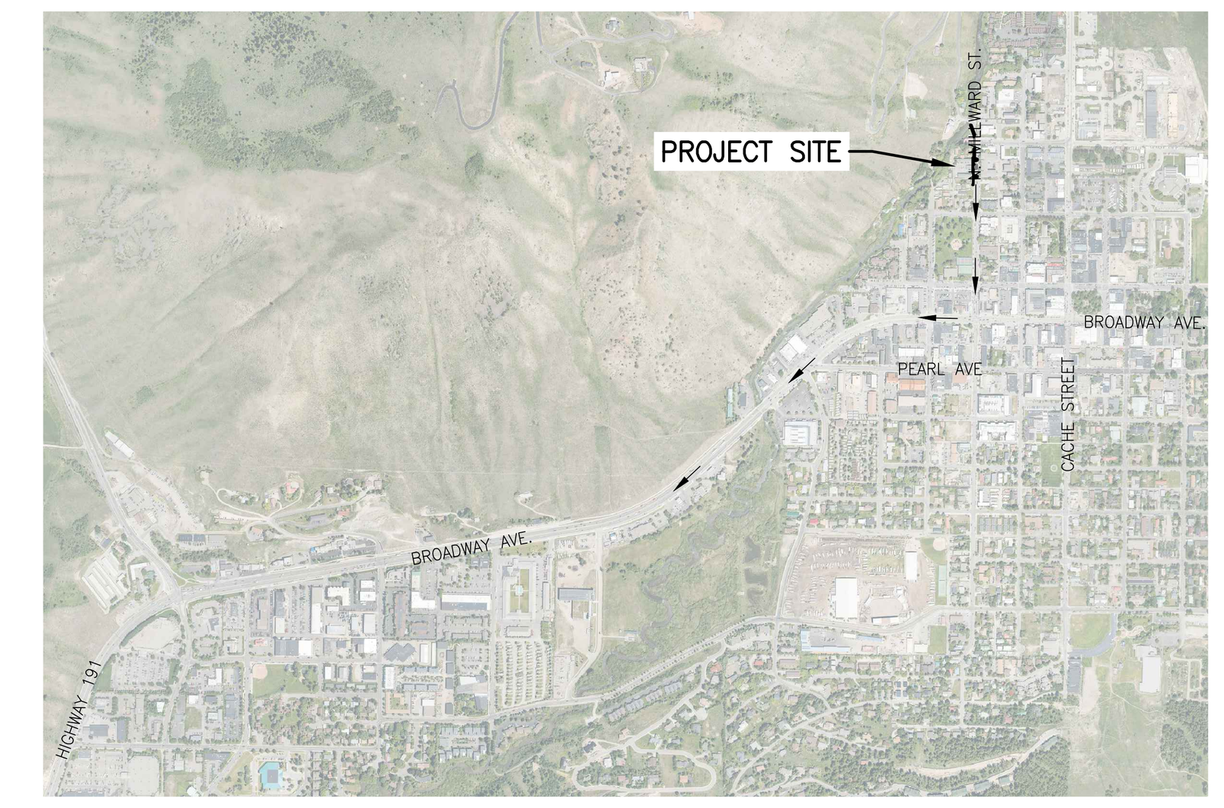
Drawing Name
EXISTING SITE PLAN

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION



DEMO SITE PLAN

0 10 20



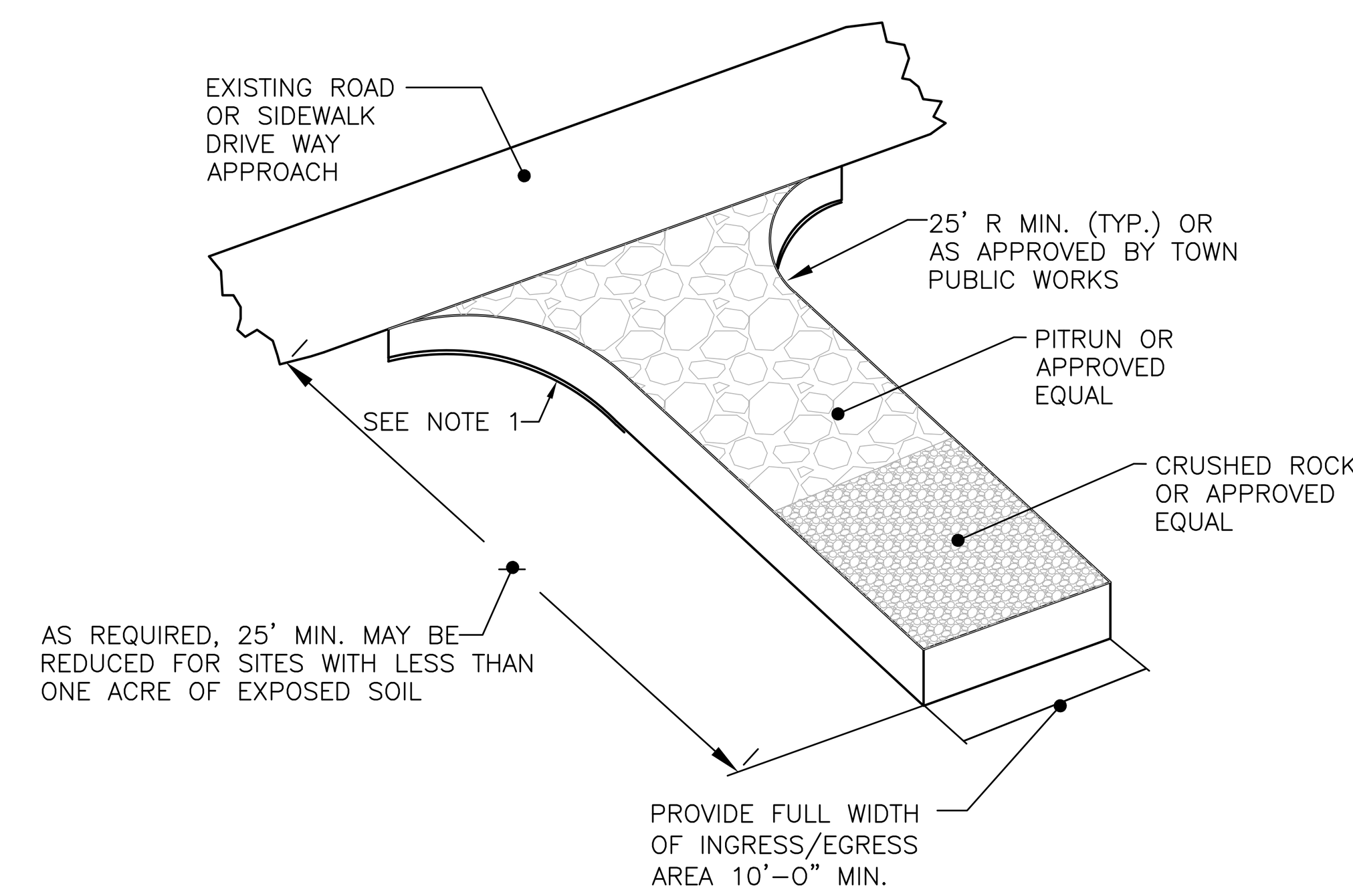
TRUCK ROUTE/ VICINITY PLAN

0 1500 3000

TRUCK ROUTE:
LEAVE SITE TO SOUTH ON N. MILLWARD ST.
TURN WEST ON BROADWAY AVE TO ACCESS HIGHWAY 191 SOUTH OF TOWN

DANGER SIGN

(1 REQUIRED)



NOTES:
1. PLACE CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION UNDER THE CRUSHED ROCK FROM THE EDGE OF THE EXISTING ROADWAY TO THE RADIUS RETURNS, OR AS DIRECTED BY PUBLIC WORKS.
2. ENTRANCE SHALL BE REMOVED AND RECONSTRUCTED AS REQUIRED TO PREVENT EXCESS TRACKING OF MATERIALS ONTO RIGHT-OF-WAY, OR WHEN DIRECTED BY THE TOWN PUBLIC WORKS DEPARTMENT.

1 / C1.1 CONSTRUCTION TRACK PAD DETAIL

N.T.S.

DEMOLITION NOTES
1. CONSTRUCTION ACTIVITIES SHALL OCCUR 2024/2025, DEMOLITION ACTIVITIES ARE SCHEDULED FOR MAY–JULY 2024.
2. CONTRACTOR SHALL INSTALL CONSTRUCTION ACCESS TRACK PAD AT THE CONSTRUCTION ENTRANCE, SEE DETAIL 1 THIS SHEET.
3. CONTRACTOR SHALL PREVENT TRACKING OF SOIL ONTO THE ROAD AND CLEAR ROAD OF ANY SOILS WHEN NECESSARY.
4. ALL EXISTING UTILITY SERVICES TO BE ABANDONED AT THE MAIN, OR CONNECTING MANHOLE/VAULT AS REQUIRED BY UTILITY PROVIDER. EXISTING UTILITIES WILL BE ABANDONED IN COORDINATION WITH THE UTILITY PROVIDER. EXISTING WATER AND SEWER SERVICES ARE SHOWN IN PLAN BASED ON THE THE TOWN OF JACKSON GIS. COORDINATION WITH TOJ PUBLIC WORKS WILL BE REQUIRED TO DETERMINE ABANDONMENT(CAPPING AND PLUGGING) REQUIREMENTS AND WHICH SERVICES ARE LIVE AND REQUIRE ABANDONMENT PRIOR TO CONSTRUCTION.
5. ASBESTOS CONTAINING MATERIALS MAY BE PRESENT. REFER TO TESTING REPORT.
6. SEE SHEET C2.0 FOR ENCROACHMENT PERMIT REQUIREMENTS .
7. TEMPORARY CONSTRUCTION FENCING TO BE SCREENED PER TOWN OF JACKSON REQUIREMENTS.
8. GATED ENTRY TO REMAINED CLOSED AT ALL TIMES EXCEPT WHEN CONSTRUCTION EQUIPMENT AND/OR DEMOLITION DEBRIS IS BEING MOVED IN OR TRUCKED OUT.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue, Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

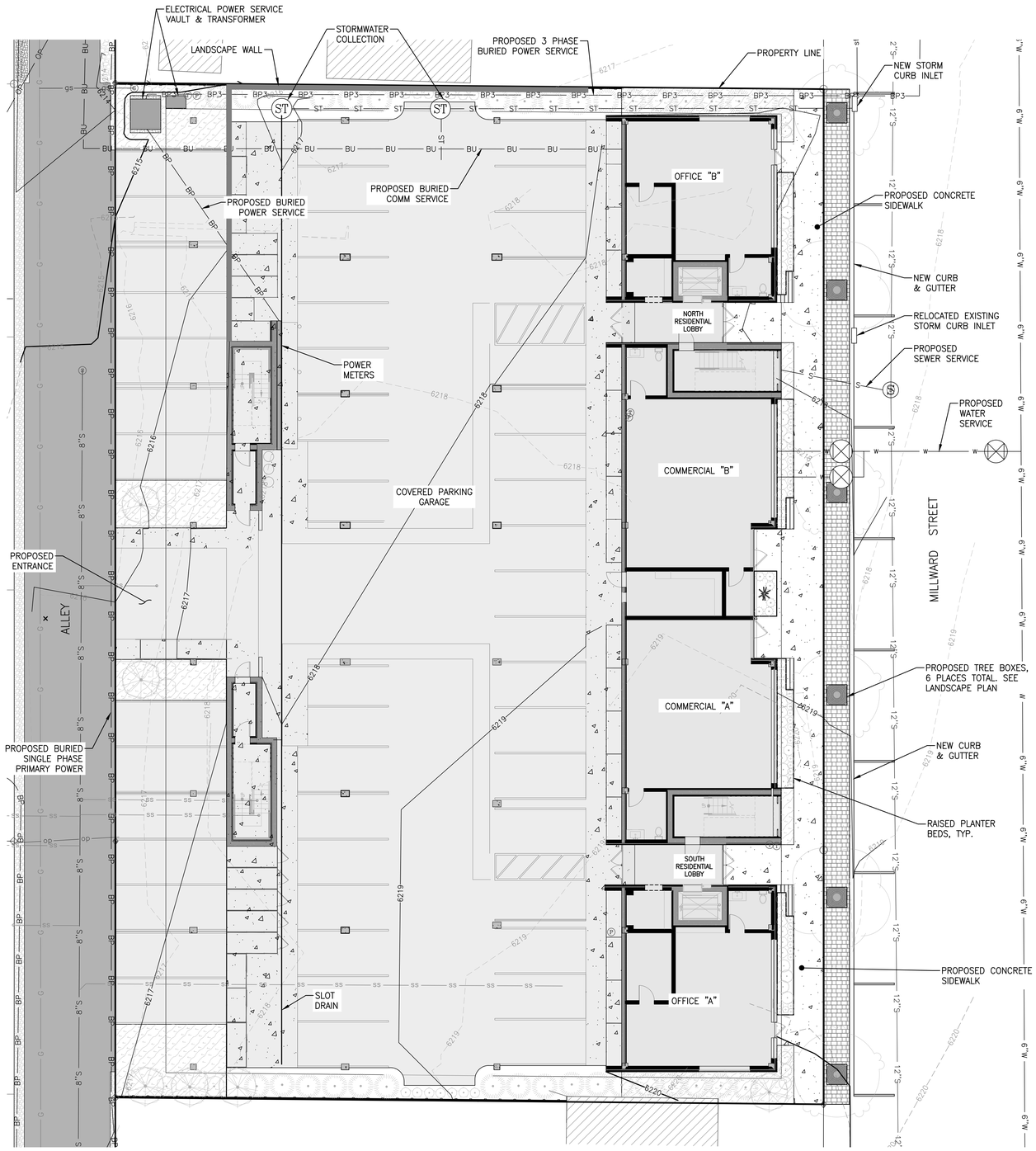
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C1.1

Drawing Name
DEMO SITE PLAN



FINAL SITE PLAN

0 10 20

N E

SITE CONSTRUCTION NOTES & SPECIFICATIONS

CAUTION: UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES (WHETHER FUNCTIONAL OR ABANDONED) WITHIN THE PROJECT AREA ARE SHOWN ON THESE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM CONTRACTORS WORK.

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS (WPWSS) 2015 EDITION AND THESE PLANS.
2. CONTRACTOR REQUIRED TO COMPLEY WITH WDEQ PERMITTING REQUIREMENTS FOR DISCHARGE ASSOCIATED WITH CONSTRUCTION.
3. STOCKPILED MATERIAL WILL BE STORED WITHIN THE PROJECT SITE OR OTHER APPROVED LOCATION OFFSITE PROCURED BY CONTRACTOR.
4. ENTRANCE, SIDEWALK, CURB AND GUTTER CONSTRUCTION SHALL CONFORM TO TOJ AND ADA STANDARDS. REPLACEMENT MATERIALS WITHIN THE TOJ ROW SHALL COMPLEY WITH TOJ STANDARD DETAILS.
5. IN ACCORDANCE WITH C4.0, INSTALL EROSION CONTROL MEASURES PRIOR TO COMMENCING WITH LAND DISTURBING ACTIVITIES AND MAINTAIN THE DEVICES DURING CONSTRUCTION. IF NECESSARY THE CONTRACTOR SHOULD INSTALL AND MAINTAIN ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THE SITE IS STABILIZED DURING CONSTRUCTION.
6. SEE LANDSCAPE PLANS FOR PLANTING AND HARDSCAPE REQUIREMENTS.
7. CONTRACTOR MUST HAVE A WEED CONTROL PLAN PREPARED BY TETON COUNTY WEED AND PEST OR OTHER WEED SPECIALIST AND IMPLEMENT THE PLAN THROUGHOUT CONSTRUCTION. SEE NOTES THIS SHEET FOR WEED MANAGEMENT REQUIREMENTS.
8. CONSTRUCTION ACTIVITIES SHALL OCCUR 2024/2025, DEMOLITION ACTIVITIES ARE SCHEDULED FOR MAY–JULY 2024.
9. CONTRACTOR SHOULD COORDINATE THE INSTALLATION OF WIRE UTILITY SERVICES WITH UTILITY PROVIDERS AND ARRANGE INSTALLATION AND SERVICE CONTRACTS.
10. A GEOTECHNICAL REPORT WAS COMPLETED. CONTRACTOR SHALL FOLLOW RECOMMENDATIONS FOR FOUNDATION SOILS PREPARATION, FOUNDATION DRAIN PLACEMENT, FOUNDATION BACKFILL, ACCESS/PARKING CONSTRUCTION, AND OTHER SOIL PREPARATION FOR SLABS AND UTILITIES.
11. CONTRACTOR SHALL HAVE ALL PERMANENT REFERENCE MONUMENTS AND PROPERTY CORNERS VERIFIED AND IF NECESSARY RE–ESTABLISHED BY A LICENSED SURVEYOR AFTER COMPLETION OF CONSTRUCTION.
12. A TOJ ENCROACHMENT PERMIT WILL BE REQUIRED. PERMIT MUST BE SUBMITTED TO TOWN OF JACKSON PRIOR TO ANY WORK IN RIGHT–OF–WAY

TETON COUNTY WEED AND PEST MANAGEMENT STRATEGIES

PRE–CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR:

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT THE TETON COUNTY WEED & PEST, OR OTHER QUALIFIED PROFESSIONAL, TO CONDUCT A SITE SPECIFIC INVENTORY OF INVASIVE SPECIES AND CREATE A SPECIES SPECIFIC MANAGEMENT PLAN IN ACCORDANCE WITH TETON COUNTY LDR 5.7.2.

ACTIVE CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR:

1. ALL CONSTRUCTION EQUIPMENT TO BE CLEANED PRIOR TO ENTERING THE SITE.
2. SOIL STOCKPILES TO BE ROUTINELY CHECKED AND TREATED FOR INVASIVE SPECIES.
3. DISTURBANCE OUTSIDE OF THE CONSTRUCTION ZONE AND IN AREAS WHERE INVASIVE SPECIES ARE PRESENT SHALL BE MINIMIZED.
4. ALL AREAS OUTSIDE OF THE CONSTRUCTION ZONE SHALL BE KEPT ON ACTIVE MANAGEMENT USING THE CONTROL METHODS PRESCRIBED IN THE SPECIES SPECIFIC MANAGEMENT PLAN CREATED PRIOR TO CONSTRUCTION. THIS AREA SHALL BE MONITORED AND TREATED AT LEAST TWICE EACH GROWING SEASON.

POST–CONSTRUCTION MANAGEMENT STRATEGIES TO BE PERFORMED BY CONTRACTOR:

1. RE–VEGETATION TO OCCUR IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE TO PREVENT THE ESTABLISHMENT OF INVASIVE SPECIES IN DISTURBED AREAS.
2. NURSERY STOCK SHALL BE IN ACCORDANCE WITH W.S. 11–9–101 – 109 (WYOMING NURSERY STOCK LAW), ACCOMPANIED BY A VALID HEALTH CERTIFICATE, AND ACQUIRED THROUGH A DEALER LICENSED BY THE WYOMING DEPARTMENT OF AGRICULTURE. SEEDS SHALL BE IN ACCORDANCE WITH W.S. 11–12–101 – 125 (WYOMING SEED LAW), CERTIFIED WEED FREE, AND ACQUIRED THROUGH A DEALER LICENSED BY THE WYOMING DEPARTMENT OF AGRICULTURE.
3. CERTIFIED WEED FREE STRAW, GRAVEL, AND SOIL SHALL BE UTILIZED WHERE POSSIBLE.
4. TCWP TO BE CONTACTED TO CREATE A POST–CONSTRUCTION INVENTORY.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C2.0

Drawing Name
FINAL SITE PLAN

CONNECT TO EXISTING COMM PEDESTAL. COORDINATE LOCATION OF BURIED COMM LINE TO THE BUILDING WITH UTILITY PROVIDER

INSTALL CONTECH CASCADE SEPARATOR WITH DRAIN INLET PER SHEET C3.5
RIM ELEV=6216.9'±
INVERT OUT ELEV=6214.9'±

TRANSFORMER, VAULT AND 3 PHASE POWER PER SHEET C3.1

INSTALL 30–LF 6"ø PVC STORM SEWER @ MIN 0.5% SLOPE PER DETAIL STM–100/C3.4

INSTALL STORM SEWER MANHOLE WITH SOLID LID PER DETAIL 1/C3.4
RIM ELEV=6217.25'±
INVERT IN=6214.75'±
INVERT OUT ELEV=6214.65'±
MH OPEN BOTTOM ELEV=6208.65'±

INSTALL 80–LF 10"ø PVC STORM SEWER @ MIN 0.5% SLOPE PER DETAIL STM–100/C3.4

PROPERTY BOUNDARY

EXISTING STORM SEWER MAIN

INSTALL STORM CURB INLET PER DETAIL STM–101/C3.4. CONNECT TO EXISTING STORM SEWER MAIN. CONTRACTOR TO VERIFY INVERT ELEVATION PRIOR TO INSTALLATION
RIM ELEV=6217.43'±
INVERT ELEV=6214.25'±

ASPHALT REPLACEMENT SEE ST–118/C4.0 FOR PATCHING DETAIL

INSTALL STORM CURB INLET PER DETAIL STM–101/C3.4. CONNECT TO EXISTING STORM SEWER MAIN. CONTRACTOR TO VERIFY INVERT ELEVATION PRIOR TO INSTALLATION
RIM ELEV=6217.22'±
INVERT ELEV=6214.5'±

DIRECT BUILDING ROOF DRAINS TO MANHOLE, COORDINATE WITH MECHANICAL

INSTALL 155–LF BURIED COMM WIRE TO BUILDING PER DETAIL 1/C3.1, COORDINATE WITH UTILITY PROVIDER

INSTALL PRIMARY SINGLE PHASE BURIED POWER PER SHEET C3.1. (REPLACES EXISTING OVERHEAD)

SECONDARY BURIED POWER. SEE SHEET C3.1

METER BANKS AND DISCONNECTS, SEE ELECTRICAL PLANS

INSTALL 6"ø PVC SEWER MAIN @ MIN 1% SLOPE FROM BUILDING TO EXISTING MANHOLE PER DETAIL SS–100/C3.3

CONNECT TO EXISTING MANHOLE PER DETAIL 1/C3.3
INVERT ELEVATION = 6205.7'±

COORDINATE WITH MECHANICAL SEWER CONNECTION AT FOUNDATION WALL

INSTALL NEW 6" GATE VALVE AND VALVE BOX PER DETAIL 5/C3.2

INSTALL 4"ø DI GATE VALVE FOR POTABLE, AND 6"ø DI GATE VALVE FOR FIRE SUPPLY, PROPER BACKFLOW PREVENTION SHALL BE INSTALLED INSIDE THE BUILDING, SEE DETAILS SHEET C3.2

HOT TAP EXISTING WATERLINE TO MAINTAIN SERVICE PER DETAIL W–118/C3.2

2" WATER METER TO BE INSTALLED INTERIOR OF BUILDING ON DOMESTIC AND IRRIGATION WATER LINE. SEE DETAIL 1, 2, & 3/C3.2

ASPHALT REPLACEMENT SEE ST–118/C4.0 FOR PATCHING DETAIL

INSTALL 50–LF± 6"ø DI WATER MAIN PER DETAIL W–100/C3.2

ASPHALT REPLACEMENT SEE ST–118/C4.0 FOR PATCHING DETAIL

ALLEY

MILLWARD STREET

SEE POWER SITE PLAN SHEET C3.1 FOR ALL PRIMARY AND SECONDARY POWER RELOCATION INSTALLATION

UTILITY SITE PLAN

0 10 20

N E

CONTRACTOR NOTE:

CAUTION: UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES (WHETHER FUNCTIONAL OR ABANDONED) WITHIN THE PROJECT AREA ARE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM CONTRACTORS WORK.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

ISSUED DATE	ISSUED FOR
1 3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

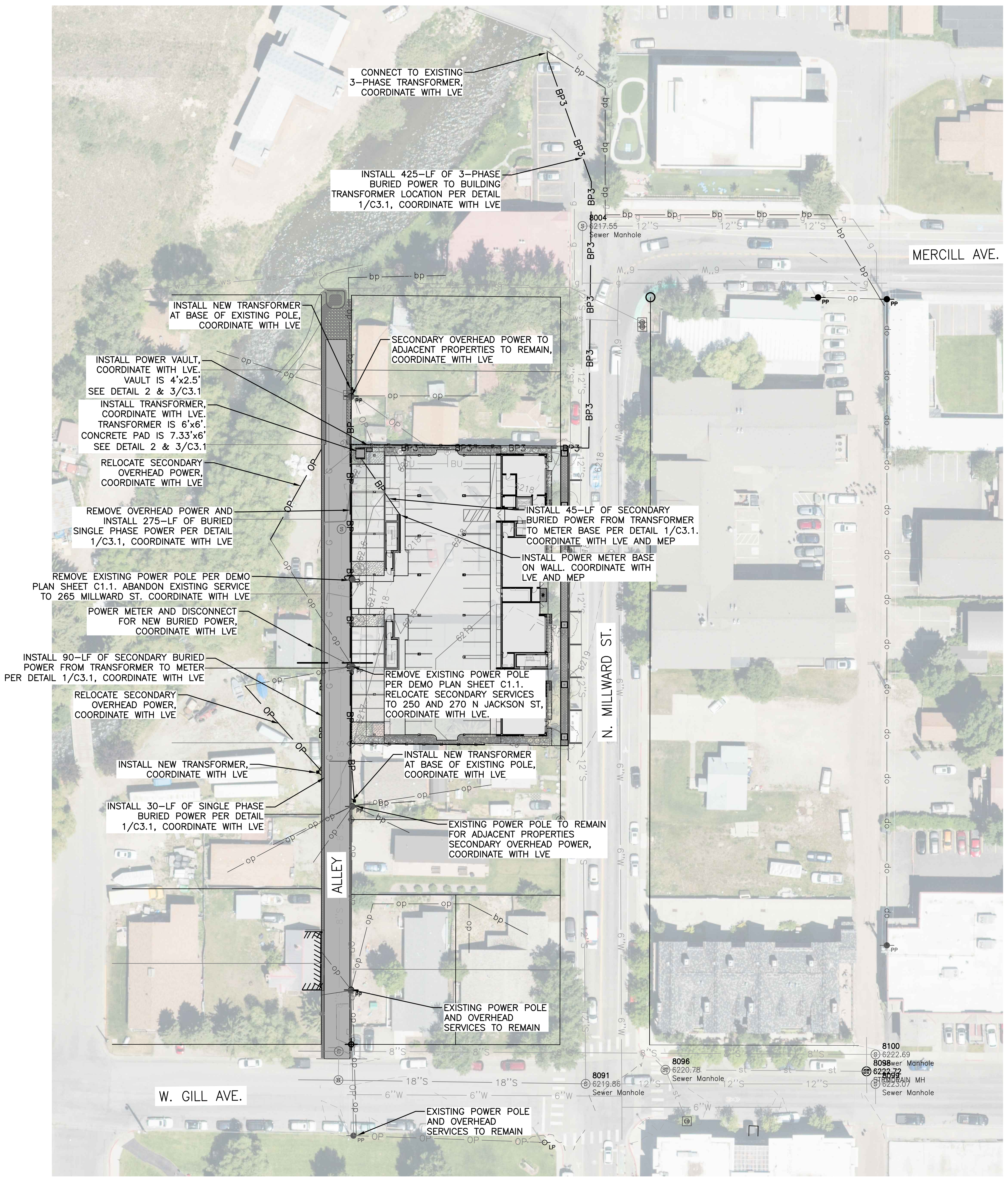
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.0

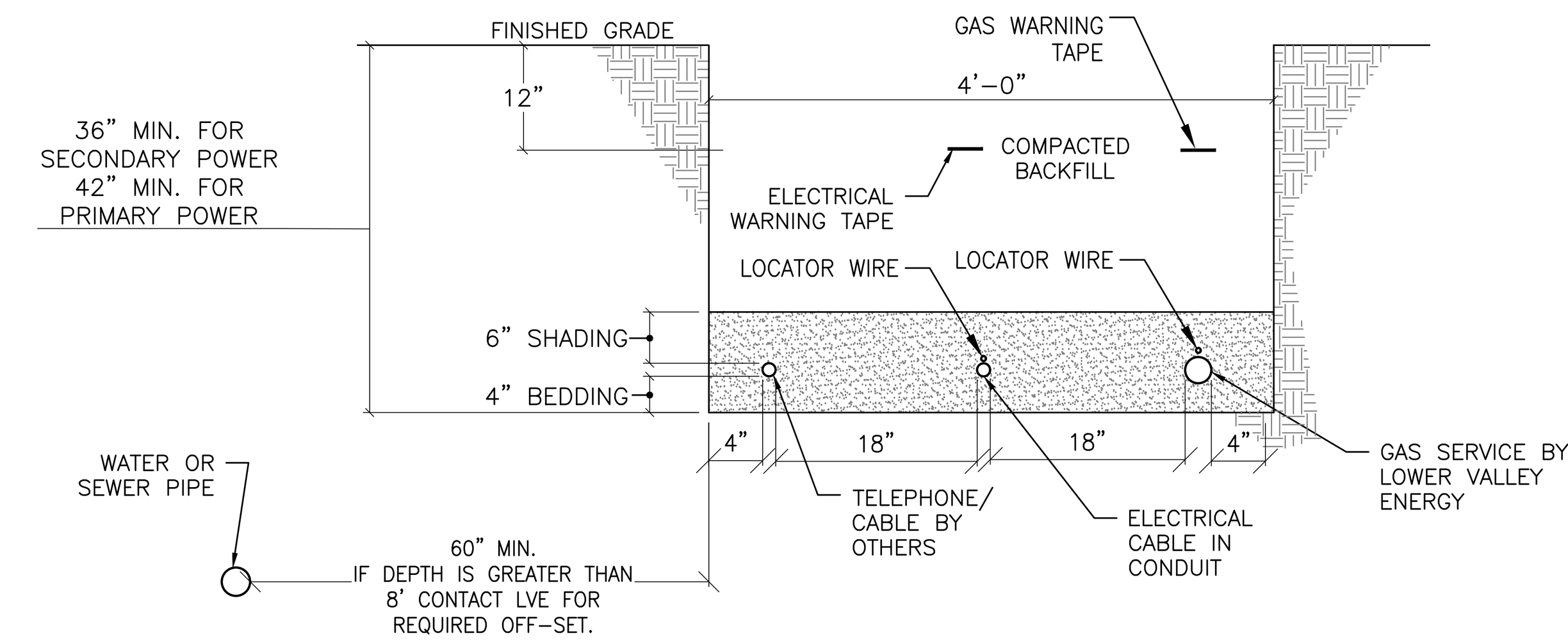
Drawing Name
UTILITY SITE PLAN



POWER SITE PLAN

0 40 80

N E



NOTES:

1. WHEN ELECTRICAL CONDUCTORS CROSS OVER OR UNDER WATER AND/OR SEWER PIPES THERE SHALL BE A MINIMUM OF 12" VERTICAL SEPARATION. IN ADDITION, THE ELECTRICAL CONDUCTORS SHALL BE PROTECTED WITH NOT LESS THAN 48" OF SUITABLE PVC OR RIGID STEEL CONDUIT WITH NO LESS THAN 24" ON EITHER SIDE OF THE CROSSING.
2. CONSUMER INSTALLED CONDUIT MUST BE INSPECTED PRIOR TO BACKFILLING. IF NOT INSPECTED, TRENCH MAY BE REJECTED.
3. ALL TRENCHES ARE TO BE INSPECTED PRIOR TO BACKFILLING.
4. 18" SEPARATION MUST BE OBTAINED BETWEEN PE GAS PIPE AND POWER CABLE OR TRENCH WILL BE REJECTED.
5. BEDDING AND SHADING MATERIAL MUST BE SMOOTH, FREE OF ROCKS, AND MUST BE ABLE TO SIFT THROUGH A 1/4" SCREEN (SAND RECOMMENDED).

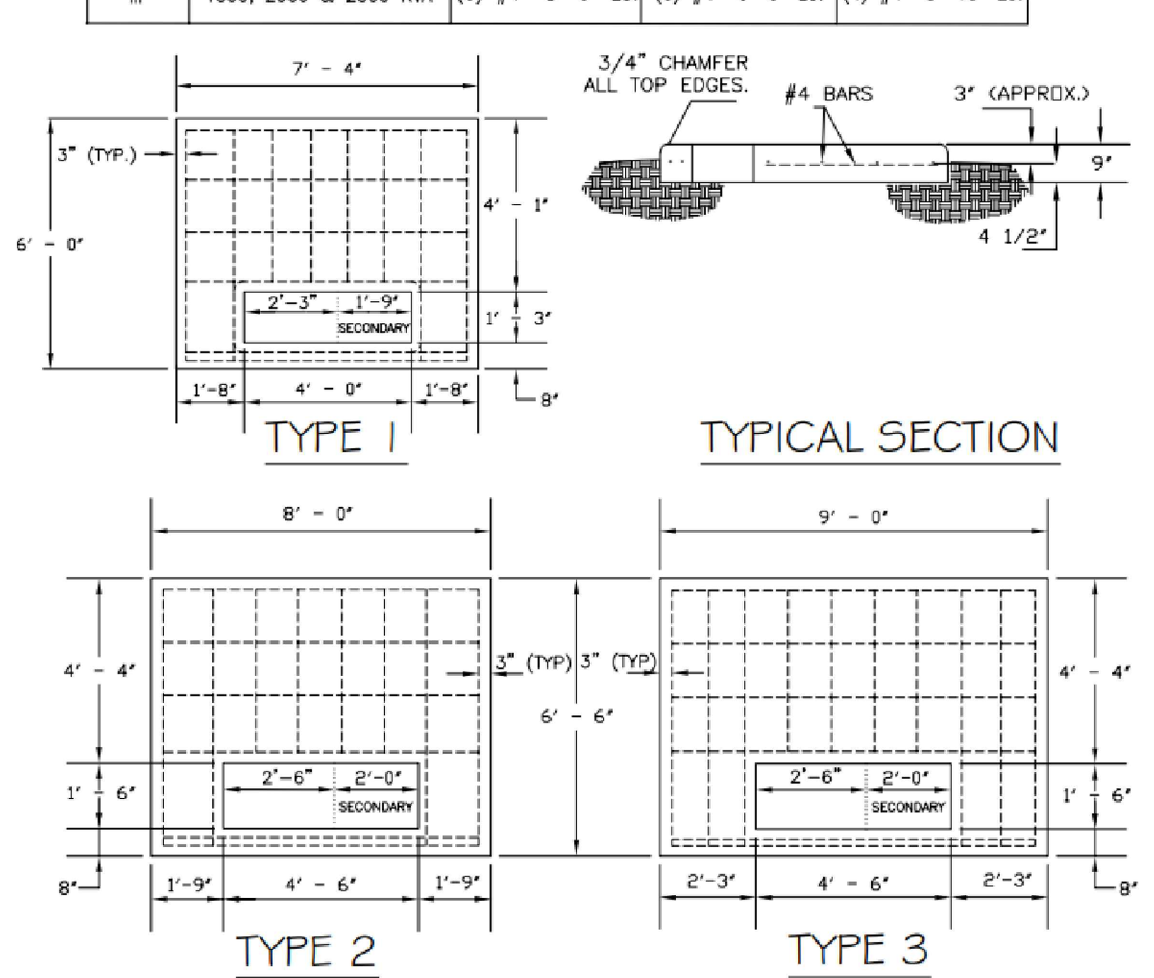
1 / C3.1 MIXED UTILITY TRENCH & SPACING REQUIREMENTS

SCALE: NTS

NOTES:

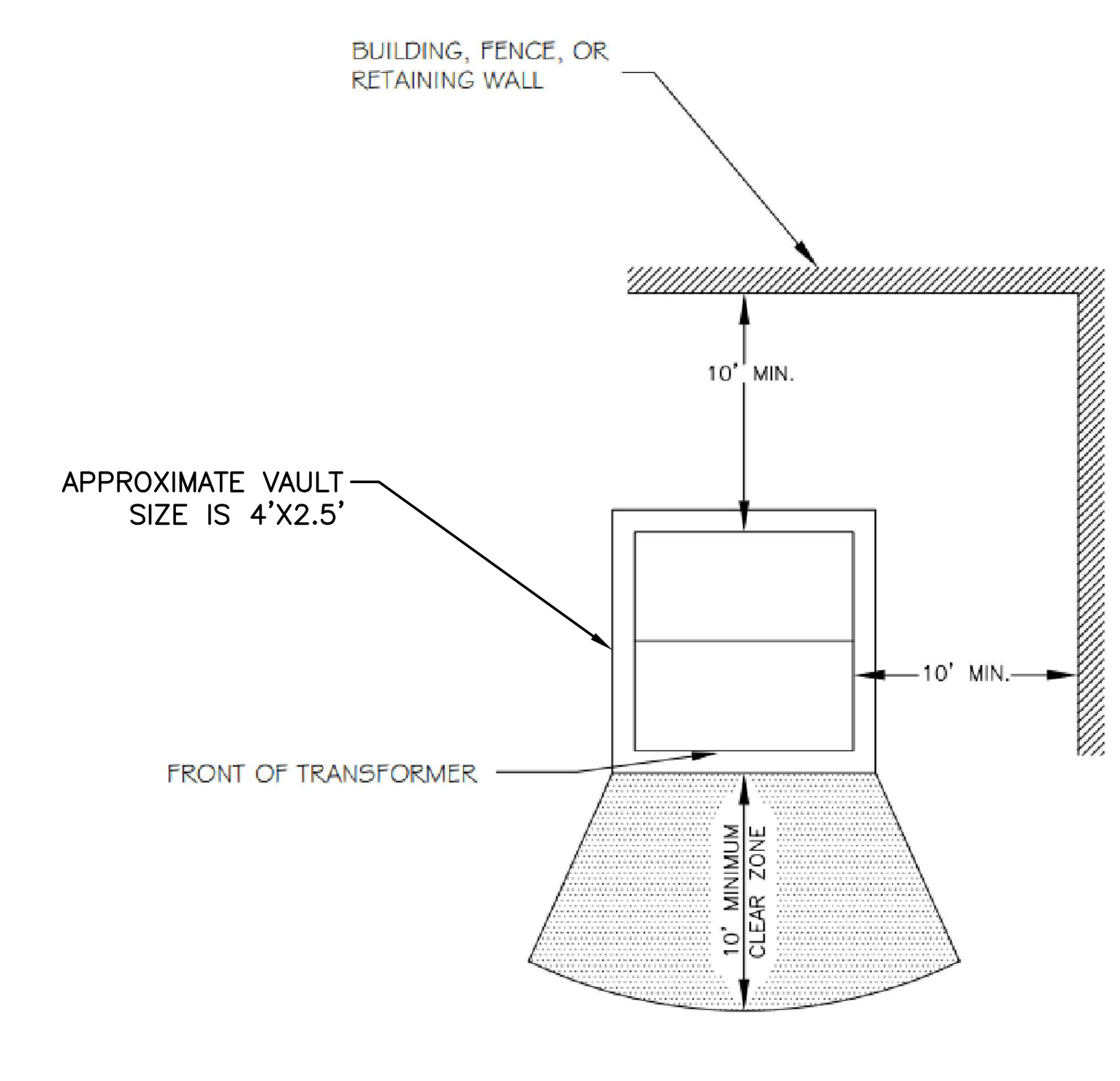
- CONCRETE TO HAVE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS
- PVC CONDUIT SHALL BE PROVIDED FOR PRIMARY AND SECONDARY CONDUCTORS AND STUBBED OUT FROM TRANSFORMER PAD
- BOLLARDS SHALL BE PLACED AT ALL TRANSFORMER PAD CORNERS SUBJECT TO VEHICULAR TRAFFIC

TYPE	TRANSFORMER SIZE	Y BARS	X_1 BARS	X_2 BARS
I	45, 75, 150, 225 & 300 KVA	(6) #4 6'-10" LG.	(4) #4 5'-6" LG.	(3) #4 3'-7" LG.
II	500, 750 & 1000 kVA	(6) #4 7'-6" LG.	(4) #4 5'-6" LG.	(4) #4 3'-10" LG.
III	1500, 2000 & 2500 KVA	(6) #4 8'-6" LG.	(6) #4 6'-0" LG.	(4) #4 3'-10" LG.



2 / C3.1 3 PHASE TRANSFORMER PAD DETAIL

SCALE: NTS



NOTES:

- NO OBSTRUCTIONS ALLOWED OVER TRANSFORMER.
- NO FOLIAGE ALLOWED WITHIN 10' OF DOOR OPENING.
- REQUIRED CLEARANCES MAY BE INCREASED OR REDUCED AT LVE DISCRETION.

3 / C3.1 MINIMUM VAULT AND TRANSFORMER CLEARANCE DETAIL

SCALE: NTS

NORTHWORKS

CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

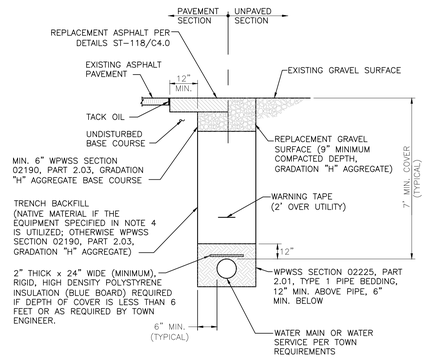
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

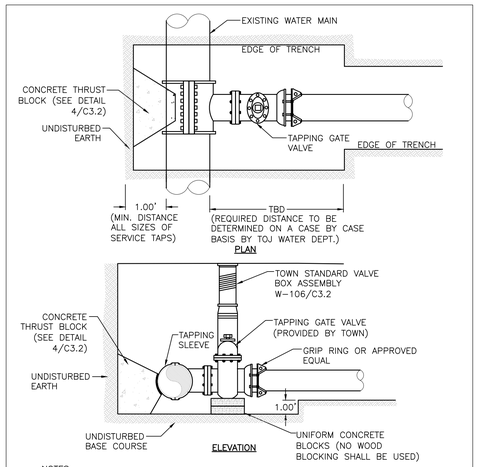
2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.1

Drawing Name
POWER SITE PLAN



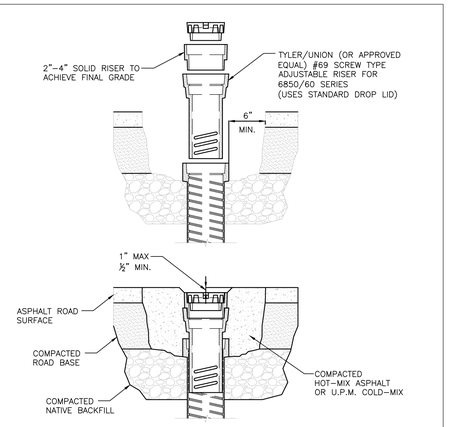
NOTES:
1. TRENCH BACKFILL BELOW THE SURFACE SHALL MEET THE FOLLOWING CRITERIA:
   - 95% MODIFIED PROCTOR DENSITY WITHIN STREET AND ALLEY RIGHTS-OF-WAY.
   - 90% MODIFIED PROCTOR DENSITY OUTSIDE STREET AND ALLEY RIGHTS-OF-WAY.
2. COMPACTION OF NATIVE TRENCH BACKFILL, WITH ALL ROCK LARGER THAN 6" REMOVED, SHALL BE CARRIED OUT IN 2' LIFTS WITH A HOE-PACK OR A VIBRATORY SHEEPS FOOT ROLLER (COMPACTION METHOD AND EQUIPMENT SHALL BE REVIEWED AND APPROVED BY TOWN ENGINEER PRIOR TO BACKFILLING).
3. PIPE BEDDING SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT.
4. UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
5. ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WYOSHA) REGULATIONS.

W-100 C3.2 — WATER MAIN AND SERVICE LINE TRENCH
TOJ STD DETAIL W-100 DATE: 1/14/13 SCALE: NTS



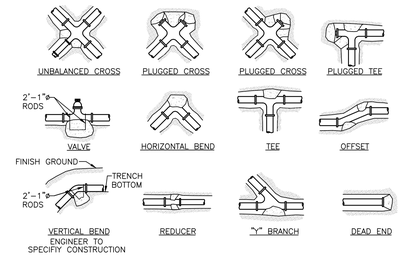
NOTES:
1. TRENCH WILL BE EXCAVATED TO MEET ALL WYOSHA STANDARDS PRIOR TO TAPPING.
2. EXCAVATION OF TAPPING LOCATION SHALL BE APPROVED BY TOJ WATER DEPARTMENT PRIOR TO TAPPING.
3. THE TOWN SHALL COMPLETE THE TAPPING OF THE MAIN. NO OTHER PERSONS SHALL COMPLETE TAP WITHOUT CONSENT OF TOWN. ALL OTHER WATER MAIN WORK SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR.

W-118 C3.2 — WATER MAIN TAPPING DETAIL
TOJ STD DETAIL W-118 DATE: 1/17/13 SCALE: NTS

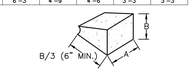


NOTES:
1. ADJUST WATER VALVES UPWARD OR DOWNWARD AS REQUIRED. FINAL ADJUSTMENT SHALL BE MADE AFTER PAVING AND BEFORE SEAL COATING.
2. THE TOWN SHALL INSPECT THE VERTICAL ALIGNMENT PRIOR TO AND POST BACKFILLING.
3. MUD PLUGS ARE REQUIRED TO BE PLACED IN ALL VALVE BOXES.

W-106 C3.2 — WATER VALVE COLLAR ASSEMBLY
W-106 DATE: 1/16/13 SCALE: NTS

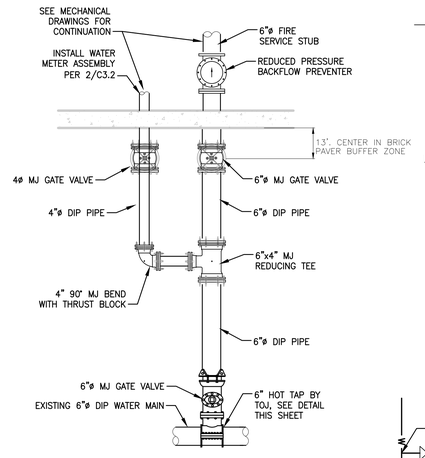


MINIMUM DIMENSIONS FOR THRUST BLOCKING										
FITTING SIZE	TEES & PLUGS		90° BENDS		45° BENDS & WYES		REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-8"	1'-8"	1'-8"	0'-10"	1'-7"	0'-6"	0'-6"	0'-6"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-3"	1'-8"	0'-10"	1'-0"	0'-6"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"	1'-9"	1'-6"	1'-0"	1'-0"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"	2'-2"	1'-11"	1'-6"	1'-0"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"	2'-7"	2'-3"	2'-0"	1'-0"
14"	5'-5"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"	3'-5"	2'-5"	2'-0"	1'-6"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"	3'-6"	3'-0"	3'-0"	2'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"	4'-6"	3'-0"	3'-0"	3'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"	4'-9"	4'-6"	3'-3"	3'-3"

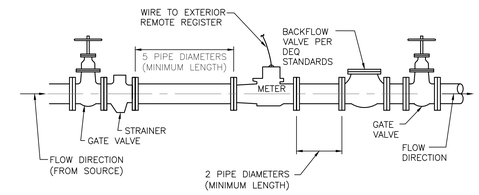


NOTES:
1. SIZE BLOCKS SHALL BE A MINIMUM OF 6" THICK.
2. ALL BLOCKING SHALL BEAR AGAINST UNDISTURBED MATERIAL.
3. DESIGN IS BASED ON 150 PSI MAIN PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
4. 4 MIL POLYETHELENE PLASTIC BOND BREAKER SHALL BE PROVIDED BETWEEN THRUST BLOCK AND WATER PIPE.

W-111 C3.2 — THRUST BLOCK DETAILS
TOJ STD DETAIL W-111 DATE: 1/16/13 SCALE: NTS



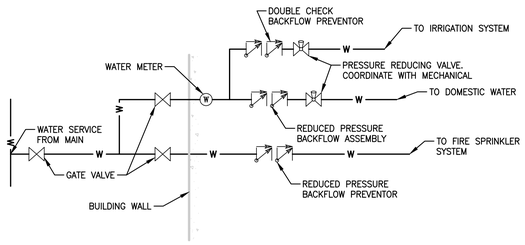
1 C3.2 — WATER SERVICE CONNECTION DETAIL



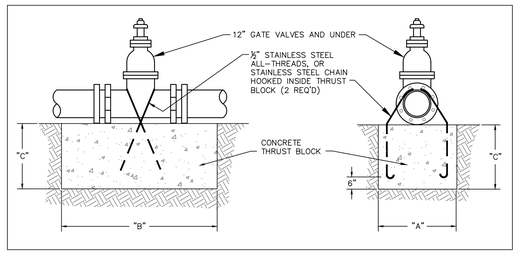
2" DIAMETER ASSEMBLY

NOTES:
1. SERVICE PIPE MATERIAL SHALL MEET ADOPTED PLUMBING CODE REQUIREMENTS.
2. METER SHALL BE INSTALLED IN HORIZONTAL ALIGNMENT ONLY.
3. CONNECTIONS WITHIN THE ASSEMBLY SHALL BE THREADED OR BOLTED FLANGED, AS APPROPRIATE.
4. METER SHALL BE PURCHASED FROM AND SUPPLIED BY THE TOWN OF JACKSON.

2 C3.2 — WATER METER INSTALLATION DETAIL



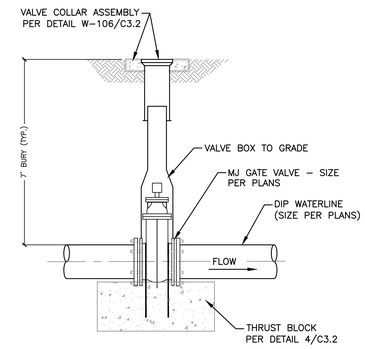
3 C3.2 — WATER SERVICE & FIRE ENTRY SCHEMATIC DETAIL



MINIMUM DIMENSIONS FOR THRUST BLOCKING – VALVES								
VALVE SIZE		6" & 8"	10"	12"	14"	16"	18" & 20"	24"
150 PSI	"A"	2'-0"	2'-6"	3'-0"	3'-5"	4'-4"	5'-5"	6'-5"
	"B"	2'-0"	2'-6"	3'-0"	3'-0"	3'-0"	3'-6"	4'-0"
	"C"	2'-0"	2'-0"	3'-0"	3'-0"	3'-0"	3'-6"	4'-0"

NOTES:
1. PRESSURES SHOWN ABOVE ARE MAXIMUM WORKING PRESSURE IN THE SYSTEM.
2. VALVES SHALL BE POLY WRAPPED PRIOR TO THE INSTALLATION OF THE THRUST BLOCK AND ANCHOR BOLTS.

4 C3.2 — MINIMUM VALVE THRUST BLOCK DIMENSIONS
Scale: N.T.S.



5 C3.2 — TYPICAL BURIED GATE VALVE
Scale: N.T.S.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

ISSUED DATE	ISSUED FOR
1 3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

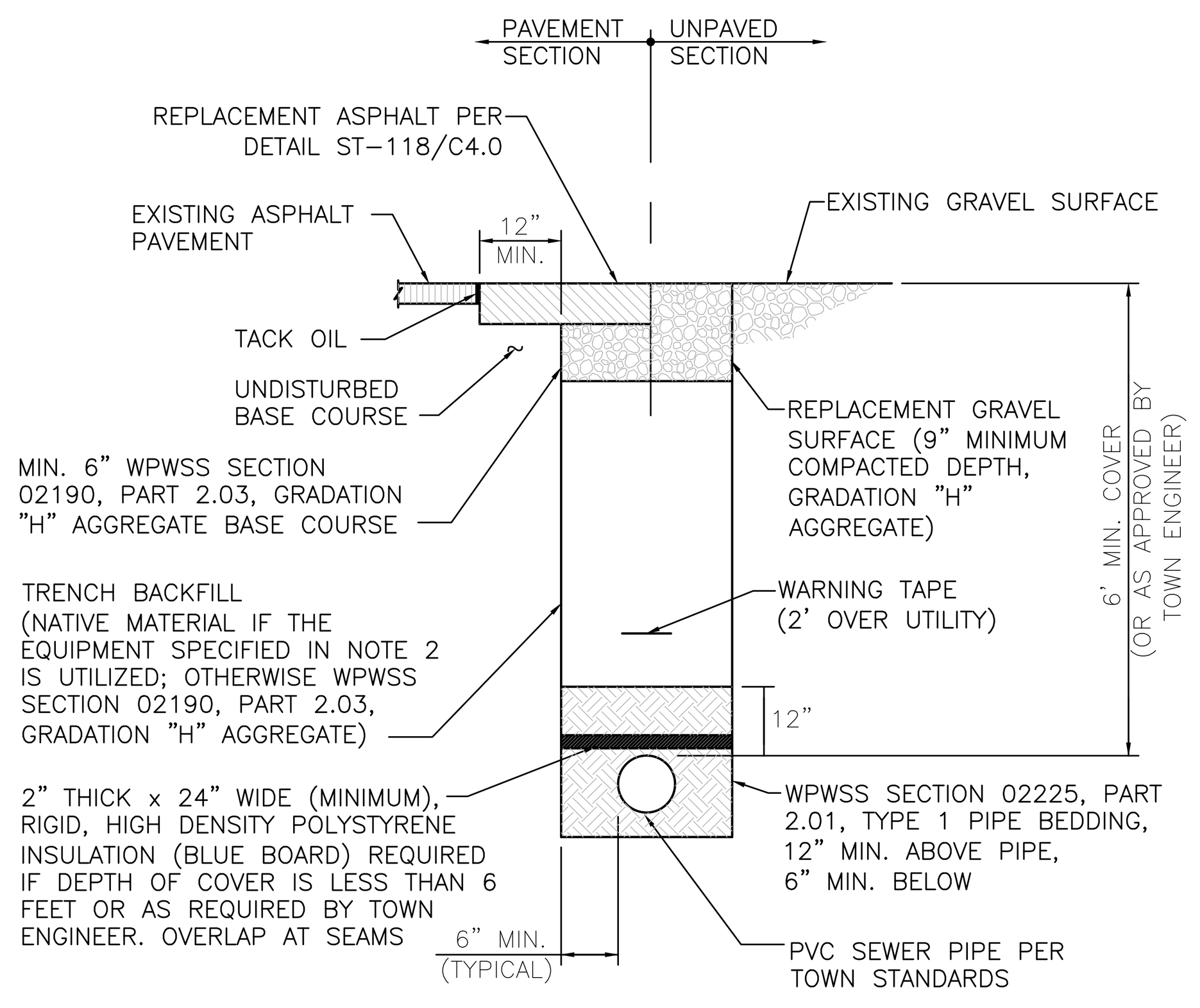
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.2

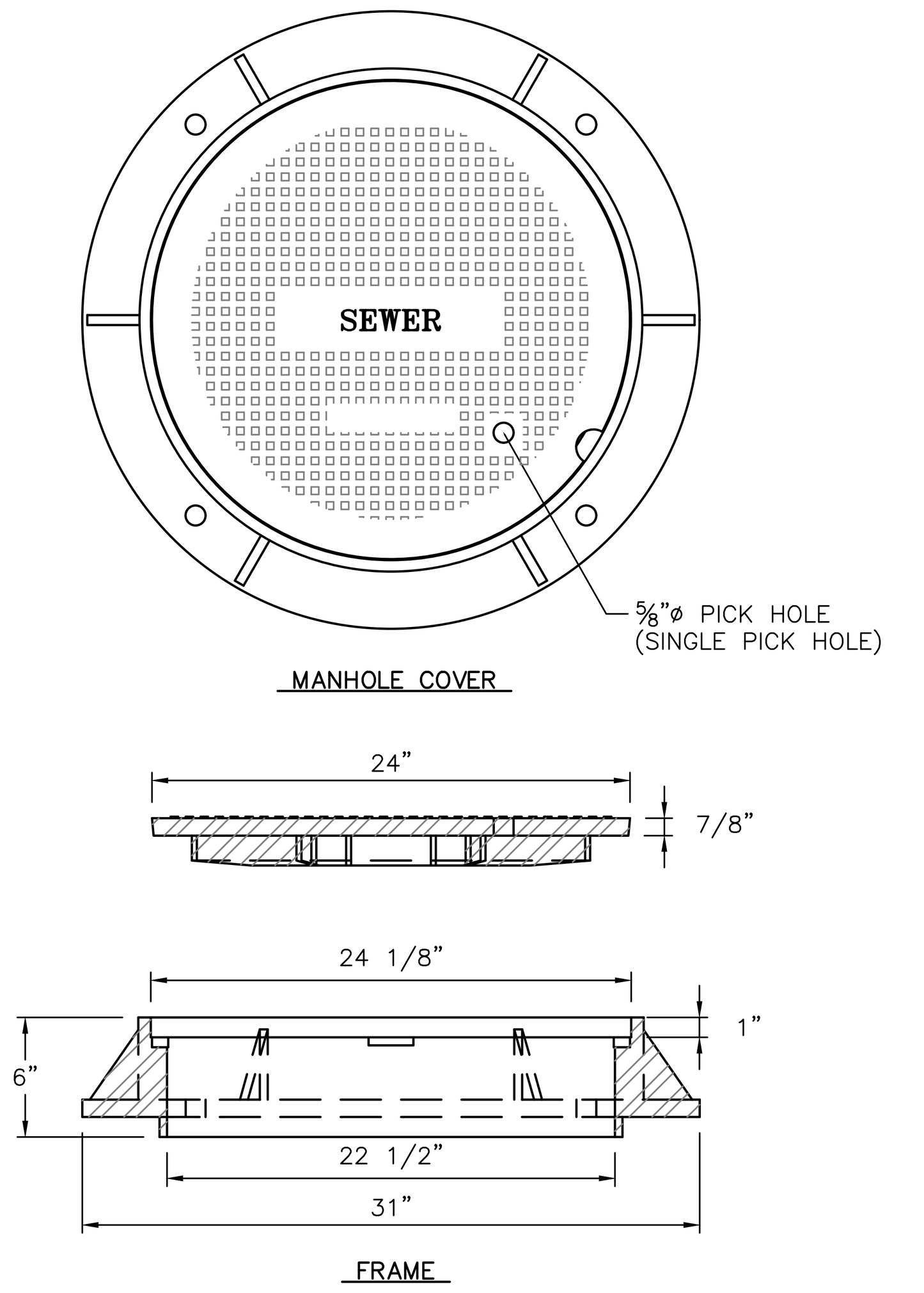
Drawing Name
WATER DETAILS



NOTES:
1. TRENCH BACKFILL BELOW THE SURFACE SHALL MEET THE FOLLOWING CRITERIA:
   - 95% MODIFIED PROCTOR DENSITY WITHIN STREET AND ALLEY RIGHTS-OF-WAY.
   - 90% MODIFIED PROCTOR DENSITY OUTSIDE STREET AND ALLEY RIGHTS-OF-WAY.
2. COMPACTION OF NATIVE TRENCH BACKFILL, WITH ALL ROCK LARGER THAN 6" REMOVED, SHALL BE CARRIED OUT IN 2' LIFTS WITH A HOE-PACK OR A VIBRATORY SHEEPS FOOT ROLLER (COMPACTION METHOD AND EQUIPMENT SHALL BE REVIEWED AND APPROVED BY TOWN ENGINEER PRIOR TO BACKFILLING).
3. PIPE BEDDING SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT.
4. UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
5. ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WOSHA) REGULATIONS.

SS-100 / C3.3 **SEWER MAIN & SERVICE TRENCH DETAIL**

SS-100 DATE: 1/10/13 SCALE: NTS

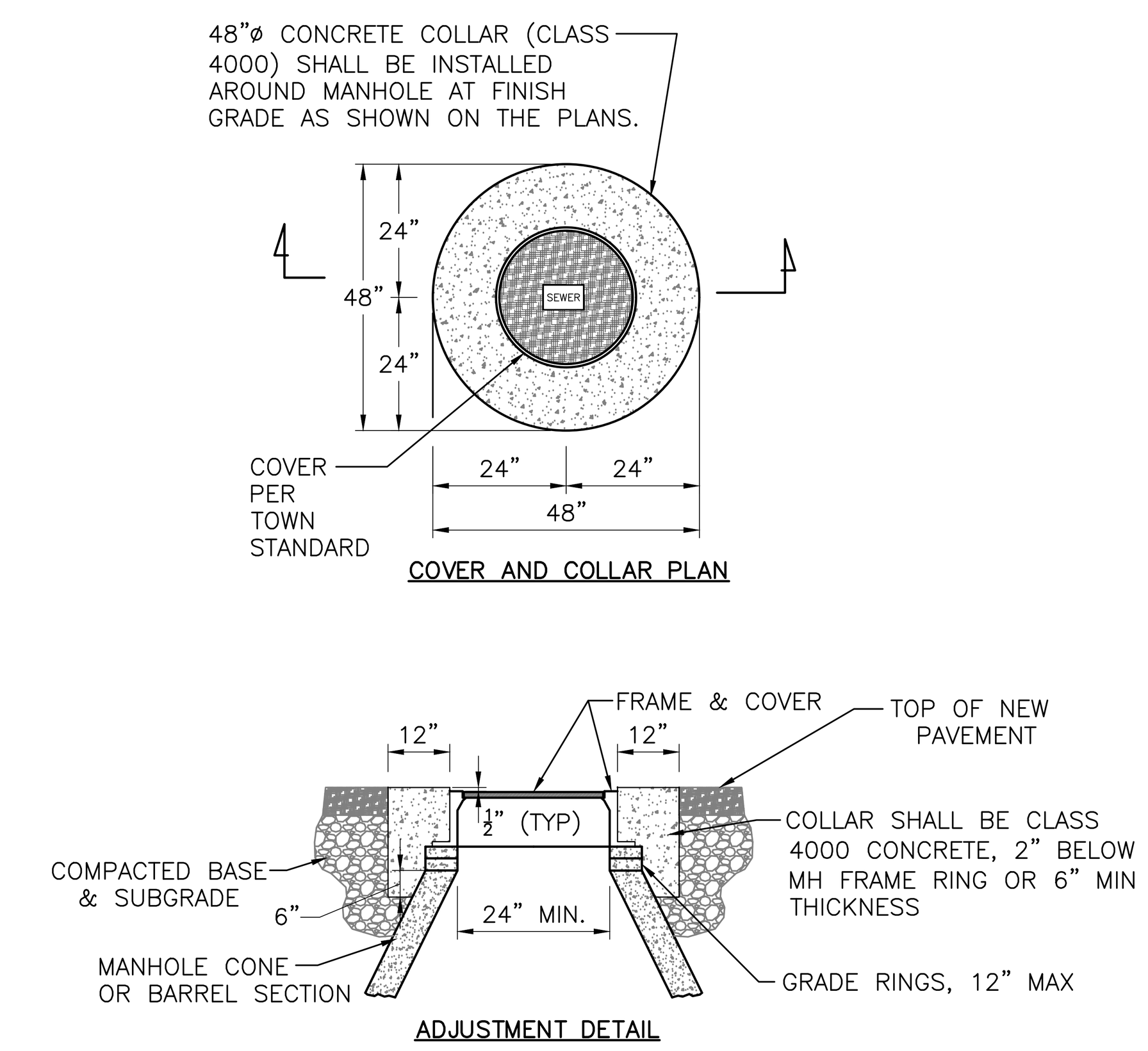


NOTES:
1. MANHOLE FRAME AND COVER SHALL BE MODEL NO. A-1055, AS MANUFACTURED BY D&L SUPPLY OF LINDON, UTAH, MODIFIED AS SHOWN, OR APPROVED SUBSTITUTE.
2. GREY IRON CONFORMS TO ASTM A-48, CLASS 35B. MEETS H-20 WHEEL LOAD.

SS-108 / C3.3 **SEWER MANHOLE FRAME & COVER**

TOJ STD DETAIL

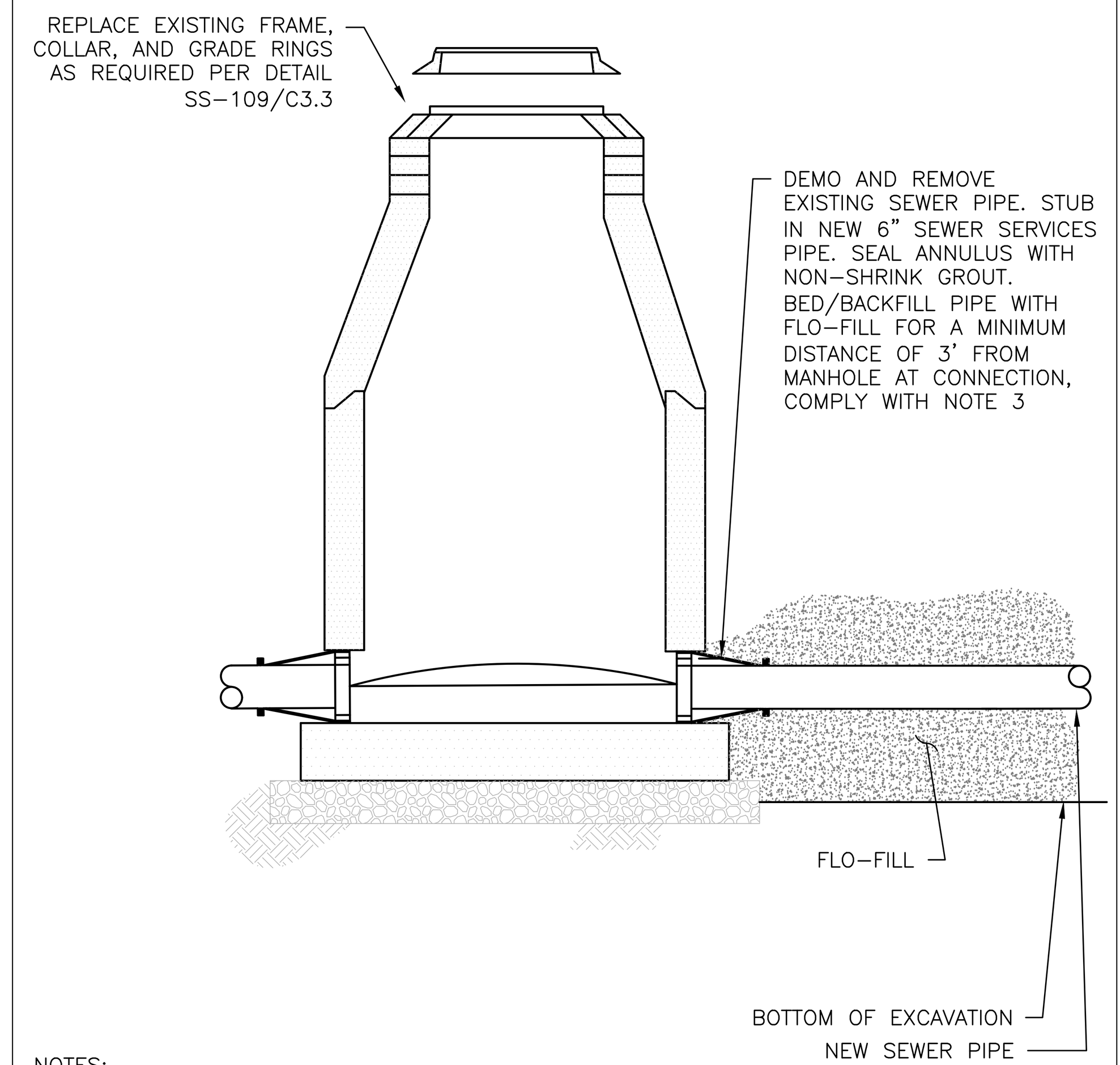
SS-108 DATE: 1/24/13 SCALE:



NOTES:
1. ADJUST MANHOLE UPWARD WITH ADJUSTING RINGS UNDER FRAME. ADJUST MANHOLE DOWNWARD BY REMOVING A PORTION OF THE MANHOLE RISER AND REBUILDING TO PROPER HEIGHT. SLOPE MANHOLE RING AS REQUIRED TO MATCH STREET GRADE AND CROSS SLOPE. MAKE FINAL MANHOLE ADJUSTMENT AFTER PAVING AND BEFORE SEAL COATING.
2. IF MANHOLE IS WITHIN UNPAVED AREA USE TAPERED COLLAR. SEE TOWN SANITARY SEWER DETAIL SS-110.

SS-109 / C3.3 **MANHOLE ADJUSTMENT & COLLAR DETAIL FOR ASPHALT SURFACES**

SS-109 DATE: 1/11/13 SCALE: NTS



NOTES:
1. ALL PIPES GOING INTO MANHOLE SHALL BE INSTALLED TO MATCH TOP OF PIPE CROWNS.
2. TROUGH DEPTH AT CENTER TO BE HALF THE DIAMETER OF THE PIPE.
3. BACKFILL OPERATIONS AT MAIN CONNECTION SHALL UTILIZE CEMENT TREATED FILL ("FLOWABLE FILL") CONFORMING TO WPWSS SECTION 02225, PART 2.01B.

1 / C3.3 **EXISTING MANHOLE NEW SERVICE CONNECTION DETAIL**

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue, Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

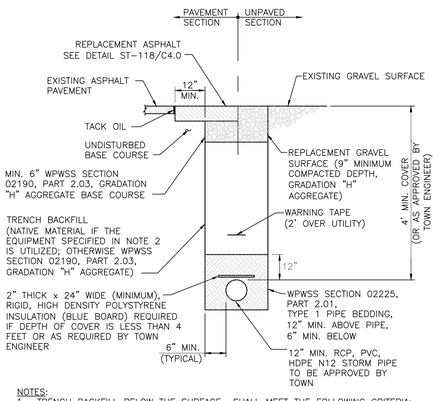
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.3

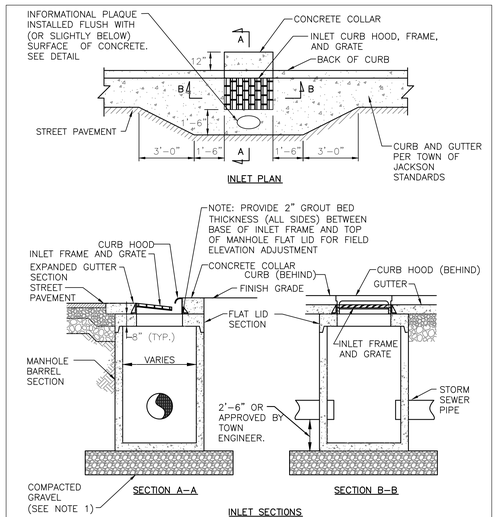
Drawing Name
SEWER DETAILS



NOTES:
1. TRENCH BACKFILL BELOW THE SURFACE SHALL MEET THE FOLLOWING CRITERIA:
   - 95% MODIFIED PROCTOR DENSITY WITHIN STREET AND ALLEY RIGHTS-OF-WAY.
   - 90% MODIFIED PROCTOR DENSITY OUTSIDE STREET AND ALLEY RIGHTS-OF-WAY.
2. COMPACTION OF NATIVE TRENCH BACKFILL, WITH ALL ROCK LARGER THAN 6" REMOVED, SHALL BE CARRIED OUT IN 2' LIFTS WITH A HOE-PACK OR A VIBRATORY SHEEPS FOOT ROLLER (COMPACTION METHOD AND EQUIPMENT SHALL BE REVIEWED AND APPROVED BY TOWN ENGINEER PRIOR TO BACKFILLING).
3. PIPE BEDDING SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT.
4. UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
5. ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WOSHA) REGULATIONS.

STM-100 C3.4 **STORM SEWER PIPE TRENCH**
TOJ STD DETAIL

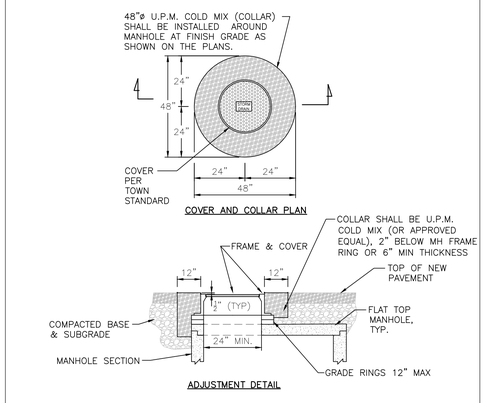
STM-100 DATE: 12/11/12
SCALE: NTS



NOTES:
1. GRAVEL SHALL BE EIGHT INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, PART 2.03, GRADING H, AND BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
2. IN LOCATION WHERE CURB INLET IS INSTALLED IN A CURB CUT LOCATION, UTILIZE A CATCH BASIN GRATE WITH NO HOOD.

STM-101 C3.4 **CURB INLET DETAILS**
TOJ STD DETAIL

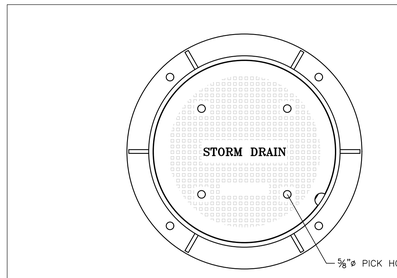
STM-101 DATE:
SCALE: NTS



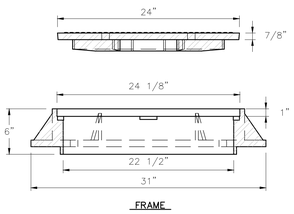
NOTES:
1. ADJUST MANHOLE UPWARD WITH ADJUSTING RINGS UNDER FRAME. ADJUST MANHOLE DOWNWARD BY REMOVING A PORTION OF THE MANHOLE RISER AND REBUILDING TO PROPER HEIGHT. SLOPE MANHOLE RING AS REQUIRED TO MATCH STREET GRADE AND CROSS SLOPE. MAKE FINAL MANHOLE ADJUSTMENT AFTER PAVING AND BEFORE SEAL COATING.
2. IF STORM DRAIN IS WITHIN UNPAVED AREA USE TAPERED COLLAR. SEE TOWN SANITARY SEWER DETAIL SS-110.

STM-103 C3.4 **STORM DRAIN MH ADJUSTMENT**

STM-103 DATE: 12/12/12
SCALE: NTS



MANHOLE COVER

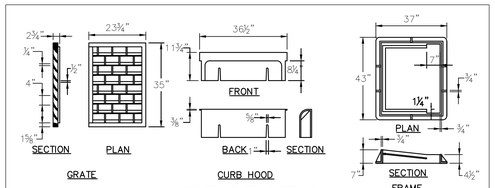


FRAME

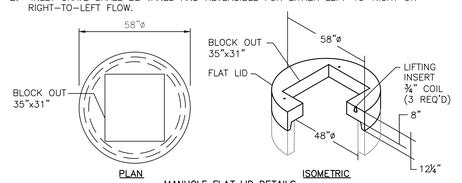
NOTES:
1. MANHOLE FRAME AND COVER SHALL BE MODEL NO. A-1055, AS MANUFACTURED BY D&L SUPPLY OF LINDON, UTAH, MODIFIED AS SHOWN, OR APPROVED SUBSTITUTE.
2. GREY IRON CONFORMS TO ASTM A-48, CLASS 35B. MEETS H-20 WHEEL LOAD.

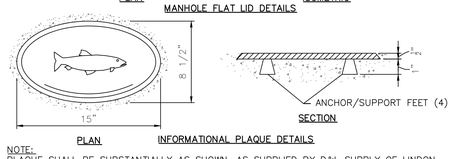
STM-104 C3.4 **STORM DRAIN MANHOLE FRAME AND COVER**

STM-104 DATE: 12/17/12
SCALE: NTS



NOTE:
1. INLET GRATE AND FRAME SHALL BE MODEL NO. I-3520, AS MANUFACTURED BY D&L SUPPLY OF LINDON, UTAH, OR APPROVED SUBSTITUTE.
2. INLET GRATE SHALL BE VANED AND REVERSIBLE FOR EITHER LEFT-TO-RIGHT OR RIGHT-TO-LEFT FLOW.

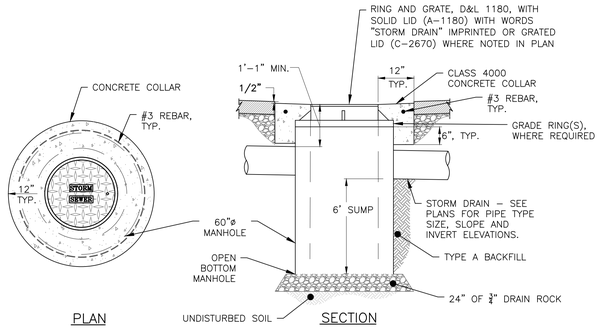




NOTE:
PLAQUE SHALL BE SUBSTANTIALLY AS SHOWN, AS SUPPLIED BY D&L SUPPLY OF LINDON, UTAH, OR APPROVED SUBSTITUTE.

STM-105 C3.4 **FRAME GRATE AND PLAQUE DETAILS**
TOJ STD DETAIL

STM-105 DATE:
SCALE: NTS



NOTES:
1. PROVIDE 0.1' DROP FROM INLET AND OUTLET PIPES.
2. MATCH PIPE INVERTS CALLED OUT IN PLAN.
3. TRENCH BACKFILL SHALL BE TYPE A FOR ALL STORM DRAIN WORK.

1 C3.4 **48"Ø STORM SEWER MANHOLE**

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

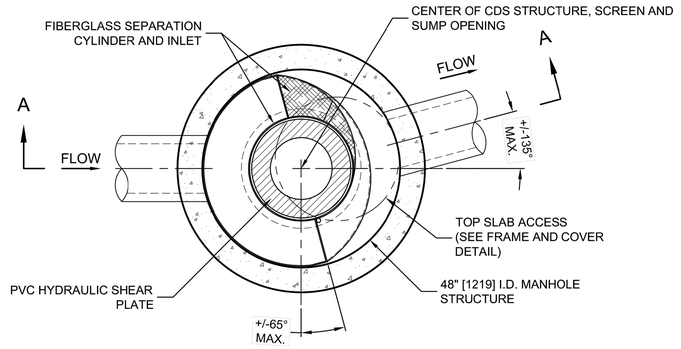
PROFESSIONAL SEAL

Project
Millward Street Apartments

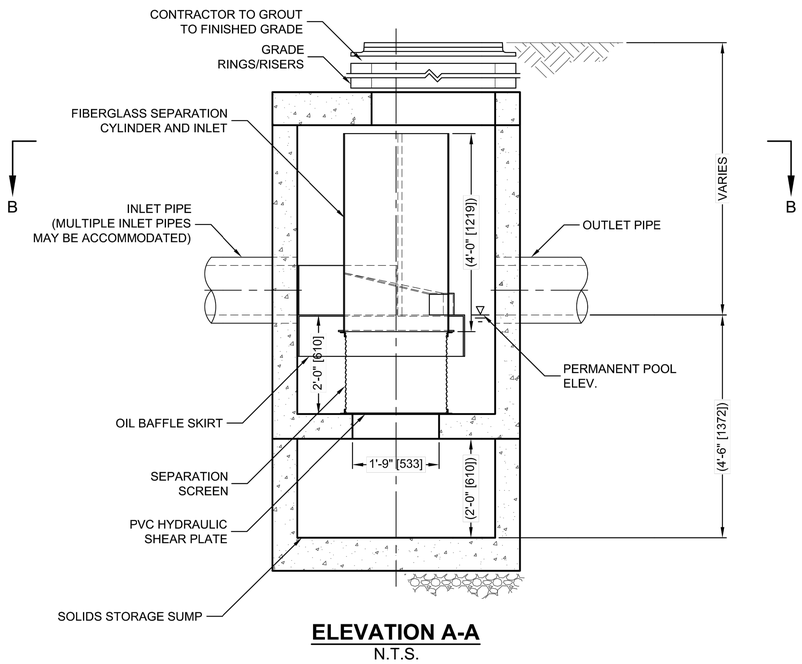
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.4

Drawing Name
STORM DETAILS



PLAN VIEW B-B
N.T.S.



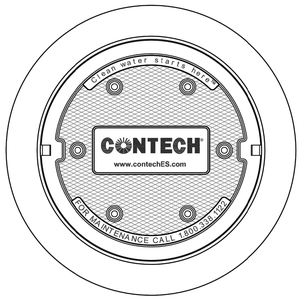
ELEVATION A-A
N.T.S.

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,793; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING

CDS2015-4-C DESIGN NOTES

THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2015-4-C
INLINE CDS
STANDARD DETAIL

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

PROFESSIONAL SEAL

Project
Millward Street Apartments

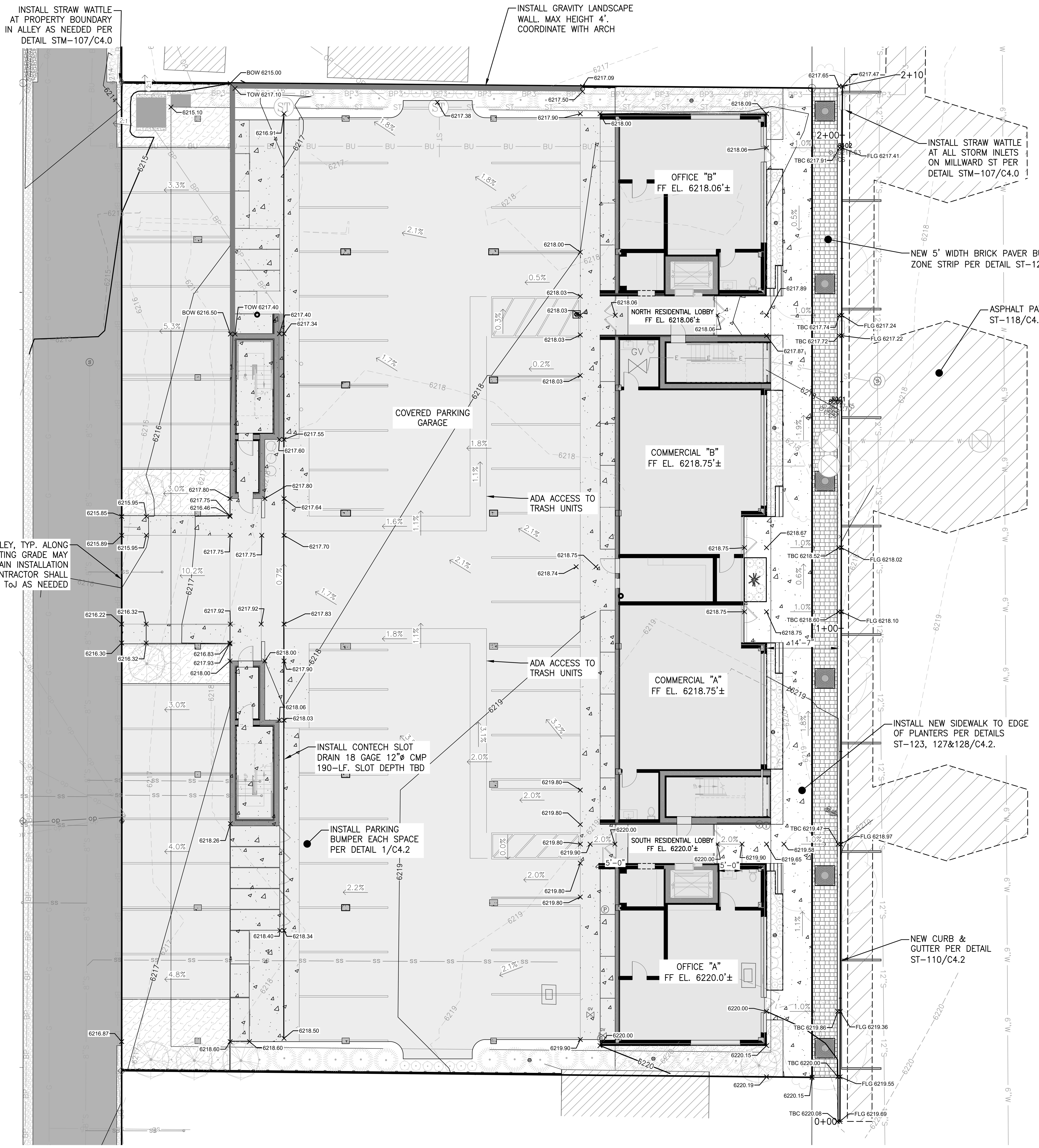
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C3.5

Drawing Name
CONTECH CASCADE SYSTEM DETAIL

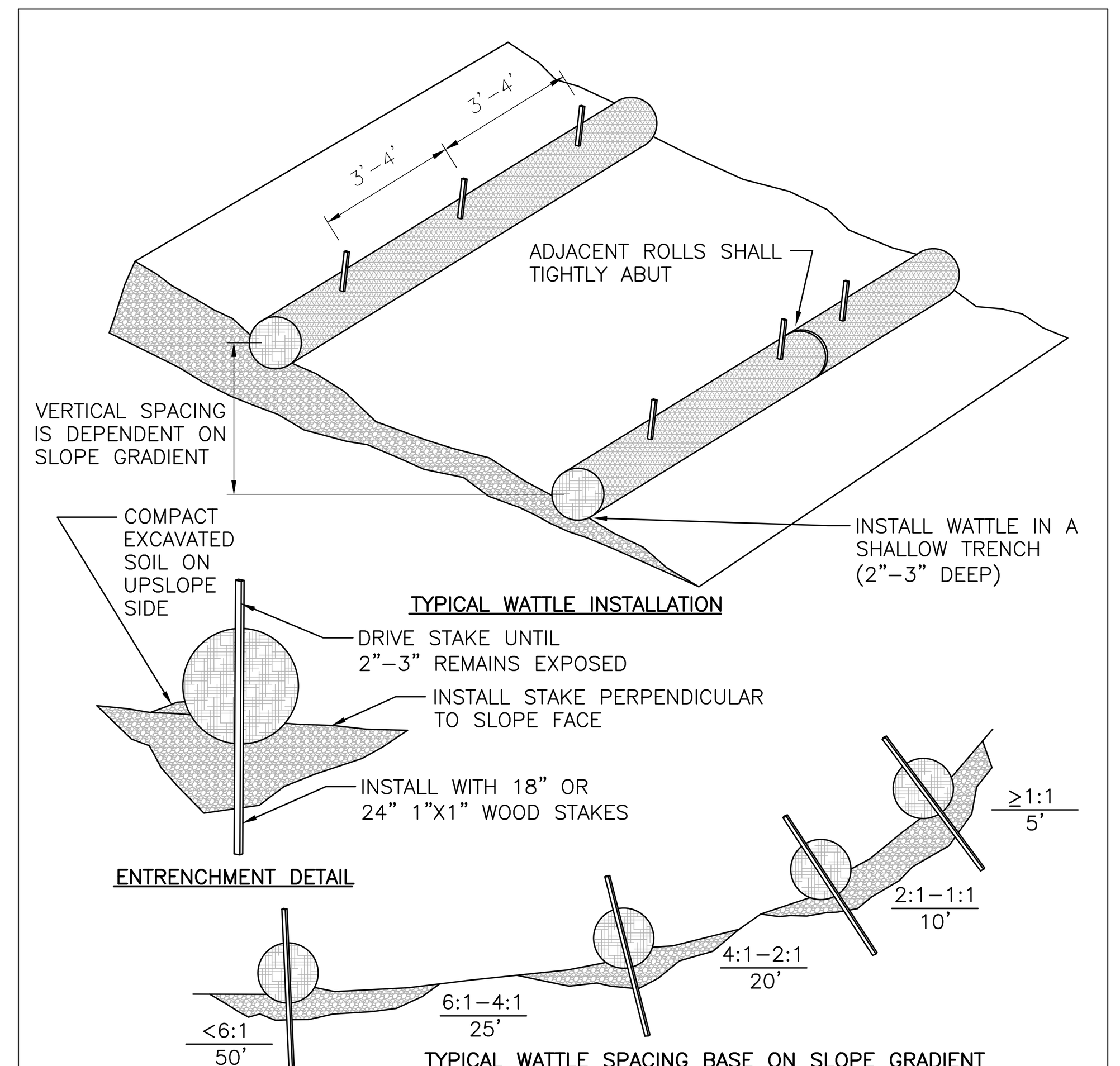
C:\USERS\SCHLACHTERHDESKTOP\CDS DETAILS 180 MICRON SIZING\ACAD\CDS2015-4-C-DTL.DWG 5/19/2014 5:16 PM

S:\Proj\2022\220-02 245 & 265 N Millward St. Workforce Housing - Geotech & Civil\Civil Drawings\Civil\220202_UTL_ESDAdwg [CONTECH CASCADE SYSTEM DETAIL] - Mar 08 2023 10:25:25 am PLOTTED BY dson DWG FORMAT: 24X



GRADING AND EROSION CONTROL PLAN

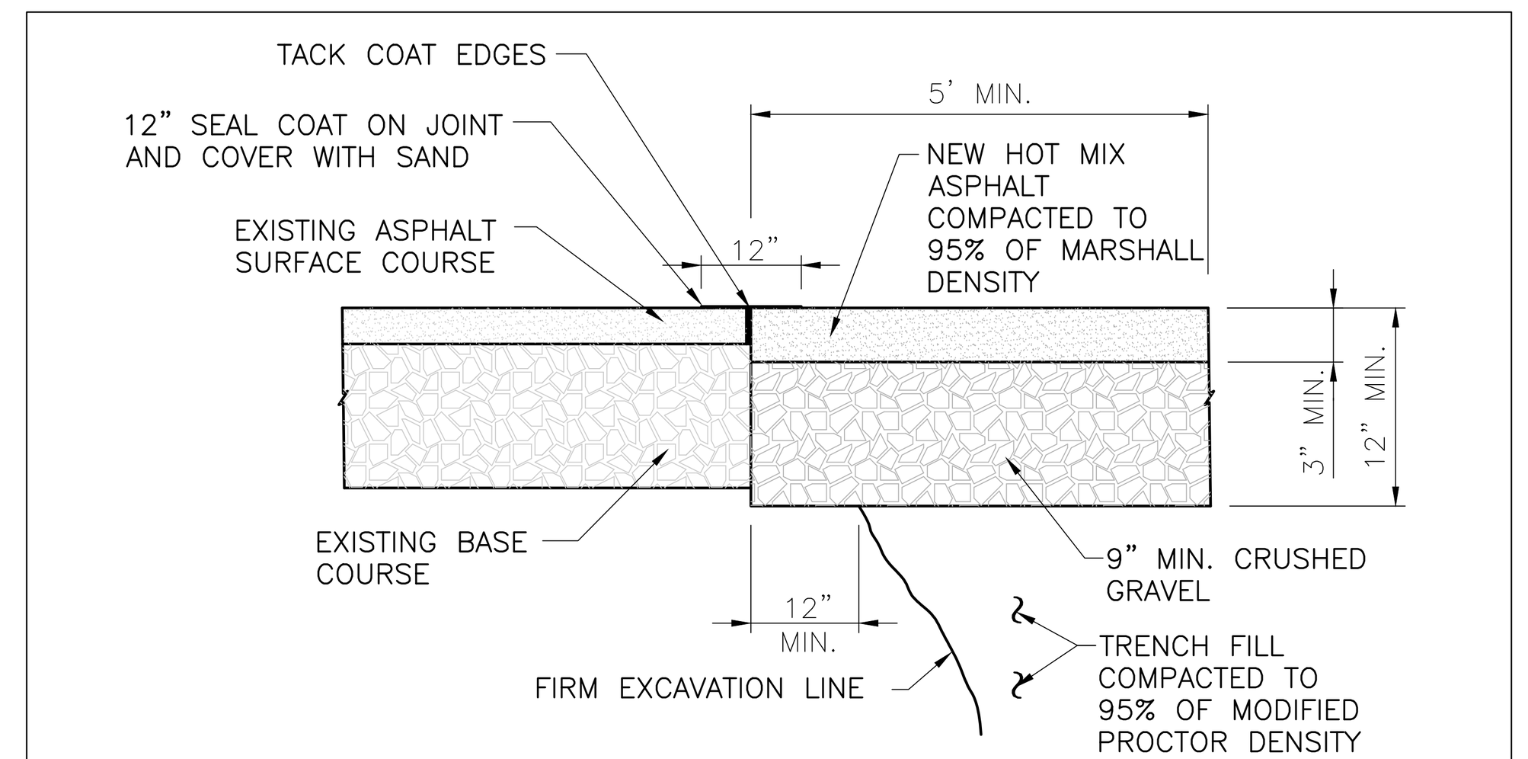
0 10 20



NOTE:
1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2"-3" DEEP BY 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18"-24" STAKES EVERY 3'-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
4. EROSION CONTROL PLAN AND LOCATION OF STRAW WATTLES SHALL BE APPROVED BY THE TOJ PUBLIC WORKS DEPARTMENT.

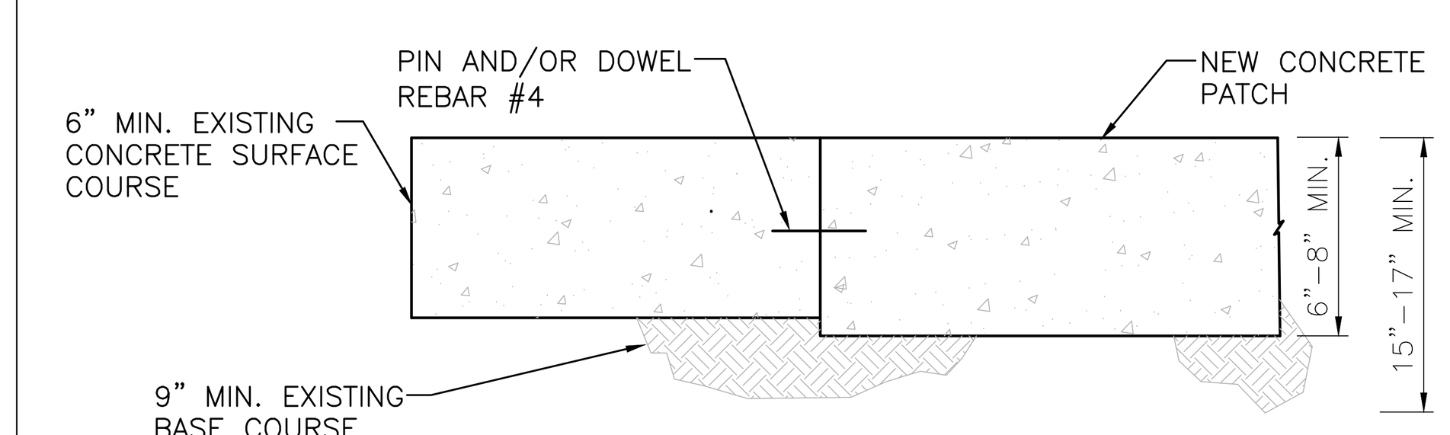
STM-107 / C4.0 **STRAW WATTLE DETAILS**

STM-107 DATE: 1/21/13
SCALE: NTS



BITUMINOUS MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF SECTION 02545 BITUMINOUS MATERIALS OF WYOMING PUBLIC WORKS STANDARDS AND SPECIFICATIONS

ASPHALT PATCH REPAIR DETAIL



CONCRETE PATCH REPAIR DETAIL

NOTES:
1. REPLACEMENT ASPHALT THICKNESS SHALL BE 1" GREATER THAN EXISTING AND NO LESS THAN 3" MINIMUM.
2. ASPHALT SHALL BE PLACED IN TWO (2) LIFTS, EACH NO LESS THAN 1½" IN THICKNESS, AND COMPACTED TO 95% OF MARSHALL DENSITY.
3. PORTLAND CEMENT CONCRETE PAVEMENT SHALL MEET APPLICABLE REQUIREMENTS OF SECTION 02520, 02776 AND 03304 AS DIRECTED BY TOWN PUBLIC WORKS DEPARTMENT.

ST-118 / C4.0 **PATCH REPAIR SECTION**
TOJ STD DETAIL

ST-118 DATE:
SCALE:

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

ISSUED DATE		ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

PROFESSIONAL SEAL

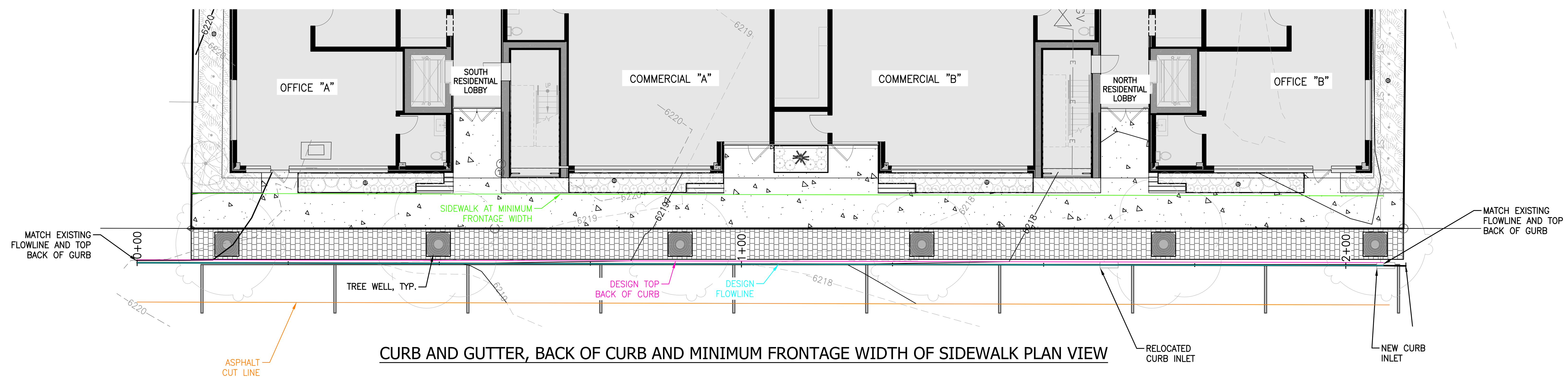
Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

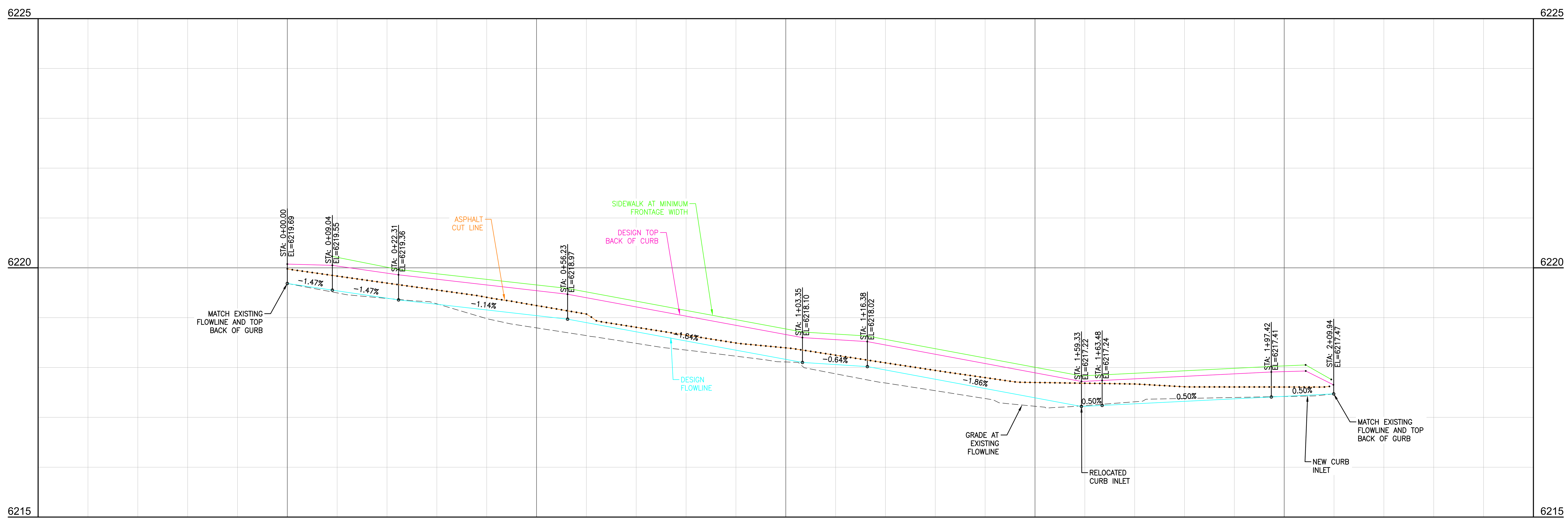
2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No.

C4.0

Drawing Name
GRADING AND EROSION CONTROL PLAN



CURB AND GUTTER, BACK OF CURB AND MINIMUM FRONTAGE WIDTH OF SIDEWALK PLAN VIEW



CURB AND GUTTER, BACK OF CURB AND MINIMUM FRONTAGE WIDTH OF SIDEWALK PROFILE

SCALES:
1"=10' HOR.
1"=2' VER.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

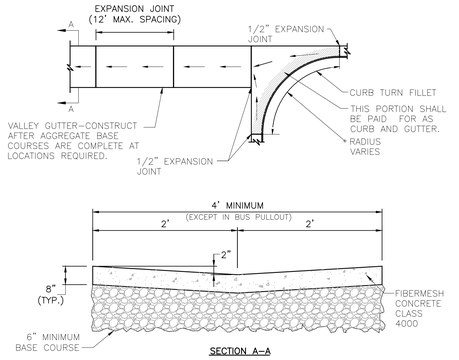
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C4.1

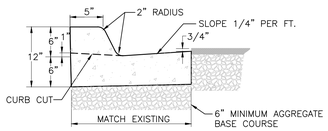
Drawing Name
CURB AND GUTTER P&P



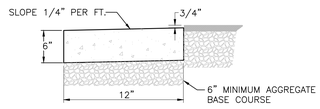
SECTION A–A

NOTES:
1. VALLEY GUTTERS AND CURB TURN FILLETS SHALL CONFORM TO WPWSS SECTION 02528, EXCEPT THAT PORTLAND CEMENT CONCRETE SHALL BE FIBERMESH CLASS 4000 CONCRETE CONFORMING WITH WPWSS SECTION 03304, PART 2.08.
2. AGGREGATE BASE COURSE SHALL BE SIX INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, PART 2.03, GRADING H, AND BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
3. REMOVAL AND REPLACEMENT OF VALLEY GUTTER SHALL TAKE PLACE IN FULL PANELS.
4. CURB AND GUTTER SECTION SHALL BE POURED SEPARATE OF VALLEY PAN AS WELL AS PEDESTRIAN RAMP AND/OR SIDEWALK.

ST-109 / C4.2 — VALLEY GUTTER & CURB TURN FILLET — TOJ STD DETAIL — ST-109 — DATE: — SCALE:



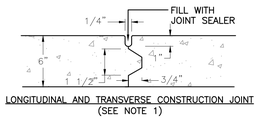
VERTICAL CURB



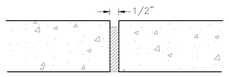
RIBBON CURB

NOTES:
1. CURBS SHALL CONFORM TO WPWSS SECTION 02525, EXCEPT THAT PORTLAND CEMENT CONCRETE SHALL BE FIBERMESH-REINFORCED CLASS 4000 CONCRETE CONFORMING WITH WPWSS SECTION 03304, PART 2.07.
2. AGGREGATE BASE COURSE SHALL BE SIX INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, PART 2.03, GRADING H, AND BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
3. REMOVAL AND REPLACEMENT OF CURB SHALL TAKE PLACE IN FULL PANELS.
4. ROLL CURB SHALL NOT BE ALLOWED.

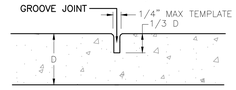
ST-110 / C4.2 — CURB SECTION DETAIL — TOJ STD DETAIL — ST-110 DATE: 12/4/12 — SCALE: NTS



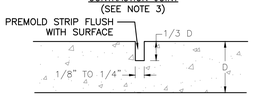
LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINT
(SEE NOTE 1)



EXPANSION JOINT
(SEE NOTE 2)



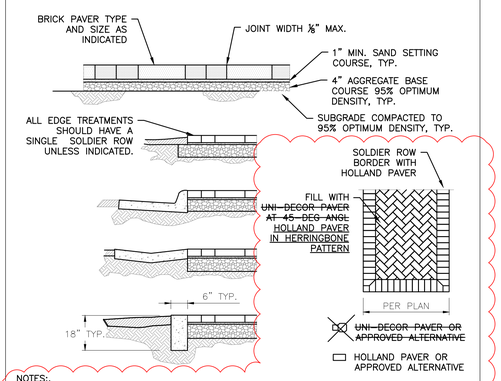
CONTRACTION JOINT
(SEE NOTE 3)



SAWED OR PREMOLDED STRIP LONGITUDINAL OR TRANSVERSE JOINT

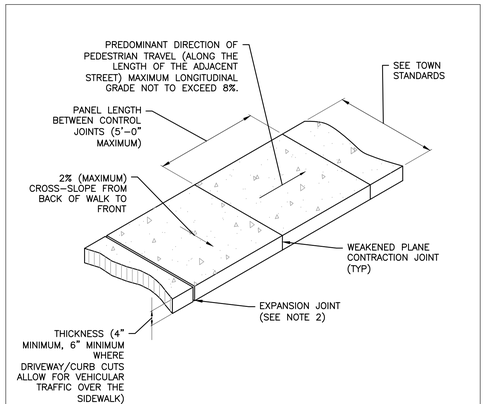
NOTE:
1. KEYWAY FORMED BY FASTENING METAL KEY TO FORM.
2. ½" PREMOLDED NON-EXTRUDING EXPANSION JOINT MATERIAL TO MEET AASHTO M-59. EXPANSION MATERIAL SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURES SUCH AS INLETS AND DRIVEWAYS, AND EVERY 300' ON LONG STRAIGHT CONCRETE STRETCHES.
3. FORM WITH TEMPLATE OR SAWCUT JOINTS. IF SAWCUT JOINTS ARE USED, THEY SHALL BEGIN AS SOON AS CONCRETE IS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS. MINIMUM DISTANCE BETWEEN JOINTS IS 5'.
4. JOINT LAYOUT FOR CONCRETE STREETS IS TO BE SUBMITTED TO THE TOWN ENGINEER FOR APPROVAL.

ST-123 / C4.2 — PAVING & CONCRETE JOINT DETAILS — TOJ STD DETAIL — ST-123 DATE: 12/6/12 — SCALE: NTS



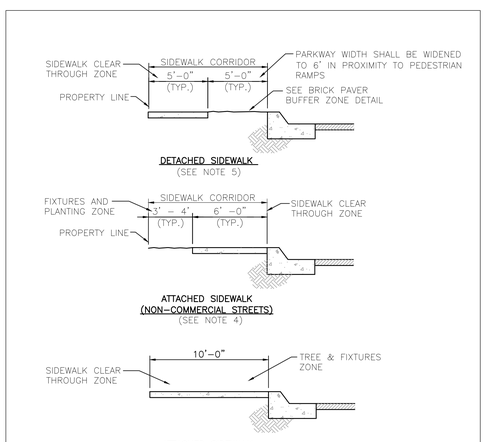
NOTES:
1. BRICK PAVERS ~~COMPRISING THE SOLDIER ROW WITHIN~~ UTILIZED IN THE BUFFER ZONE SHALL BE HOLLAND PAVERS MANUFACTURED BY ~~ANCHOR BLOCK COMPANY~~ MUTUAL MATERIALS. PAVERS SHALL BE 60 mm (2⅜") THICK WITH A WEIGHT OF 6 LBS PER PAVER. COLOR SHALL BE ~~CHARCOAL/TAN~~ RUSTIC BLEND.
2. ~~BRICK PAVERS UTILIZED IN THE BUFFER ZONE BETWEEN SOLDIER ROWS SHALL BE UNI-DEcor MANUFACTURED BY UNI-GROUP USA. PAVERS SHALL BE 2⅜" THICK. COLOR SHALL BE DEACON HILL BLEND.~~
3. CONCRETE EDGE TREATMENTS INCLUDE CURB AND GUTTER, CONCRETE SIDEWALK AND CONCRETE BANDS. CONCRETE SHALL BE REINFORCED WITH FIBROUS CONCRETE REINFORCING AT THE RATE OF 1.5 LB/CY.
4. PAVERS, ASPHALT OR OTHER HARD PAVING SURFACES SHALL BE FLUSH WITH THE TOP OF CONCRETE EDGES.
5. BASE AND SUBGRADE COMPACTION TO BE 95% OPTIMUM DENSITY.
6. UNIT PAVERS AND EDGE TREATMENTS SHALL BE APPROVED BY THE TOWN'S PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION.

ST-124 / C4.2 — BUFFER ZONE BRICK PAVER INSTALLATION DETAILS — ST-124 DATE: 12/5/12 — SCALE: NTS



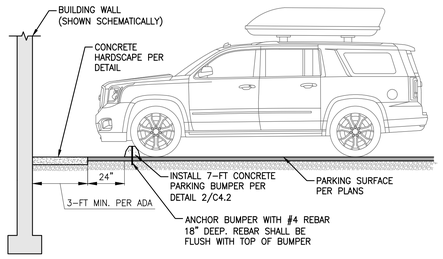
NOTES:
1. SIDEWALK SHALL CONFORM TO ALL APPLICABLE ADA STANDARD REQUIREMENTS SIDEWALKS SHALL CONFORM TO WPWSS SECTION 02776, EXCEPT THAT PORTLAND CEMENT CONCRETE SHALL BE FIBERMESH-REINFORCED CLASS 4000 CONCRETE CONFORMING WITH WPWSS SECTION 03304, PART 2.07.
2. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALK AT THE SAME LOCATIONS AS THOSE IN CURB AND GUTTER WHEN SIDEWALK IS ADJACENT TO CURB. (PER WPWSS SECTION 03251, PART 3.04 SPACING SHALL NOT EXCEED 32'-0" ON CENTER.)
3. FOR SIDEWALKS GREATER THAN SIX FEET IN WIDTH, A LONGITUDINAL CONTROL JOINT SHALL BE INSTALLED AT THE CENTER OF THE WALK.
4. REMOVAL AND REPLACEMENT OF SIDEWALK SHALL TAKE PLACE IN FULL PANELS.
5. AGGREGATE BASE COURSE SHALL BE FOUR INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, PART 2.03, GRADING H, AND BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.

ST-127 / C4.2 — CONCRETE SIDEWALK — TOJ STD DETAIL — ST-127 DATE: 12/7/12 — SCALE: NTS

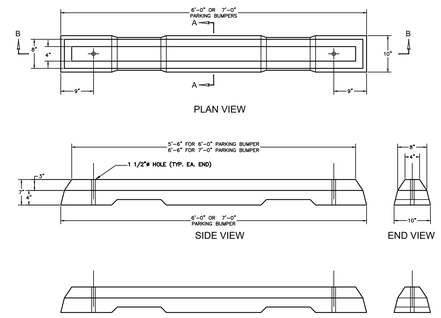


NOTES:
1. SIDEWALKS SHALL CONFORM TO ALL APPLICABLE ADA STANDARD REQUIREMENTS
2. SIDEWALK, PEDESTRIAN RAMPS AND CURB & GUTTER CONSTRUCTION SHALL BE PER
3. TOWN STANDARDS
   WITHIN THE TOWN'S BOARDWALK DISTRICT, BOARDWALK (RATHER THAN SIDEWALK) SHALL
4. BE INSTALLED.
5. MINIMUM CLEARANCE AROUND ALL OBSTRUCTIONS SHALL BE 5'-0".
6. ON NON-COMMERCIAL STREETS DETACHED SIDEWALK SHALL BE THE PREFERRED OPTION. IN ORDER TO MAINTAIN THE CLEAR THROUGH ZONE, THE FIXTURES ZONE SHALL BE WHERE FIRE HYDRANTS, UTILITY POLES, GUY WIRES, PULL BOXES, NEWSPAPER BOXES, PHONE BOOTHS, AND OTHER SUCH OBSTRUCTIONS ARE LOCATED.

ST-128 / C4.2 — SIDEWALK CORRIDOR — TOJ STD DETAIL — ST-128 DATE: — SCALE:



1 / C4.2 — PARKING BUMPER INSTALLATION DETAIL — SCALE: N.T.S.



7'-0" PARKING BUMPER WT.= 328 LBS.
6'-0" PARKING BUMPER WT.= 280 LBS.

SECTION A-A

SECTION B-B

2 / C4.2 — PARKING BUMPER DETAIL — SCALE: NTS

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

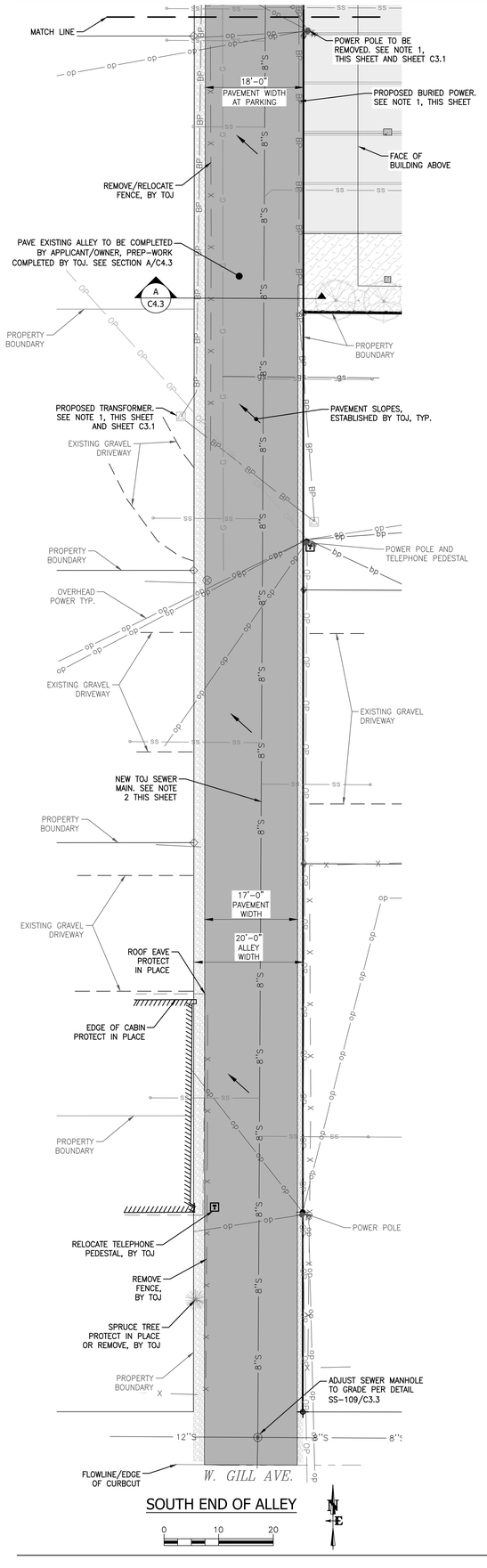
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

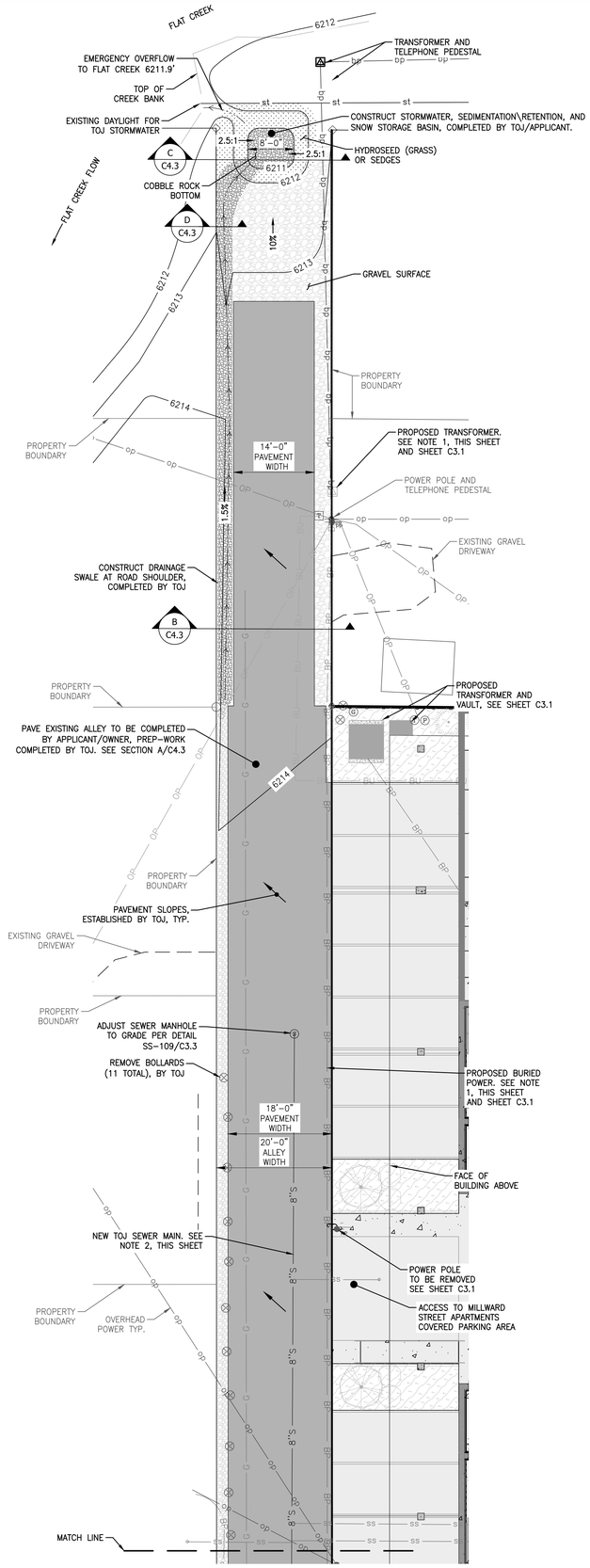
2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C4.2

Drawing Name
GRADING DETAILS



SOUTH END OF ALLEY

0 10 20



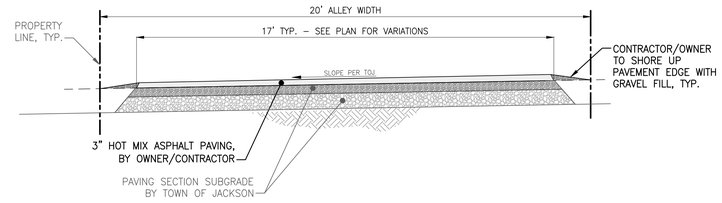
NORTH END OF ALLEY

0 10 20

NOTES:

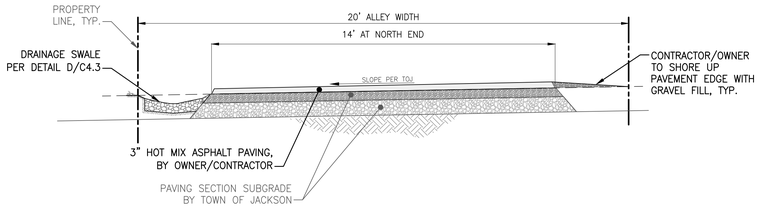
1. CONTRACTOR SHALL MAKE ALL POWER UTILITY RELOCATIONS/ MODIFICATIONS WITHIN THE ALLEY PRIOR TO PAVING AND SUBSEQUENT TO SEWER INSTALLATION.

2. TOJ IS PLANNING TO REPLACE THE SEWER MAIN IN THE ALLEY PRIOR TO PAVING BY APPLICANT/OWNER. CONTRACTOR/OWNER SHALL COORDINATE FINAL PAVING ACTIVITIES WITH THE TOWN OF JACKSON PUBLIC WORKS FOLLOWING SEWER REPLACEMENT.



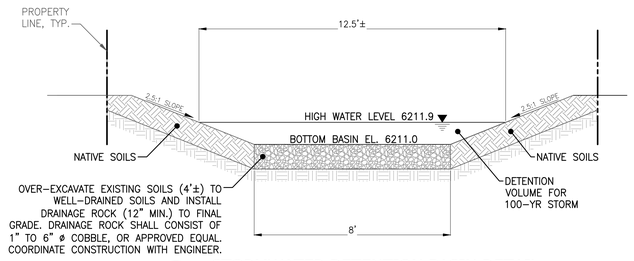
A C4.3 TYPICAL DRIVEWAY SECTION

SCALE: N.T.S.



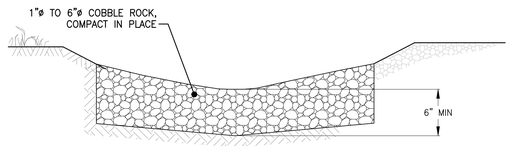
B C4.3 DRIVEWAY SECTION AT NORTH END

SCALE: N.T.S.



C C4.3 STORMWATER DETENTION BASIN DETAIL

SCALE: N.T.S.



CROSS SECTION

D C4.3 SWALE CROSS SECTION

SCALE: NTS

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	3/8/2023	FDP RESUBMITTAL

PROFESSIONAL SEAL

Project
Millward Street Apartments

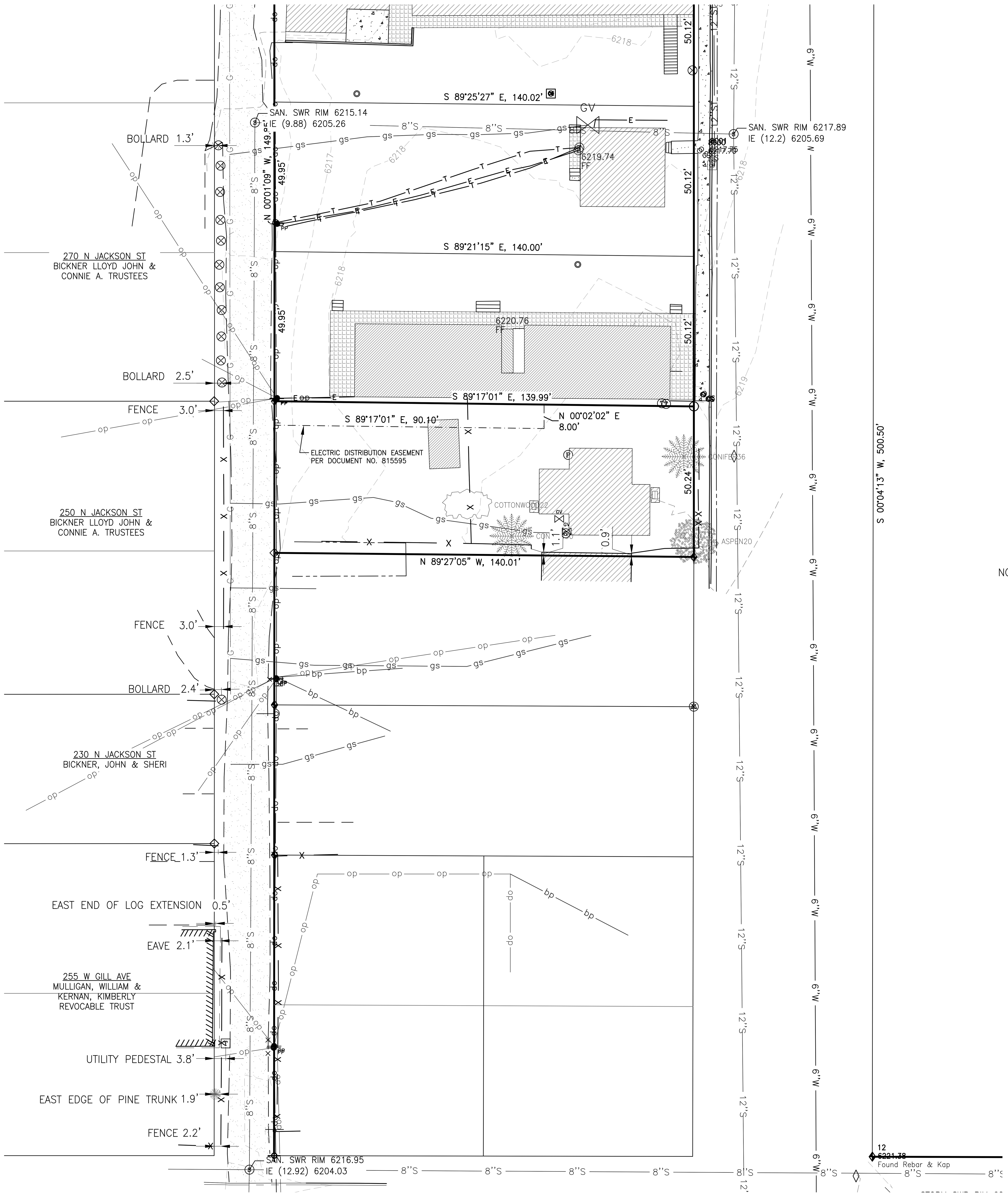
245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. C4.3

Drawing Name
ALLEY DEVELOPMENT PLAN

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

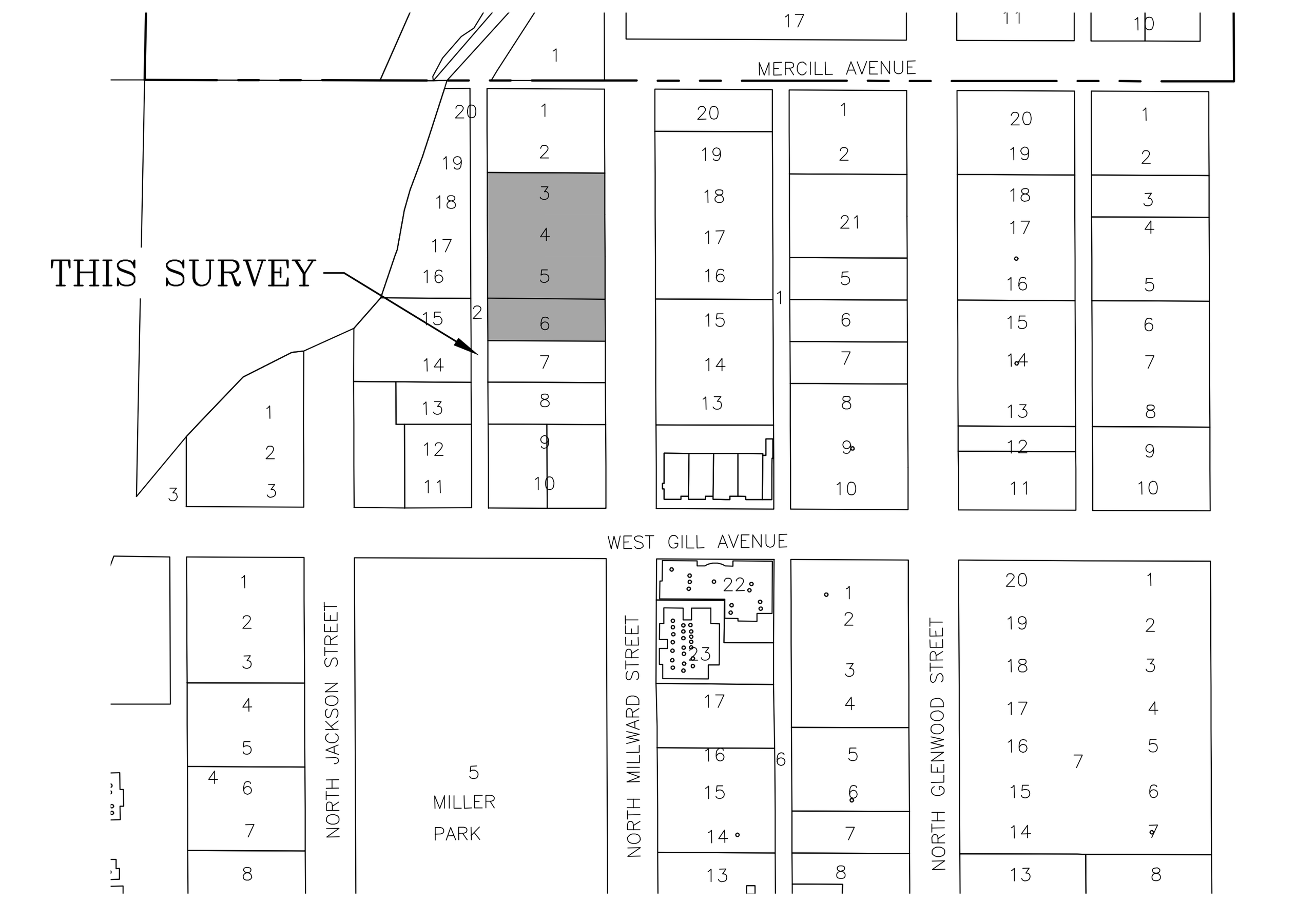
EXISTING ALLEY SITE PLAN



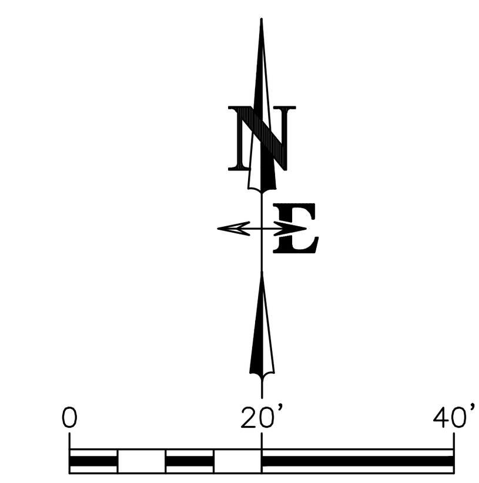
NOTE:
THIS MAP WAS PREPARED WITHOUT BENEFIT OF TITLE REPORT AND IS SUBJECT TO ANY OTHER EASEMENTS, RESTRICTIONS, RESERVATIONS, RIGHTS-OF-WAY, AND CONDITIONS OF SIGHT AND/OR OF RECORD INCLUDING, BUT NOT LIMITED, TO THOSE SHOWN HEREON;

BUILDING SETBACKS PER TOJ CR-2 COMMERCIAL RESIDENTIAL ZONE

0-10' PRIMARY STREET
0-10' SECONDARY STREET
5' SIDE INTERIOR
10' REAR
10' ABUTTING PROTECTED ZONE



VICINITY MAP
PT. SE1/4 SE1/4
SECTION 28
T41N, R116W 6TH P.M.
TOWN OF JACKSON
TETON COUNTY, WY



Vertical datum based on NAVD88 (geoid12b), derived from network gps observations.

NOTE:

- The site survey represented on this map show conditions determined by a field survey made on January 26, 2023 with 12 – 18 inches of snow on the ground and may not reflect changes made subsequent to that date.
- The map was prepared without benefit of a Title Report and is subject to any other Easements, Restrictions, Reservations, Rights-of-Way, and Conditions of sight and/or of record including, but not limited to, those shown hereon.
- Site development setbacks and building setbacks shall be verified with the planning department in the authority having jurisdiction prior to planning any development. It is also to be understood that other applicable codes, restrictions, covenants and regulations applicable to development and use should be determined prior to planning any development as these are not shown on this mapping.
- Underground utility locates were not completed for the purposes of this survey; however, some private utilities were marked for other purposes at the time of fieldwork. Nelson Engineering picked up all present paint markings, but these markings are incomplete and only represent portions of the property. Other underground utilities may exist.

LEGEND

= PROPERTY LINE
= LOT LINE
= EASEMENT LINE
= CURB AND FLOWLINE
= EDGE OF PAVEMENT
= GRAVEL
= CONCRETE
S = SEWER LINE W/SIZE IF KNOWN
st = STORM SEWER LINE W/SIZE IF KNOWN
X = WOOD FENCE
X-X = RAIL FENCE
= GATE
G = GAS LINE
g = GAS LINE FROM LVE APPROX. FROM AERIAL IMAGE
gs = GAS SERVICE LINE APPROX. FROM LVE AERIAL IMAGE
op = OVERHEAD POWER LINE
op = OVERHEAD POWER APPROX. FROM LVE AERIAL IMAGE
bp = BURIED POWER- APPROX. PER LVE
E = UNDERGROUND ELECTRIC
T = UNDERGROUND CABLE
6"W = WATERLINE PER APPROX. FROM TOWN GIS
= BUILDING
= DECK
= BUILDING COLUMN
= CATCH BASIN
= CURBSTOP
= ELECTRIC TRANSFORMER
= TELEPHONE VAULT
= GAS VALVE
= GAS METER
= TELEPHONE PEDESTAL
= ELECTRIC METER
= SANITARY SEWER MANHOLE
= STORM SEWER MANHOLE
= CATCH BASIN
= POWER POLE
= GUY WIRE
= SIGN
= FOUND REBAR WITH CAP 13629
= NE REBAR WITH CAP 578
= FOUND REBAR
= STEEL BOLLARD
x 6220.0' = EXISTING SPOT ELEVATION

ASPEN20 = TREE-ASPEN W/TRUNK DIA.
COTTONWOOD22 = TREE-COTTONWOOD W/TRUNK DIA.
CONIFER36 = TREE-CONIFER W/TRUNK DIA.
= TREE - BOULEVARD

REV.	8/03/2022	
DATE	1/27/2023	
SURVEYED	DK	
ENGINEERED		
DRAWN	DS	
CHECKED	LR	
APPROVED		

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
EXISTING ALLEY SITE PLAN

JOB TITLE
NORTHWORKS
245 & 265 N. MILLWARD AVE., JACKSON, WY
LOTS 3-6, JACKSON, TETON COUNTY, WY.

DRAWING NO
3 of 3

JOB NO
22-020-01

NELSON ENGINEERING SINCE 1964
Professional Engineers & Land Surveyors
JACKSON, WY | BUFFALO, WY | VICTOR, ID NELSONENGINEERING.NET

MEMORANDUM

TO:	**Kimberly Daul**
COMPANY:	**Northworks Architecture**
FROM:	**Braden Olson – Nelson Engineering**
CC:	
DATE:	**1/9/22**
RE:	**Millward Street Apartments**
PROMO/JOB #:	**NE 22-020-02**

A vehicle tracking analysis was performed using CAD Analysis Vehicle Tracking tools.

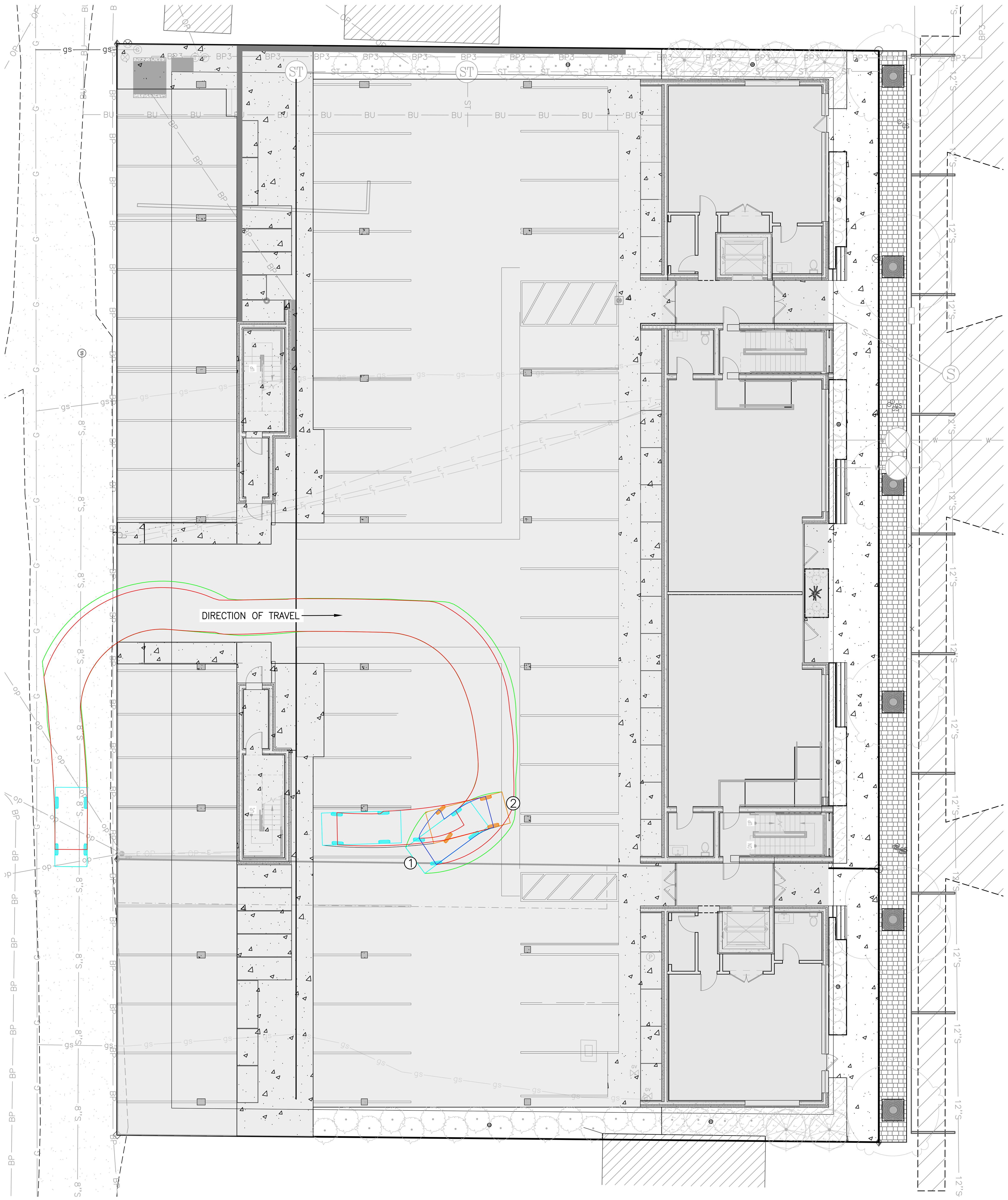
For Exhibit A the vehicle that was used to perform the analysis was a 2009 Ford Escape 4WD SUV. Two separate analyses were conducted. The first shown on exhibit A is the vehicle pulling into the development. A two (2) point turn was performed to properly park the vehicle in the parking space. The second analysis shows the same vehicle backing up and exiting the development. A three (3) point turn was performed to properly remove the vehicle from the parking space and exit the parking lot. The 2009 Ford Escape is 14.55' long, 5.9' wide, and a turning radius of 19.79'.

For Exhibit B the vehicle that was used to perform the analysis was a Mercedes Sprint Van. Two separate analyses were conducted. The first shown on exhibit B is the vehicle pulling into the development. A two (2) point turn was performed to properly park the vehicle in the parking space. The second analysis shows the same vehicle backing up and exiting the development. A three (3) point turn was performed to properly remove the vehicle from the parking space and exit the parking lot. The Mercedes Sprinter Van is 17.4' long, 6.5' wide, and a turning radius of 20.17'.

For Exhibit C the vehicle that was used to perform the analysis was a Hino 338 M Refuse Truck. One analysis was conducted to turn around. A two (2) point turn was performed to properly turn the truck around. The Hino 338 M Refuse Truck is 27.88 long', 8' wide, and a turning radius of 27.4'. The overall body height is 10.75' and the min height at the entrance to the point of turnaround is 12.0'.

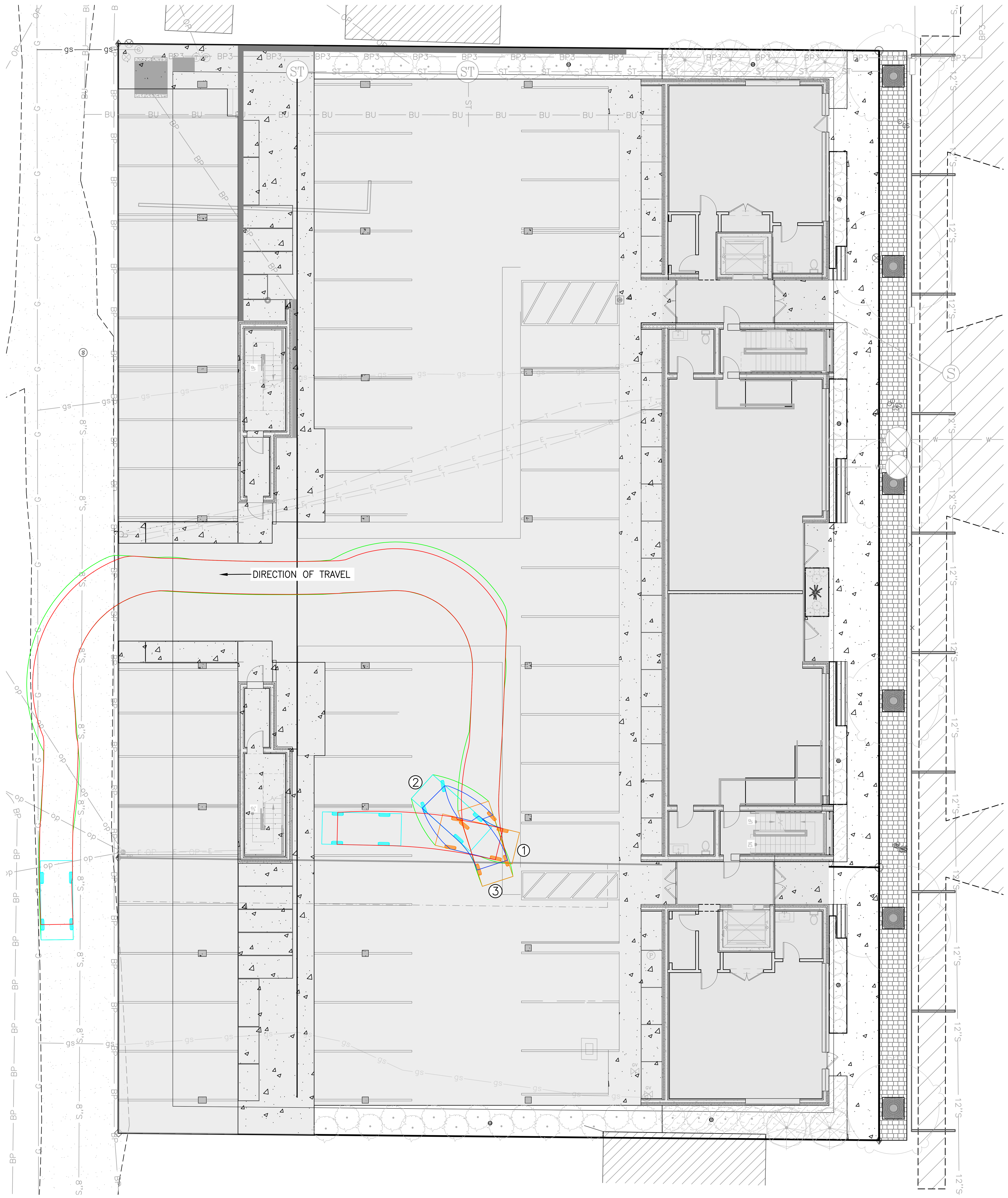
For Exhibit D the vehicle that was used to perform the analysis was a Solo M850 SlimLine Bus that best models a UPS or FedEx delivery truck. One analysis was conducted to turn around. A two (2) point turn was performed to properly turn the truck around. The Solo M850 SlimLine Bus is 27.85 long', 7.7' wide, and a turning radius of 27.2'. The overall body height is 10.75' and the min height at the entrance to the point of turnaround is 12.0'. A Jackson UPS truck was measured on the street and the length was 27.75' and the height was 10.75'.

All analyses were performed under slow speeds and turning on the spot was utilized.



VEHICLE TRACKING ANALYSIS - SCENARIO 1 ENTRANCE

0 10 20



VEHICLE TRACKING ANALYSIS - SCENARIO 2 EXIT

0 10 20

NOTE:
THE VEHICLE USED IN THIS SCENARIO IS A FORD ESCAPE 4WD SUV.
VEHICLE LENGTH: 14.6-FT
VEHICLE WIDTH: 5.9-FT
VEHICLE W/W RAD: 18.35-FT

LEGEND

(green line)	VEHICLE BUMPER
(red line)	VEHICLE AXLE
(cyan line)	VEHICLE
(orange line)	VEHICLE POINT TURN
(blue line)	VEHICLE POINT TURN AXLE
①	POINT TURN NUMBER LABEL

NOTE:
Plan underlays were NOT updated since 01/09/23, but vehicle turning diagrams still apply. Distances to vehicle axle were used to calculate required depth and width of drive aisle hammerheads shown on A1.01.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	12/23/2022	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

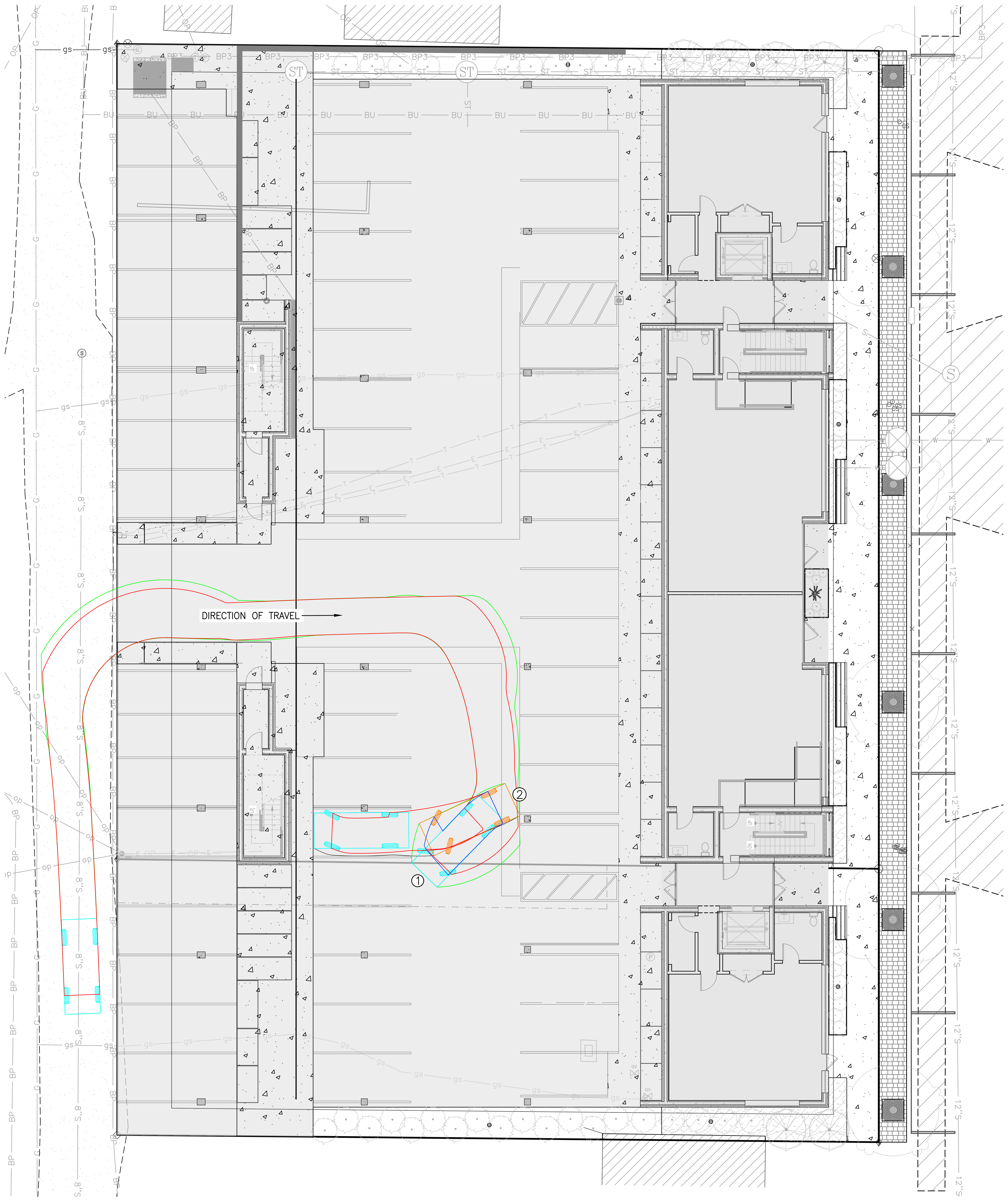
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. EX. A

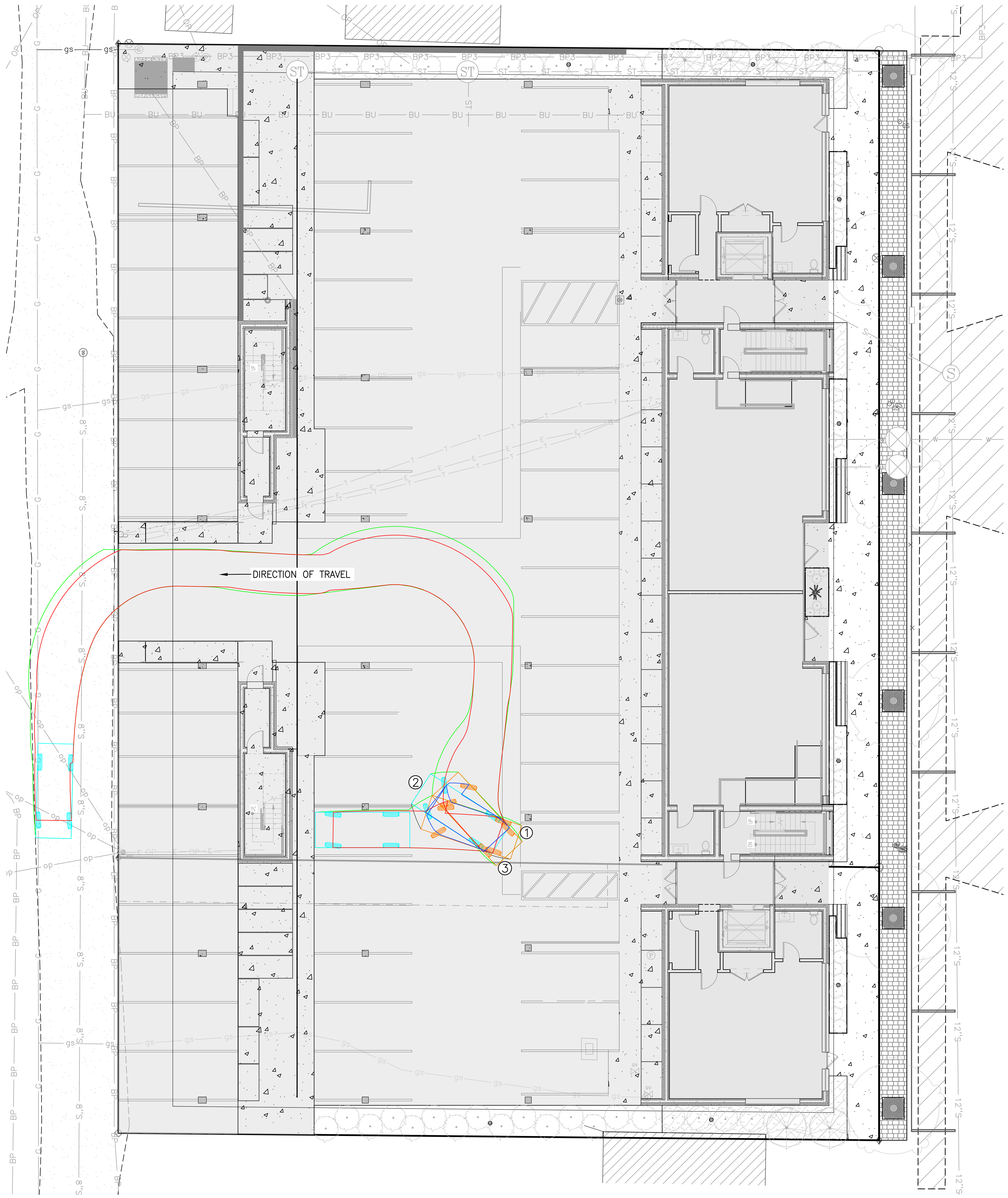
Drawing Name
VEHICLE TRACKING ANALYSIS



VEHICLE TRACKING ANALYSIS - SCENARIO 1 ENTRANCE

0 10 20

N E



VEHICLE TRACKING ANALYSIS - SCENARIO 2 EXIT

0 10 20

N E

NOTE:
THE VEHICLE USED IN THIS SCENARIO IS A MERCEDES SPRINTER VAN.
VEHICLE LENGTH: 17.4-FT
VEHICLE WIDTH: 6.5-FT
VEHICLE W/W RAD: 20.17-FT

LEGEND

- VEHICLE BUMPER
- VEHICLE AXLE
- VEHICLE
- VEHICLE POINT TURN
- VEHICLE POINT TURN AXLE
- ① POINT TURN NUMBER LABEL

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA
185 E. Hansen Avenue Jackson Hole, Wyoming 83001
T 307-201-5324 www.nwks.com

	ISSUED DATE	ISSUED FOR
1	12/23/2022	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

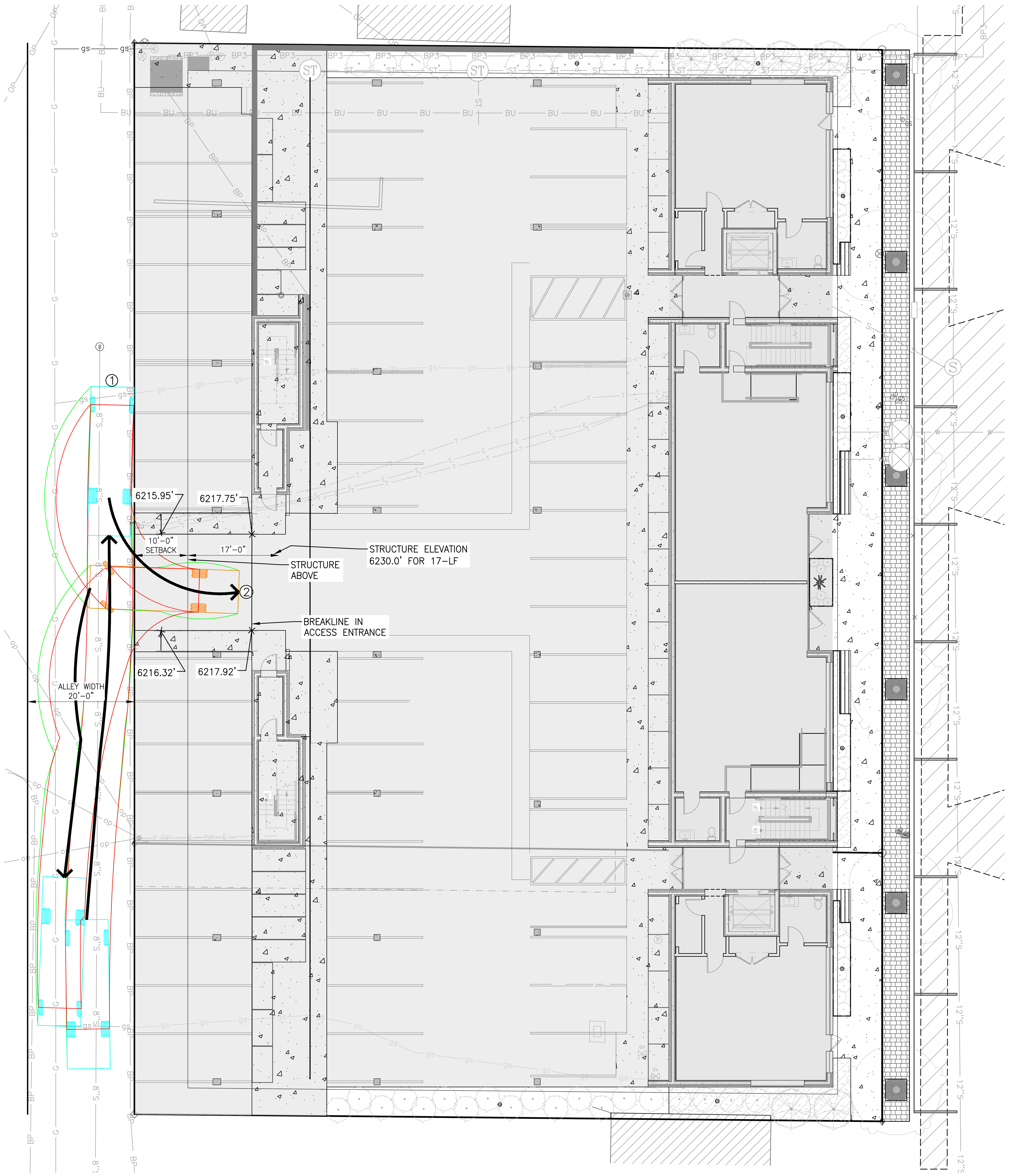
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No.	22-020-02
Drawer	Drawn By	BRADEN OLSON
Checker	Checked By	JOSH KILPATRICK
Discipline	Drawing No.	EX. B

Drawing Name
VEHICLE TRACKING ANALYSIS



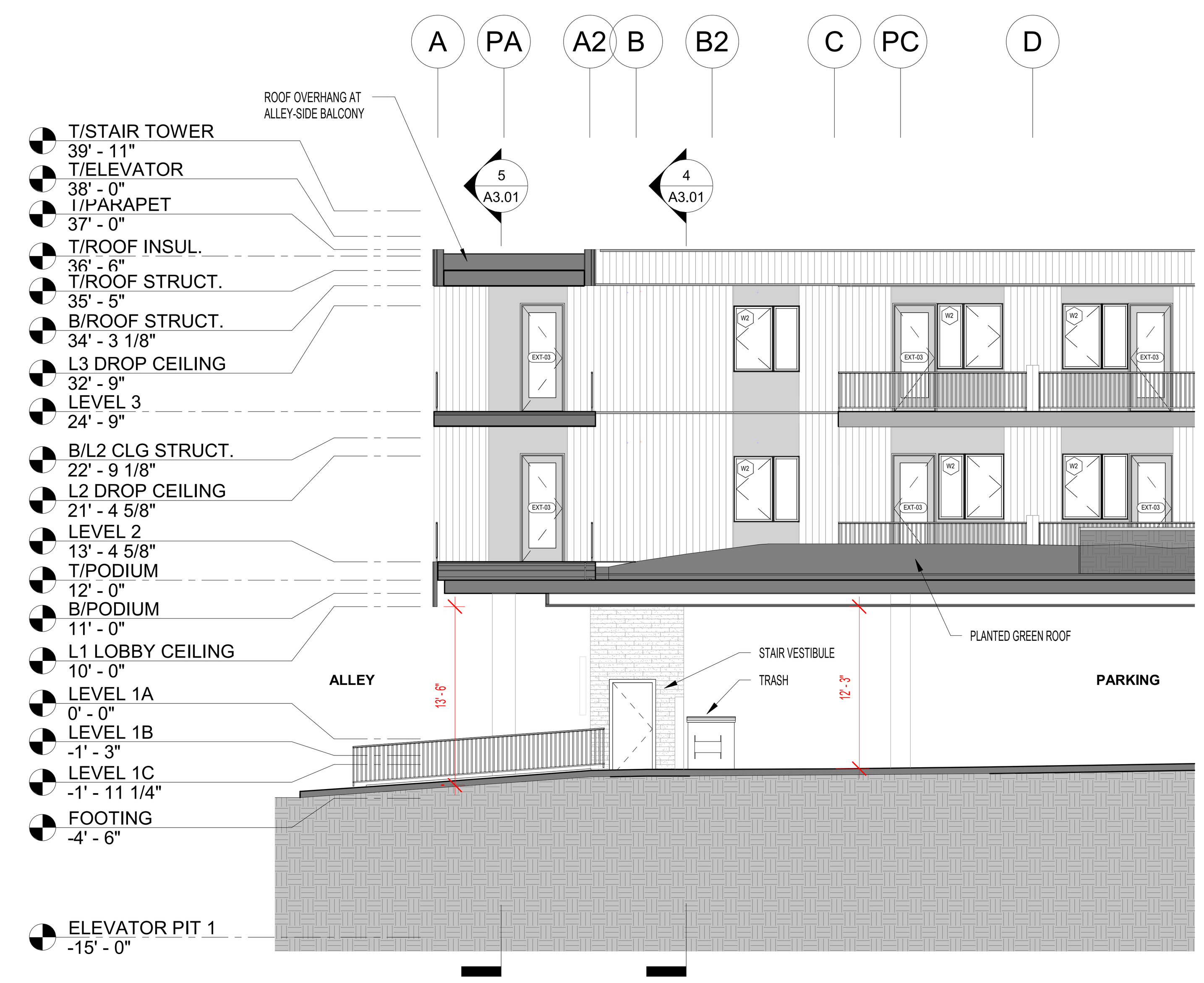
VEHICLE TRACKING ANALYSIS - SCENARIO 3 REFUSE TRUCK TURNAROUND

0 10 20

NOTE:
THE VEHICLE USED IN THIS SCENARIO IS A HINO 338 M REFUSE TRUCK.
VEHICLE LENGTH: 27.88-FT
VEHICLE WIDTH: 8.0-FT
VEHICLE W/W RAD: 27.4-FT
VEHICLE HEIGHT: 10.75-FT

LEGEND

- VEHICLE BUMPER
- VEHICLE AXLE
- VEHICLE
- VEHICLE POINT TURN
- VEHICLE POINT TURN AXLE
- ① POINT TURN NUMBER LABEL



NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	12/23/2022	FDP RESUBMITTAL

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

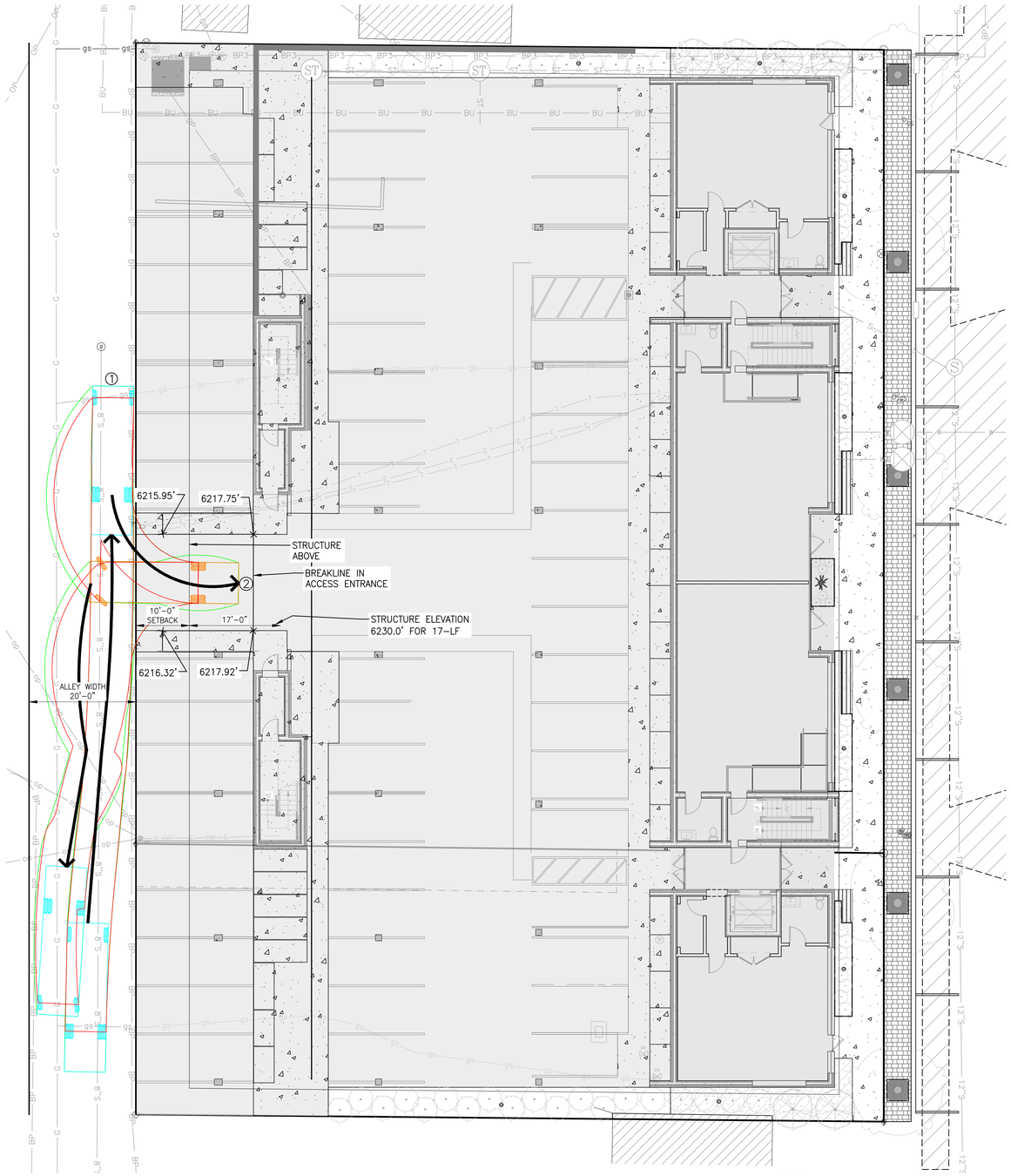
PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. EX. C

Drawing Name
VEHICLE TRACKING ANALYSIS



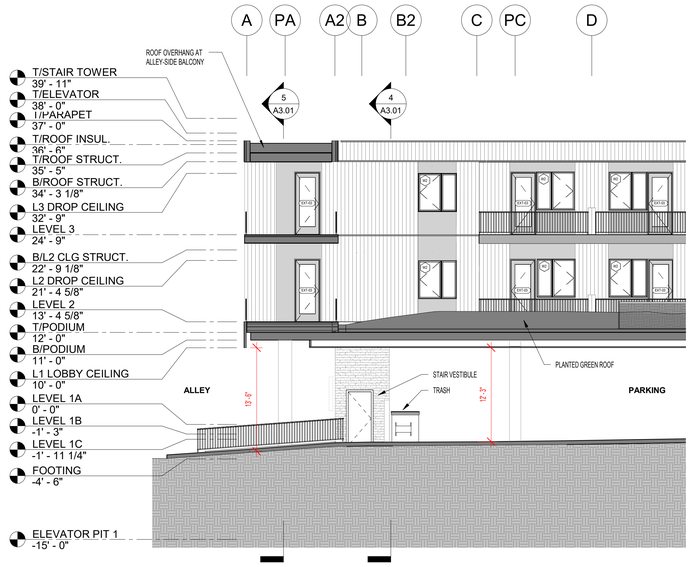
VEHICLE TRACKING ANALYSIS - SCENARIO 4 DELIVERY TRUCK TURNAROUND

0 10 20

LEGEND

- VEHICLE BUMPER
- VEHICLE AXLE
- VEHICLE
- VEHICLE POINT TURN
- VEHICLE POINT TURN AXLE
- ① POINT TURN NUMBER LABEL

NOTE:
THE VEHICLE USED IN THIS SCENARIO IS A SOLO M850 SLIMLINE BUS THAT BEST MODELS A UPS OR FEDEX DELIVERY TRUCK.
VEHICLE LENGTH: 27.85-FT
VEHICLE WIDTH: 7.7-FT
VEHICLE W/W RAD: 27.2-FT
VEHICLE HEIGHT: 10.75-FT



NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	12/23/2022	FDP RESUBMITTAL

PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. EX. D

Drawing Name
VEHICLE TRACKING ANALYSIS

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION

09

CONSTRUCTION MANAGEMENT PLAN

MATAROZZI ▪ PELSINGER BUILDERS, INC.
PO BOX 3098 ▪ JACKSON, WY 83001 ▪ PHONE: 307-690-6621 ▪ FAX: 415-285-7266

MILLWARD CONSTRUCTION MANAGEMENT PLAN

245 & 265 North Millward Street, Jackson, Wyoming 83001
Lots 245 & 265

PROJECT SCOPE

The Millward Street Apartment project is a mixed-use development of 5,000 Square Feet of commercial space, 44 prefabricated apartment units, and 8 site built units. There will be a basement portion located under the commercial space with site parking located under the podium of the entire building. The apartments will have private balconies and half of these will overlook a green roof. The covered outdoor parking will be accessible via the alley at the rear of the building. The General Contractor will carry out site management in five phases referenced in the attached site construction management plans. The demolition phase will be contained by a fence and all construction activity occurs on site. The excavation phase will involve off haul and coordination with Town regarding right of way permits for sewer and utilities. The General Contractor will construct a pedestrian protective walkway bridge. The next three phases The General Contractor will apply for a right of way use permit for a lane closure that will be occupied by a mobile crane for no longer than 6 days.
The General contractor will conduct proactive neighbor outreach program to ensure all neighbors impacted by the project are aware of the schedule, duration, and magnitude of the project.

MATAROZZI ▪ PELSINGER BUILDERS, INC.
PO BOX 3098 ▪ JACKSON, WY 83001 ▪ PHONE: 307-690-6621 ▪ FAX: 415-285-7266

PROJECT SCHEDULE

The construction schedule will run concurrently for 30 months beginning May 2023 ending October 2025. First mobilization of demolition of existing structures will last for two weeks beginning June of 2023. It will be necessary for a right way permit for shoring and utilities beginning July 2023. We will have a temporary site crane delivered January 2024 and will remain on site until August of 2024. The General contractor will store prefabricated units on an additional site located on the corner of West Snow King Avenue and Cache. The general contractor will provide traffic control and notification to the Town of Jackson Police Department of the traffic interruptions and will provide traffic control.

PUBLIC IMPACT

The General Contractor will coordinate with the town to identify the properties and businesses most impacted by the construction information regarding schedule, traffic control, right of way use via email list and site signage. The general contractor will make the information available through a direct point of contact and will create and follow a public impact statement. The general contractor will also provide all contact lists of the public to the Town of Jackson Engineering Division.

The General contractor will maintain transparency of all conflicts of schedule for any shared use areas, special events, capital improvement projects and will accommodate with these events to minimize public impact. The contractor recognizes that this project is located on the trucking route and will make efforts to minimize disruption through signage and traffic control.

CONSTRUCTION PARKING

Construction parking will be self-enforced through staffing and signage. The general contractor will utilize onsite parking during excavation on half of the leveled site and access will be provided via Milward alley. The General Contractor will encourage carpooling and will provide shuttling of staff to and from the site when offsite parking is needed during the course of construction. Offsite parking will occur on the owner's additional site located on the corner of West Snow King and Cache Street. The general contractor will be able to return to onsite parking once the podium of the building concrete is placed and cured February 2024. The general contractor will conduct weekly sub-contractor meetings to enforce and maintain parking restrictions during construction.

SITE LOGISTICS

The General contractor will maintain a work schedule of 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM – 5:00 PM on Weekends and Holidays during the course of construction.

The General Contractor will have a construction trailer on site for most of the construction until it is possible to utilize the parking area or commercial space to decongest the site parking. The general contractor will also maintain the appropriate number of trash and recycling roll-off containers during the entirety of the project. Initially, these containers will be located on the leveled site and will inevitably be moved around the perimeter of the building as progress continues. Concrete washout containment will be located as indicated on the attached site plan

and will be maintained from September 2023 to February 2024. Portable bathrooms will be maintained on site during the course of construction and located on the North end of the Millward Alley side of the site.

The entire site will have a steel construction fence with green masking along all four of the neighboring sides of the site. Gates will be located on the Millward alley and Millward Street side of the property.

Deliveries will mostly land on the Millward alley side of the property, while the mobilization of the prefabricated units will require a shut down of one lane of traffic. This lane closure will be required periodically during January 2024 through August of 2024. The total estimated days of closure will last approximately 6 days however, we cannot assess exactly when this will occur during the afore mentioned dates.

The haul route will follow the Town of Jackson's trucking route. The staging of the prefabricated modular units will be located at the corner of West Snow King Avenue and Cache Street. The route will begin on West Snow King, travel West to South Millward and continue North to the Site.

TEMPORARY USE OF STREET, ALLEYS, AND PUBLIC PROPERTY

The worksite will encroach into the right of way North and South on Millward to the back of the sidewalk. The General Contractor will provide pedestrian protective structure in compliance with all codes and regulations. The site barriers will not interfere with the town's snow removal and the General Contractor will remove all snow along the barrier after each snow event or Town

snow removal. Off haul of snow removal will not end at the fairgrounds and will end at the Owner's site on West King Street.

Construction materials and equipment will be stored inside of the protective fence or at the owner's other site on West Snow King Street. The General contractor will ensure that all fire hydrants, fire department connections, alarm boxes, catch basins, or manholes will not be obstructed by materials or equipment. The general contractor will ensure that there is no material or equipment interfering or obstructing with normal observation of traffic signals or hinder use of travel.
No material or equipment will be stored within 20' of an intersection to hinder or obstruct normal observation of traffic signals or hinder use. The general contractor will ensure that no material or equipment will interfere with the passage of water in the gutter and will ensure there is protection against all utility fixtures and the sight of all utility fixture shall not be obstructed.

RIGHT OF WAY PERMITS

- Continuous Sidewalk bridge from south end of the property to the north end
- Temporary Lane closure from south end of the property to the north end.
- Utility interruption for sewer, gas, and electric.

MATAROZZI ▪ PELSINGER BUILDERS, INC.
PO BOX 3098 ▪ JACKSON, WY 83001 ▪ PHONE: 307-690-6621 ▪ FAX: 415-285-7266

RESTRICTIONS

The General contractor will be in compliance with Jackson municipal code 12.08.040.B and the winter use in accordance with 12.08.320.

STORM WATER MANAGEMENT

The general contractor will follow best practices regarding storm water management. The project will have erosion control measures on the lower grade of the property. The General Contractor will use sand trap and oil interceptors for all areas recommended by the civil consultant team to protect any catch basins located on adjacent roadways and alleys.

CRANE

The location of the mobile crane will be within the delineated lane closure and delivery area. The range and height are not determined yet as the number of picks and sizes are still being determined. However, there will be no moving of materials over an open to the public areas The General Contractor will amend this document showing the exact size and range of picks. The mobile Crane will have a maximum range of 160’ from the center of the lane closure to the west side of the property. All picks will be contained within the construction area and the temporary delivery area. The General Contractor acknowledges picks are not allowed adjacent to areas open to the public unless they are within a fenced construction zone.The General Contractor will ensure cranes will be operated by certified operator and follow industry and OSHA standards.

PROTECTION OF PEDESTRIAN

The General Contractor will provide pedestrian protective walkway 8’ tall with screening and guardrail. The construction barrier will extend the full length of the construction site and openings will be protected by gates that are controlled access points. The contractor will have a construction Drive-off grate to minimized dirt and gravel transfer and will maintain the adjacent areas of the roadway. The Barrier will not interfere with Town of Jackson snow removal. All applicable pedestrian signage will be used and will maintain ADA compliance.

STABIIZED CONSTRUCTION ACCESS

The General Contractor will provide and maintain a stabilized construction access. The general contractor will use a Drive-Off Grate at each gate and will broom sweep as necessary to remove tracked soil and mud.

TRAFFIC CONTROL

The General contractor will follow best practices for traffic control for all major deliveries and mobilizations as well as Crane picks. The General contractor will develop a relationship with neighbors and businesses to inform in advance and will use local police and traffic control guidance.

MATAROZZI ▪ PELSINGER BUILDERS, INC.
PO BOX 3098 ▪ JACKSON, WY 83001 ▪ PHONE: 307-690-6621 ▪ FAX: 415-285-7266

SHORING

The General contractor will follow best practices for shoring and will provide type and right of way permit necessary to perform. The General Contractor will provide an encroachment agreement within a right of way permit if necessary.

STAGING

The General contractor has acknowledged that there may be a need to use the owner's additional lot to store prefabricated units. Should this decision come to fruition, the General Contractor will identify that lot as West Snow King and Cache Street. The General contractor will apply for a conditional use permit and will delineate all structures and laydown areas intended to be used. The General contractor will also utilize a construction barrier no less that 8' tall with grates and Drive-off grates as well as providing 20' unobstructed view at the corner of West Snow King and Cache Street.

OPERATIONAL STANDARDS

STORAGE

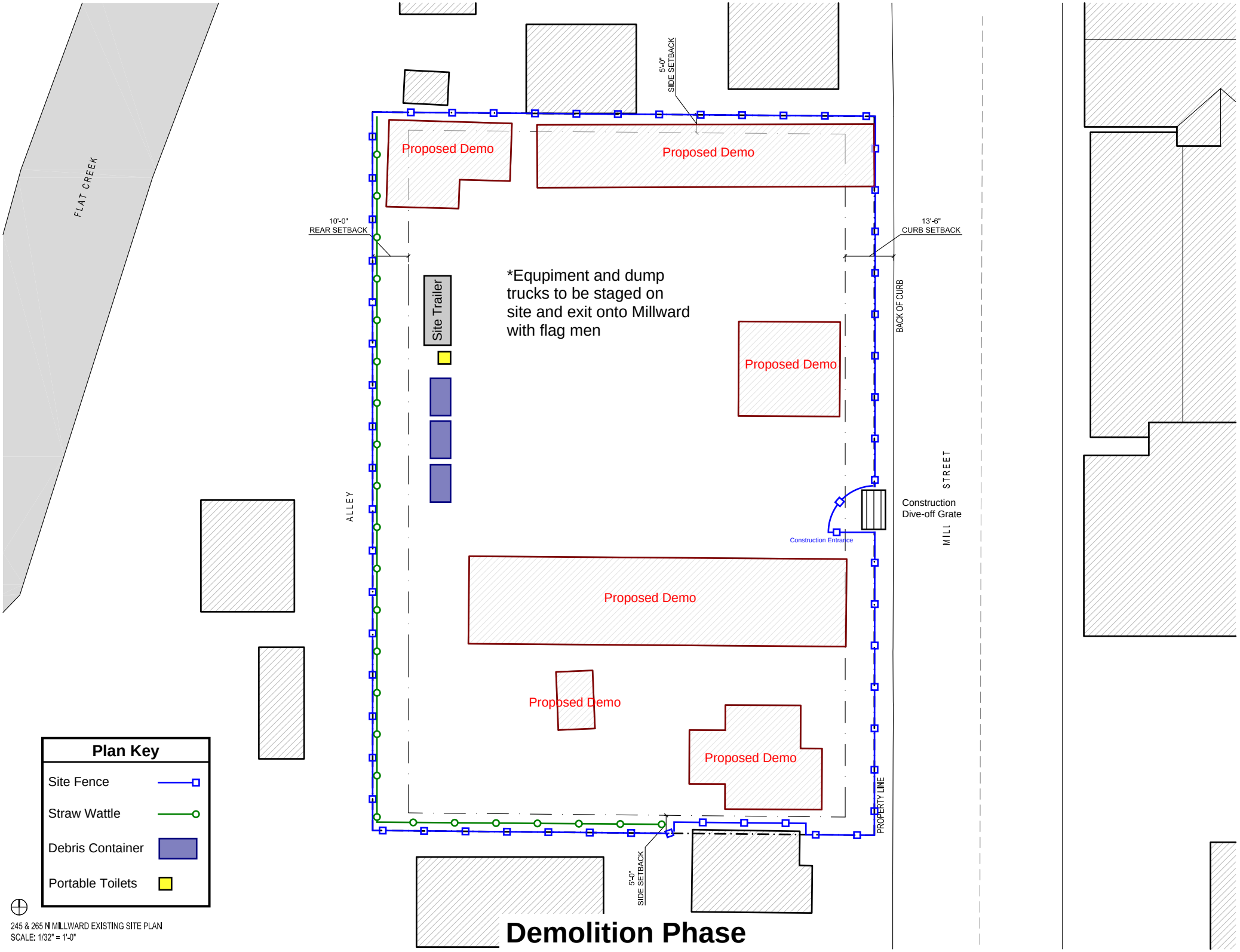
Prefabricated unit modules will be stored on the lot at West Snow King and Cache Street. Route map for deliveries shown on last page of this document.

NOISE

Noise levels during construction will not exceed the levels prescribed in the ToJ LSR Section 6.4.3 (65 DBA).

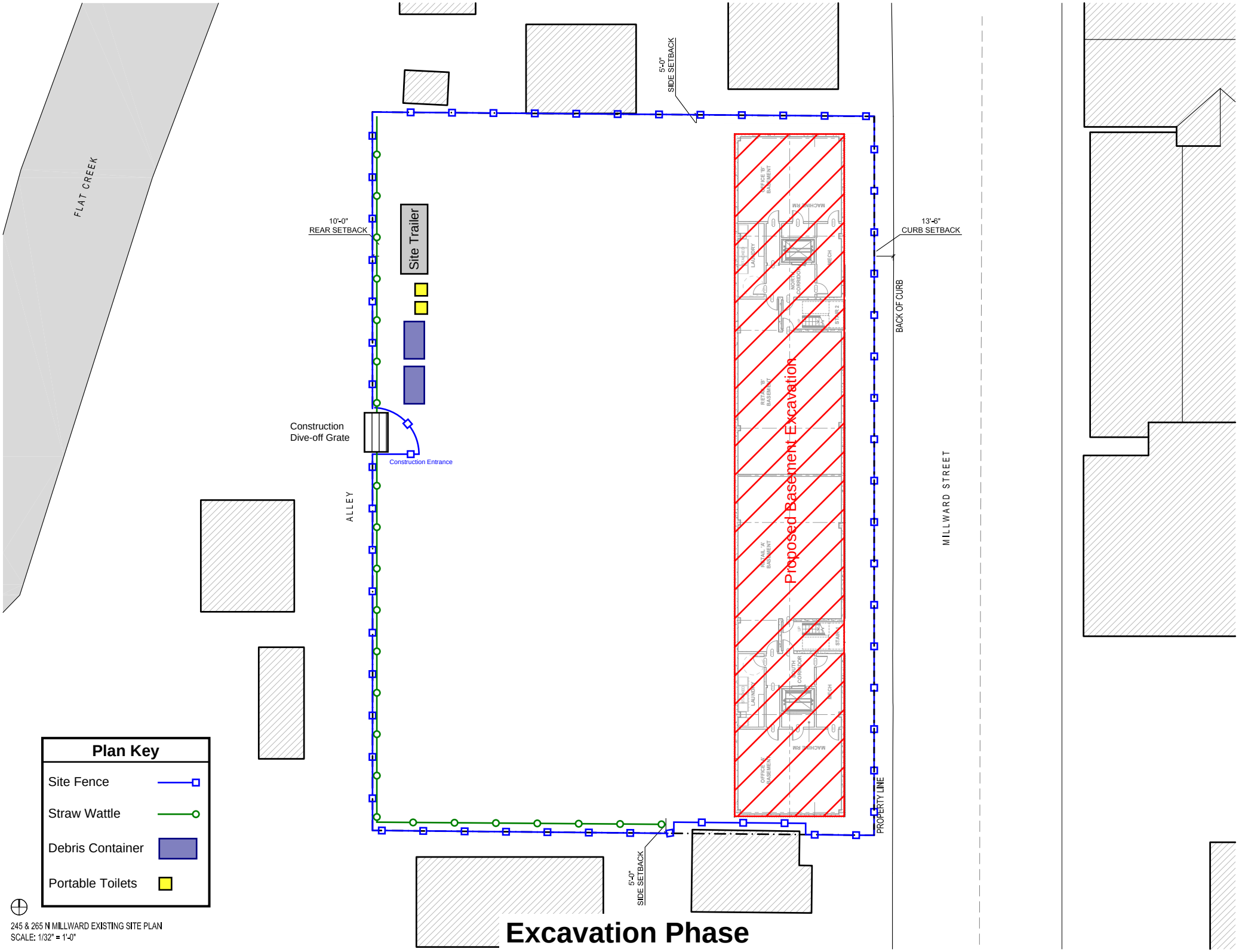
VIBRATION

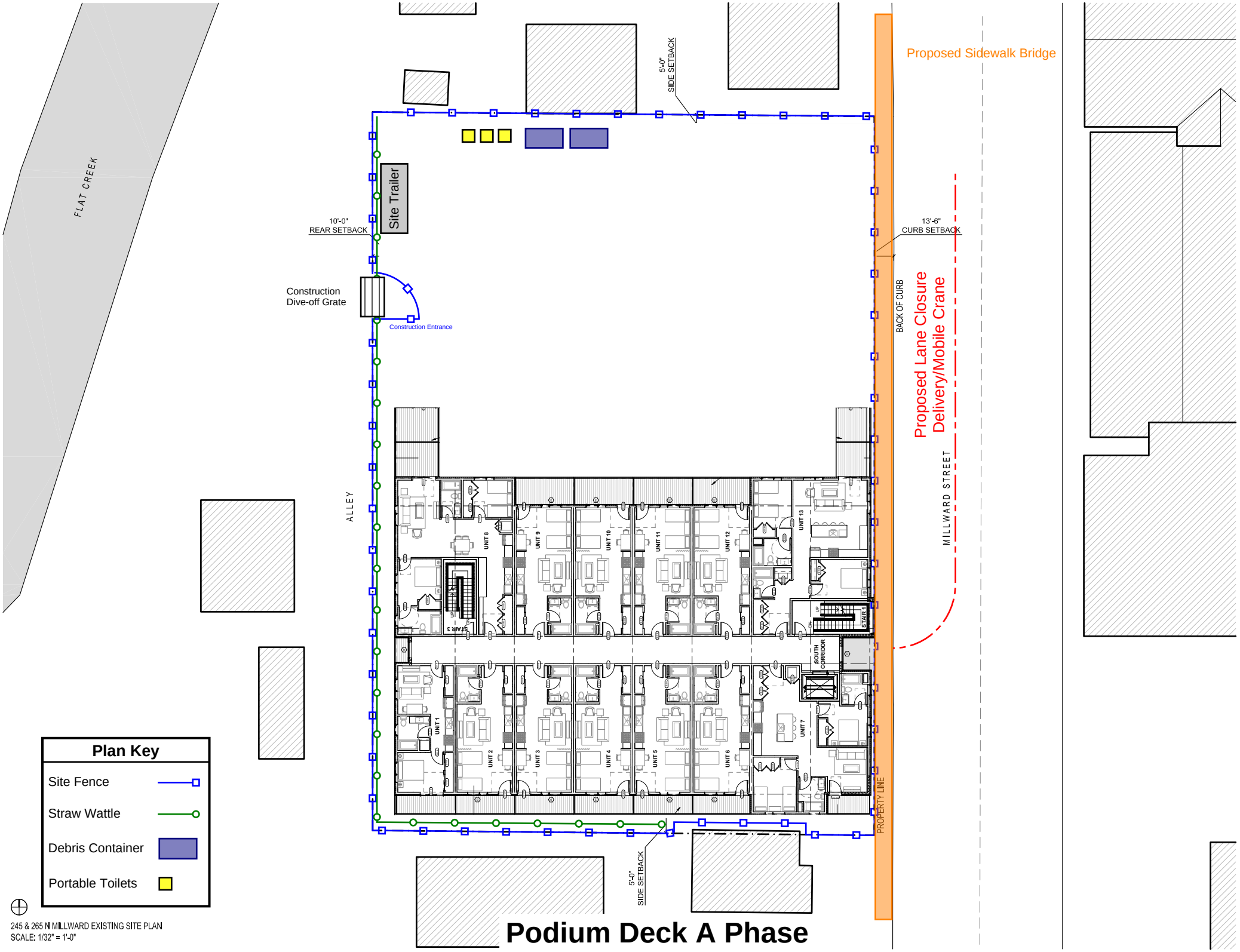
Vibration during construction will not exceed the levels prescribed in the ToJ LSR Section 6.4.4 and will conform to the operational time constraints.



245 & 265 N MILLWARD EXISTING SITE PLAN
SCALE: 1/32" = 1'-0"

Demolition Phase


FLAT CREEK
5'-0"
SIDE SETBACK
10'-0"
REAR SETBACK
Site Trailer
13'-6"
CURB SETBACK
BACK OF CURB
Construction
Dive-off Grate
Construction Entrance
ALLEY
Proposed Basement Excavation
MILLWARD STREET
PROPERTY LINE
5'-0"
SIDE SETBACK
Plan Key
Site Fence
Straw Wattle
Debris Container
Portable Toilets
245 & 265 N MILLWARD EXISTING SITE PLAN
SCALE: 1/32" = 1'-0"
Excavation Phase

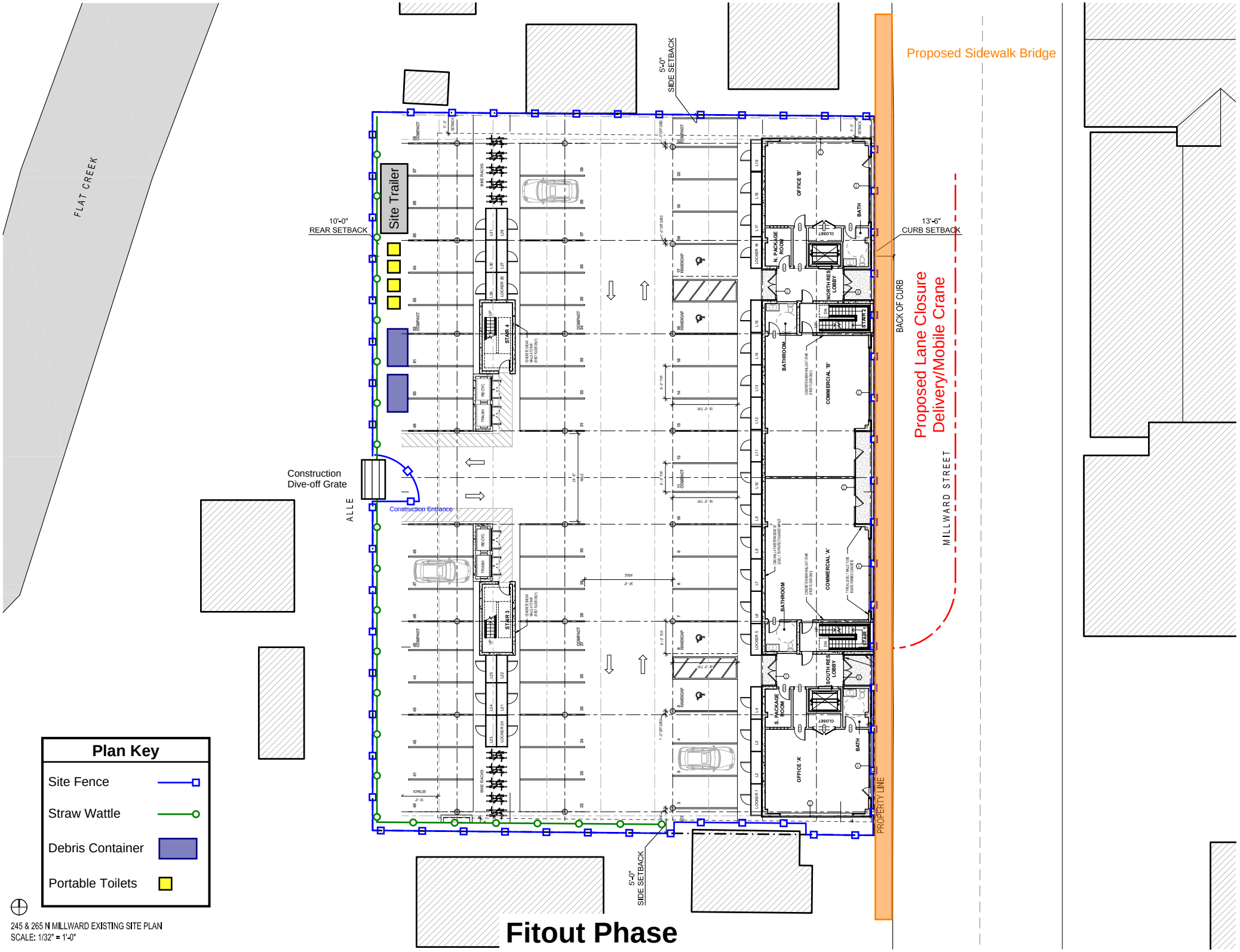


245 & 265 N MILLWARD EXISTING SITE PLAN
SCALE: 1/32" = 1'-0"

Podium Deck A Phase

245 & 265 N MILLWARD EXISTING SITE PLAN
SCALE: 1/32" = 1'-0"

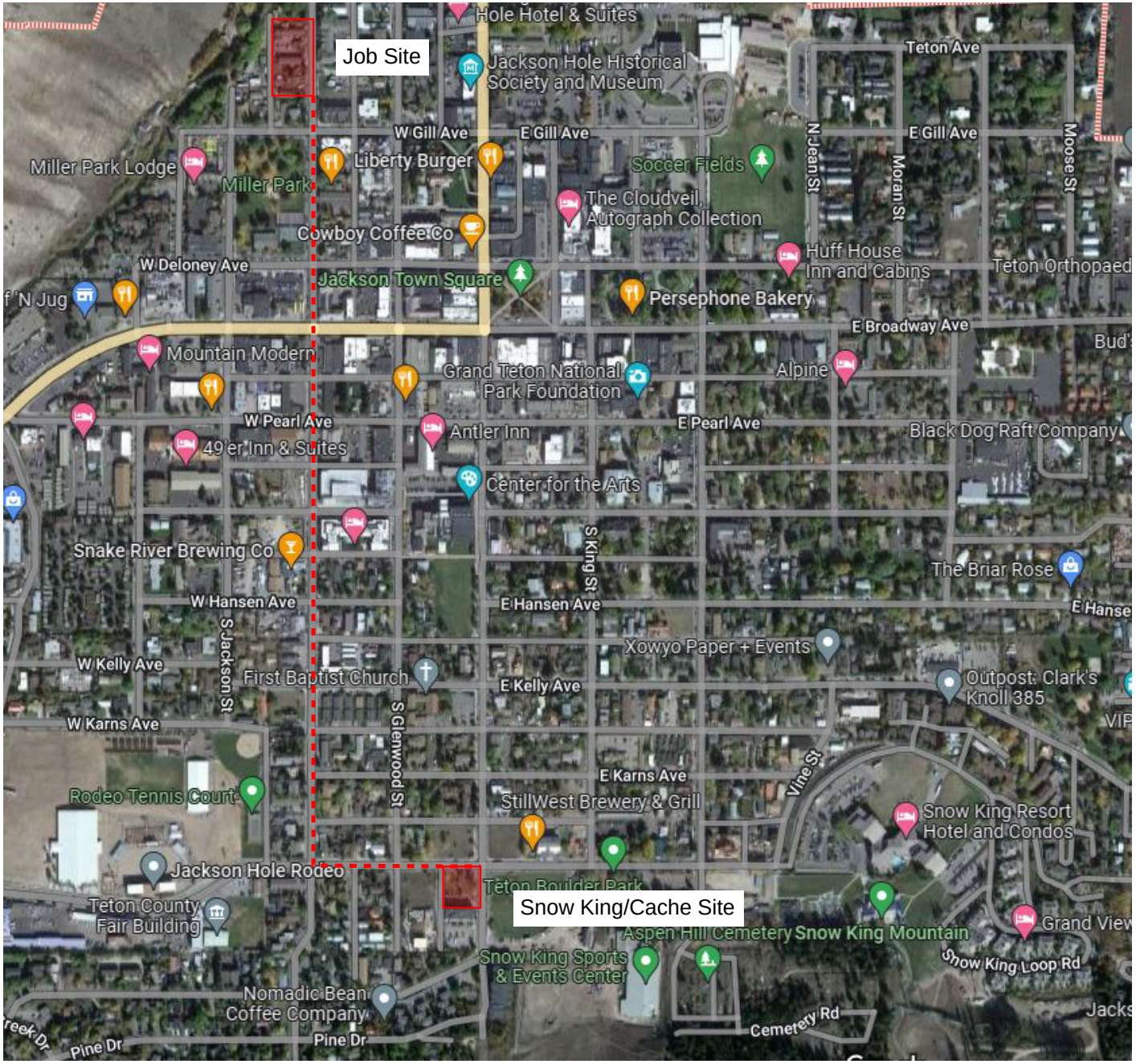
Podium Deck B Phase



245 & 265 N MILLWARD EXISTING SITE PLAN
SCALE: 1/32" = 1'-0"

Fitout Phase

Route Map: Delivery from Staging Area to Site



10

ENGINEERING REPORT

APPENDIX I – GEOTECHNICAL REPORT
APPENDIX II – STORMWATER RUNOFF CALCULATIONS
APPENDIX III – WATER & WASTEWATER CALCULATIONS
APPENDIX IV – TRIP GENERATION & ALLEY WIDTH
APPENDIX V – FIRE FLOW WATER MODEL EXHIBIT

ENGINEERING REPORT

Introduction

This engineering report provides the basis for design and addresses the engineering related issues for the proposed multi use development. The proposed project site consists of both lots located at 245 and 265 N. Millward comprising approximately 0.64 acres. The existing site contains hotel, office and residential structures along with a combination of both gravel and asphalt parking and driveway areas. The site is currently nearly completely developed, with minimal (23%) existing pervious surfacing or landscaping. There are several existing buried and overhead utilities serving and/or just outside the property including four water services, two sewer service lines, and buried and overhead power and communications that will require abandonment or relocation as a result of the proposed development. Water and sanitary sewer facilities are provided to the property through Town of Jackson (ToJ) Systems. The level of detail includes the basic layout and general design elements. Design detail will advance as the plan moves into the construction permitting and construction phases of the project.

Soils and Groundwater Conditions

A geotechnical investigation was performed by Nelson Engineering in 2022 and is attached to this report as Appendix I. This report noted that silt, gravels, sands and clay to a depth of 20' exist on site. Groundwater was found at approximately 14.5'

Access and Parking

Access to the site will be from the alley to the west of the property that connects to W. Gill Ave. to the south. The proposed 20-ft wide access to the site is limited to the alley width. From the alley, an 18' wide entrance will provide access to the covered parking garage that is at, or near existing grade. Covered parking for the development will primarily be located below the proposed building.

Consistent with current conditions, there will be on street parking along N. Millward St.

Street frontage along N Millward St. will include vertical curb with detached sidewalk with a paver strip and tree wells as required. It is assumed that since the existing use is commercial and lodging, and the proposed use is to be commercial and residential, that the vehicle trips will remain much the same.

Grading, Drainage, and Stormwater Management

Grading of the site will alter the grades of curb and gutter along N. Millward St. All Curb and gutter and sidewalk will be removed and replaced along N. Millward. Grades of new flowline gutter will be held within 2% to 4% cross slope from N. Millward St. A curb inlet will be added to the north end of the curb and will connect to the proposed site storm line. Development of the site will leave little to no pervious surface as currently exists. Storm water will be collected on the roofs and terraces of

the development and conveyed to a central collection system internal to the site, discharged to the Millward storm sewer with final discharge to Flat Creek to the north. Water collected from parking and driveway areas will be treated via. sand oil separator prior to discharge to City storm sewer. All grading in the alley and along the west side will match existing grades.

The existing site contains four separate structures along with asphalt paving and parking. All existing stormwater runoff from the site sheet flows in a northwesterly direction towards Flat Creek. Based on ToJ regulations, the proposed development is required to detain any additional runoff above and beyond the existing conditions. Preliminary stormwater calculations were performed and are included in the Appendix II. Results indicate the proposed development has a lower time of concentration and an increased stormwater runoff volume at the 100-yr storm event when compared to existing conditions. Pre and post runoff flows are 0.91 and 1.52 cfs, respectively, or a 0.61 cfs (275 gpm) difference.

A buried manhole capturing roof stormwater and snowmelt runoff, with an open bottom to drain to natural grade is proposed along with a sand-oil-separator located upstream treating parking lot runoff. It is proposed that final flows enter the existing 18" dia. ToJ storm sewer in N. Millward prior to discharge to Flat Creek. An inlet grate in the curb at N. Millward is proposed at the point of connection.

The open bottom manhole will provide storage beyond the allowable pre-development run-off. The volumetric difference in post and pre-development runoff is approximately 600 gallons. If a storm event exceeds the allowable storage volume run-off will flow to the ToJ stormwater system.

The design of stormwater facilities includes:

- Insulating all shallow stormwater pipes and buried tanks.
- Installation of heat tape for all roof drains to prevent winter freezing.
- Installation and testing of all storm facilities in accordance with manufacturer's recommendations, the most current version of Wyoming Public Works and ToJ details.

Appendix II along with grading and stormwater management plans will be refined through the Grading and Erosion Control Permit process as the project develops.

In accordance with the conditions of the development and plans presented, applicant agrees to pave the alley and work with the Town to install necessary storm conveyance and detention on the north end of the alley.

Water System

The closest ToJ water main to the property is an existing 6" dia. main located in the east traffic lane of N. Millward. To verify the existing water facilities are sized adequately, proposed water flows, both domestic and fire were estimated for the development. Current proposed programming values for the development were utilized for the estimates. Per fixture unit calculations provided in Appendix III, which includes water demand estimates for the building comprised of 2 commercial, 2

offices and 51 residential units/spaces, the domestic demand for the development is 100 gpm. Assuming the estimated demand, a 4-inch dia. domestic water service and 2" meter is recommended to serve the development. Based on water system modeling, it is expected that adequate capacity is available from the Town's water system.

Due to the size and proposed use of the development, the structures will require automatic fire sprinkler systems. Fire flow requirements were determined by mechanical as 500 gpm. Calculations in Appendix III indicated a 6-inch dia. DI water service is capable of providing combined domestic and fire sprinkler demands (600 gpm), at 6.8 fps, 3.7-ft of headloss resulting in an approximate residual pressure at the building of 61 psi.

Because of the location of the development being in the core downtown area, it was assumed that additional exterior flow requirements would be needed in the event of a fire. It is assumed that 2 additional fire flows of 1,000 gpm would be required on adjacent fire hydrants. The building fire flow, along with the 2 exterior fire hydrant flows were simulated in the ToJ Water Model. Results of the modeling are included in Appendix V, which indicate that residual pressure at the area of interest are 40 psi and never below 35 psi during in the entire system for a fire flow scenario.

In compliance with ToJ's conventional practice that a single development be supplied water through one location from the ToJ's system, a single connection will be constructed from North Millward St. This connection will then split at the property line with separate buried valving for domestic and fire suppression serving the development. To provide the maximum domestic water demand, a 4-inch dia. waterline will be installed to the development off of the new 6-inch dia. water service main at the property line. All proposed water system requirements are indicated on the Proposed Utility Plan located in the Development Plan Drawings. As the project advances the project team will coordinate with the fire sprinkler designer and the Fire Department to ensure adequate fire protection measures and equipment are in place.

Sewer System

The proposed development will be connected to the ToJ sewer collection system at a manhole in Millward. The existing manhole already has a service pipe that will be removed and a new 6-inch dia. service pipe stubbed in.

Daily wastewater flows for both the existing and proposed developments were estimated using Tables 1 and 2 of WDEQ Chapter 25 and are provided in Appendix III of this report. Results of both existing and proposed wastewater flows are 2,770 gpd and 10,280 gpd, respectively.

Applying a peaking factor of ten yields a peak hour wastewater generation of approximately 71 gpm for the development. Water demands based on fixture units (see above) was estimated at 100 gpm, thus the more conservative peak water use rate was assumed for wastewater flows. Based on existing pipe type, diameter and slope, the existing ToJ sewer main in Millward (12-inch dia estimated. sewer main @ 0.37% slope) will see a reduction in overall peak capacity of 7.1% as a result of the new development, leaving room for roughly 1400 gpm of flow from other sources.

Detailed calculations for wastewater estimates and capacity calculations have been provided in the Appendix III. There are no immediate lift stations or treatment systems downstream of the development. It is prudent that the utility provider (ToJ) asses the impacts of this development on remote conveyance and treatment systems.

Wire Utilities and Gas

The development will require 3-phase power service. Based on discussions with Lower Valley Energy, the closest and most convenient location is north on Millward on the property of 295 N. Millward. The power alignment is proposed parallel to the west curb along Millward and down the northern most property line to the proposed power vault and transformer located at the northwest corner of the development. Additionally, several existing power poles in the alley, along with other wire communication services, will need to be lowered and buried across the alley to the residences to the west.

The new transformer serving the development has been sized and placed with the proper clearances. Power meters will be installed in banks on a northwest wall near the stairway of the covered parking area along the west alley parking. Included in the Development Plan Drawings is a utility plan and power plan indicating the proposed location of the facilities.

Refuse, Garbage, Trash, and Recycling

Refuse, garbage, trash, and recycling will be kept in covered containers at all times within the covered garage. All containers will be kept within enclosed structures as indicated on the proposed site plan.

Snow Storage

Due to the proposed scale of the development, there is very little area on the site which is not covered by roofs or decks. The only area on the site where snow removal will be required is within the last 10 feet of parking spaces adjacent to the alley, which is very minimal. The total area of uncover parking that is required for snow removal is 1,815-SF. Regulations state that 2.5% of required area be used for snow storage. Minimum snow storage required is 45-SF. More than the minimum will be provided in the northern and southern landscaped areas. Due to the nature of the development and the proposed amenities, all excess snow will be removed from the site in an expedited manner.

Alley Traffic Volumes, Width Criteria & Conditions of Improvement

Volumes I and II of the "Institute of Transportation Engineers" (ITE) were utilized to assess vehicular traffic impacts to the alley associated with the proposed development. Empirical survey data acquired by ITE for road systems serving single-family and apartment developments served as the basis for estimating vehicle trips. Trip generation data and estimated results of the analysis in a post-development condition are provided in Appendix IV and summarized in the table below. Data represents one-way trips to and/or from residence with primary access from the alley.

Post-Development Alley Traffic - Estimated Trip Generation

Desc.	No.	Units	* Peak Weekday	* Peak Hr (a.m.)	* Peak Hr (p.m.)
Existing Single Family Dwellings	7	residences	67	6	7
Proposed Millward Housing Dev.	51	parking spaces/vehicle	260	24	31
		Total:	**327**	**30**	**38**

* Number of one-way trips per the Institute of Transporation Engineers Vol. 1 and 2 trip generation manuals (see Appendix IV).

AASHTO's, 7TH Edition of the "Highway & Street Design" manual was utilized to establish roadway width criteria for the alley based on traffic volume. Assigning the alley the designation, "Urban Residential Street" and "Minor Access" according to AASHTO's manual constitutes traffic volumes between 250 and 400 vehicles per day. The minimum suggested roadway width is 18' in accordance with Table 13-1 in Appendix IV of this report. It is noted that roadway width includes both travel ways and shoulders per Table 13-1. The alley width west of the proposed development is 20', thus adequate to serve post-development traffic volumes.

Conditioned as part of this development, the applicant has agreed to pave the alley following sewer main replacement within the alley by ToJ. Based on discussions with ToJ Public Works, the pavement widths agreed upon are 17' wide from West Gill Ave to the northern end of the proposed development, tapering to 14' in width thereafter to the north. Note that total width of the travel way (pavement plus road shoulder) will exceed 18'. The Town will install new sewer main, remove or relocate features incumbering the alley (as necessary) and complete prep. work in anticipation of paving (by applicant). In addition to paving, and in accordance with the plans, the applicant will work with ToJ to complete grading and reclamation work for a drainage swale and detention on the north end of the alley. The stormwater retention area will serve as a sedimentation/percolation basin, with emergency overflow for 100-yr+ storm to Flat Creek. Storage volumes are for stormwater collected in the north end of the alley. During winter conditions, the retention area will be used for snow storage for ToJ.

APPENDIX I – GEOTECHNICAL REPORT

GEOTECHNICAL INVESTIGATION

LOTS 3-6, BLOCK 2 JACKSON SUBDIVISION
245 & 265 NORTH MILLWARD STREET
JACKSON, WYOMING

PREPARED
FOR
245 265 MILLWARD LLC C/O KAIKOA LLC
WILSON, WYOMING

PREPARED
BY
NELSON ENGINEERING
JACKSON, WYOMING

MARCH 2022
Project No. 22-020-02

TABLE OF CONTENTS

GENERAL AND PROJECT DESCRIPTION

This is the report of a geotechnical investigation for a proposed development at Lots 3 through 6, Block 2 of the Jackson Subdivision in Jackson Wyoming. Project plans include the demolition of the existing multi-unit residential structures and residence and construction of a multi-story structure with possible basement level parking. Geotechnical recommendations in this report are based preliminary project information provided by Northworks Architects and survey by Nelson Engineering.

Scope of Services

The scope of services for this investigation was to provide geotechnical recommendations based on a subsurface investigation and soils laboratory testing for the proposed mixed-use development. The purpose of the subsurface investigation was to determine soil and groundwater characteristics. The results of the subsurface investigation and subsequent laboratory testing were utilized in engineering analysis for recommendations pertaining to structural foundations, drive and parking areas, retaining walls, and general earthwork. It is our engineering judgment that the existing and proposed slope geometry and composition indicate stability therefore slope stability analyses were not conducted. Specific recommendations for drainage and surface water conveyance are not within the scope of work.

Foundation analysis and resulting recommendations are based on typical loads for the type of structure proposed. Prior to finalization of project plans, foundation plans and loads should be sent to this office for review to ensure compliance with this report. Recommendations assume foundation elements are not subjected to unusual loading conditions such as eccentric loads or vibratory equipment. Lateral earth pressure recommendations contained herein are general in nature; it is critical that retaining wall designs are reviewed by the geotechnical engineer.

SITE CONDITIONS

Description

The project occupies 4 town lots with and area 0.64-acres at 245 and 265 North Millward Street. A former motel converted to apartments and parking occupy the northern part. Town of Jackson planning and building records indicate the motel complex was constructed in phases between 1934 and 1987. 245 North Millward Street contains a small single-family residence; planning and building records it was constructed in 1941. Access is provided by North Millward Street to the east and an alley to the west. Developed and undeveloped commercial and residential properties adjoin on all sides.

Local topography is relatively flat with gentle slopes to the west towards Flat Creek which flows from northeast to southwest about 100 feet to the west.

Geology and Soil Mapping

The area's surface geology is mapped on the USGS "Geologic Map of the Jackson Quadrangle, Teton County, Wyoming," J.D. Love and H.F. Albee, 2004. The map shows "Qf-Alluvial Fan Deposits-Water-laid gravel, sand, silt, and clay spreading out from mouths of ravines and canyons" on the southeastern half of the project and "Qfp-Flood-Plain Deposits-Sand, silt, clay, and minor lenses of gravel" within the northwestern half. Gray, light gray, dark gray, olive green, and brown weathered sedimentary bedrock deposits found at depth may be rock of the Sohare Formation described as "Ks-Sohare Formation-

Gray and tan lenticular fine-grained sandstone, gray shale and shaly sandstone, carbonaceous shale, marlstone, and some beds of coal."

The US Natural Resources Conservation Service's Soil Survey of Teton County has mapped the Greyback gravelly loam at the site. The soils are alluvial and/or glaciofluvial deposits located on 0 to 3 percent slopes. This soil is described as very deep, somewhat excessively drained, and composed of gravelly loam, very gravelly sandy loam, and very gravelly loamy sand.

Seismic Hazard

Jackson Hole is located within the Intermountain Seismic Belt, a zone extending from southern Utah through eastern Idaho and western Montana, and encompassing western Wyoming and the Teton Range as referenced by Robert B. Smith and Walter J. Arabasz in "Seismicity of the Intermountain Seismic Belt, Neotectonics of North America," 1991. The USGS Earthquake Hazards Program has mapped Quaternary faults and folds in the United States as displayed on Google Earth with the following active faults near the site: the Teton Fault, the Phillips Valley Fault, and secondary faults within the Jackson Hole Valley. In particular, the Teton Fault is thought to be capable of producing major earthquakes of a magnitude of six or greater. The portion of the Teton Fault mapped as active in the Quaternary is approximately 6.7 miles northwest of the site.

The USGS "Geologic Map of the Jackson Quadrangle, Teton County, Wyoming," J.D. Love and H.F. Albee, 2004, shows the postulated trace of the Cache Creek Thrust Fault a quarter mile south of the site and the East Gros Ventre Fault 400 feet west/northwest of the site. The Cache Creek Thrust Fault is not classified by the USGS as active. The East Gros Ventre fault is a Class B fault. Class B is defined as "geologic evidence demonstrates the existence of a fault or suggests Quaternary deformation, but either (1) the fault might not extend deeply enough to be a potential source of significant earthquakes or (2) the currently available geologic evidence is too strong to confidently assign the feature to Class C [which show insufficient evidence of faulting or deformation] but not strong enough to assign it to Class A [evidence demonstrates Quaternary faulting of tectonic origin]."

SITE INVESTIGATIONS

Field Investigations

On February 14 and 15, 2022, five borings, BH-1 through BH-5 were advanced at the locations shown on **Drawing 2 – Boring Location Map** in the Appendix. Borings were approximately located with a Leica Zeno 20 GPS unit to within 3 feet. Boring locations and depths were selected to best determine subsurface conditions throughout the project. All borings were backfilled with drilling spoils after logging was completed, asphalt patch was installed on the surface of BH-1 through BH-4, which were advanced in asphalt. Flush mounted monitoring wells were installed in BH-2 and BH-4.

IME of Riverton, Wyoming, drilled borings with a truck-mounted Mobile B-57 drill rig. All borings were advanced using a 7-inch outer-diameter (O.D.) hollow stem auger. Sampling was performed with 2-inch and 3-inch split-barrel (split-spoon) samplers per ASTM D1586. Andy Pruett, a Professional Geologist, Phil Gyr, PE, a Professional Engineer, and James Molloy, a Geologist-in-Training, all of Nelson Engineering, logged the borings and directed the sampling. Soils were classified in the field and logged by the geologist. The soil classifications, moisture conditions, and presence of organic or other notable features were

recorded in the field logs. Bulk samples were sealed in plastic bags and transported to our laboratory for testing and further classification. Undisturbed samples of fine-grained soils were obtained in Dames and Moore samplers for consolidation and unconfined compressive strength testing. Groundwater observations were made at the time of the boring advancement based on field observations of soil moisture conditions. Field observations and laboratory testing results are presented both on the boring logs and in the Laboratory Results sheets in the Appendix.

The stratification lines shown on the boring logs represent the approximate boundary between soil types. The actual in-situ transition may be either gradual or abrupt. Due to the nature and depositional characteristics of natural soils and fills, care should be taken in interpolating subsurface conditions beyond the location of the boreholes. Soil conditions can change rapidly in both the lateral and vertical directions. Groundwater conditions shown on the logs are only for the dates indicated.

The subsurface conditions were interpreted from the described boreholes at the site. The soil properties inferred from the field and laboratory analyses supported by our experience formed the basis for developing our conclusions and recommendations.

Samples obtained during the field investigation were taken to the laboratory where they were visually classified in accordance with ASTM Test Method D-2487-93, which is based on the Unified Soils Classification System. The soil samples stored in our laboratory will be discarded after 30 days from the date this report is submitted unless we receive a specific request to retain them.

SUBSURFACE CONDITIONS

Soil Profiles

Profiles consisted of surficial fills and silts overlying coarse-grained alluvial deposits overlying weathered sedimentary bedrock. BH-1 through BH-4 were advanced through the asphalt parking lot of the motel and underlying asphalt were gravel with sand fill to depths of 1 to 1.5 feet. Underlying fills and from the ground surface of BH-5, were frozen, moist, brown and dark brown silt with sand and gravel to 3 to 3.5 feet. Below silt deposits in all borings were gravels composed of medium to very dense, poorly graded gravel with silt and sand (GP) and occasional silty gravel with sand (GM) were encountered to depths of 18.5 to 23.5 feet. The majority of samples contained fractured angular gravels indicating the presence of larger gravels and cobbles. Well- and poorly-graded sand lenses/strata are common in these soils and have been found in nearby projects. Smooth moderate drilling observed in BH-3 from 17 to 19 feet is typical of drilling through sand strata. Weathered sedimentary bedrock was encountered at 25.5 feet in BH-1, 31.0 feet in BH-2, 31.5 feet in BH-3, 26.5 feet in BH-4, and 26.0 feet in BH-5. Bedrock consisted of highly to completely weathered and weak to friable gray, light gray, dark gray, olive green, and light brown intervals of dry to moist fine-grained, poorly graded sandstone, silty sandstone, siltstone, silty sandstone, and claystone. Some intervals were fully weathered into soil with most of the sandstone maintaining rock qualities. SPT N_{cor} corresponded to dense to very dense at all sampling intervals within unconsolidated soils with the exception of medium dense conditions at 10 feet in BH-1. SPT N_{cor} corresponded to medium dense to dense at all sampling intervals within weathered bedrock. Heave into the HSA occurred in BH-2 in sampling intervals at 15, 20, and 25 feet. Heaved material was composed of sand and fine gravels.

Groundwater
A partially confined aquifer within the alluvium is indicated with the underlying bedrock forming an aquiclude. Groundwater was observed during drilling in BH1-4, not in BH-5. Monitoring wells installed in BH-2 and BH-4 show water levels at about 11. 5 and 13.5 depth as measured in February. Moisture content of weathered bedrock in all borings was dry or moist. The absence an aquifer in BH-5 may be due to an aquiclude forming a localized dry area.

GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

General
This report addresses a multi-story commercial structure occupying the buildable space within the property. At the time of this report, both an underground parking garage and at grade parking were under consideration.

Seismic Design Parameters
The 2021 International Building Code (IBC) designates site class per ASCE 7 Chapter 20. Data obtained in this investigation is not sufficient to determine soil parameters as required by ASCE 7; therefore, the IBC directs that seismic coefficients and design spectra shall be determined using **Site Class D**, Latitude of **43.483°** and Longitude of **-110.765°**.

Groundwater Discussion
This area of northern Jackson is postulated to be underlain by a continuous partially to unconfined aquifer with extents to the north and east. Flat Creek is not directly connected to this aquifer as evidenced by water levels in the creek at higher elevation than water elevations in the monitoring wells. Flat Creek upstream of the town and recharge areas to the north and east are postulated as the natural recharge sources. Flood irrigation ditches in the Elk Refuge and the diversion of Gros Ventre River flows into Flat Creek may also contribute to seasonal fluctuations with high groundwater occurring in the late spring and summer.

Local Groundwater Data
Groundwater data from WYDEQ studies, nearby geotechnical investigations, and building records was researched and analyzed. Geotechnical investigations at 105 Mercill revealed groundwater depths of about 15 feet at seasonal winter lows. Monitoring well measurements near seasonal peak at 225 North Millward were about 16 feet in July in high water season. The hotel/commercial structure at 260 N. Millward has a basement, depth and flooding history unknown. The new Rusty Parrot building has a parking garage level with the deepest below groundwater depth that requires continuous pumping. Local area data shows aquifer depth varies over relatively short distances.

Flat Creek water surface elevation in the reach west of the property was measured in early March 2022 at 6010±.5'. Depth to water in BH-2 and BH-4 at 11.3 feet and 13.5 feet correlates to water elevation of 6106±1 and 6104.5±1 respectively. Direct hydraulic connection between creek and groundwater is not indicated, as expected from previous experience in the area.

The northeast motel building has a partial basement. NE performed an inspection of the motel basement; depth of floor below adjacent parking lot is estimated at about 9 feet putting the floor elevation in the range of 6108-9. There were no obvious high-water lines indicating past flooding.

Both creek elevation and water levels in the monitoring wells measured in February are data from the seasonal low. The magnitude of seasonal and long-term fluctuations in groundwater depth is not known with certainty however Wyoming DEQ records from prior investigations along Cache Street are available. Data was collected in monitoring wells over several years. Seasonal and long-term fluctuations of 5 or more feet above levels measured in mid-winter have occurred in these wells.

Conclusions

Absent long-term monitoring of seasonal peak elevations, conservatism is advised in planning new construction. Although the existing basement have not had water infiltration historically, this evidence is not conclusive in determining the piezometric elevation of high-water level during flood years due to clay and silt layers that may confined the aquifer. New construction of deeper basements would remove the confining layer, allowing flood year water levels to achieve shallower depths. **Therefore, we recommend that basement level construction shallower than 8 feet below asphalt at MW-2 should be both waterproof and consider buoyancy in structural designs.** Construction dewatering at depths below 10 feet dependent on season should be anticipated. Construction dewatering discharge may prove problematic as the TOJ will likely not permit discharge to the storm sewer system. Measurement of monitoring water elevation on a regular basis though a full year prior to construction is recommended.

Existing Underground Structures and Utilities

All existing foundations and utilities shall be removed within the proposed building footprints. Where debris and buried utilities are found during construction, they shall be removed and the excavations evaluated by this office.

Spread Footings

Spread footings bearing on dense, cobble and gravel deposits are appropriate foundation elements. If pockets of sand/silt/or clay are found at bottom of footings and slabs, these soils shall be removed until competent cobble and gravel soils are exposed. Backfill of existing foundations and structures beneath slabs and footings shall be structural fill. Where required, structural fill shall be placed to achieve footing grade. Subgrades beneath all footings and fills below foundations shall be compacted to a depth of 8 inches to 95% of maximum density per ASTM D698 (Standard Proctor).

A net allowable bearing capacity of **6000 PSF is appropriate.** The net allowable soil pressure includes dead load plus maximum live load. The above analysis assumes a **maximum width of 12.0 feet** for continuous footings and a **maximum dimension of 8 feet** for isolated footings. The net allowable soil pressure includes dead load plus maximum live load. These calculations assume a **minimum footing depth of 34 inches below existing grade** and that a maximum total settlement of 0.5 inches be tolerated on any one footing and the maximum differential settlement between footings that can be tolerated is 0.25 inches.

Bearing capacity values and settlement shall be checked for each combination of load to determine whether settlement or bearing capacity will control the response of the footing. Foundation elements supporting large concentrated loads should be analyzed on an individual basis to determine settlement and bearing characteristics**.** Other foundation parameters and restrictions are given below:

1. A one-third increase in allowable bearing capacity may be used for short duration loads such as wind or seismic.

2. Backfill against shallow foundations and stem walls shall conform to Drawing 3 in the Appendix. In no case shall material greater than 6 inches in diameter bear directly on or against foundation elements. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

Any soil type encountered at the bottom of footing excavations other than those described above should be analyzed by Nelson Engineering. Isolated boulders at footing grade should be excavated and removed unless approved by Nelson Engineering. Any excessively loose material or soft spots encountered in the footing subgrade will require over-excavation and backfilling with structural fill. All footings shall be suitably reinforced to make them as rigid as possible.

Lateral Earth Pressures

For this analysis, it is assumed that all foundation and retaining walls will be backfilled with structural fill per Drawing #3. Sloped backfill will result in higher lateral loading, if sloped fills are planned, lateral loading should be analyzed by this office. Adjacent foundations may affect lateral earth loading dependent on proximity. Lateral earth pressures from adjacent structures are not accounted for here.

Lateral loads may be resisted by friction between the footing base and supporting soil and lateral bearing pressure against the sides of the footings. Design parameters recommended are a **coefficient of friction of 0.45** at the footing base and a **lateral passive bearing pressure of 350 psf per foot of depth if compacted fills are carefully placed and tested.**

For foundation or stem walls restrained from movement such that active earth pressures will not be allowed to develop, an at-rest equivalent fluid pressure of **60 PCF** is appropriate. For foundation or stem walls with active earth pressure loading, an equivalent fluid pressure of **40 PCF** is appropriate.

The Mononobe-Okabe (M-O) equations are often used to estimate dynamic forces against retaining walls. The M-O analysis is theoretically derived using active earth pressure conditions. Although there is debate about the theoretical applicability of this methodology to restrained or rigid walls, the method has been used for many years for the seismic design of such walls. The performance record of underground walls during earthquakes has generally been good. Appropriate parameters for the M-O analysis are: 1) soil unit weight 135 pounds per cubic foot, 2) Internal Friction Angle= 34˚. The more limiting case, at-rest or active seismic pressure, shall be utilized in the structural design of restrained or rigid retaining walls.

Shoring, Underpinning, Excavation Slopes

Shoring will be required for excavations occurring near property lines. Stabilizing underground utilities, adjacent foundations, excavation slopes, and other features may be required. Loads and location of the foundation elements of all adjacent structures and infrastructure should be thoroughly researched and understood by project designers. Utility locations should be thoroughly researched and understood by project designers

Shoring and underpinning design and construction is typically delivered by specialty design-build contractors. Soil nail and soldier pile walls are most commonly utilized for deep excavation shoring. Shoring and underpinning designs should be performed by engineers licensed in Wyoming with experience in this type of work. Shoring and underpinning should be performed by experienced geostructural contractors.

Conservatively assigned soil properties appropriate for shoring and underpinning design based on soil properties found the borings. Shoring designers are responsible for designs that address all aspects of shoring designs and are responsible for determining if additional investigations are necessary for adequate shoring design.

Table 1: Soil Properties for Shoring and Underpinning

Soil Type:	Dense to Very Dense Gravels w/Cobble
Moist Unit Weight (γ) =	135
Cohesion (c) =	25
Effective Friction Angle (Φ') =	35

Interior Slabs-On-Grade

Interior slabs shall be founded upon the following section from top to bottom: 1) a leveling course mat 4 inches in thickness composed of clean pea gravel or WYDOT Grade GR or equivalent compacted to a minimum of 95% of maximum density as determined by ASTM D 698, 2) 12 inches of structural fill, 3) native subgrade compacted to >95% of Standard Proctor maximum density. *Where suitably dense gravels are found at subgrade, structural fill thickness may be reduced if approved by this office.*

Concrete slab-on-grade control joints should be saw-cut as early as possible. Nelson Engineering recommends the use of a soft cut system, which allows saw cutting as soon as the concrete can support foot traffic. Successful crack control is dependent upon proper joint spacing. Control joints should be placed in accordance with current Portland Cement Concrete Paving Association guidelines.

Sidewalks and Exterior Slabs

Sidewalks and exterior concrete slabs for foot traffic shall be placed upon a minimum of 3 inches of ¾-inch minus crushed gravel placed on 6 inches of structural fill. Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill. Where suitably dense gravels are found at subgrade, structural fill thickness may be reduced if approved by this office. All fill material within 2

feet of the slabs must be compacted to a minimum 95% of the maximum density as determined by ASTM D698.

Roadway and Parking Lot Sections

The section given here is based on providing a stable surface for construction traffic and will provide a satisfactory final paved section based on the assumed traffic loading. Design traffic loading is estimated as no traffic data is available. The section given may be reduced where competent gravel subgrades is encountered consultation with this office.

PAVEMENT SECTION COMPONENTS	
Asphalt	3 inches
Grade GR Crushed Aggregate Compacted to 95% Max. Per ASTM D698	4 inches
6 inch minus Clean Pit Run Structural Fill subbase	8 inches
Subgrade Compacted to >95% of Standard Proctor	

*See Discussion above

Construction Observation and Testing

The recommendations provided in this report are based on subsurface conditions disclosed by the investigation and our general experience in the project area. Interpolated subsurface conditions should be verified in the field during construction. The following items shall be conducted prior/during construction by a representative of Nelson Engineering (NE) in order to verify compliance with the geotechnical and civil engineering recommendations provided herein, as applicable. The project structural and geotechnical engineers may upgrade any condition as deemed necessary during the development of the proposed improvements.

- Review of final approved grading and structural plans prior to the start of work for compliance with geotechnical recommendations.
- Attendance of a pre-grade/construction meeting prior to the start of work.
- Observation of keyways, subgrade and excavation bottoms.
- Testing of any fill placed, including retaining wall backfill.
- Observation of footing excavations prior to steel placement and removal of excavation equipment.
- Field observation of any "field change" condition involving soils.
- Walk through of final drainage detailing prior to final approval.

The project soils engineer may at their discretion deepen footings or locally recommend additional steel reinforcement to upgrade any condition as deemed necessary during site observations. Nelson Engineering shall, prior to the issuance of the certificate of occupancy, issue in writing that the above inspections have been conducted by a representative of their firm, and the design considerations of the project soils report have been met. The field inspection protocol specified herein is considered the minimum necessary for NE to have exercised due diligence in the soils engineering design aspect of this building. NE assumes no liability for structures constructed utilizing this report not meeting this protocol.

Before commencement of grading Nelson Engineering will require a separate contract for quality control observation and testing. A minimum of 48 hours' notice is required to mobilize onsite for field observation and testing.

CONSTRUCTION CONSIDERATIONS

Earthwork and Site Grading

Excavation work and heavy equipment access will be difficult during wet periods due to soft and loose subgrades. During wet conditions, conditions will deteriorate. A protracted period of wet conditions can be expected during and after seasonal snowmelt. **Placement of imported gravels supported by geotextiles and/or geogrid may be required to provide construction access and to provide platforms for equipment during wet periods.** Utility trenches will encounter groundwater at shallow depths. General recommendations for earthwork suitability, placement, and compaction procedures are provided below:

- Within the building footprints and areas to be paved, a minimum of 6 inches of material shall be stripped and removed. Beneath all footings, a minimum of 1 foot of material shall be stripped and removed. All organic material, deleterious undocumented fill, and debris shall be removed regardless of depth below the surface. Loose and disturbed native soils should be scarified, moisture-conditioned, and compacted. Finish surfaces shall be sloped away from foundations.

- Fill materials shall not be placed, spread, or compacted while the ground is frozen or during unfavorable weather conditions. Fill materials shall be at the proper moisture content prior to compaction and shall contain no frozen soil.

- Native subgrade shall be compacted with vibratory equipment appropriate for the soil types. Where soft and loose or over moist areas are encountered that do not improve with repeated compactive effort, replace native soils with structural fill.

- Moisture shall be prevented from saturating clay containing subgrades and bearing soils during construction. Measures to prevent moisture infiltration include grading during construction to drain storm water from exposed excavations. In the event that moisture has been allowed to infiltrate and soften subgrade or bearing soils, excavation and backfill operations should cease and not resume until Nelson Engineering approves the moisture and density conditions of the soils.

- **Structural Fill** shall consist of Clean Rock Fill or Crushed Concrete, or gravels (USCS classification GW or GP).
  Gravels shall have the following characteristics: 6-inch maximum particle size with no more than 40% greater than 2" and no more than 5% fines passing the #200 sieve. Structural fill shall be placed in layers of not more than 8 inches in thickness. Each layer of structural fill should be moisture conditioned to within 2% of optimum moisture content and compacted to a minimum density of 95% of the maximum dry density as determined by ASTM Designation D 698. The maximum density of material containing more than 30% oversize (greater than ¾" diameter) cannot be determined by use of the ASTM Designation D 698. In this case, a field maximum density may be determined by a test strip method. The material shall be compacted at or near optimum moisture content and a field density test shall be

taken after each pass of the compaction equipment. This sequence shall continue until the maximum field density is achieved. This maximum field density shall be used for subsequent field compaction tests. Enough density tests should be taken to monitor proper compaction.

Crushed Concrete shall meet the gradation requirements of gravels and shall be free of all debris and rebar. Proposed gradation, source, and compaction methods shall be submitted to Nelson Engineering for approval prior to use.

Clean Rock fill consisting of hard durable crushed or screened rock of 3/4"-4" size. Proposed gradation, source, and compaction methods shall be submitted to Nelson Engineering for approval prior to use.

Crushed Concrete and Clean Rock fill compaction testing shall consist of proof rolling with loaded rubber-tired equipment observed and approved of NE. Crushed Concrete and Clean Rock may be used beneath the water table with approval from NE.

- Safety of construction personnel including safe trenches and excavations are the responsibility of the contractor. Excavations for retaining walls and foundations shall conform to the applicable OSHA and Wyoming safety standards. Excavations and utility trenches shall be laid back to safe slopes or properly shored. Excavations and shoring operations shall be conducted in accordance with the most recent versions of the OSHA Construction Standards for Excavations, Part 1926, Subpart P and Wyoming Public Works Standard Specifications. Excavations for utilities shall be shored if the proper slope cannot be maintained.

- During earthwork phases of the project, a representative of Nelson Engineering shall be present to observe exposed native soils and fill materials for suitability and consistency. A documented testing program should be conducted to determine that soil compaction is in accordance with requirements.

- Backfill placed against structures (i.e., pipes and walls) shall be of a character and in a manner that will not damage that structure. In no case shall material greater than 6 inches in diameter bear directly on or against these structures. Placing oversized material against rigid surfaces can damage the structure and interferes with proper compaction.

GENERAL COMMENTS

Project designers should consult with this office to ensure compliance with this report when project plans are formulated. Additional or supplementary recommendations concerning foundations and earthwork may be required at that time. It is critical that the structural engineer, civil engineer and other project designers review this report.

Monitoring and testing should be performed to verify that suitable materials are used for structural fills and backfills and that fills are properly placed and compacted. Concrete testing and special inspections should be performed prior to and during placement of all concrete to ensure concrete and reinforcing steel bar comply with project plans and specifications.

WARRANTY AND LIMITING CONDITIONS

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above. Nelson Engineering warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology, only for the site described in this report. No other warranties are implied or expressed.

These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the subject property within the scope cited above and are limited to the conditions observed at the time of the site visit and research. There is a distinct possibility that conditions may exist which could not be identified within the scope of the investigation or which were not apparent during the site investigation. The report is also limited to the information available at the time it was prepared. In the event additional information is provided to Nelson Engineering following this report, it will be forwarded to the client in the form received for evaluation by the client. This report was prepared for use by 245 265 Millward LLC c/o Kaikoa LLC ("Client") and the conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in the report and the contract for professional services between Client and Nelson Engineering ("Consultant"). Use or misuse of this report, or reliance upon the findings hereof by any parties other than the Client, is at their own risk. Neither the Client nor Consultant may make any representation of warranty to such other parties as to the accuracy or completeness of this report or the suitability of its use by such other parties for any purpose whatsoever, known or unknown, to the Client or Consultant. Neither 245 265 Millward LLC c/o Kaikoa LLC nor Nelson Engineering shall have any liability to or indemnifies or holds harmless third parties for any losses incurred, by the actual or purported use or misuse of this report. No other warranties are implied or expressed.

Philip Gyr, PE
Geotechnical Engineer

GEOTECHNICAL GENERAL NOTES

CORRECTED SPT: Standard Penetration Test values corrected to $N1_{60}$ correcting for theoretical free-fall hammer energy and overburden pressure per 7th edition of the AASHTO Bridge Design Specifications.

DRILLING, SAMPLING, AND SOIL PROPERTIES ABBREVIATIONS AND SYMBOLS

N: Standard Penetration Test
U_c: Unconfined compressive strength, Pounds/ft^2 (PSF)
Pp: Pocket Penetrometer values, Ton/ft^2 (TSF)
FILGC: Fragments indicate gravels and cobbles larger than split spoon diameter.
w: Water content, %
LL: Liquid limit, %
PI: Plasticity index, %
gd: In-situ dry density, lbs/ft^3 (PCF)
▽: Ground water level
SS: Split-Spoon Sample
ST: Shelby Tube Sampler
CS: Cylindrical Brass Lined Sample


Monitoring Well, diagonal hatching indicates screen and sand packed interval

SOIL RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

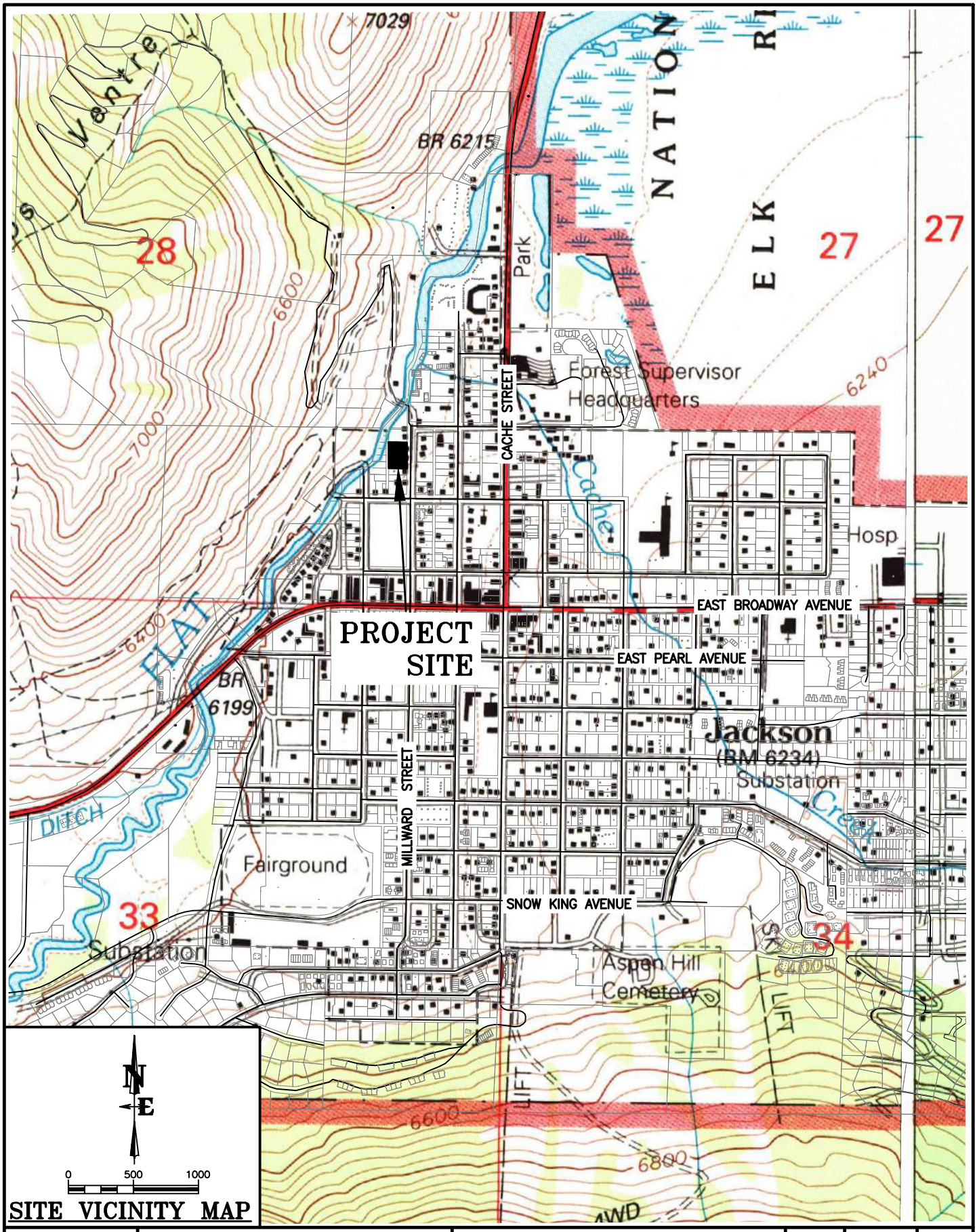
Non-Cohesive Soils	SPT	Cohesive Soils	Pp-(tons/ft^2)
Very Loose	0 - 4	Very Soft	0 - 0.25
Loose	4 - 10	Soft	0.25 - 0.50
Slightly Compact	8 - 15	Medium Stiff	0.50 - 1.00
Medium Dense	10 - 30	Stiff	1.00 - 2.00
Dense	30 - 50	Very Stiff	2.00 - 4.00
Very Dense	50+	Hard	4.00+

PARTICLE SIZE

Boulders:	12 in.+	**Coarse Sand:**	5 mm(#4)-2 mm(#10)	**Silts and Clays:** **<#200**
Cobbles:	12 in.-3in.	**Medium Sand:**	2 mm(#10)-0.4mm(#40)	
Gravel:	3in.-5mm(#4)	**Fine Sand:**	0.4mm(#40)-0.075mm(#200)	

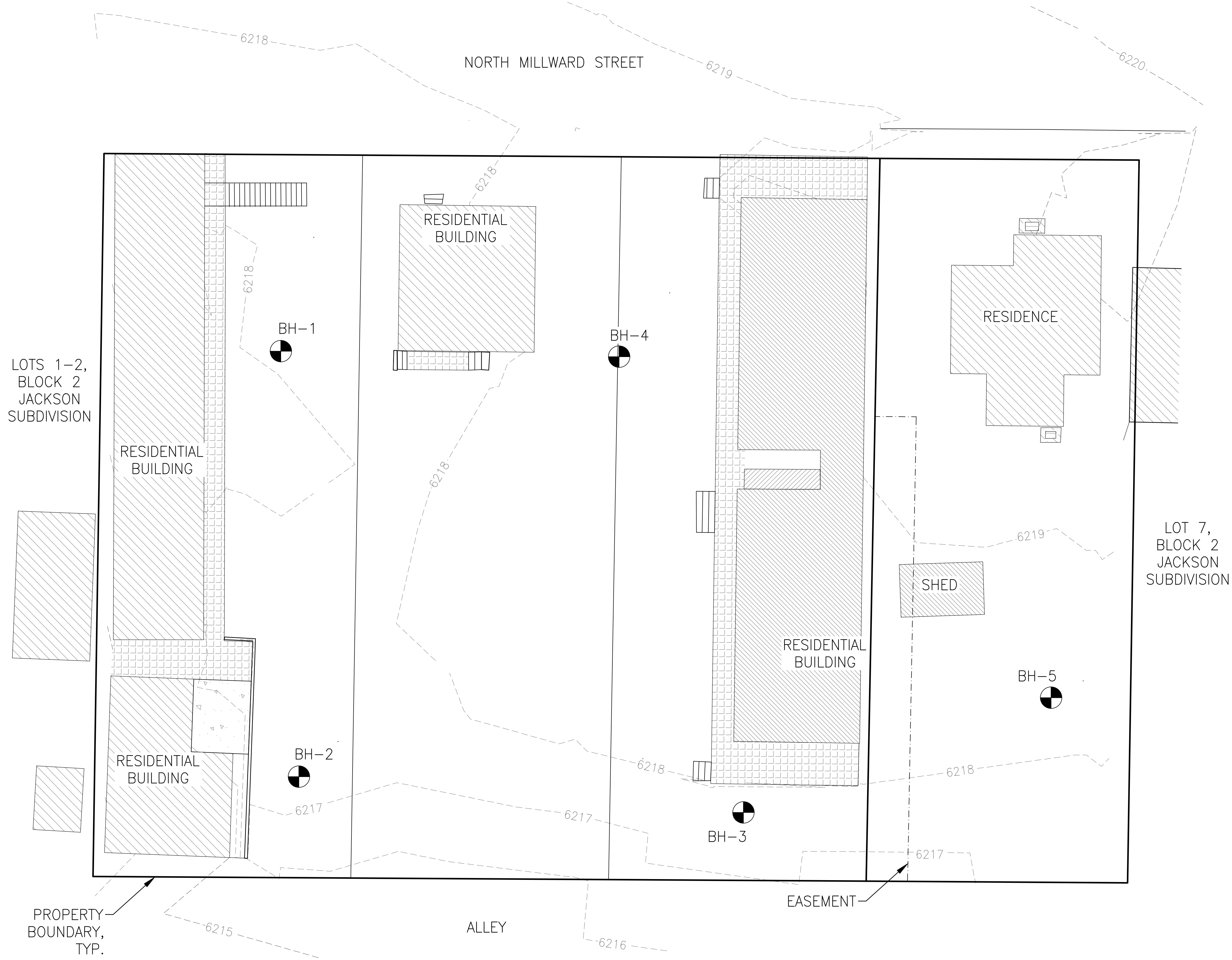
APPENDIX

DRAWINGS



SITE VICINITY MAP

DRAWING NO 1	TITLE 245 & 265 N MILLWARD STREET LOTS 3-6, BLOCK 2, JACKSON GEOTECHNICAL INVESTIGATION	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	2/28/2022	REV.
JOB NO 22-020-02			SURVEYED	-	
			DRAWN	AP	
			CHECKED	PG	
			APPROVED	PG	



0 20 40

NOTES:

1. PROPERTY BOUNDARIES, EXISTING SITE FEATURES AND TOPOGRAPHY PER SURVEY BY NELSON ENGINEERING.
2. BORINGS LOCATED WTIHIN ±3 FEET BY GPS.
3. FLUSH MOUNT MONITORING WELLS INSTALLED IN BH-2 AND BH-4.

DATE	2/28/2022
SURVEYED	NE
ENGINEERED	AP
DRAWN	AP
CHECKED	PG
APPROVED	PG

REV.

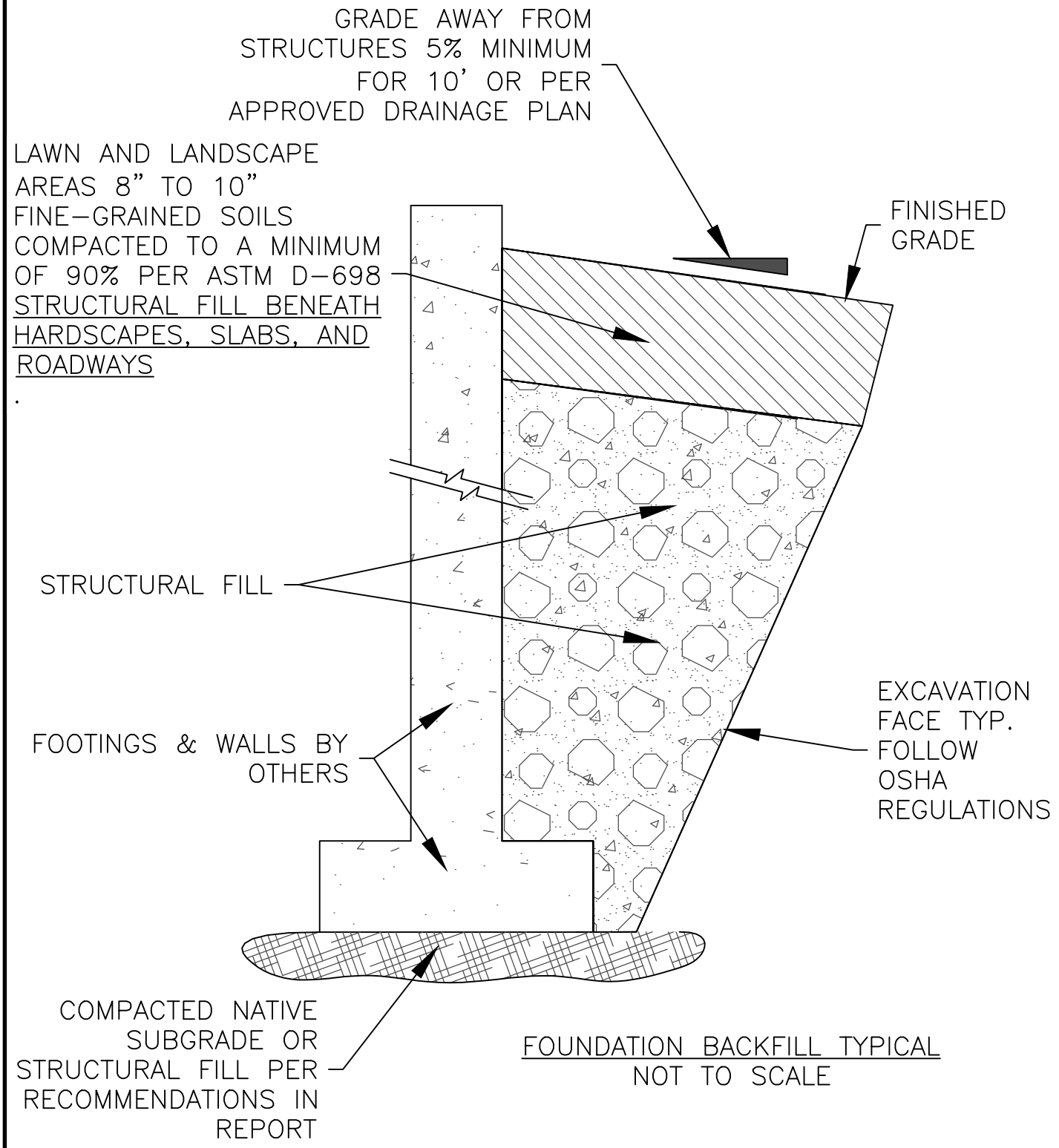
NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
BORING LOCATION MAP

JOB TITLE
245 & 265 NORTH MILLWARD STREET
LOTS 3 - 6, BLOCK 2, JACKSON
GEOTECHNICAL INVESTIGATION

DRAWING NO
2

JOB NO
22-020-02



FOUNDATION BACKFILL TYPICAL
NOT TO SCALE

DRAWING NO 3	TITLE 245&265 N. MILLWARD	NELSON ENGINEERING	DATE	3/2/22	REV.
JOB NO 22-020-2	FOUNDATION BACKFILL TYPICAL	P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	SURVEYED	N/A	
			DRAWN	PG	
			CHECKED	PG	
			APPROVED	PG	

BORING LOGS

GEOTECHNICAL GENERAL NOTES

CORRECTED SPT: Standard Penetration Test values corrected to $N1_{60}$ correcting for theoretical free-fall hammer energy and overburden pressure per 7th edition of the AASHTO Bridge Design Specifications.

DRILLING, SAMPLING, AND SOIL PROPERTIES ABBREVIATIONS AND SYMBOLS

N: Standard Penetration Test
U_c: Unconfined compressive strength, Pounds/ft^2 (PSF)
Pp: Pocket Penetrometer values, Ton/ft^2 (TSF)
FILGC: Fragments indicate gravels and cobbles larger than split spoon diameter.
w: Water content, %
LL: Liquid limit, %
PI: Plasticity index, %
gd: In-situ dry density, lbs/ft^3 (PCF)
▽: Ground water level
SS: Split-Spoon Sample
ST: Shelby Tube Sampler
CS: Cylindrical Brass Lined Sample


Monitoring Well, diagonal hatching indicates screen and sand packed interval

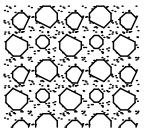
SOIL RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

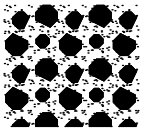
Non-Cohesive Soils	SPT	Cohesive Soils	Pp-(tons/ft^2)
Very Loose	0 - 4	Very Soft	0 - 0.25
Loose	4 - 10	Soft	0.25 - 0.50
Slightly Compact	8 - 15	Medium Stiff	0.50 - 1.00
Medium Dense	10 - 30	Stiff	1.00 - 2.00
Dense	30 - 50	Very Stiff	2.00 - 4.00
Very Dense	50+	Hard	4.00+

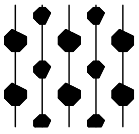
PARTICLE SIZE

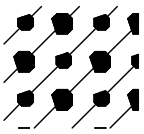
Boulders:	12 in.+	**Coarse Sand:**	5 mm(#4)-2 mm(#10)	**Silts and Clays:** **<#200**
Cobbles:	12 in.-3in.	**Medium Sand:**	2 mm(#10)-0.4mm(#40)	
Gravel:	3in.-5mm(#4)	**Fine Sand:**	0.4mm(#40)-0.075mm(#200)	

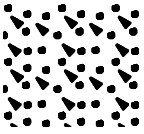
SOIL GRAPHICS

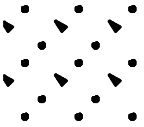
GW 

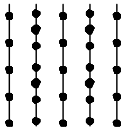
GP 

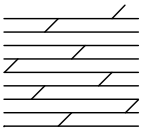
GM 

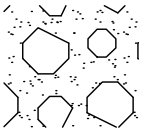
GC 

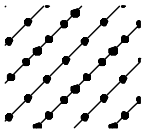
SW 

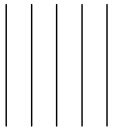
SP 

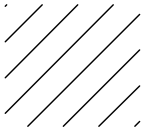
SM 

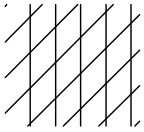
BEDROCK 

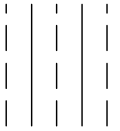
COBBLES/BOULDERS 

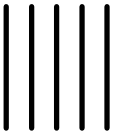
SC 

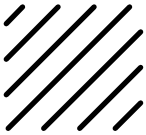
ML 

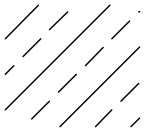
CL 

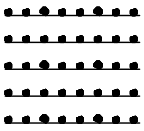
ML–CL 

OL 

MH 

CH 

OH 

PT 

NOTE: ANGLED DEMARCATIONS ON THE LOGS INDICATE APPROXIMATE OR POORLY DEFINED BOUNDARIES BETWEEN SOIL TYPES.

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

PROJECT NAME: **245 & 265 NORTH MILLWARD STREET**	**DRILL HOLE No. BH-1**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **2/14/2022**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **TRUCK-MOUNTED MOBILE B57**	
BOREHOLE LOCATION/ELEVATION: **SEE BOREHOLE LOCATION MAP**	HOLE DIAMETER: **7" O.D. HSA (HOLLOW STEM AUGER)**	
	HAMMER TYPE: **140# AUTOMATIC**	

This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY %	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		1						FILL TO ~1' B.G.S.						PARKING LOT, ASPHALT G.S.
		2	10 12			BH1-1 2" SS	94	1.5'–3.0' FROZEN, BROWN SILT WITH SAND AND GRAVEL, TOPSOIL, ~15% GRAVEL, NO PINHOLE VOIDS, NO ROOTS, GRAVEL LODGED IN TIP OF SPLIT SPOON			69			BIT GRINDING BELOW ASPHALT–1'
		3	19											SMOOTH DRILLING 1'–3'
		4												MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 3'–18.5'
		5	5					5.0'–6.5' DRY, BROWN GRAVEL WITH SAND AND SILT, POORLY-GRADED, ROUND TO ANGULAR AND FRACTURED						
		6	13 19			BH1-2 2" SS	67	GRAVELS, FILGC, VERY DENSE			57			
		7												14 MINUTES TO DRILL FROM 5'–10'
		8												
		9												
		10	5					10.0'–11.5' SAME AS ABOVE, MEDIUM DENSE						
		11	7 11			BH1-3 2" SS	56				27			8 MINUTES TO DRILL FROM 10'–15'
		12												
		13												SATURATED SOILS IN TIP OF CENTER DRILL BIT AT 15'
▼		14						GROUNDWATER AT 14.5' DURING DRILLING						
		15	10					15.0'–16.5' SOIL AS ABOVE, SATURATED, VERY DENSE						4 MINUTES TO DRILL FROM 15'–19'
		16	27 24			BH1-4 2" SS	78				71			
		17												MODERATE SMOOTH DRILLING FROM 18.5'–20.75'
		18												
		19	4					19.0'–20.5' 0"–5" MOIST, OLIVE GREEN SILTY SAND, COMPLETELY WEATHERED SANDSTONE, GRAVELS IN TOP 1". 5"–10" MOIST, DK GRAY CLAY, COMPLETELY						
		20	5 10			BH1-5 2" SS	56	WEATHERED CLAYSTONE, PP=2.5–3.5 TSF, VERY STIFF			19			
		21												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

PROJECT NAME: 245 & 265 NORTH MILLWARD STREET **DRILL HOLE No. BH-1** PAGE: 2 OF 2

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		22												HARD, SMOOTH DRILLING FROM 20.75'-BOH
		23												
		24	8											6 MINS TO DRILL FROM 19'-24'
			15			BH1-6 2" SS	94	24.0'-25.5' MOIST, GRAY SANDSTONE, COMPOSED OF POORLY-GRADED FINE SAND, SALT AND PEPPER GRAINS, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, VERY DENSE			63			
		25	39					B.O.H. = 25.5'						BOREHOLE CAVED TO 13.1' AFTER HSA REMOVAL
		26												
		27												
		28												
		29												
		30												
		31												
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40												
		41												
		42												
		43												
		44												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: 245 265 MILLWARD LLC
JACKSON, WYOMING

PROJECT NAME: **245 & 265 NORTH MILLWARD STREET**	**DRILL HOLE No. BH-2** PAGE: **1 OF 2**
DATE STARTED / FINISHED: **2/14/2022**	DRILLER: **IME**
LOGGED BY: **PRUETT**	DRILL TYPE: **TRUCK-MOUNTED MOBILE B57**
BOREHOLE LOCATION/ELEVATION: **SEE BOREHOLE LOCATION MAP**	HOLE DIAMETER: **7" O.D. HSA (HOLLOW STEM AUGER)**
	HAMMER TYPE: **140# AUTOMATIC**

This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.

DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY %	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
0						*FILL TO ~1.5' B.G.S.*						*PARKING LOT, ASPHALT G.S.*
1												
2	7											*MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM BELOW ASPHALT-23.5'*
3	11			BH2-1 2" SS	89	*2.0'-3.5' FROZEN, BROWN SILT WITH SAND AND GRAVEL, TOPSOIL, ~15% GRAVEL, NO PINHOLE VOIDS, NO ROOTS*			51			
4	13											
5	11			BH2-2 2" SS	83	*4.5'-6.0' DRY, GRAY/BROWN GRAVEL WITH SAND AND SILT, POORLY-GRADED, ROUND TO ANGULAR AND FRACTURED GRAVELS, FILGC, VERY DENSE*			102			
6	29											*8 MINUTES TO DRILL FROM 4.5'-9.5'*
7	27											
8												
9												
10	9			BH2-3 2" SS	67	*9.5'-11.0' SAME AS ABOVE, MOIST TO SATURATED, SATURATED SOILS IN TIP OF SPLIT SPOON*			61			
11	16											
12	24					*GROUNDWATER MEASURED AT 11.3' ON 2/15/2022*						*5 MINUTES TO DRILL FROM 9.5'-14.5'*
13												*FASTER DRILLING THROUGH SATURATED GRAVELS FROM 13'-23.5'*
14	8											
15	21			BH2-4 2" SS	83	*14.5'-16.0' 0"-3" SAND AND GRAVEL HEAVE 3"-15" SAME AS ABOVE, SATURATED, GRAVEL LODGED IN TIP OF SPLIT SPOON*			56			
16	19											
17												*4 MINUTES TO DRILL FROM 14.5'-19.5'*
18												
19												
20	17			BH2-5 2" SS	133	*19.5'-21.0' 0"-12" SAND AND GRAVEL HEAVE 12"-24" SAME AS ABOVE*			81			
21	30											
	31											

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

PROJECT NAME: 245 & 265 NORTH MILLWARD STREET **DRILL HOLE No. BH-2** PAGE: 2 OF 2

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		22												*5 MINUTES TO DRILL FROM 19.5'–24.5'*
		23												*MODERATE TO HARD, SMOOTH DRILLING FROM 23.5'–BOH*
		24												
		25	6 13 16			BH2-6 2" SS	72	*24.5'–26.0' 0"–2" HEAVED SAND* *2"–13" DRY, GRAY SANDSTONE, POORLY–GRADED, FINE SAND, SALT AND PEPPER GRAINS, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, DENSE*			34			
		26												
		27												*10 MINUTES TO DRILL FROM 24.5'–29.5'*
		28												
		29						*29.5'–31.0' 0"–7" MOIST GRAY SILTSTONE, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, PP>4.0 TSF*						
		30	6 10 17			BH2-7 2" SS	72	*7"–13" MOIST, GRAY/DK GRAY CLAYSTONE, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, PP>4.0 TSF, MEDIUM DENSE*			29			
		31						*B.O.H. = 31.0'*						
		32						*MONITORING WELL CONSTRUCTION:* *LENGTH OF PIPE = 29' (1.5"ø PVC, FLUSH MOUNTED)* *SLOTTED EVERY 6" FROM 9.6' TO 29.6'* *PIPE STICKUP = –0.6'*						
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40												
		41												
		42												
		43												
		44												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

PROJECT NAME: **245 & 265 NORTH MILLWARD STREET**	**DRILL HOLE No.** BH-3 PAGE: 1 OF 2
DATE STARTED / FINISHED: **2/15/2022**	DRILLER: **IME**
LOGGED BY: **GYR/MOLLOY**	DRILL TYPE: **TRUCK-MOUNTED MOBILE B57**
BOREHOLE LOCATION/ELEVATION: **SEE BOREHOLE LOCATION MAP**	HOLE DIAMETER: **7" O.D. HSA (HOLLOW STEM AUGER)**
	HAMMER TYPE: **140# AUTOMATIC**

This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.

DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY %	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
0						*FILL TO ~1.5' B.G.S.*						*PARKING LOT, ASPHALT G.S. ROCKY DRILLING, MOD. COBBLES TO 2'*
1												
2						*FROM 2.0'-3.5', FROZEN, BROWN SILT WITH SAND AND GRAVEL, TOPSOIL*						*SMOOTH DRILLING FROM 2'-3.5'*
3												
4												*MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING FROM 3.5'-7'*
5	26			BH3-1 2" SS	40	*5.0'-5.8' DRY TO MOIST, LT GRAY GRAVEL WITH SAND AND SILT, POORLY-GRADED, ROUND TO ANGULAR AND FRACTURED GRAVELS, FILGC, VERY DENSE*			>50			
6	50/4"											
7												*SMOOTH MODERATE DRILLING FROM 7'-8.5'*
8												
9												
10	15					*10.0'-11.5' SAME AS ABOVE*						
11	41			BH3-2 2" SS	78				107			*SMOOTH DRILLING OCCASIONAL GRAVELS FROM 11.5'-13'*
12	32											
13												*SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 13'-17'*
14												
15	15					*15.0'-16.5' SAME AS ABOVE*						
16	28			BH3-3 2" SS	72				69			
17	25											*SMOOTH, MODERATE DRILLING FROM 17'-19'*
18						*GROUNDWATER ENCOUNTERED BETWEEN 16.5' AND 20' DURING DRILLING*						
19												*MODERATE DRILLING WITH BIT GRINDING FROM 19'-22'*
20	15					*20.0'-21.5' SAME AS ABOVE, SATURATED*						
21	34			BH3-4 2" SS	61				69			

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

PROJECT NAME: 245 & 265 NORTH MILLWARD STREET **DRILL HOLE No. BH-3** PAGE: 2 OF 2

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		22	22											SMOOTH, MODERATE TO HARD DRILLING FROM 22'-26
		23												
		24												
		25	7			BH3-5 2" SS	89	25.0'-26.5' SLIGHTLY MOIST, GRAY SANDSTONE, POORLY-GRADED, FINE SAND, SALT AND PEPPER GRAINS, HIGHLY TO COMPLETELY WEATHERED, FRIABLE, DENSE			32			
		26	12											SMOOTH, HARD DRILLING BELOW 26'
			17											
		27												
		28												
		29												
		30	18					30.0'-31.5' SAME AS ABOVE, VERY DENSE						BORING CAVED TO 17.6' AFTER HSA REMOVAL
			27			BH3-6 2" SS	89				65			
		31	36					B.O.H. = 31.5'						
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40												
		41												
		42												
		43												
		44												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: 245 265 MILLWARD LLC
JACKSON, WYOMING

PROJECT NAME: **245 & 265 NORTH MILLWARD STREET**	**DRILL HOLE No. BH-4** PAGE: **1 OF 2**
DATE STARTED / FINISHED: **2/15/2022**	DRILLER: **IME**
LOGGED BY: **MOLLOY/PRUETT**	DRILL TYPE: **TRUCK-MOUNTED MOBILE B57**
BOREHOLE LOCATION/ELEVATION: **SEE BOREHOLE LOCATION MAP**	HOLE DIAMETER: **7" O.D. HSA (HOLLOW STEM AUGER)**
	HAMMER TYPE: **140# AUTOMATIC**

This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.

DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY %	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
0						*FILL TO ~1.5' B.G.S.*						*PARKING LOT, ASPHALT G.S.*
1												
2												*SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM BELOW ASPHALT–23.5'*
3												
4												
5	25											
6	33			BH4-1 2" SS	78	*5.0'–6.5' SLIGHTLY MOIST, GRAY/LT BROWN GRAVEL WITH SAND AND SILT, POORLY-GRADED, ROUND TO ANGULAR AND FRACTURED GRAVELS, FILGC, VERY DENSE*			144			
	50											*11 MINUTES TO DRILL FROM 5'–10'*
7												
8												
9												
10	12			BH4-2 2" SS	89	*10.0'–11.5' SAME AS ABOVE, GRAVEL LODGED IN TIP OF SPLIT SPOON*			97			*8 MINUTES TO DRILL FROM 10'–15'*
	38											
11	28											
12												*FASTER DRILLING WITH BIT GRINDING FROM 12'–13.5'*
13						*GROUNDWATER MEASURED AT 13.5' ON 2/15/2022, ~2 HOURS AFTER DRILLING*						
14												
15	18			BH4-3 2" SS	72	*15.0'–16.5' SAME AS ABOVE, SATURATED, GRAVEL LODGED IN TIP OF SPLIT SPOON*			74			
	29											
16	25											
17	13			BH4-4 3" DM	100	*17.0'–18.0' SAME AS ABOVE, DENSE*			43			
	35											
18												
19												
20	11			BH4-5 3" DM	83	*20.0'–21.0' MOIST, LT BROWN/GRAY SANDSTONE, POORLY-GRADED, FINE SAND, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, MEDIUM DENSE*			23			*SMOOTH, MODERATE TO HARD DRILLING FROM 19.5'–BOH*
21	17											

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

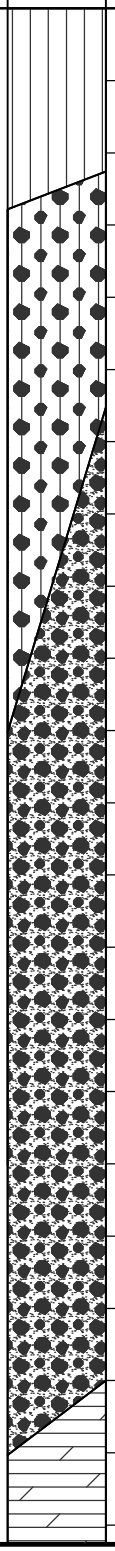
PROJECT NAME: 245 & 265 NORTH MILLWARD STREET | **DRILL HOLE No. BH-4** | PAGE: 2 OF 2

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		22–44												SMOOTH, MODERATE TO HARD DRILLING FROM 19.5'–BOH
		25	22 35 48			BH4-6 2" SS	78	25.0'–26.5' SAME AS ABOVE, VERY DENSE			94			
		26						B.O.H. = 26.5'						
								MONITORING WELL CONSTRUCTION: LENGTH OF PIPE = 24.5' (1.5"ø PVC, FLUSH MOUNTED) SLOTTED EVERY 6" FROM 11.3' TO 26.3' PIPE STICKUP = –0.8'						

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: 245 265 MILLWARD LLC
JACKSON, WYOMING

PROJECT NAME: **245 & 265 NORTH MILLWARD STREET**	**DRILL HOLE No. BH–5**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **2/15/2022**	DRILLER: **IME**	
LOGGED BY: **MOLLOY/PRUETT**	DRILL TYPE: **TRUCK–MOUNTED MOBILE B57**	
BOREHOLE LOCATION/ELEVATION: **SEE BOREHOLE LOCATION MAP**	HOLE DIAMETER: **7" O.D. HSA (HOLLOW STEM AUGER)**	
	HAMMER TYPE: **140# AUTOMATIC**	



DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY %	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
						This log is part of a report prepared by Nelson Engineering for this project and should be read with the report. This summary applies only at the location of the boring and at the time of the drilling. Subsurface conditions may differ at other locations and may change at this location with passage of time. The data presented is a simplification of actual conditions encountered.						
1						*SURFICIAL DEPOSITS ARE FROZEN DK BROWN TO DK BROWN SILT TOPSOIL TO ~3'*						*GRASSY LAWN AREA BEHIND RESIDENCE AT 245 N MILLWARD*
2	7											
3	10			BH5–1 2" SS	83	*2.0'–3.5' 0"–9" DRY, LT BROWN SILT, WHITE CALCAREOUS STRINGERS*			78			*SMOOTH DRILLING 0'–3'*
	28					*9"–15" DRY, LT BROWN SILTY GRAVEL, ROUND TO ANGULAR AND FRACTURED GRAVELS, FILGC, VERY DENSE*						*SLOW, HARD DRILLING WITH CONSTANT BIT GRINDING FROM 3'–20'*
4												
5	50			BH5–2 2" SS	100	*5.0'–5.5' SAME AS SILTY GRAVEL ABOVE*			>50			
6												*DRILLING THROUGH 12" COBBLE AT 6'–7'*
7												
8												*10 MINUTES TO DRILL FROM 5'–10'*
9												
10	17											
11	26			BH5–3 2" SS	78	*10.0'–11.5' DRY, LT BROWN GRAVEL WITH SAND, ROUND TO ANGULAR AND FRACTURED GRAVELS, FILGC, VERY DENSE*			60			
	15											
12												
13												
14												
15	9											
	45			BH5–4 2" SS	83	*15.0'–16.5' SAME AS ABOVE, POORLY–GRADED FINE SAND LENS FROM 6"–9"*			108			
16	38											
17												
18												
19												
20	6											
	13			BH5–5 3" DM	100	*20.0'–21.0' MOIST, LT BROWN SANDSTONE, POORLY–GRADED, FINE SAND, HIGHLY TO COMPLETELY WEATHERED, WEAK TO FRIABLE, MEDIUM DENSE*			15			*HARD, SMOOTH DRILLING FROM 20.0'–BOH*
21												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733–2087

CLIENT: **245 265 MILLWARD LLC**
JACKSON, WYOMING

PROJECT NAME: 245 & 265 NORTH MILLWARD STREET **DRILL HOLE No.** BH-5 PAGE: 2 OF 2

WELL LOG	GRAPHIC LOG	DEPTH (FT)	SAMPLES: DRIVE	SAMPLES: UNDISTURBED	SAMPLES: BULK	SAMPLE ID	RECOVERY (%)	MATERIAL DESCRIPTION	LIQUID LIMIT	PLASTIC LIMIT	CORRECTED SPT	DRY DENSITY (PCF)	MOISTURE (%)	REMARKS
		22												HARD, SMOOTH DRILLING FROM 20.0'-BOH
		23												
		24												
		25	35			BH5-6 2" SS	100	25.0'-26.0' SAME AS ABOVE, VERY DENSE			92			BOREHOLE CAVED TO 20.4' AFTER HSA REMOVAL
		26	50					B.O.H. = 26.0'						
		27												
		28												
		29												
		30												
		31												
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40												
		41												
		42												
		43												
		44												

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

CLIENT: 245 265 MILLWARD LLC
JACKSON, WYOMING

APPENDIX II – STORMWATER RUNOFF CALCULATIONS

MILLWARD STREET APARTMENTS
STORMWATER RUNOFF CALC'S

PRE-DEVELOPMENT

ROOF CALCULATIONS		
ROOF AREA (FT^2)=	8,969	
C-VALUE =	0.9	
S =	33%	
L (ft) =	25	
t_c (min) =	0.56	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

DRIVEWAY CALCULATIONS		
DRIVEWAY AREA (FT^2)=	12,636	
C-VALUE =	0.9	
S =	2%	
L (ft) =	150	
t_c (min) =	3.40	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

LANDSCAPING CALCULATIONS		
LANDSCAPING AREA (FT^2)	6,469	
C-VALUE =	0.3	
S =	2%	
L (ft) =	130	
t_c (min) =	12.67	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

Total Time of Conc., Tc =	**16.07**	**min (paving + landscaping)**
Composite C_c =	**0.76**	
Total Area, A_t =	**28,074**	**ft^2**

TABLE 4920.B
JACKSON IDF* CURVE DATA - 100-YR STORM

DURATION, T_d (min)	INTENSITY, I (in/hr)
5	3
10	2.33
15	1.9
20	1.65
30	1.3
40	1.08
50	0.95
60	0.82
70	0.74
80	0.65
90	0.61
100	0.56
110	0.52
120	0.48

Intensity (from table above)	1.85	in/hr
Initial Flow Rate, Q_i (cfs) =	**0.91**	**cfs at tc = 16.07 min.**

$Q_i = C_c * I * A_t/(43200)$

where,

Composite Cc =	0.76	
Intensity, I =	1.79	in/hr at Td = 16.07 min.
Total Area, At =	28074	ft^2

MILLWARD STREET APARTMENTS
STORMWATER RUNOFF CALC'S

POST-DEVELOPMENT

ROOF CALCULATIONS		
ROOF AREA (FT^2)	21893	
C-VALUE =	0.9	
S =	2%	
L (ft) =	37	
t_c (min) =	1.74	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

HARDSCAPES & DRIVEWAY CALCULATIONS		
DRIVEWAY AREA (FT^2)	0	
C-VALUE =	0.9	
S =	2%	
L (ft) =	0	
t_c (min) =	0.00	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

LAWN CALCULATIONS		
LAWN AREA (FT^2)	0	
C-VALUE =	0.3	
S =	2%	
L (ft) =	0	
t_c (min) =	0.00	tc = 1.8(1.1 - C)L^.5/S^0.3333, (Corps of Eng. Eqn.)

Tc for Conveyance Pipe	0.61	min.

Total Time of Conc., Tc =	**2.49**	**min**
Composite C_c =	**0.90**	
Total Area, A_t =	**21893**	**ft^2**

TABLE 4920.B
JACKSON IDF* CURVE DATA - 100-YR STORM

DURATION, T_d (min)	INTENSITY, I (in/hr)
5	3
10	2.33
15	1.9
20	1.65
30	1.3
40	1.08
50	0.95
60	0.82
70	0.74
80	0.65
90	0.61
100	0.56
110	0.52
120	0.48

MILLWARD STREET APARTMENTS
STORMWATER RUNOFF CALC'S

Intensity (from table above)	3.34	in/hr		
Final Flow Rate, Q_f (cfs) =	**1.52**	**cfs at tc = 2.49 min.**		
$Q_f = C_c * I * A_t/(43200)$				
where,				
Composite Cc =	0.90			
Intensity, I =	2.98	in/hr at Td = 2.49 min.		
Total Area, At =	21893			
Post and Pre-Developement Diff =	**0.61**	**cfs**	273	gpm

Calculate Required Storage (Vd)

EQUATIONS: $Q_d = C_c * I * A_t/(43200)$

$V_d = (Q_d - Q_i) * ((Q_d - Q_i)/Q_f * T_d) * 60$

Where,

Composite Cc =	0.90	
Intensity, I =	2.98	in/hr
Total Area, At =	21893	ft^2
Final Flow Rate, Q_d (cfs) =	1.52	cfs at tc = 2.49 min.
Initial Flow Rate, Qi (cfs) =	0.91	cfs at tc = 16.07 min.
Duration, Td =	2.49	(min)
Storage Volume =	37.0	ft^3, or 300 gal.
Gal./Ft for 4' Dia. Manhole	94.0	gal. ft

Design Manhole to detain 2 X required storage, or 600 gal., or manhole depth of 6 ft of storage.

Stormwater/washdown water from the covered parking is believed to be minimal (<10 gpm) - Sand-Oil-Separator sized accordingly.

APPENDIX III – WATER AND WASTEWATER CALCULATIONS

Domestic Water Flows

Description of Improvements:

Total fixtures for 2 Offices, 2 Retail Spaces, 2 Commercial Spaces, 2 Laundary Facilities, and 52 units totaling 75 bedrooms.

Estimating Domestic Max. Demand

*Calculations are based on methods outlined in the AWWA, "Sizing Water Service Lines and Meters" manual.

Domestic Water Demand for Facility Given Specified Fixtures
Assume Average Residential Fixture Value (AWWA M2)

Fixture Type	Fixture Value Based on 35 psi at Meter Outlet	Number of Fixtures	Fixture Value
Bathtub	8	64	512
Combined Sink & Tray	3		0
Drinking Fountain (cooler)	1		0
Drinking Fountain (public)	2		0
Kitchen Sink (1/2" connection)	3	52	156
Kitchen Sink (3/4" connection)	7		0
Lavatory (3/8" connection)	2		0
Lavatory (1/2" connection)	4		0
Laundry Tray (1/2" connection)	3		0
Laundry Tray (3/4" connection)	7		0
Shower Head (shower only)	4	0	0
Service Sink (1/2" connection)	3		0
Service Sink (3/4" connection)	7		0
Urinal (pedestal flush valve)	35		0
Urinal (wall or stall)	12		0
Urinal (trough. 2-ft unit)	2		0
Wash Sink (each set of faucets)	4	68	272
Water Closet (flush valve)	35		0
Water Closet (tank type)	3	68	204
Dishwasher (1/2" connection)	5	52	260
Dishwasher (3/4" connection)	10		0
Washing Machine (1/2" connection)	5	23	115
Washing Machine (3/4" connection)	12		0
Washing Machine (1" connection)	25		0
Hose Connections 1/2" (wash down)	6		0
Hose Connections 3/4" (wash down)	10	4	40
Hose 1/2" (50ft length - wash down)	6		0
Hose 5/8" (50ft length - wash down)	9		0
Hose 3/4" (50ft length - wash down)	12		0
Irrigation	3		0
		Total Fixture Units	1559

Base on Fixture Count of 394, using the lower line in Fig. 4.4 for Motels, the estimated Maximum Water Demand is 70 gpm. Assume irrigation will take place outside hours of normal domestic use (night) and will be less than 30 gpm.

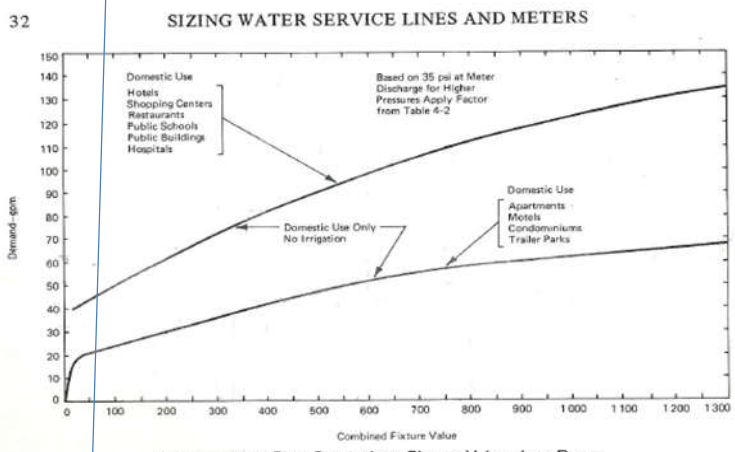


Fig. 4.4. Water-Flow Demand per Fixture Value—Low Range

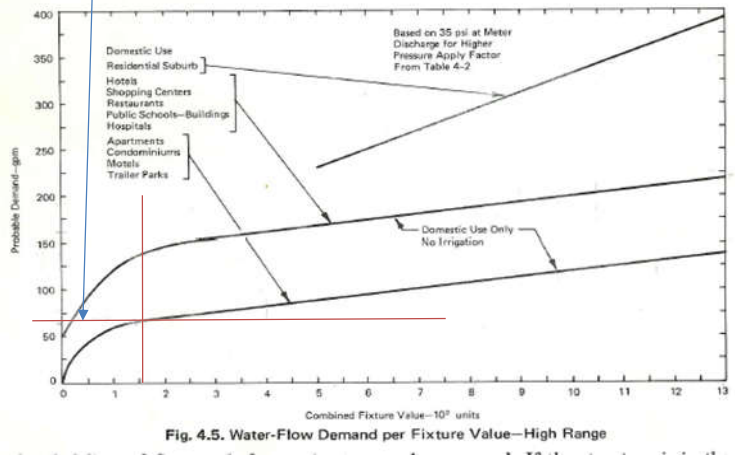


Fig. 4.5. Water-Flow Demand per Fixture Value—High Range

Calculate Demands Based on Estimated System Pressure

Est. Max. Demand	70	gpm

Table 4.2 (for pressures other than 35 psi)

Design Pressure	Factor
20	0.74
30	0.92
35	1
40	1.07
50	1.22
60	1.34
70	1.46
80	1.57
90	1.68
100	1.78

For Pressures Deviating from 35 psi	Appartment Complex	
Est. Pressure (psi)	62.7	psi
Max. Instantaneous Demand @ Est Pressure	**96.70**	**gpm**

MILLWARD STREET APARTMENTS
WATER SERVICE SIZING

22-020
2/24/2023
jk

Pressure in Building @ Max. Demand

First Floor Elevation	6218.9	ft
Third Floor Elevation	6238.9	ft
TOJ Static Pressure (first flr)	67.0	psi
TOJ Static Pressure (third flr)	58.3	psi
Fire Flow (per Mech.)	500.0	gpm
Maximum Flow	96.70	gpm
Total Flow (Dom. + Fire)	**596.70**	gpm

PIPE SEGMENT	LENGTH (FT)	FLOW RATE (GPM)	FLOW RATE (CFS)	Pipe O.D. (in)	Pipe Type	Pressure Rating (psi)	Inside Dia. (in)	Inside Dia. (ft)	Velocity (fps)
L_1	60	596.7	1.330	6	DIP	-	6.00	0.500	6.771

PIPE SEGMENT	Velocity Head (ft)	Ks-Factor	Ks/d	Kinematic Viscosity	Reynolds, Re	Minor Losses, hm (ft)	Friction Losses, hf (ft)	Total Losses (ft)	Friction Loss per L.F. (ft)
L_1	0.712	0.000279	0.000558	1.92E-05	175971.4	**0.80**	**1.65**	**2.45**	0.0275
							Total:	**2.45**	

Available Pressure at Building **61.6** **psi**

Solver

	Set to Zero (Colebrook Eqn)	By Solving For (Friction Factor)
L_1	-2.54E-07	0.019

PIPE SEGMENT L_1

MINOR LOSSES (h_m)

Pipe Fittings	Number of Fittings	K-Value	Total	Total	Minor Loss (ft)
6" dia. 90 deg. Elbow	1	0.45	0.45	0.20	0.14
6" dia. Inlet		0.78	0	0.00	0.00
6" dia. Outlet		1	0	0.00	0.00
6" Gate Valve	1	0.12	0.12	0.01	0.01
6" Plug Valve		0.27	0	0.00	0.00
RPZ		12	0	0.00	0.00
6" dia. Tee (thru flow)	1	0.3	0.3	0.09	0.06
6" dia. Tee (thru branch)	1	0.9	0.9	0.81	0.58
			Total:	1.1	0.80

MILLWARD STREET APARTMENTS

WATER SERVICE SIZING

20-020
2/24/2023
jk

Pressure in Building @ Max. Demand

First Floor Elevation	6218.9	ft
Third Floor Elevation	6238.9	ft
TOJ Static Pressure (first flr)	67.0	psi
TOJ Static Pressure (third flr)	58.3	psi
Maximum Flow	96.70	gpm

PIPE SEGMENT	LENGTH (FT)	FLOW RATE (GPM)	FLOW RATE (CFS)	Pipe O.D. (in)	Pipe Type	Pressure Rating (psi)	Inside Dia. (in)	Inside Dia. (ft)	Velocity (fps)
L_1	60	96.7	0.215	6	DIP	-	6.00	0.500	1.097
L_2	25	96.7	0.215	4	DIP	-	4.00	0.333	2.469

PIPE SEGMENT	Velocity Head (ft)	Ks-Factor	Ks/d	Kinematic Viscosity	Reynolds, Re	Minor Losses, hm (ft)	Friction Losses, hf (ft)	Total Losses (ft)	Friction Loss per L.F. (ft)
L_1	0.019	0.000279	0.000558	1.92E-05	28518.8	**0.01**	**0.06**	**0.06**	0.0009
L_2	0.095	0.000033	0.000098	1.92E-05	42778.2	**23.15**	**0.16**	**23.30**	0.0062
							Total:	**23.37**	

Solver

	Set to Zero (Colebrook Eqn)	By Solving For (Friction Factor)
L_1	-2.18E-07	0.025
L_2	0.00E+00	0.022

Available Pressure at First Floor	**56.9**	**psi**
Available Pressure on Third Floor	**48.2**	**psi**

PIPE SEGMENT L_1

MINOR LOSSES (hm)

Pipe Fittings	Number of Fittings	K-Value	Total	Total	Minor Loss (ft)
6" dia. 90 deg. Elbow	1	0.45	0.45	0.20	0.00
6" dia. Inlet		0.78	0	0.00	0.00
6" dia. Outlet		1	0	0.00	0.00
6" Gate Valve	1	0.12	0.12	0.01	0.00
6" Plug Valve		0.27	0	0.00	0.00
RPZ		12	0	0.00	0.00
6" dia. Tee (thru flow)	1	0.3	0.3	0.09	0.00
6" dia. Tee (thru branch)		0.9	0	0.00	0.00
			Total:	0.3	0.01

PIPE SEGMENT L_2

MINOR LOSSES (hm)

Pipe Fittings	Number of Fittings	K-Value	Total	Total	Minor Loss (ft)
4" dia. 90 deg. Elbow	3	0.34	1.02	0.35	0.03
4" dia. 45 deg. Bend	0	0.27	0	0.00	0.00
RPZ	1	12	12	144.00	13.63
2" Meter	1	10	10	100.00	9.47
4" dia. Tee (thru flo)	1	0.34	0.34	0.12	0.01
4" dia. Tee (thru branch)	0	1.02	0	0.00	0.00
4" dia. Gate Valve	2	0.14	0.28	0.04	0.00
			Total:	244.5	23.15

MILLWARD STREET APARTMENTS
SEWER DESIGN FLOWS

22-020
2/24/2023
JK

BASED ON WYOMING DEQ DESIGN FLOW RATES IN CH. 11 TABLE

STRUCTURE	DESC.	QNTY	WW RATE	UNIT	SOURCE	WW FLOW	
Existing (Demo)							
South Residence	Bedrooms	3	130	gpd/bed	DEQ Chapt. 25	390	gpd
Hotel	Bedrooms	17	140	gpd/bed	DEQ Chapt. 25	2380	gpd
Proposed							
Studio Apartments (1-bed \ 39 units each)	Bedrooms	39	120	gpd/bed	DEQ Chapt. 25	4680	gpd
Apartment (2-bed \ 13 units each)	Bedrooms	26	120	gpd/bed	DEQ Chapt. 25	3120	gpd
Commercial/Retail Space (1-bath \ 2 units each)	Patrons	200	10	gpd/Patron	DEQ Chapt. 25	2000	gpd
Office Space (1-bath \ 2 units each)	Employees	4	120	gpd/emp.	DEQ Chapt. 25	480	gpd

TOTAL EXISTING WASTEWATER PRODUCTION	**2770 gpd**
FLOW	**1.92 gpm**

TOTAL PROPOSED MAX. WASTEWATER PRODUCTION	**10280 gpd**
FLOW	**7.14 gpm**
AVERAGE DAY FLOW	**6168 gpd**
PEAK HOUR FLOW	**643 gph**

EXISTNG PEAK FLOW	**19 gpm**
FUTURE PEAK INSTANTANEOUS FLOW	**100 gpm**

Nelson Engineering
Jackson, Wyoming

Max. WW Flows in Proposed 6-inch Sewer Collector

Upstream Manhole Inv. Elev.	6220.65	ft
Downstream Manhole Inv. Elev.	6218.75	ft
Distance Between Manholes	150	ft

Mannings Open Channel Pipe Calculations

Pipe Dia, ID	**6**	in
Flow, Q	**100**	gpm
Mannings Roughness (PVC), n	**0.009**	-
Pipe Slope, S	**1.000%**	%

Flow, Q	0.223	cfs
Pipe Dia, ID,	0.500	ft
Pipe Area, A	0.063	ft^2
Pipe Per, P	0.641	ft
Normal Depth, Y_N	0.179	ft
Theta	146.9	deg
Top Width, T	0.48	ft

Manning's Eqn	1.7955E-07	-
Theta	2.565	rad

Normal Depth, Y_N	**2.15**	in
Velocity	**3.53**	ft/s
% Full	**32.1**	%

Analysis for Wastewater Contribution to Existing Main

Mannings Open Channel Pipe Calculations

Pipe Dia, ID	**12**	in
Flow, Q	**100**	gpm
Mannings Roughness (PVC), n	**0.009**	-
Pipe Slope, S	**0.370%**	%
Flow, Q	0.223	cfs
Pipe Dia, ID,	1.000	ft
Pipe Area, A	0.096	ft^2
Pipe Per, P	0.877	ft
Normal Depth, Y_N	0.180	ft
Theta	100.5	deg
Top Width, T	0.77	ft

Manning's Eqn	6.E-07	-
Theta	1.754	rad

Normal Depth, Y_N	**2.16**	in
Velocity	**2.31**	ft/s
% Full	**12.3**	%

Remaining Capacity of TOJ Sewer Main

Mannings Open Channel Pipe Calculations

Pipe Dia, ID	**12**	in
Flow, Q	**1504**	gpm
Mannings Roughness (PVC), n	**0.009**	-
Pipe Slope, S	**0.370%**	%

Flow, Q	3.351	cfs
Pipe Dia, ID,	1.000	ft
Pipe Area, A	0.778	ft^2
Pipe Per, P	2.777	ft
Normal Depth, Y_N	0.967	ft
Theta	318.2	deg
Top Width, T	0.36	ft

Manning's Eqn	0	-
Theta	5.554	rad

Normal Depth, Y_N	**11.61**	in
Velocity	**4.31**	ft/s
% Full	**99.0**	%

PEAK FLOW PROPOSED DEV.	99.9	GPM
REMAINING CAPACITY	**1404.0**	**GPM**
% DECREASE IN CAPACITY	**7.118%**	

APPENDIX IV – TRIP GENERATION AND ALLEY WIDTH REFERENCES

Source:

Institute of Transportation Engineers
1099 14th St. NW, Suite 300 West
Washington, DC 20005-3438 USA
Telephone: +1 202-289-0222
Fax: +1 202-289-7722
ITE on the Web: www.ite.org

Land Use: 210
Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The peak hour of the generator typically coincides with the peak hour of the adjacent street traffic.

The sites were surveyed from the late 1960s to the mid-1990s throughout the United States and Canada.

The number of vehicles and the number of residents have a high correlation with average weekday vehicle trip ends. The use of these variables is limited, however, because the number of vehicles and residents is often difficult to obtain or predict. The number of dwelling units is generally used as the independent variable of choice because it is usually readily available, easy to project, and has a high correlation with average weekday vehicle trip ends.

This land use includes data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there is a wide variation in trips generated within this category. As expected, dwelling units that were larger in size, more expensive, or farther away from the central business district (CBD) had a higher rate of trip generation per unit than those smaller in size, less expensive, or closer to the CBD. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units have the highest trip generation rate per dwelling unit of all residential uses, because they are the largest units in size and have more residents and more vehicles per unit than other residential land uses; they are generally located farther away from shopping centers, employment areas, and other trip attractors than are other residential land uses; and they generally have fewer alternate modes of transportation available, because they are typically not as concentrated as other residential land uses.

Source Numbers

1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 19, 20, 21, 26, 34, 35, 36, 38, 40, 71, 72, 84, 91, 98, 100, 105, 108, 110, 114, 117, 119, 157, 167, 177, 187, 192, 207, 211, 246, 275, 283, 293, 300, 319, 320, 357, 384, 435

Existing
Single-Family Detached Housing
(210)

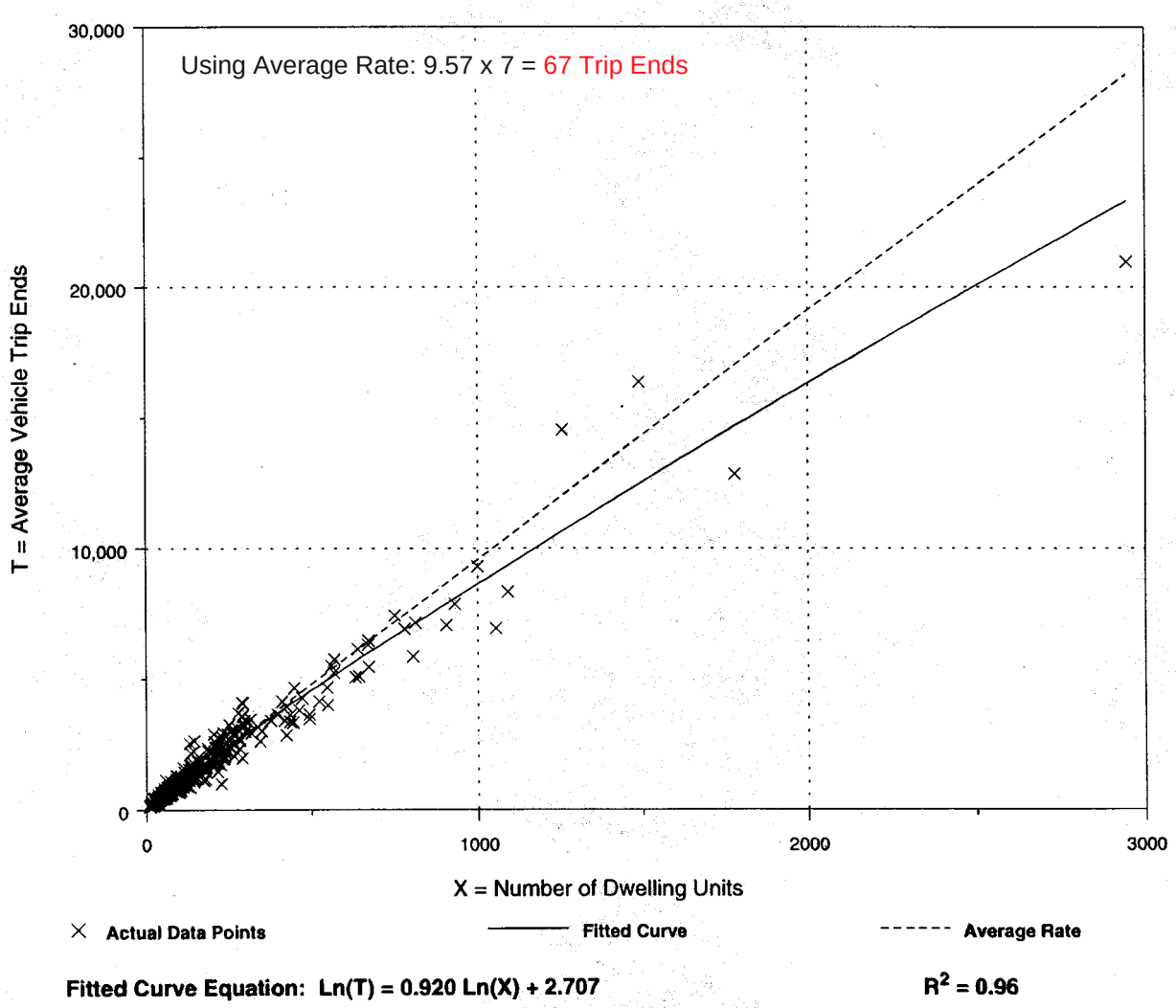
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Number of Studies: 348
Avg. Number of Dwelling Units: 198
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.57	4.31 - 21.85	3.69

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.920\ Ln(X) + 2.707$

$R^2 = 0.96$

Existing
Single-Family Detached Housing
(210)

Assume 7 existing dwelling units in the alley, existing properties not included. Note that traffic for the existing hotel scheduled for demo primarily exited to Millward.

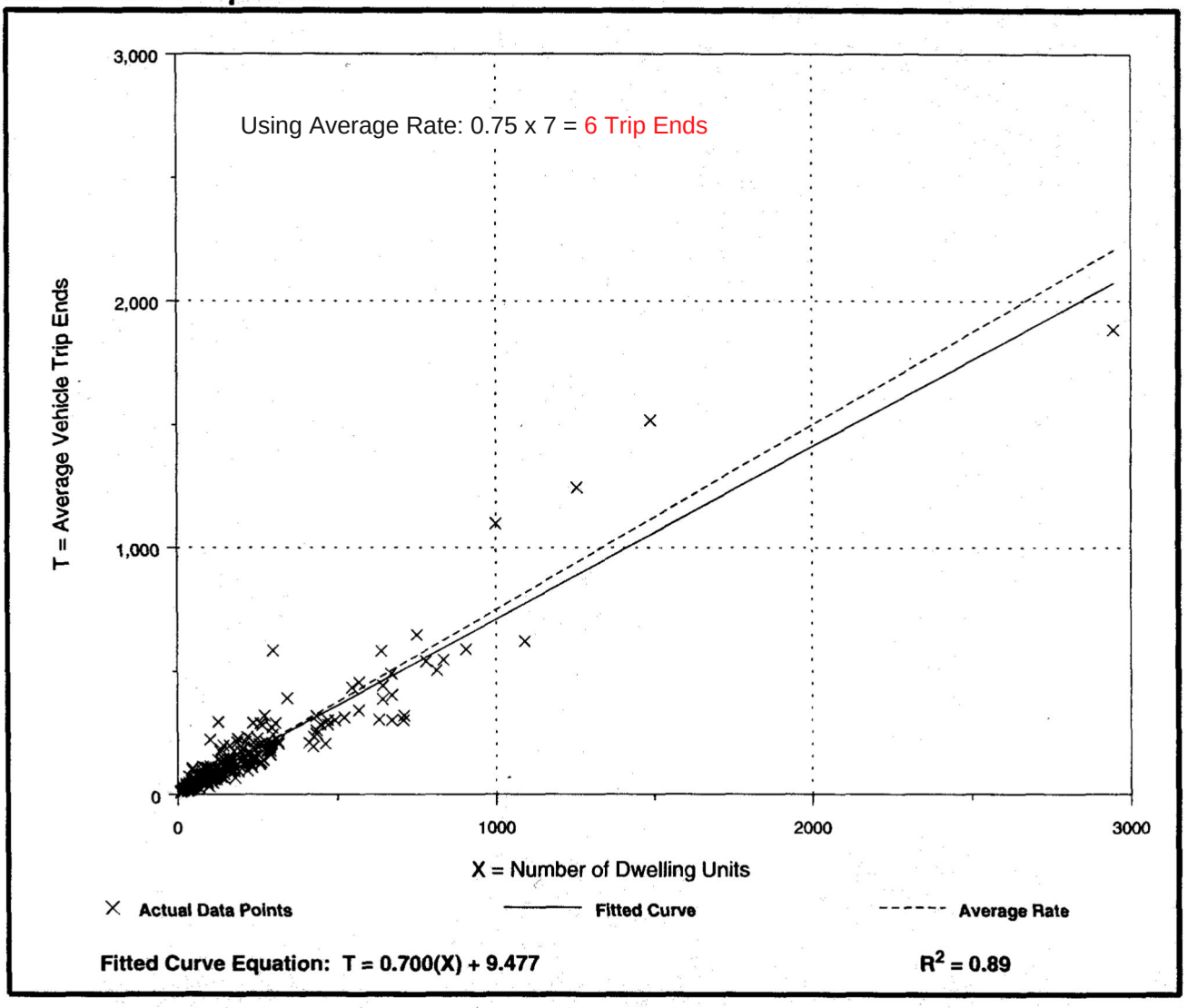
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 271
Avg. Number of Dwelling Units: 202
Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.33 - 2.27	0.90

Data Plot and Equation



Existing

Single-Family Detached Housing
(210)

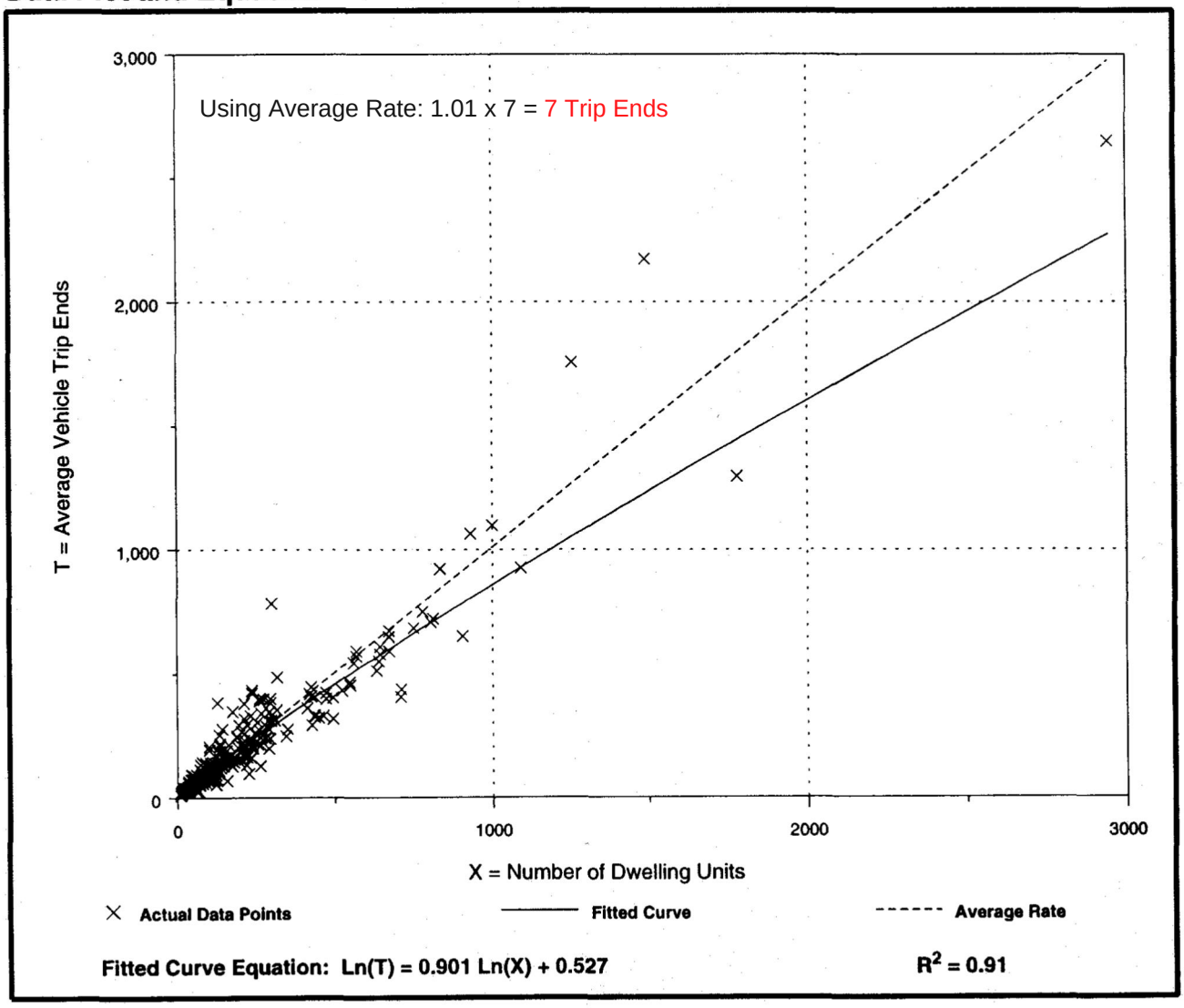
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 294
Avg. Number of Dwelling Units: 216
Directional Distribution: 64% entering, 36% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.01	0.42 - 2.98	1.05

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.901 Ln(X) + 0.527

R^2 = 0.91

Land Use: 220
Apartment

Description

Apartments are rental dwelling units that are located within the same building with at least three other dwelling units, for example quadraplexes and all types of apartment buildings. The studies included in this land use did not identify whether the apartments were low-rise, mid-rise, or high-rise. Low-rise apartment (Land Use 221), high-rise apartment (Land Use 222) and mid-rise apartment (Land Use 223) are related uses.

Additional Data

This land use included data from a wide variety of units with different sizes, price ranges, locations and ages. Consequently, there was a wide variation in trips generated within this category. As expected, dwelling units that were larger in size, more expensive, or farther away from the central business district (CBD) had a higher rate of trip generation per unit than those smaller in size, less expensive, or closer to the CBD. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

The peak hour of the generator typically coincided with the peak hour of the adjacent street traffic.

The sites were surveyed from the late 1960s to the 2000s throughout the United States and Canada.

Source Numbers

2, 4, 5, 6, 9, 10, 11, 12, 13, 14, 16, 19, 20, 34, 35, 40, 72, 91, 100, 108, 188, 192, 204, 211, 253, 283, 357, 436, 525, 530, 579, 583

Proposed design is for 51 apartments and 51 parking spaces located under the covered parking with limited access to the alley. Note that 3 of the spaces are designated ADA parking.

Apartment
(220)

Proposed

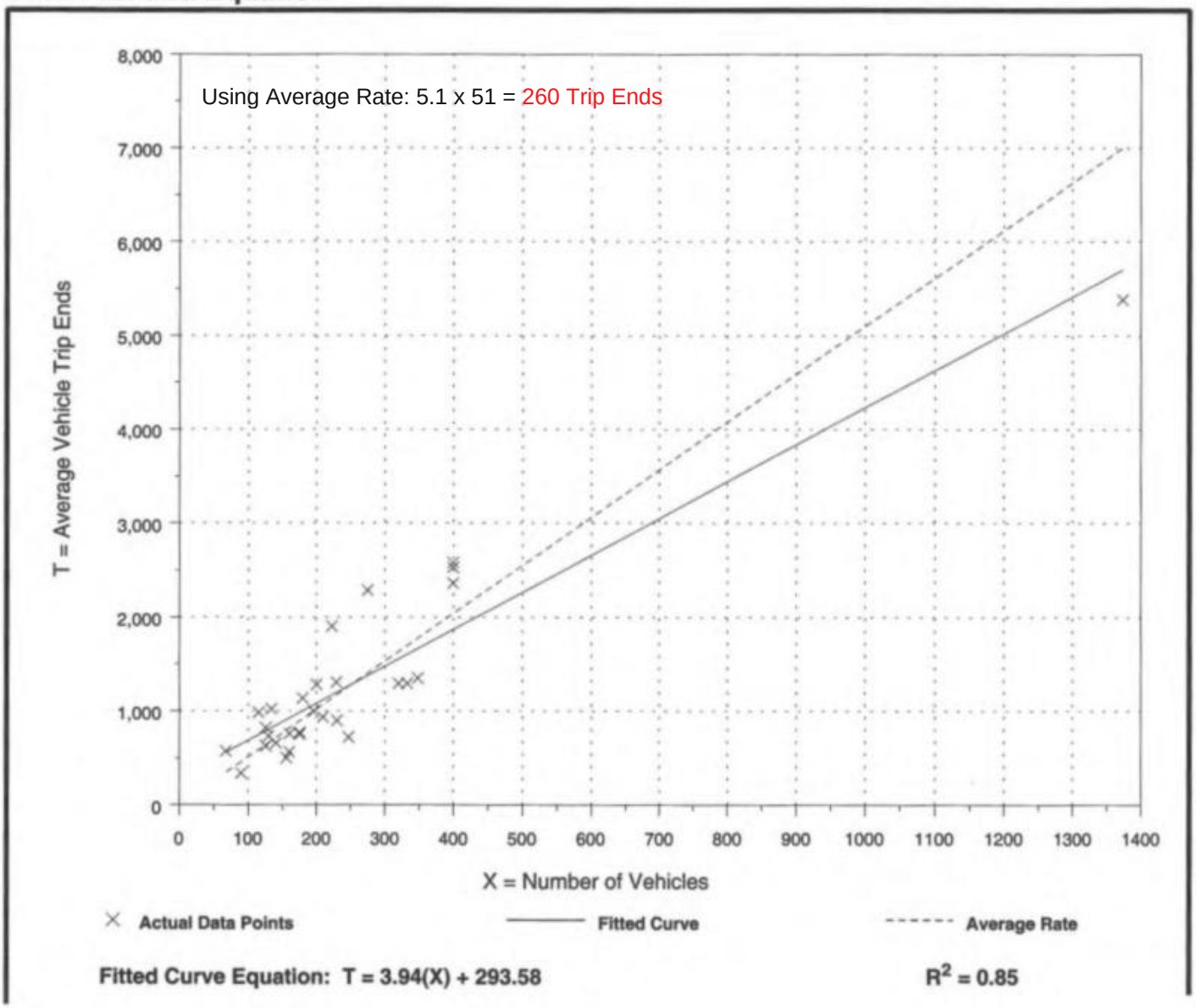
Average Vehicle Trip Ends vs: Vehicles
On a: Weekday

Number of Studies: 29
Average Number of Vehicles: 252
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Vehicle

Average Rate	Range of Rates	Standard Deviation
5.10	2.91 - 8.57	2.73

Data Plot and Equation



Fitted Curve Equation: T = 3.94(X) + 293.58

R^2 = 0.85

Apartment
(220)

Proposed

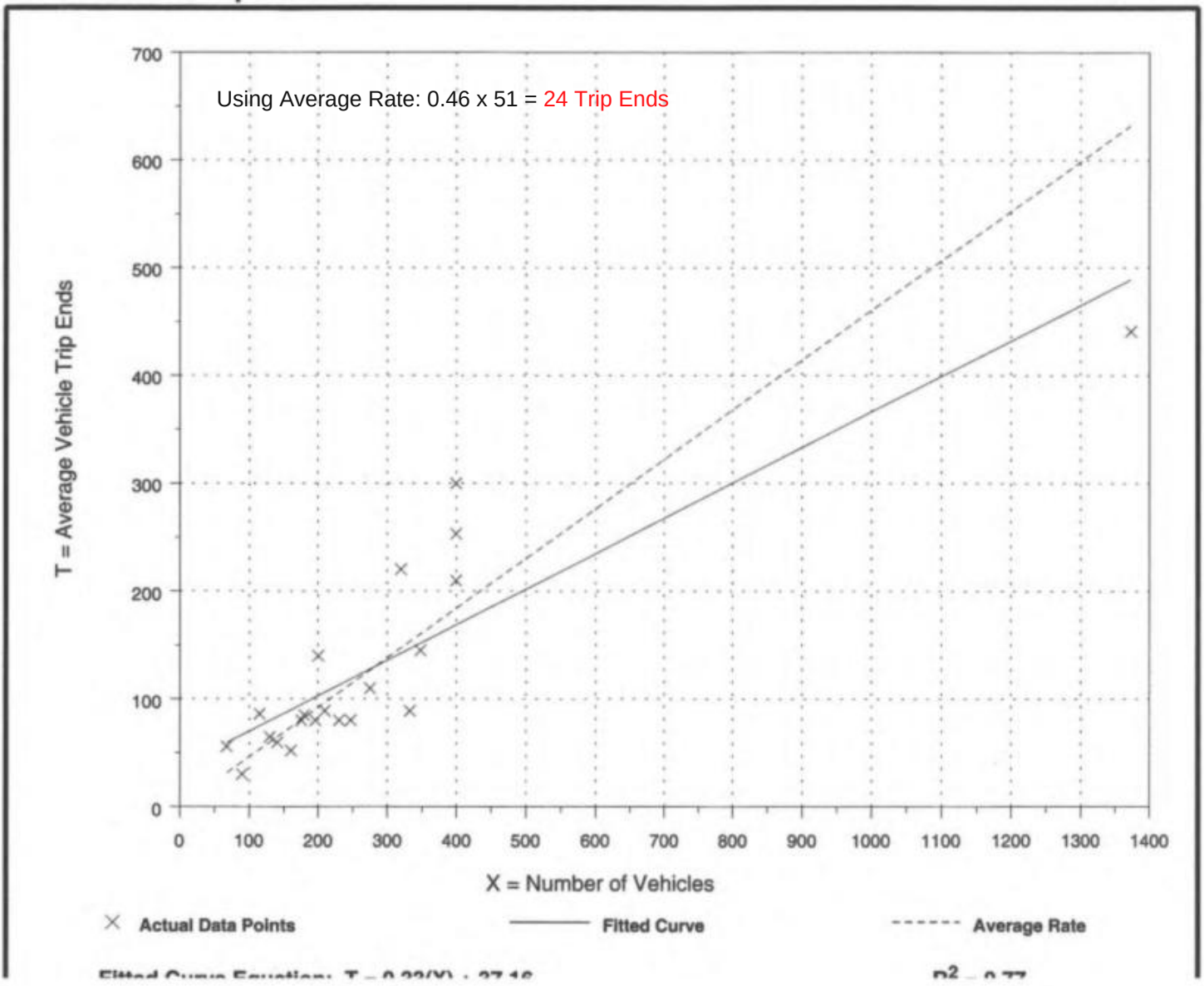
Average Vehicle Trip Ends vs: Vehicles
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 21
Average Number of Vehicles: 285
Directional Distribution: Not available

Trip Generation per Vehicle

Average Rate	Range of Rates	Standard Deviation
0.46	0.27 - 0.82	0.69

Data Plot and Equation



Proposed

Apartment
(220)

Average Vehicle Trip Ends vs: Vehicles
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

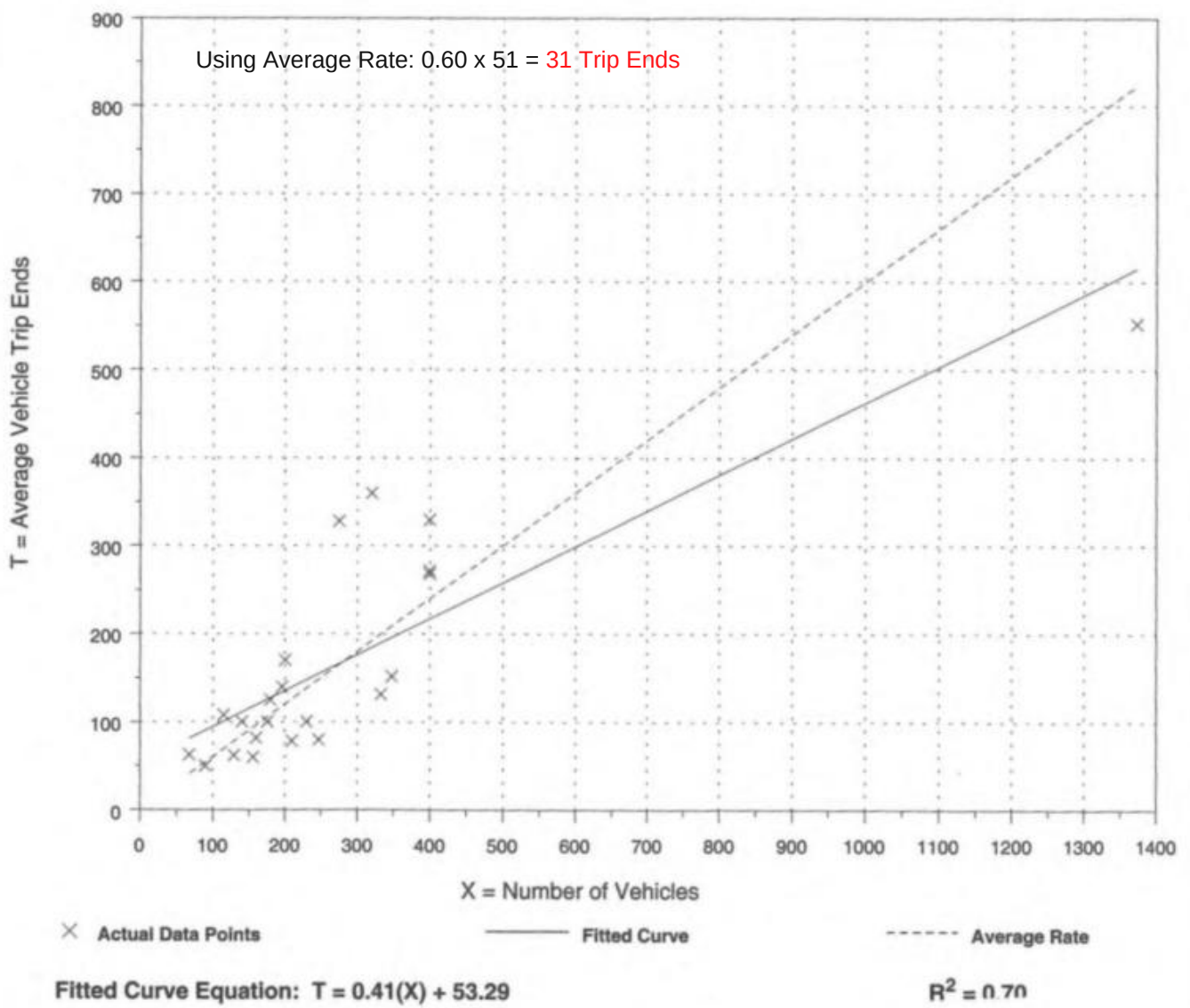
Number of Studies: 23
Average Number of Vehicles: 275
Directional Distribution: Not available

Trip Generation per Vehicle

Average Rate	Range of Rates	Standard Deviation
0.60	0.32 - 1.19	0.81

Data Plot and Equation

Using Average Rate: 0.60 x 51 = 31 Trip Ends



Fitted Curve Equation: T = 0.41(X) + 53.29

R^2 = 0.70

Post Development Alley Traffic - Estimated Trip Generation

Desc.	No.	Units	* Peak Weekday	* Peak Hr (a.m.)	* Peak Hr (p.m.)
Existing Single Family Dwellings	7	residences	67	6	7
Proposed Parkings Spaces	51	vehicles	260	24	31
		Total:	**327**	**30**	**38**

CHAPTER 13
ALTERNATE STANDARDS (LOW VOLUME ROADS)

13.0 INTRODUCTION

Design guidelines for very low5-volume roads may differ from those of higher volume roads. AASHTO's *Geometric Design Guidelines for Very Low-Volume Roads (ADT ≤400)* **(1)** defines the needs of these roadways and the criteria to meet those needs. When defined as a low-volume roadway, this design guideline may be used in place of guidelines defined in the Green Book, *A Policy on Geometric Design of Highways and Streets (PGDHS)* **(2),** if applicable.

13.1 DEFINITION AND CHARACTERISTICS

A very low-volume local road has a functional classification of local road, and features a design average daily traffic volume of 400 vehicles per day, at most. Functionally classified collectors may also follow these guidelines so long as the design average daily traffic volume does not exceed 400 vehicles per day. These low volumes significantly reduce the opportunities for accidents to occur. Low volume roads also cater to local traffic familiar with the roadway; local drivers typically know and can anticipate design abnormalities. Design guidelines for very low-volumes roadways may be less strict than for roadways with higher volumes or less familiar drivers.

13.2 LOW-VOLUME FUNCTIONAL CLASSIFICATIONS

Very low-volume roads are divided into six rural functional classifications and three urban functional classifications. They are as follows:

Rural Roads

- Rural Major Access Roads
- Rural minor Access Roads
- Rural Industrial/Commercial Access Roads
- Rural Agricultural Access Roads
- Rural Recreational and Scenic Roads
- Rural Resource Recovery Roads

Urban Roads

- Urban Major Access Streets
- Urban Residential Streets
- Urban Industrial/Commercial Access Streets

13.2.1 Rural Major Access Roads

Rural major access roads are defined by the following characteristics:

- Provide through or connecting service between other local roads or higher type facilities.
- They have significant local continuity and may operate at relatively high speeds.
- Due to through traffic, some traffic may include unfamiliar drivers.

- Roads are usually paved.

Collector roads that meet the definition of a very low-volume local road should be classified as a rural major access road.

13.2.2 Rural Minor Access Roads

Rural minor access roads are defined by the following characteristics:

- Serve almost exclusively to provide access to adjacent property.
- Such roads are used predominantly by familiar drivers.
- Speeds are generally low for the local environments.
- Roads are frequently narrow and sometimes may function as one-lane roads.
- Roads can be either paved or unpaved.
- Traffic is primarily composed of passenger vehicles
- Roads need to be accessible to school buses, fire trucks, etc.

13.2.3 Rural Industrial/Commercial Access Roads

Rural industrial/commercial access roads are defined by the following characteristics:

- May generate a significant proportion of truck or other heavy vehicle traffic
- Generally, provide access from commercial land use to the regional highway network.
- Roads are typically very short and do not serve any through traffic.
- Roads may be either paved or unpaved.

13.2.4 Rural Agricultural Access Roads

Rural agricultural access roads are defined by the following characteristics:

- Primarily provide access to fields and farming operations.
- Vehicle types included slow-moving vehicles such as farm equipment
- Drivers typically consist of repeat users who are familiar with the roadway characteristics.
- Roads are often unpaved

13.2.5 Rural Recreational and Scenic Roads

Rural recreational and scenic roads are defined by the following characteristics:

- Serve specialized land uses, such as parks, tourist attractions, campsites, etc.
- Traffic consists primarily of unfamiliar drivers.
- Traffic consists of low volumes of truck traffic
- Roads may carry highly seasonal traffic volumes.
- May accommodate a wide range in speeds and trip lengths.
- Roads can be either paved or unpaved.

13.2.6 Rural Resource Recovery Roads

Rural resource recovery roads are defined by the following characteristics:

- Serve logging or mining operations.
- Typically found only in rural areas.
- Drivers are typically professional drivers with large vehicles.
- Traffic operations are typically enhanced with radio communication between drivers.
- Most roads are unpaved.

13.2.7 Urban Major Access Streets

Urban major access streets are defined by the following criteria:

- Provide access to adjacent property and through traffic to other local roads.
- Generally short but serve slightly more traffic than most local roads.

Collector roads that meet the definition of a very low-volume local road should be classified as an urban major access street.

13.2.8 Urban Residential Streets

Urban residential streets are defined by the following characteristics:

- Typically serve to provide access to single and multiple family residences in urban areas.
- Drivers generally include only residents and their visitors.
- Large trucks are rare.
- Provide accessibility for fire trucks and school buses

13.2.9 Urban Industrial/Commercial Access Streets

Urban industrial/commercial access streets are defined by the following characteristics:

- May generate a substantial volume of trucks or other heavy vehicles.
- Generally, provide access from commercial land use to the regional highway network.
- Roads are typically very short and may not carry traffic from smaller streets.
- Roads may be either paved or unpaved.

If a roadway definition meets more than one functional classification, the stricter guidelines shall be applied.

13.3 LOW VOLUME DESIGN APPLICATIONS

The design guidelines defined in the *Geometric Design Guidelines for Very Low-Volume Roads* **(1)** provide less strict design criteria however they do not compromise safety when applied to very low-volume roadways with familiar drivers. The purpose of the low volume guideline is to provide a recommended range of values, and not to be a replacement of detailed design manuals. These guidelines allow for flexibility in designs to accommodate specific needs.

13.3.1 Design and Operation Speed

The design guidelines presented are a function of speed, as follows:

- Low speed – 0 to 45 mph
- High speed – < 45 mph

13.3.2 Traffic Volumes

Traffic volumes on very low-volume roads are stratified into three levels for purposes of these design guidelines. The volume ranges are:

- 100 vehicles per day or less
- 100 to 250 vehicles per day
- 250 to 400 vehicles per day

Estimated trip generation for the alley, including existing traffic is 327 vehicles per ITE.

13.4 CROSS SECTION DESIGN

Cross section design criteria for lower volume roads generally address total roadway width rather than having separate criteria for lane and shoulder width.

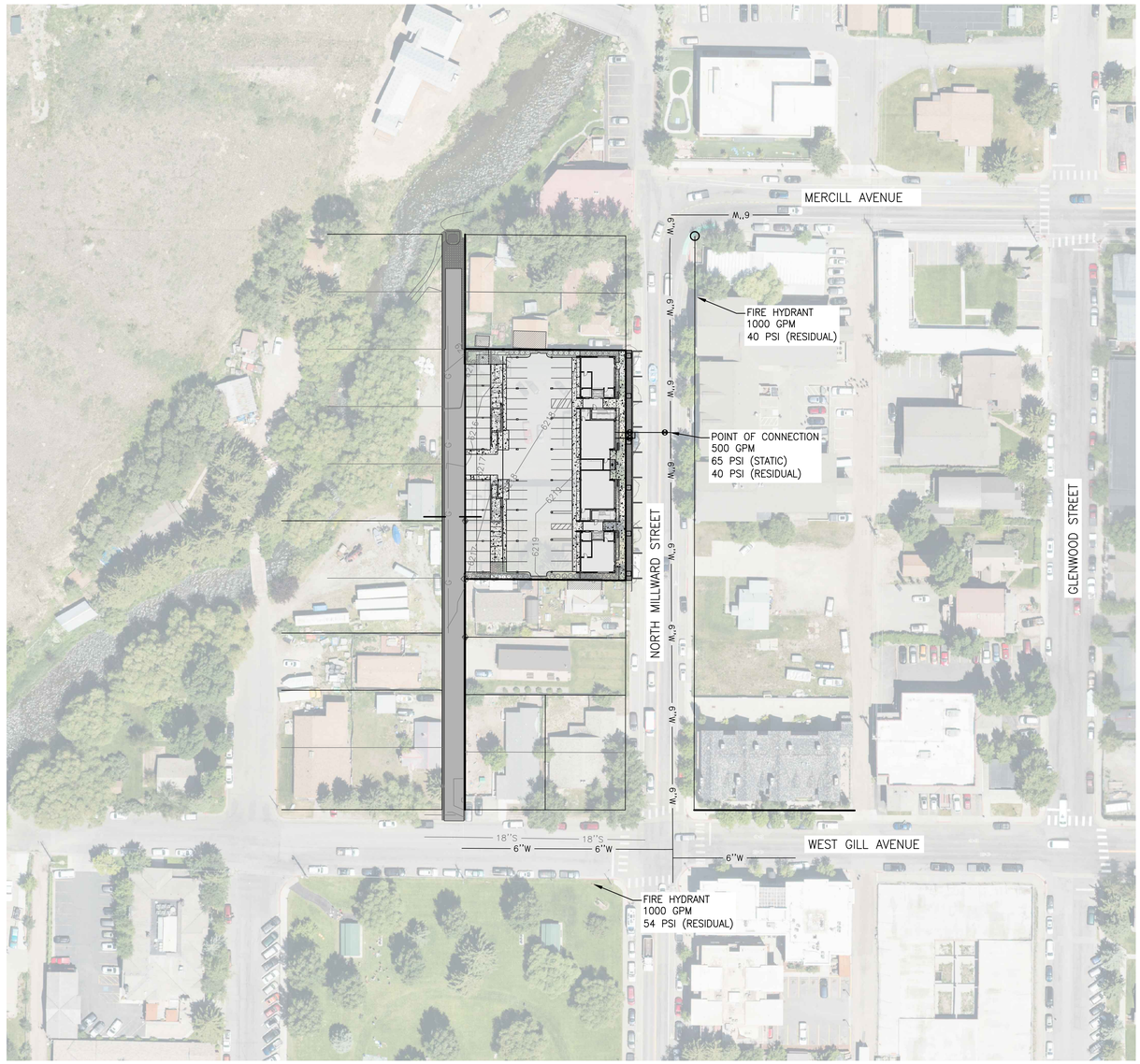
13.4.1 Very Low-Volume Local Roads in Rural Areas Cross Section

Table 13-1 illustrates the total roadway width for the six low volume functional classifications for rural conditions. These cross section widths are based on the expected user vehicles.

Total Roadway Width (ft) by Functional Classification						
Design Speed (mph)	**Major Access**	**Minor Access**	**Recreational and Scenic**	**Industrial/ Commercial Access**	**Resource Recovery**	**Agricultural Access**
15	-	18.0	18.0	20.0	20.0	22.0
20	-	18.0	18.0	20.0	20.0	24.0
25	18.0	18.0	18.0	21.0	21.0	24.0
30	18.0	18.0	18.0	22.5	22.5	24.0
35	18.0	18.0	18.0	22.5	22.5	24.0
40	18.0	18.0	20.0	22.5	-	24.0
45	20.0	20.0	20.0	23.0	-	26.0
50	20.0	20.0	20.0	24.5	-	-
55	22.0	-	22.0	-	-	-
60	22.0	-	-	-	-	-
Note: Total Roadway width includes the width of both traveled way and shoulders.						

Table 13-1 (Exhibit 1 of the *Geometric Design of Very Low-Volume Local Roads* (1))
Total Roadway Widths for Rural Conditions

APPENDIX V – FIRE FLOW WATER MODEL EXHIBIT



FIRE FLOW EXHIBIT

0 50 100

N E

A FIRE FLOW SCENARIO WAS MODELED IN THE TOJ WATER MODEL. A TOTAL OF 2,500 GPM WAS DEMANDED FROM THE SYSTEM. 1,000 GPM FROM A HYDRANT ON NORTH MILLWARD ST, 1,000 GPM FROM A HYDRANT ON WEST GILL AVE, AND 500 GPM AT THE POINT OF CONNECTION. THE LOWEST RESIDUAL PRESSURES WERE 40 PSI AT THE MILLWARD HYDRANT AND POINT OF CONNECTION. NO PRESSURE DROPPED BELOW 35 PSI WITHIN THE TOWN AND THE HIGHEST VELOCITIES WERE IN PIPES ADJACENT TO THE MILLWARD HYDRANT AND POINT OF CONNECTION AT 8.9 FPS.

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

185 E. Hansen Avenue
T 307-201-5324
Jackson Hole, Wyoming 83001
www.nwks.com

	ISSUED DATE	ISSUED FOR
1	12/23/2022	FDP RESUBMITTAL

PROFESSIONAL SEAL

Project
Millward Street Apartments

245 & 265 N. Millward St., Jackson, WY 83001

2210	Project No. 22-020-02
Drawer	Drawn By BRADEN OLSON
Checker	Checked By JOSH KILPATRICK
Discipline	Drawing No. APPX. V

Drawing Name
APPENDIX V - FIRE FLOW

DESIGN DEVELOPMENT - NOT FOR CONSTRUCTION