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
- ☒ Joint Housing Dept

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: November 29, 2021

Item #: P21-294

Planner: Tyler Valentine

Phone: 733-0440 ext. 1305

Fax: 734-3563

Email: tvalentine@jacksonwy.gov

Owner:
Town of Jackson
PO Box 1687
Jackson, WY 83001

Applicant:
Berning Project Management
313 Mountainside Blvd.
Victor, ID 83455

REQUESTS:

The applicant is submitting a request for a Development Plan for the property located at 155 E Gill Ave., Legally known as PT. SW1/4SW1/4 SEC. 27, TWP. 41, RNG. 116 PARCEL A & PARCEL B PIDN: 22-41-16-27-3-00-017

For questions, please call Tyler Valentine at 733-0440, x1305 or email to the address shown below. Thank you.

Please respond by: **December 13, 2021 (Sufficiency)**
December 20, 2021 (with Comments)

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

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: Teton County / Jackson Recreation Center Improvements

Physical Address: 155 E. Gill Avenue

Lot, Subdivision: _____ PIDN: 22-41-16-27-3-00-025 &22-41-16-27-3-00-017

PROPERTY OWNER.

Name: Town of Jackson Phone: 307-733-3932

Mailing Address: P.O. Box 1687 ZIP: 83001

E-mail: _____

APPLICANT/AGENT.

Name: Berning Project Management, attn: Jason Berning Phone: 307-699-3733

Mailing Address: 313 Mountainside Blvd., Victor, ID ZIP: 83455

E-mail: berningpm@gmail.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 #: P21-228 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?

N/A **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.

	November 16, 2021
Signature of Property Owner or Authorized Applicant/Agent	Date
Jason Berning	Owner's Representative
Name Printed	Title

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:

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

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

Address of Premises: 155 E. Gill Ave

Legal Description: 22-41-16-27-3-00-017 / PT. SW1/4SW1/4 SEC. 27, TWP. 41, RNG. 116 Parcel A & B
Please attach additional sheet for additional addresses and legal descriptions

And, that the person named as follows: Name of Applicant/agent: Jason Berning

Mailing address of Applicant/agent: PO Box 485 / Victor, ID 83455

Email address of Applicant/agent: berningpm@gmail.com

Phone Number of Applicant/agent: 307-699-3733

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)_____

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

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 Larry Pardee this 29th day of November, 2021. WITNESS my hand and official seal.

Notary Public

My commission expires: 5.2.24

SHELLIE M ARELLANO - NOTARY PUBLIC
COUNTY OF TETON STATE OF WYOMING
MY COMMISSION EXPIRES 5.2.24


SHELLIE M ARELLANO - NOTARY PUBLIC
COUNTY OF
TETON
STATE OF
WYOMING

November 16, 2021

Paul Anthony
Planning Director, Jackson Planning Department
150 E Pearl Ave / P.O. Box 1687
Jackson, WY 83001

RE: Development Plan Application – Teton County / Jackson Recreation Center Improvements, 155 E. Gill Ave.

Dear Paul,

Please accept this Final Development Plan Application ("FDP") for the improvements for the Teton County / Jackson Recreation Center ("TCJRC") on 155 East Gill Avenue. The design team has brought the documents up to a design development level and construction document level for civil design. The following materials propose improvements to TCJRC utilizing current Town of Jackson Land Development Regulations and which honors the goals of the expansion from the SPET ballot initiative.

Key Elements of the FDP:

- The application continues to comply with all Land Development Regulation ("LDR's").
- There are no requests for variances, waivers, or special exceptions to the ("LDR's").
- The existing parking on site does not meet the Town standards. The proposed design continues to not meet the Town standards but will improve the parking experience with 14 additional parking spots.
- The SPET ballot approved by the elected officials did not include housing as part of this project and is not included in the proposed development.

The details and supporting materials to the application are contained herein. We thank you for your guidance throughout this process and we look forward to working with you, your co-workers, and our elected officials in the coming months.

If you have any questions along the way, please feel free to contact me at your convenience.

Sincerely,

Jason Berning, P.E. / LEED AP
Berning Project Management, LLC
Owner's Representative / Project Manager

Steve Ashworth
Executive Director
Teton County/Jackson Parks & Rec

Final Development Plan
for
Jackson Recreation Center Improvements

Teton County, Wyoming

155 East Gill Avenue

Applicant:
Teton County/Jackson Parks & Recreation
PO Box 811
Jackson, WY 83001-1727

Submittal Date: November 16, 2021
Project No. 15063

Prepared by:

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SECTION 1 – PROJECT BACKGROUND AND OVERVIEW

A. PROJECT HISTORY & BACKGROUND

The TCJRC is an important public facility constructed in 1994. The facility serves a wide array of residents and guests throughout the community. TCJRC provides recreational, social and wellness programs, and services for the average of 60,000 unique visitors per year. In November of 2019 voters of Teton County and the Town of Jackson approved a ballot to expand our facility to increase these offerings to include wellness and fitness, indoor walking and jogging, indoor climbing, drop-in day care, an addition gymnasium, outdoor aquatic splash pad, and associated space to support these services. In addition, the project was approved to complete the Cache tube stormwater connection, develop the extension of King Street from Gill Ave. north in a complete streets format, and provide infrastructure for stormwater treatment for the Town of Jackson. The project will further assist the department in the delivery of our mission "to serve the community through safe and enjoyable parks and recreation opportunities", and the general purpose of the Recreation Center to provide, maintain and manage quality of life programs and resources that encourage healthy lifestyles, social and cultural engagement, and community pride according to the needs of our residents and guests.

B. OWNER & PROJECT TEAM INFORMATION

PROPERTY OWNERS & APPLICANT

Teton County/Jackson Parks & Recreation
155 East Gill Avenue
PO Box 811
Jackson WY 83001
307-733-5056

OWNERS REPRESENTATIVE

Berning Project Management
313 Mountainside Blvd.
Victor, Idaho 83455
307-699-3733

ENGINEERING & LAND PLANNING

Jorgensen Associates, Inc.
1315 Highway 89 South, Suites 201 & 203; 83001
P.O. Box 9550
Jackson, Wyoming 83002
307-733-5150

ARCHITECT
Perkin & Will .
475 Lincoln Street, Suite 100
Denver CO 80203

ASSOCIATE ARCHITECT
Hoyt Architects
1110 Maple Way
Jackson, Wyoming 83001

LANDSCAPE ARCHITECT
Inside Out
5263 Torrence Road
Wilson, Wyoming 83014

C. DEVELOPMENT PROPOSAL

The project is for the renovation and expansion of the existing Teton County / Jackson Recreation Center ("TCJRC") located at 155 East Gill Ave., Jackson, Wyoming. The project was identified by Teton County and the Town of Jackson as a priority and placed in front of the voters for capital funding consideration. In November 2019 the voters of Teton County approved the project based upon a conceptual program.

The project design consists of a 40,000 sqft addition and 3,700 sqft renovation and will provide a total square footage of 80,000 sqft including existing space. The project includes extension of King Street inclusive of a paved pathway, extension of Cache tube stormwater system, modified and expanded parking facilities and associated circulation, landscaping and site amenities.

The project team was brough on board in the Spring of 2021. The team developed and estimated a design that built upon the recreation center program while integrating elements responding to community engagement through stakeholder meetings, surveys, and a public open house.

The current civil design is at a 95% construction document level and the architectural and engineering design is at a 50% design development level. The design will be progressing to construction documents with a plan to submit for building permit in early 2022 paving the way for an optimal Spring construction start. A Guaranteed Maximum Price Contract will be provided for approval from the Town Council and County Commissioners in the Spring of 2022.

D. PHASING

The project is planned to be completed in one phase starting in Spring 2022 and completing in the summer of 2023 with a Grand Opening in the Fall.

E. FINDINGS FOR APPROVAL

Division 8.3.2.C Development Plan Findings for approval:

1. ***Is consistent with the desired future character for the site in the Jackson/Teton County Comprehensive Plan.*** Complies.
   This project is in direct alignment with the Teton County Comprehensive Plan as it is specifically identified as a use in Subarea 2.4 Public/Civic Campus which identifies this Subarea for institutional facilities such as the Davey Jackson Elementary School, the Teton County/Jackson Recreation Center, and the various State and Federal Agencies along North Cache Street. This area is identified to continue to provide these essential public services in a central location consistent with the sustainability and community service policies of the Plan. The improvements to the Recreation Center are necessary to continue providing and enhance the essential recreational opportunities this facility provides to the community. The project's location is within the Comprehensive Plan District 2 – Town Commercial Core, Subarea 2.4 – Public/Civic Campus.

2. ***Achieves the standards and objectives of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable.*** Not Applicable.
   The property is not located in the NRO or 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 existing development is already connected to public utilities for water and sewer, and the project will continue to utilize these public utilities. The facility is within town limits and is currently served by police, public works, fire and EMT services; the development will not result in increased impacts on availability of these services. Moreover, this project expands the Town's capacity to deliver these services to the general public by further enhancing recreational opportunities and programs for children. TCPR has had a longstanding relationship with Teton County School District (TCSD) including physical connectivity to Jackson Elementary School and the afterschool shuttle service to facilitate student accessibility to the many afterschool programs provided by TCPR. The project is also working in coordination with TCSD to facilitate the relocation of the Cache Creek Tube and a water main through the North King Street connection corridor to Mercill Avenue.

   Multiple transportation options already exist in proximity to the property: these include pedestrian and bicycle connections to the Teton County Pathway System and START Bus Town Shuttle stops.

4. ***Complies with all relevant standards of these LDRs and other Town Ordinances.*** Complies**.**
   The 4.91-acre site provides enough space to develop the proposed improvements to fit programming and circulation needed for this important community facility. Setbacks are not applicable in the P-SP. The building location, bulk and scale generally conform to requirements of the LDR's when pertaining to the P-SP Zoning District. The project also conforms to the purpose of the P-SP Zoning District in that the project needs the flexibility intended for this zone and is under the control of the local government.

5. ***Is in substantial conformance with all standards or conditions of any prior or applicable permits or approvals.*** Complies**.**
   The facility meets and upgrades previous building permits to meet current code. The facility has not previously gone through the TOJ DEV process. In November of 2019 voters of Teton County and the Town of Jackson approved a Special Purpose Excise Tax (SPET) ballot measure to expand our facility to increase these offerings to include wellness and fitness, indoor walking and jogging, indoor climbing, drop-in day care, an addition gymnasium, outdoor aquatic splash pad, and associated space to support these services. As the facility is publicly owned and operated and is receipt of sales tax revenues through the successful SPET ballot, it is appropriate that the development proposal adhere to the TOJ DEV public process.

F. ADDITIONAL ZONE-SPECIFIC STANDARDS, SECTION 2.2.6.E.

There are no zone-specific standards within the zone of Public/Semi-Public.

G. PROPOSED DEVELOPMENT PROGRAM

The proposed size of the **Jackson Recreation Center Improvements** is depicted within Architectural Plans in **Section 3**. A proposed development program is depicted in the table below.

PROPOSED DEVELOPMENT PROGRAM	
Area Calculations for 155 E. Gill Avenue	
Gross Site Area	4.91
Land within road easements and right-of-way	0.00
Land within existing vehicular access easements	0.00
Land between levees or banks of rivers and streams	0.00
Lakes or ponds > 1 acre	0.00
Open Space	0.00
50% of lands with slopes greater than 30%	0.00
Base Site Area	4.91
Adjusted Site Area	4.91

DEVELOPMENT CALCULATIONS	Existing	Proposed	Gross
Floor area	39,896	39,971	39,971
FAR or maximum floor area	N/A	N/A	N/A
Site Development	N/A	N/A	N/A
Landscape Surface Area	N/A	N/A	N/A
Landscape Surface Ratio	N/A	N/A	N/A
Setbacks			
Front or street yard	N/A	N/A	N/A
Rear yard	N/A	N/A	N/A
Side yard	N/A	N/A	N/A
Height	N/A	N/A	N/A

H. LANDSCAPING STANDARDS

Landscaping Standards are not applicable within Zone P/SP-ToJ. However, in order to achieve the aesthetic quality TCPR wants to achieve for the facility, landscaping is being provided in accordance with LDRS where appropriate in a manner that provides relief to the paved parking lot.

I. ENVIRONMENTAL STANDARDS

1. **Natural Resource Buffers (Wetlands and Water bodies)** there are no wetlands or bodies of water on the property**.**

2. **Wildlife Friendly Fencing** – no fencing is proposed nor required.

3. **Water Quality** - See subsequent Engineer's report in **Section 2** of this application for discussion on this item.

4. **Natural Resources Overlay (NRO)** The property is not located within the NRO.

5. **Bear Conflict Area** – The property is not mapped as a bear conflict area.

J. SCENIC STANDARDS

1. **Exterior Lighting -** Exterior lighting will be addressed during the Building Permit and will follow requirements in LDR's.

2. **Scenic Resource Overlay (SRO) Standards** - The property is not located within SRO.

K. NATURAL HAZARDS TO AVOID

1. **Steep Slopes -** There are no steep slopes on the site

2. **Unstable Soils –** According to the Geotechnical Investigation prepared by Nelson Engineering dated February 2018, subsurface conditions encountered are typical of the mixed alluvial fan and swamp deposits found in the northern part of the Town of Jackson. The investigation discusses engineering analysis and construction recommendations for the project and is included in Section 4 of this application.

3. **Fault Areas –** The most potentially active fault in the area is the Teton Fault, which lies approximately 5-miles west of the site. The inferred (buried) traces of the Cache Creek and Jackson thrust faults are located near the site, crossing the Town of Jackson on a generally east-west trend. These faults are considered to be relatively old and inactive by the USGS and do not affect the project.

4. **Floodplains** – does not have any mapped FEMA Flood Zones

5. **Wildland Urban Interface –** The site is not within the WUI

L. SIGN STANDARDS

Sign Standards are not applicable within Zone P/SP-ToJ.

M. GRADING, EROSION CONTROL, DRAINAGE, & STORMWATER

See subsequent Engineer's report in **Section 2** of this application for discussion on these items.

N. ALLOWED USES & USE REQUIREMENTS

1. **Allowed Uses -** The proposed uses within the development include improvements to existing recreational facility uses.

2. **Parking -** See subsequent Engineer's report in **Section 2** of this application for discussion on these items.

3. **Operational Standards**

   a. **Outside Storage -** The facility will continue existing storage operation practices.

   b. **Refuse and Recycling -** The development will continue current refuse and recycling practices.

   c. **Noise -** Noise levels will be kept within the permitted 65 DBA, consistent with LDR restrictions for the P/SP Zoning District.

d. **Vibration -** The development does not include uses in which any regular activity shall cause or create displacements for given frequencies as prescribed by LDR restrictions.

e. **Electrical Disturbance -** The development does not include any activities which could cause electromagnetic radiation and disturbed operation of equipment such as radios and TVs.

f. **Fire and Explosive Hazards –** The development will adhere with the fire codes adopted by the State of Wyoming and the Town of Jackson pertaining to the manufacturing, possession, storage, transportation or use of hazardous materials.

O. ALLOWED SUBDIVISION AND DEVELOPMENT OPTIONS

1. **Standards Applicable to all Subdivisions –** Although no subdivision is currently proposed, the project will adhere to all standards provided in Sections 7.1, 7.2, 7.4 & 7.5 of the LDRs which include developer responsibilities, permits requirements, and acceptance by the Town of Jackson.

P. DEVELOPMENT EXACTION AND AFFORDABLE HOUSING STANDARDS

1. **Employee Housing** –The project is exempt from Affordable Workforce Housing Standards as per the LDR's in the P-SP zone. However, Teton County Parks and Recreation completed construction of a facility on Snow King Avenue that includes 13 employee housing units.

2. **School and Parks Exactions –** No saleable subdivision of land is proposed and therefore no School and Park Exactions are required.

Q. CONSTRUCTION MANAGEMENT

A construction logistic plan has been developed by GE Johnson and is included in **Section 3 – Drawings**. The plan identifies constructing the project in a sequence of three (3) phase.

1. Development coordination between the Town and the 660 West Broadway developer agreed that as part of their project, they could grade over their south property line and onto the subject property. Coordination and alteration of the design of the proposed retaining wall and landscaping around the parking lot is necessary.

2. Construction Staging will occur on the property and adjacent Karns meadow as follows:

a. Most of the staging for construction will occur in the Employee Parking area south of the existing building
b. If needed some staging can occur on the north side of the site except when the north wall between the properties is being built.
c. Parking for construction workers will occur on the Karns meadow property. This temporary parking lot will be shown in future grading permits. Parking is allowed by the covenant that is recorded in this property in Doc #

R. INFRASTRUCTURE

1. **Transportation Facilities -** See plan sheets provided in **Section 3.**

2. **Required Utilities -** See Engineers Report in **Section 2** and plan sheets provided in **Section 3.**

SECTION 2 – RELATED REPORTS

- **Civil Engineer's Report**
- **Trafic Study Impact Report**

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FINAL DEVELOPMENT PLAN NOTEBOOK
TETON COUNTY / JACKSON PARKS AND RECREATION DEPARTMENT
RECREATION CENTER EXPANSION

SECTION 2
CIVIL ENGINEER'S REPORT

Prepared 2021-11-06

A. INTRODUCTION

This Final Development Plan Engineer's Report is intended to provide the engineering basis for design and to discuss engineering related issues for the proposed Teton County/Jackson Parks and Recreation Department's Recreation Center Expansion (TJRC). The basic layout and design elements are shown on the accompanying Final Development Plan Drawing Set and the general engineering items are discussed here.

B. SETTING

As shown on the Vicinity and Existing Conditions Maps of the accompanying Final Development Plan Drawing Set, the site is currently developed as a community Recreation Center with gyms, a pool, locker rooms, showers, meeting rooms, staff offices, and associated facilities. The proposed project expands the current TJRC with an additional gym, running track, additional offices and meeting rooms, and a climbing gym. The original building was constructed in 1994 and opened to the public in 1995. An office addition was completed in 2018 on the northwest corner of the building. In 2008 a connection was added to the new Jackson Elementary School located on the neighboring property.

C. SOILS AND SITE CONDITIONS

A geotechnical investigation was performed during October of 2015 by Nelson Engineering. A report was issued February 2018. The report identifies soils with poor engineering qualities in the upper 15 ft. to 20 ft. across the site. Groundwater was found at about 10 ft. during the October investigation. No faults or avalanche paths are present at the site. Refer to the geotechnical report in Section 4 – Supporting Documentation for further information.

D. ROADS AND ACCESS

The main access to and from the TJRC is currently at the East Gill Avenue and North King Street intersection. A second minor access to the west parking lot is located from East Gill Avenue about 170 feet to the west of this intersection. A third access exists from the intersection of North Willow and East Gill. This access routes through a portion of the elementary school parking lot.

For the improvements, the main access to the TCJPR will remain in its present location. The Gill and King intersection is planned for a redesign in the next few years. Some temporary measures will be taken to provide safe and reliable access to the TCJPR for all modes in the interim. The King Street Extension is a project approved by the Jackson Town Council in 2015 and the improvements have been funded through a Special Purpose Excise Tax (SPET) connecting Gill to Mercill through the TCJPR property. These improvements include a pathway, sidewalk, bus pullout and drop-off area, and a raised crossing from the West

Parking Lot across King Street to the TCJPR Entry Plaza. A secondary access will be provided on the north end of the site at the intersection of the King Street Extension and Mercill Avenue. Currently, access to Mercill from the TCJPR is limited to emergency vehicles. The connection is closed off with bollards and a chain. A third connection is being made between the King Street Extension through the new TCJPR West Parking Lot to the Home Ranch Parking Lot. This connection will be a one-way-only connection from the TCJPR to Home Ranch. This connection is meant to provide circulation from the pullout on King in front of the TCJPR back to Gill and points south of Mercill without having to use Mercill and the traffic signal at North Cache and Mercill.

The King Street cross section is intended to define a complete street and will include, from east to west, a 6 foot sidewalk, two 10½ foot travel lanes, a 5 foot landscape buffer, and a 10 foot pathway. The sidewalk expands to 12 feet at the pull out and the buffer between the pathway and the road reduces to 2 feet at the 'pinch point' at the 'Kudar Corner.' The 6 foot sidewalk on the east side of King Street allows a route for pedestrian traffic from properties to the north, Hidden Hollow in particular, to access the TCJPR and also head towards the center of Town. The pathway extends the connection from Willow Street to the pathway on the west side of Hidden Hollow. This pathway has an eventual goal to link up with the North US 89 Pathway accessing Grand Teton National Park. A raised crossing of King Street was part of the approved King Street Extension approved by the Town Council in 2015. The raised crossing emphasizes pedestrian movement from the west parking lot across the pathway and King Street to the Entry Plaza.

E. Traffic

A traffic report has been prepared as part of this Development Plan submittal. The traffic study was prepared for the TOJ and includes alternatives designed as a complete street (multi-modal) corridor and discourage bypass type traffic from using the corridor. A preferred alternative was approved by the Town Council and is the basis for the corridor included in the FDP. The TIS is included in Section 4 - Supporting Documentation included in this application.

F. Parking

Anecdotally, the current parking at the TCJPR is adequate. It fills frequently for internal evets, such as swim meets and during the busy summer months, but also serves as overflow for the Home Ranch and Elementary School parking lots. There are currently 154 parking spaces in the parking lots of the TCJPR, which includes 9 ADA spaces, 4 compact car spaces, and a community recycling node with recycling trailers and drop off area. The new parking

plan adds 16 spaces to site. The recycling area is moved to the Home Ranch Parking Lot to gain the extra parking.

G. Pathways

A pathway will be added to the site as part of the King Street Extension. A 10 foot wide path will run from Gill to Mercill and be separated from the road way by a 5 foot landscape buffer most of the way. The buffer reduces to a 2 foot wide paver separation from the road at a pinch point where the extra width to maintain the 5 foot landscape buffer is not available. The pathway connects the Willow Street pathway corridor to the pathway recently constructed as part of the Hidde Hollow Project. These two pathway sections are planned to be connected in the future to other pathways to the north across Game and Fish property to eventually connect to the North 89 Pathway and Grand Teton National Park.

H. Grading, Drainage, and Stormwater

The location of the site in the valley creates unusual grading and drainage conditions. In this part of the Town the natural slope of the ground is to the north along the old creek bed of Cache Creek. This is unusual as most of the valley drains generally southward. The grading for this project follows this pattern as well as generally grading away from the building to provide positive drainage.

Stormwater drainage from the site is routed with a combination of direct discharge to the Cache Creek Tube, detention in stormwater detention structures, and on-site storage and infiltration in landscaped areas. Areas routed directly to the Tube include King Street and the roof drains from the TCJPR. The parking lots and adjacent contributing areas are routed along curbs with gutters to inlets and underground pipe networks connecting the inlet structures to the underground StormTech detention and infiltration galleries. There are three StormTech stormwater galleries proposed, one for each of the three main parking lots. The galleries are each sized to store the 10-year storm. The runoff calculation used a predevelopment condition of meadow grass to compare to the paved parking lot condition. Storms greater than 10 years (10% chance of recurring annually) are routed through the storage galleries and through overflow structures in the detention galleries to the Tube.

The Cache Creek Tube is a Town stormwater and irrigation water pipeline running from the mouth of Cache Creek Canyon to its outfall on the north end of Town near Perry and North Glenwood. The Town has a phased project to upgrade the capacity of the Cache Creek Tube and move it out of private property. One of those phases is included in this project and realigns the Tube out the Kudar property located to the west of the Rec Center into King Street. This phase makes the connection of a section constructed in 2017 as part of the

Mercill Extension to Hidden Hollow and a section constructed in 2018 ending at the King and Gill intersection. This project also includes reconstruction of a stormwater pipeline connecting inlets at the drop off/parking area in front of the Davey Jackson Elementary School on north Jean Street to the new section of the Tube. Currently the line is too low to connect to the Tube.

I. Water

The project property is within the Town of Jackson and is served by the Town' water system. No new water connections are required for the TCJPR Expansion.

As part of this project and the King Street Extension, an 8" ductile iron waterline will be constructed to connect the existing 8" mains in Gill and Mercill. This connection will allow for additional system looping and provide better overall flows, pressures, and redundancy to the water system in this part of Town and has been identified in the TOJ Capital Improvements Projects for some time. The pipeline is located under the pathway to allow for ample space in the street corridor for the Tube and the realigned and extended sewer main.

J. Wastewater

A new wastewater connection is required for the Expansion. A new connection was chosen over excavating the building's interior concrete slab to connect to the existing sewer service. To accommodate the new building sewer, the existing sewer main will be extended north along King Street. A realignment of the southern portion of this main was required to accommodate the Cache Creek Tube in King Street.

K. Cable Utilities and Gas

Cable and Gas utilities will remain generally unchanged exterior to the building. The one exception is a new larger transformer required to match the increased electrical loads from the improvements. The transformer will be located in the same general area as the existing transformer.

L. Refuse, Garbage, Trash, and Recycling

No change in refuse, garbage, trash, or recycling are planned for the improvements. Existing systems have worked well over the years and will remain in place after the improvements.

M. Snow Storage

Snow storage has been managed well through the years at the TCJPR. Most snow removal/snow storage systems will remain in place. Ample area is provided to

accommodate snow storage on a temporary basis. The TCJPR has access to the Rodeo Grounds snow storage area if snow needs to be hauled off to provide ample access and parking.

N. Groundwater, Streams, and Rivers

Groundwater was found at about 10 feet during the geotechnical investigation. Groundwater elevations will be considered for construction and for long term building function.

No active streams or rivers cross the site. An historic channel of Cache Creek was approximately 300 feet to the east of the TCPR at the elementary school.

O. Agricultural Structures, Water, and Water Rights

There are no known agricultural structures, groundwater rights, or surface water rights currently on the property. A thorough search of the Wyoming State Engineer's Office records has not been done and would be required to determine what, if any, rights exist on the property.

North King Street Extension

Traffic Impact Study Final Report

July 2, 2018

PREPARED FOR:

Town of Jackson
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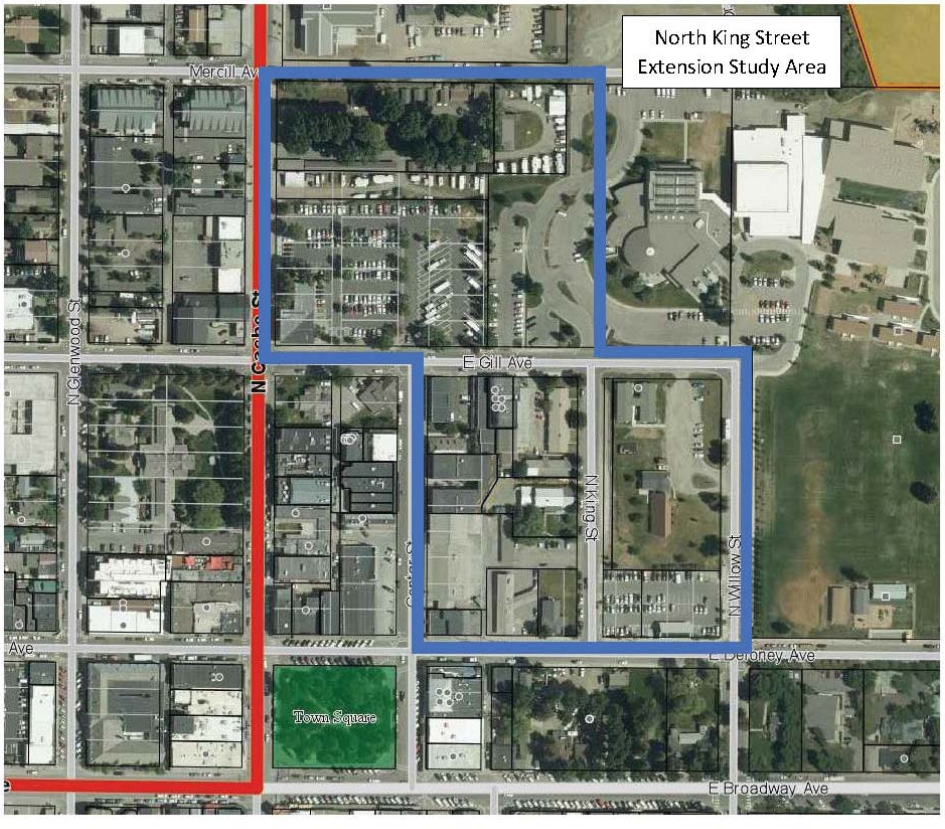

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North King Street Extension Study - Executive Summary

In 2006 voters approved a SPET proposition that included the cost for the planning, engineering, and construction of a downtown road extension between East Gill Avenue and North Cache Street. Since that time, Teton County Parks and Recreation has been working on plans for an expansion that includes site modifications to the Teton County Recreation Center. Site modifications include the option of revising the Recreation Center access drive to a complete street connection between East Gill Avenue and Mercill Avenue. The Town of Jackson (TOJ) Council directed Town staff to prepare a Traffic Impact Study that looked at alternatives for North King Street between East Gill Avenue and Mercill Avenue at the January 17, 2017 Town Council Workshop. Jorgensen Associates, P.C. (Jorgensen) was retained to prepare this report.

An important component to the North King Street project is to gain an understanding of how much traffic (all modes) would use this corridor once constructed. Future traffic volume forecasts were prepared for the planning year of 2027. Traffic growth rates were determined based upon historic traffic growth rates in the area as well as recent development proposals and student population reductions for Davey Jackson Elementary School (based upon the opening of Munger Mountain Elementary). Modal shifts consistent with the Jackson/Teton County Integrated Transportation Plan were applied. The westbound left turn from Mercill Avenue to southbound North Cache Street was eliminated as part of the Hidden Hollow project to improve that intersections performance. This is also reflected in the 2027 traffic volume projections.

The resulting estimated 2027 traffic volumes on a North King Extension are approximately equivalent to the upper end of traffic volumes for the TOJ Land Development Regulation Local Street classification design standards. Numerous advantages of developing a redundant route by implementing this extension were identified by stakeholder/user groups during the development of this study. Alternative street concepts were prepared for North King Street with traffic calming features to maintain slow travel speeds and minimize unnecessary cut-through traffic.

A workshop with the stakeholder/user groups was conducted on May 3, 2018 to review the alternative design concepts presented in this report. Workshop participants were in favor of Alternative 3. Workshop participants offered suggestions and comments for the alternatives. Recognizing that these alternatives are at a very conceptual level, each of these suggestions can be evaluated and incorporated into the preferred alternative as design progresses. These suggestions and comments are included in Appendix B.

Based upon the finding of this traffic impact study, Jorgensen recommends Alternative 3. The need for a redundant connection is imperative for all modes of transportation. However, because vehicular traffic volumes are anticipated to be on the upper end and potentially exceed a Minor Collector classification, it is imperative that traffic calming measures are implemented to maintain slow travel speeds and discourage bypass traffic.

The Town Council approved the study with recommended Alternative 3 at the June 18, 2018 Town Council Meeting.

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I. Introduction

In 2006 voters approved a SPET proposition that included the cost for the planning, engineering, and construction of a downtown road extension between East Gill Avenue and North Cache Street. Since that time, Teton County Parks and Recreation has been working on plans for an expansion that includes site modifications to the Teton County Recreation Center. Site modifications include the option of revising the Recreation Center access drive to a complete street connection between East Gill Avenue and Mercill Avenue.

The Town Council has directed Town staff to look at alternatives for North King Street between East Gill Avenue and Mercill Avenue. An important component to the North King Street project is to gain an understanding of how much traffic (all modes) would use this corridor once it is constructed. This report presents the study process, traffic data and traffic forecasting, a range of concepts for North King Street, schematic design alternatives, and preliminary recommendations. Twelve (12) traffic volume figures were prepared for this analysis to present each step of the analysis. They are all attached to this report for ease of sequencing through each figure.

II. User Group Interviews

A list of user groups was identified for North King Street by the Town of Jackson. One-hour interviews were held with each group. Brian Lenz, Town Engineer and/or Larry Pardee, Town Public Works Director participated in most of the interviews. User group interviews generally followed an outline of interview questions as provided in **Appendix A**. Notes from the interviews are also provided in **Appendix A**. The user groups and their attendees are listed below:

- Kathy Clay, Fire Marshall
- Todd Smith, Police Chief
- Brian Schilling, Jackson Hole Community Pathways Director
- Daren Brugmann, START Bus
- Steve Ashworth, Teton County Parks and Recreation Director
- Jeff Daugherty and Paul Rossolo, Teton County School District
- Tyler Sinclair, Town of Jackson, Planning Director
- Mike Oltman, United States Forest Service (USFS)
- Sean O'Malley and Amy Ramage, Teton County Public Works
- Darin Kaufman, Wyoming Department of Transportation - District 3 Traffic Engineer

The user group interviews resulted in a discussion of the users' relative perception of traffic mobility for their services and all modes of travel in the study area. The user groups expressed traffic and safety concerns. The discussion resulted in generating various design options for North King Street between East Gill Avenue and Mercill Avenue.

Most of the user groups encouraged development of North King Street to improve the street network and provide redundancy in the street network. Pedestrian, bicycle, and emergency access along North King Street, between Mercill Avenue and East Gill Avenue, was very important to all user groups. Teton County Parks & Recreation, as well as the Teton County Fire Marshall, were concerned with mixing pedestrians walking to and from the Recreation Center west parking lot and general-purpose traffic on a proposed North King Street. All user groups encouraged a design that incorporates traffic calming measures to keep vehicle speeds slow and discouraged use as a bypass route.

Highlights of existing and potential future use of North King Street by user group are summarized below.

- Emergency access to Hidden Hollow would be improved with a North King Street connection. Without the connection, there are 168 units with only one ingress/egress at the end of a long corridor.

- A North King Street connection was not a high priority for emergency routing from north of Town to the Hospital. Emergency vehicles are accustomed to pushing through the traffic on North Cache Street.
- Community Pathways sees the connection as key to providing access for pedestrian and bicycle users to the street network without travelling on North Cache Street.
- Community Pathways also sees the benefits of connecting to the North Highway 89 Pathway without travelling on North Cache Street (the segment between Mercill Avenue the North Highway 89 is connected by a bike lane).
- START Bus appreciates a street network that provides options to adjust bus routing to capture more riders.
- Teton County Parks & Recreation uses the existing roadway for drop-off/pick-up at all times of the day with peaks in the morning, after school and evening. School buses pick up children at school and drop off at the front door of the Recreation Center.
- Teton County School District (TCSD) shared that attendance and traffic volumes would decrease at Davey Jackson Elementary School when Munger Mountain Elementary School is opened in the fall of 2018.
- TCSD is under pressure to adhere to State of Wyoming requirements that do not provide bus service to students within a one-mile radius of schools; therefore, encouraging walking or biking to school, due to budget constraints at the state level.
- The USFS encouraged development of a complete street network. No parking is allowed on Mercill Avenue adjacent to the building for security reasons.
- Teton County encouraged development of a complete street network.

III. Policy Guidance

A summary of adopted plans, policies, and regulations relevant to a potential North King Street extension is provided below.

2012 Jackson/Teton County Comprehensive Plan, Section 7. Multimodal Transportation

- Principal 7.1 - Meet future transportation demand through the use of alternative modes. Our transportation goal is to increase the use of alternative modes of transportation within the community to meet our future transportation demand. To achieve this goal, a year-round mode shift away from the single occupancy motor vehicle will be required. A combination of increased transit mode share along major corridors and the completion and use of an integrated transportation system that includes opportunities for rideshare, walking, and biking will all be needed to increase the use of alternative modes.
- Principal 7.2 – Create a safe, efficient, interconnected, multi-modal transportation network. The community's transportation network will be based upon the provision of "complete streets" that address the needs of all users, with an emphasis on providing alternative transportation options. The connectivity, redundancy and efficiency of the network will encourage the desired mode shift and meet our community's Ecosystem Stewardship Common Value.
- Principal 7.3 – Coordinate land use and transportation planning. Current and future land use patterns and the associated roadway network will greatly affect the community's ability to meet its transportation goal. Complete neighborhoods and complete streets facilitate the use of alternative modes of transportation, lessening our dependence on the SOV and reducing our overall energy consumption.

Integrated Transportation Plan, Jackson/Teton, September 2015

- Both the Town and County will continue to invest in and improve the pedestrian environment, with an emphasis on streets in Town and in the villages and rural neighborhoods of the County. Walking by residents and visitors for short trips within settled areas will be significantly safer and more convenient than today.

- The Town and County will make bicycle infrastructure improvements along streets and roadways in populated areas and will continue to expend and improve the region's highly successful pathways network.
- Over 5% of daily trips made in Teton County (including Jackson) in 2013 will shift from single-occupant vehicle trips to walk, bike, and transit trips by 2035.
- Encourage active travel to and from school (walking, biking, skating, skiing).

Community Streets Plan, Town of Jackson, December 2015

- It is assumed that an extension of North King Street north of East Gill Avenue would be classified as a Local street based on the Motor Vehicle Network, page 10, and based on nearby streets and local land use.
- North King Street south of Gill Avenue as a BT (bus/truck) street between East Deloney Avenue and East Gill Avenue. The BT street then continues on East Gill Avenue between North King Street and North Cache Street.
- Based on the Sidewalk and Pedestrian Network, page 12, wide sidewalks exist on North Willow Street south of East Gill Avenue. Substandard sidewalks exist along East Gill Avenue.
- Bicycle lanes exist on North Willow Street between Deloney Avenue and East Gill Avenue and along East Gill Avenue to nearly North Cache Street.
- A bike lane and widened sidewalk are on the east side of North Cache Street, north of Mercill Avenue.

Land Development Regulations (LDRs), Town of Jackson, January 2015, Div. 7.6 Transportation Facility Standards

- C.1. Adequate Access. Adequate vehicular, bicycle, and pedestrian access shall be provided to all lots of record.
- C.2. Minimize Through Traffic. Local street system shall be designed to minimize through-traffic movements.
- C.5. Not Detract from Efficiency. Local circulation systems and land development patterns shall not detract from the efficiency of bordering major streets.
- C.9. Design for Relatively Low Volume. The local street system shall be designed for a relatively uniform low volume of traffic.
- D.10. Design to Discourage Excessive Speed. Local streets shall be designed to discourage excessive speeds.
- G.2. Right of Way. Design speed of a Local street is 25 mph. The capacity for Average Daily Traffic (ADT) is up to 1,500.

Hidden Hollow Traffic Impact Study, Jorgensen Associates, P.C., May, 2017

- Trip generation, traffic assignment, analysis methodology and data resources are used in this study for coordination and consistency. The Hidden Hollow Traffic Impact Study was reviewed and approved by the Town of Jackson and the Wyoming Department of Transportation (WYDOT), consistent with regulations and policies.
- Mercill Avenue east of North Cache Street to the Hidden Hollow residential development will be designed with two 10.5-foot lanes, a 10-foot pathway on the north and a 6-foot sidewalk on the south. Both bicycle and pedestrian facilities are proposed to include 4 to 5-foot vegetated buffers to the back of curb providing additional protection for these alternative modes of transportation.

IV. Study Area Traffic Volumes

The study area includes North Cache Street to the west, North Willow Street to the east, East Deloney Street to the south and Mercill Avenue to the north. New traffic data were collected on East Gill Avenue in May 2017. May traffic is a good indicator of local traffic volumes as it reflects the lowest seasonal tourist visitation and schools are still in session. Traffic volume data were collected on a Tuesday and Thursday during three hours of the A.M. peak period and three hours of the P.M. peak period.

Traffic volume data were provided by WYDOT on North Cache Street at East Gill Avenue and Mercill Avenue. These data were collected in September 2015. A growth factor of 1% per year was applied to the 2015 volumes, consistent with the *Hidden Hollow Traffic Impact Study*, May 5, 2017, to prepare 2017 baseline traffic volumes at North Cache Street and Gill Avenue. On a daily basis, September volumes on North Cache Street are higher than May traffic volumes. However, the A.M. and P.M. peak hour east-west volumes on Gill Avenue to and from North Cache Street were less in September than the May A.M. and P.M. peak hour traffic volumes collected in May 2017 at East Gill Avenue and Center Street. The traffic volumes on Gill Avenue approaching North Cache Street were therefore balanced to the traffic volumes on East Gill Avenue at Center Street.

A.M. peak hour traffic volumes are presented in **Figure 1** and the P.M. peak hour traffic volumes are presented in **Figure 2**. The A.M. and P.M. peak hours were identified by evaluating the peak three hours of traffic data. The A.M. peak hour occurs between 7:45 A.M. and 8:45 A.M. The P.M. peak hour occurs between 4:00 P.M. and 5:00 P.M. Two intersections showed a P.M. peak hour between 3:45 P.M. and 4:45 P.M., but the hourly traffic volume was close to the 4:00 P.M. to 5:00 P.M. hour so 4:00 P.M. to 5:00 P.M. was selected for consistency. Tuesday and Thursday traffic volume data were averaged.

Traffic volumes on East Gill Avenue at North Cache Street were adjusted to balance with traffic volumes on East Gill Avenue at Center Street. The westbound approach volume on East Gill Avenue at North Cache Street (left turn, through, and right turn volume) was less than the westbound volume leaving the intersection of East Gill Avenue and Center Street. The approach volume on East Gill Street at North Cache Street was increased to balance to the westbound volume west of Center Street. The traffic volumes North Cache Street at the northbound approach to Mercill Avenue were balanced to the northbound volumes leaving East Gill Street, and the southbound volumes on North Cache leaving Mercill Avenue were balanced to the approach volume at East Gill Street. Balancing was relatively minimal. Traffic volumes on East Gill Avenue and North Willow were not balanced between intersections as the volumes were very close to balanced and any inconsistencies would reflect driveway activity.

V. Traffic Volume Forecasts

Future baseline A.M. and P.M. peak hour traffic volumes were increased consistent with the *Hidden Hollow Traffic Impact Study* (Hidden Hollow TIS) methodology. The Hidden Hollow TIS reported historical traffic growth on North Cache Street at 0.85% per year since 2009, and a 1% per year traffic growth rate was applied over a 10-year horizon. Existing A.M. and P.M. peak hour traffic volumes were increased by 1% per year to 2027. A trip reduction factor for a shift in mode share was applied to the forecast traffic volumes based on the findings as documented in the *Jackson/Teton County Integrated Transportation Plan* (Jackson/Teton ITP, 2015) and consistent with the Hidden Hollow TIS. A 3% mode shift to walk, bicycle, and transit is identified in the Jackson/Teton ITP by 2024 (ITP Figure 6). A 3% reduction factor was applied to the forecast 2027 volumes. The small incremental increase that could occur between 2024 and 2027 was not estimated for simplicity and would reflect a more conservative estimate. Future baseline 2027 A.M. peak hour traffic volumes are presented in **Figure 3** and future baseline 2027 P.M. traffic volumes are presented in **Figure 4**. A decision was made to eliminate the westbound left turn from Mercill Avenue to southbound North Cache Street during design upgrades of this intersection for the Hidden Hollow project. This is reflected in the 2027 future baseline traffic volumes.

Development Potential within Transportation Network

There are three potential redevelopment projects within the project area and a reduction in students at Davey Jackson Elementary School (DJES) due to the construction of the new Munger Mountain Elementary School. The projects include:

- The Center Street project – this project will replace a walk-in bank and single office tenant off with a hotel/apartment/restaurant/retail development. This project is currently in the Town of Jackson development approval process.
- The CaRE project – this project will replace a commercial office building, a duplex, and a 4-unit apartment building with a seasonal housing/residential short-term rental/affordable and workforce housing/retail project. This project has had a Town of Jackson Pre-Application Conference, but is subject to the moratorium.
- The Westmount Workforce Housing project – the project will construct apartments and some retail space on the lot currently housing the Jackson Hole Children's Museum. This project has submitted the Town of Jackson Pre-Application conference application.
- The construction of the new Munger Mountain Elementary School will result in the reduction of students at DJES from an enrollment of 569 students to 275 students.

A trip generation estimation of these projects was prepared to check on their impact to the 1-percent per year traffic growth estimate included in this study. Trip generation was developed based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). The table below summarizes that estimation:

Project	Current P.M. Peak Hour Generation	Proposed P.M. Peak Hour Generation
Center Street Project*	95 trips/hour	100 trips/hour
CaRE Project	12 trips/hour	52 trips/hour
Westmount Workforce Project	15 trips/hour	29 trips/hour
DJES	148 trips/hour	72 trips/hour
Total	**270 trips/hour**	**253 trips/hour**

* Estimate per Center Street Project Development Plan Submittal Traffic Impact Analysis prepared by Nelson Engineering, September 2017

The trips on the network within the study area are actually reduced due to the significant reduction in students at DJES. Based upon this analysis, we conclude that the 1% traffic growth assumption is appropriate.

Traffic Forecasts

Future baseline traffic volume diversion to a North King Street connection was estimated independent of the Hidden Hollow traffic diversion estimates. Diverted traffic occurs when vehicles that are already on the street system change their route due to changes in the street network or other traffic conditions. Diverted traffic results in both additional traffic on North King Street and reduced traffic volume at other intersections. Guidelines for diversion estimates are listed below.

- During the A.M. and P.M. peak hour, all of the westbound right turn traffic on East Gill Avenue at North Cache Street would divert to North King Street for a worst-case estimate.
- During the A.M. and P.M. peak hour, all of the southbound left turn traffic on North Cache Street to East Gill Avenue would divert to North King Street.
- The resulting redistribution of traffic at the intersection of East Gill Avenue and North King Street is estimated based on directional approach volumes at the intersection.

The trip assignment of diverted 2027 baseline trips is presented in **Figure 5** for the A.M. peak hour and **Figure 6** for the P.M. peak hour. Note that when trips are diverted, intersection approaches show a volume added to an intersection movement and the same volume removed from an intersection movement (shown in parenthesis).

Trip generation and traffic assignment for the Hidden Hollow development, with and without a North King Street connection, was prepared for the Hidden Hollow TIS. Figure 8 of the Hidden Hollow TIS is provided as **Figure B.1** in **Appendix B** and shows A.M. and P.M. peak hour traffic volumes at the intersections of North Cache Street/Mercill Avenue and North Cache Street/East Gill Avenue. The traffic distribution shown in Figure B.1 were modified to reflect the "No Left" on Westbound Mercill Avenue, included in the final designs submitted to WYDOT for the proposed Mercill Avenue corridor. These traffic volumes were assigned to study area intersections. **Figure 7** shows Hidden Hollow A.M. peak hour trip assignment without a North King Street Extension and **Figure 8** shows Hidden Hollow A.M. peak hour trip assignment with a North King Street Extension. **Figure 9** shows Hidden Hollow P.M. peak hour trip assignment without a North King Street Extension and **Figure 10** shows Hidden Hollow P.M. peak hour trip assignment with a North King Street Extension.

The 2027 estimated A.M. and estimated P.M. traffic volume with a North King Extension was calculated by summing:

- 2027 Baseline P.M. Peak Hour Traffic Volumes,
- Peak Hour Diverted Trips, and
- Hidden Hollow Traffic Assignment with a North King Extension.

The 2027 A.M. and P.M. peak hour traffic forecasts are presented in **Figure 11** and **Figure 12**, respectively. At the intersection of North King Street and East Gill Avenue the total number of vehicles entering the intersection, when each approach is summed, is approximately the same without or with a North King Street connection. Traffic volumes shift from one movement to another at this intersection. Some minor differences occur due to some vehicles being trip ends for the Recreation Center. A few trip ends would ingress/egress the Recreation Center from Mercill Avenue on the north via the connection.

Daily Traffic

The P.M. peak hour typically represents 10% of daily traffic. The North King extension would include both through traffic with Hidden Hollow traffic and Recreation Center traffic. The future baseline traffic volumes, without a North King Street Extension, reflect Recreation Center traffic with a 1% per year increase. Recreation Center traffic exists independent of the connection. The P.M. peak hour two-way traffic volume for through traffic plus Hidden

Hollow is 190 and as an estimated 10% of daily traffic the estimated future daily traffic would be 1,900 vehicles. An example of similar traffic volume exists on Kelly Avenue, west of Millward Street where daily traffic volumes were 2,113 vehicles on June 13, 2017 (Source WYDOT).

Table 1: North King Street 2027 Traffic Volumes – with extension

Peak Hour	Traffic Source	NB	SB	Total	Estimated Daily Traffic
A.M.	Through/diverted traffic plus Hidden Hollow traffic	74	104	178	n/a
	Recreation Center Traffic	68	34	102	n/a
P.M.	Through Traffic plus Hidden Hollow	111	79	190	1,900[a]
	Recreation Center Traffic	66	41	107	n/a

a) Daily traffic volume estimated as 10% of P.M. peak hour for typical mixed neighborhood traffic.

The estimated daily through traffic volume exceeds the daily volume of a Local street (1,500) by approximately 400 vehicles. A reduction of 40 vehicles in the P.M. peak hour, or approximately 20 in each direction would achieve 2027 future daily traffic volumes consistent with a local street designation. With this in mind, design concepts should be developed to discourage bypass type through traffic through complete street and traffic calming methodologies.

VI. Future Traffic Conditions

The intersection of North Cache Street and Mercill Avenue would have a reduction in traffic for the northbound approach that becomes an increase in the Mercill Avenue westbound right turn volume. This would reduce overall intersection delay. The right turn volume from Mercill Avenue would experience delay due to pedestrian and bicycle crossing of the north leg. The southbound approach volume on North Cache Street is a reduction in the through volume and an increase in the southbound left turn volume. The road section of this approach includes a separate left-turn-lane. This increased left turn volume would increase overall intersection delay; however, the delay caused by waiting for the southbound left turn signal to turn green could reduce the volume of diverted traffic to North King Street. Additionally, with the historic use of the left-turn-lane minimal, the turning movement has available capacity. The elimination of the westbound left turn from Mercill Avenue to southbound North Cache Street would improve intersection operations. Pedestrians and bicyclists accessing the North Highway 89 Pathway, to and from East Jackson, would shift to the intersection of Mercill Avenue and North King Street and reduce vehicle delay at the intersection at the North Cache Street and Mercill Avenue intersection.

The intersection of North Cache Street and East Gill Avenue would have an overall reduction in traffic volume due to diversion of the southbound left and the westbound right turns. This intersection would experience a reduction in overall delay.

The intersection of North King Street and East Gill Avenue would experience shifts in traffic volume for nearly all movements, but the sum of all approaches would remain the same (except for a small amount of Hidden Hollow traffic).

Traffic volumes at the intersections of North Willow Street/East Gill Avenue and North Willow Street/Delaney Avenue would remain the same (except for a small amount of Hidden Hollow Traffic).

The intersection of Mercill Avenue and North King Street would be a very low-volume intersection that provides an option for pedestrians and bicycles to cross at a low-volume intersection to the North Highway 89 Pathway.

Overall, the connection would supply a redundant route in Jackson and supply crucial connectivity for bicyclists, pedestrians, and vehicles. An opportunity exists for public transit (START) to play a larger role in this vicinity given the dense residential development in Hidden Hollow and the high intensity of use at the Recreation Center. The re-routing of traffic will largely aid in increasing serviceability on the two signalized intersections in the study. Due to the location of the connector in relation to the Recreation Center, design of should focus on minimizing through traffic to keep the roadway as a local roadway designation. Narrow travel ways, complete streets, and traffic calming features should be utilized in providing a safe, functional connector that helps the community meet its transportation goals.

VII. North King Street Connection Design Concepts

Design concepts for a North King Street connection to Mercill Avenue were developed through feedback from the user group interviews and the project team, complete street design considerations for Mercill Avenue, and complete street design considerations for the North King Street connection developed as part of the Recreation Center master planning project. Design concepts and key features are described below, followed by a summary of the concept findings. Up to three concepts were selected for preliminary design.

1. Existing alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue

- Design intersection of Mercill Avenue and driveway to Recreation Center north parking lot as a four-leg intersection with pedestrian crosswalks and pathway crossing.
- Provide 20-foot-wide travel way from Mercill Avenue to turnaround at Recreation Center.
- Bikeway crossing to north side of Mercill Avenue.
- Pedestrian access to sidewalk on Mercill Avenue.
- Install Teton County Fire and EMS acceptable gate for emergency vehicles.

Concept level findings:

- Low cost.
- Provides pedestrian, bicycle, and emergency access to Hidden Hollow residences.
- Provides connection to bike path on north side of Mercill and North Highway 89 Pathway.
- Gates can malfunction, cause delay to emergency vehicles.
- Hidden Hollow vehicular traffic must circulate through intersection of Mercill Avenue and North Cache Street.
- Lower traffic volumes through the Recreation Center driveway reduces vehicle/pedestrian conflicts between parking lot and Recreation Center.

2. Proposed alignment – Recreation Center access only – Recreation Center Remodel Concept Plan

[see file: Teton County/Jackson Recreation Center – Master Plan dated October 2017]

- Turnaround loop at north end.
- Access to Recreation Center parking lot as intersection with Mercill Avenue on north side forms four-leg intersection.
- Stop sign control for north and south legs.
- Pedestrian Connection.
- Bicycle path west of sidewalk, crossing Mercill west of new intersection.
- 20-foot emergency access between north parking lot and turnaround loop.

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue.
- Infrastructure investment could be comparable to complete street options without providing local traffic circulation option or system redundancy.
- Hidden Hollow vehicular traffic must circulate through intersection of Mercill Avenue and North Cache Street.
- Truck access for school deliveries should be confirmed with truck turning templates. Design of new parking area on the north side of the Recreation Center could include potential alternative access off of Hidden Hollow Road to aid in school deliveries.
- Gates can malfunction, cause delay to emergency vehicles.
- Lower traffic volumes through the Recreation Center driveway reduces vehicle/pedestrian conflicts between parking lot and Recreation Center.

3. Proposed alignment – all modes – Complete Street with traffic calming

- 24 feet wide section with 10.5-foot wide lanes plus 1.5 foot to curb.
- Full 5-foot vegetated buffers between curb and pathways/sidewalks.
- Detached 6-foot sidewalk east of North King Street.
- 10-foot detached pathway west of North King Street.
- Wide, raised crosswalk between parking lot and Recreation Center to slow traffic
- Design includes drop-off/pick-up
- START Bus integration. Provides access to transit circulation. Geometry may require transit to be completed in car pooling or micro-transit alternatives within the site. Potential for bus station on East Gill Avenue for larger transit vehicles.
- Signed speed limit of 15 mph

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue. Provides opportunity for connection to North Pathway without using North Cache Street
- Improves options for START bus to develop new service plans including new drop-off/pick up locations and micro-transit in downtown areas
- Develops a street network and provides redundancy
- Local traffic from Hidden Hollow is not forced to circulate through signal at Mercill Avenue and North Cache Street, removing traffic from busy corridor
- Narrow corridor provides natural traffic calming feature to interact with other traffic calming features such as raised cross walks, low speed limits, vegetated buffer areas, etc. Help to meet the needs associated with providing vehicle connectivity, bicycle/pedestrian connectively, and pedestrian conflict with Recreation Center access.
- Pedestrians from Recreation Center west parking lot cross North King Street which carries local traffic [refer to traffic volume increase shown in figure/report]

4. Proposed alignment –all modes – Complete Street with traffic calming

[see file: 15063 DD Civil Progress Set 20151009]

- 12-foot travel lanes.
- 5-foot directional pathways on shoulders.
- Attached 6-foot sidewalk east of North King Street.
- Wide, raised crosswalk between parking lot and Recreation Center to slow traffic.
- Design includes drop-off/pick-up.

- Signed speed limit of 15 mph.

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue. Provides opportunity for connection to North Pathway without using North Cache Street.
- Improves options for START bus to develop new service plans including new drop-off/pick up locations and micro-transit in downtown areas.
- Develops a street network and provides redundancy.
- Local traffic from Hidden Hollow is not forced to circulate through signal at Mercill Avenue and North Cache Street, removing traffic from busy corridor.
- With direction pathways on shoulders, the street corridor is much wider than Alternative 3. Corridor is wide enough that it will not have the same traffic calming ability of the narrower cross-section described in Alternative 3. Other calming features such as raised cross walks and lower speed limits can help slow traffic.
- Bicycle lanes on shoulders does not provide the vertical separation or horizontal buffer from traveling vehicles.
- Pedestrians from Recreation Center west parking lot cross North King Street which carries local traffic.
- [refer to traffic volume increase shown in figure/report].

Alternatives for concept level design

A range of alternatives is recommended for concept level design, from low cost with minimal changes to the Recreation Center to a Complete Street design for all modes. The alternatives recommended are:

1. Existing Recreation Center access road alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue. This would be the lowest-cost alternative with fewest changes to the Recreation Center access and parking. This should be considered the minimum improvements necessary on site in order to supply pedestrian/bicycle connectivity to North Jackson as well as emergency access to Hidden Hollow.

2. Proposed alignment - Recreation Center access only – Recreation Center Remodel Concept Plan. Similar functional use as design Alternative 1 with pedestrian/bike/emergency access to the north end of the Recreation Center. Based on the Recreation Center Remodel Plan, this alternative would provide functionality of the site including improved drop-off/pick-up, improved parking, improved roadway alignment. This alternative does not provide vehicle connectivity/redundancy to the transportation network while still requiring major investment. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

3. Proposed alignment – all modes (vehicles, START, school buses, bicycles, and pedestrians) – Complete Street with traffic calming. Meets numerous transportation plan and policy goals. Concept level design provides opportunity to develop traffic calming measures in street design including narrow corridor, raised cross walks, buffers between traffic and pedestrian/bike facilities. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

4. Proposed alignment - all modes (vehicles, START, school buses, bicycles, and pedestrians) – Complete Street with traffic calming. Meets numerous transportation plan and policy and goals. Concept level design provides opportunity to develop traffic calming measures in street design including raised cross walks and low marked speed limits. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

See North King Street Conceptual Renderings

VIII. Conclusions/Recommendations

The construction of a North King Street Connector, connecting East Gill Avenue to Mercill Avenue, would provide much needed redundancy in the downtown Jackson street network for all modes. The traffic analysis included evaluated existing May traffic levels, anticipated traffic growth, proposed developments, reduction in school enrollment anticipated at Davey Jones Elementary School, anticipated trip generation from Hidden Hollow Development, and assumed conservative scenario re-routing of existing traffic. As analyzed, traffic volumes are anticipated to be approximately 1,900 vehicles/day. This value is slightly higher than the Town of Jackson Land Development Regulation Local Road designation of 1,500 vehicles/day (LDR Section 7.6.3.G). For comparison, a similar traffic level currently experienced in Jackson would be Kelly Avenue, west of Millard Street. This segment was measured to have 2,113 vehicles on June 13, 2017.

Overall, anticipated traffic levels represent a redundant route in the transportation network as opposed to a bypass route. The development of a complete streets connection provides great benefits to the community including, but not limited to;

- Redundant access to 168 unit residential area (Hidden Hollow).
- Pedestrian/bicycle redundant connectivity to north Jackson.
- Alternative Route/System Redundancy improving circulation and emergency access.
- Potential to aid in congestion relief at busy signalized intersections along North Cache Street by re-routing residential trips to Hidden Hollow, emergency vehicles, and end trips to the Recreation Center.

Due to the safety concerns of the mixing of a connector roadway with residential users of the Recreation Center, the design of the roadway is essential on minimizing and slowing through traffic and strategically utilizing traffic calming features to improve roadway crossing safety. Proper signing for pedestrians, speed limits (recommended 15 mph), etc. should be incorporated into final designs.

Preferred Alternative:

Jorgensen recommends the design of the collector as a complete street designed connector in order to help aid the community in progressing in its long-term transportation goals. Alternatives 3 and 4 both supply the area with a redundant route as well as provide bicycle/pedestrian/emergency access connectivity/transit connectivity. Both promote the following principals from the 2012 Jackson/Teton County Comprehensive Plan.

1. Principal 7.1 - Meet future transportation demand through the use of alternative modes.
    a. Provide bicycle/pedestrian connectivity.
    b. Potential for transit improvements through additional drop-off/pick-up locations, downtown circulation, and micro transit.
2. Principal 7.2 – Create a safe, efficient, interconnected, multi-modal transportation network. The community's transportation network will be based upon the provision of "complete streets" that address the needs of all users, with an emphasis on providing alternative transportation options.
3. Principal 7.3 – Coordinate land use and transportation planning.
    a. Connectivity of neighborhood area.

The connector is a feasible improvement to progress the transportation system in Jackson, supplying redundancy and promoting active travel within a connected community. Upon review of the alternatives, a final preferred alternative will be developed with coordination between the Town Council and Jorgensen.

Other Design Consideration:

With any improvements, the following items should be considered with final design of any of the alternatives.

1. **Parking**
   The parking identified in the North King Street alternative concept plans is either the existing parking supply for alternative 1, or as designed in the Teton County Parks and Recreation Design Development plans developed in 2015 for alternatives 2, 3, and 4. As the horizontal alignments in these alternatives is very similar to those shown in the DD plans, parking has not been altered from the requirements as determined by the Recreation Center. As a preferred alternative is selected and detailed design moves forward, it will be important to coordinate with the Recreation Center to ensure an adequate supply of parking is provided.

2. **Transit**
   Inclusion of improved START Bus facilities, routes, functionality is crucial in promoting alternative transportation modes in the community. As identified in alternatives 2, 3, and 4, additional drop-off/pick-up locations, improved circulation, and potential micro-transit are all possible improvements that can be incorporated into final design. It is important that transit have a physical and visual presence in improvement projects.

3. **School Deliveries/North Recreation Parking Access**
   During the review meeting with Town Staff (outlined in Task 6 of the Project Scope), the design of the parking area north of the Recreation Center could use improvements to solve the current issue of delivery vehicles to the school. The final design will need to accommodate a WB-40 vehicle. Providing an area for the vehicle to safely back up to the school delivery area is important. With the presence of Hidden Hollow Road to the north, a potential alternative access to the parking area could be explored off of Hidden Hollow Road (opposite underground parking access to eastern apartment) to help aid truck deliveries. Final design may alter access to this parking area and improve upon this existing problem.

4. **Final Design Considerations**
   The alternatives provided are conceptual, including the items most helpful in determining how to move forward. Final design components, including access points, moving components, grading, island locations, etc. will need to be finalized within final design improvements of the roadway/Recreation Center site.

Recommended Associated Improvements:

- Signal phasing and channelization at Mercill Avenue and North Cache Street. Pedestrians and bicycle intersection improvements.
- North King Street between East Deloney Avenue and East Gill Avenue – wide sidewalks for bus loading.
- Implement pathway link from Mercill Avenue at the Recreation Center driveway to Rosencrans and north to the North Highway 89 Pathway.

North King Street
Conceptual Renderings

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North King Street Extension

Alternative 1

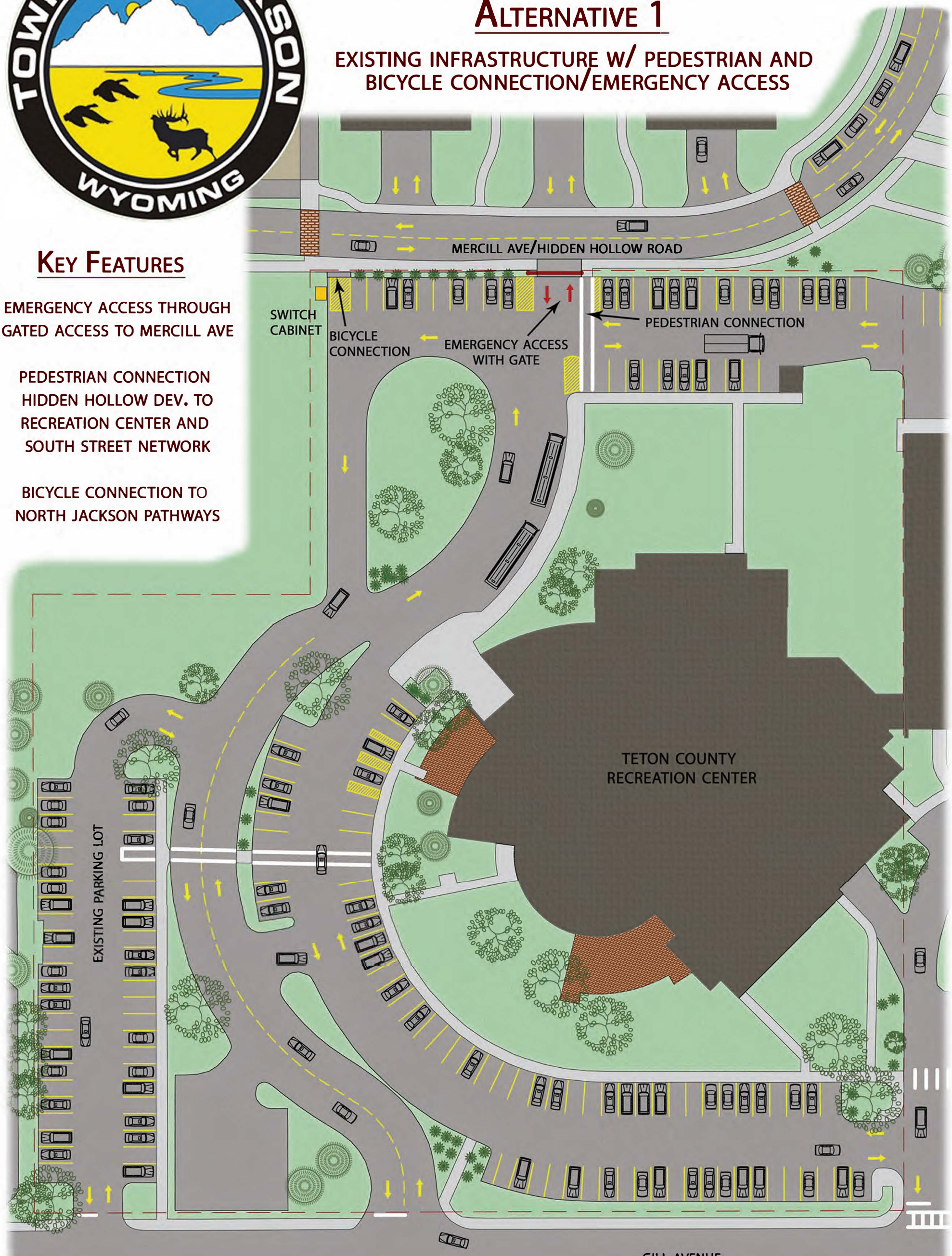
Existing Infrastructure w/ Pedestrian and Bicycle Connection/Emergency Access

Key Features

EMERGENCY ACCESS THROUGH GATED ACCESS TO MERCILL AVE

PEDESTRIAN CONNECTION HIDDEN HOLLOW DEV. TO RECREATION CENTER AND SOUTH STREET NETWORK

BICYCLE CONNECTION TO NORTH JACKSON PATHWAYS



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North King Street Extension

Alternative 2

Recreation Center Remodel
Concept Plan

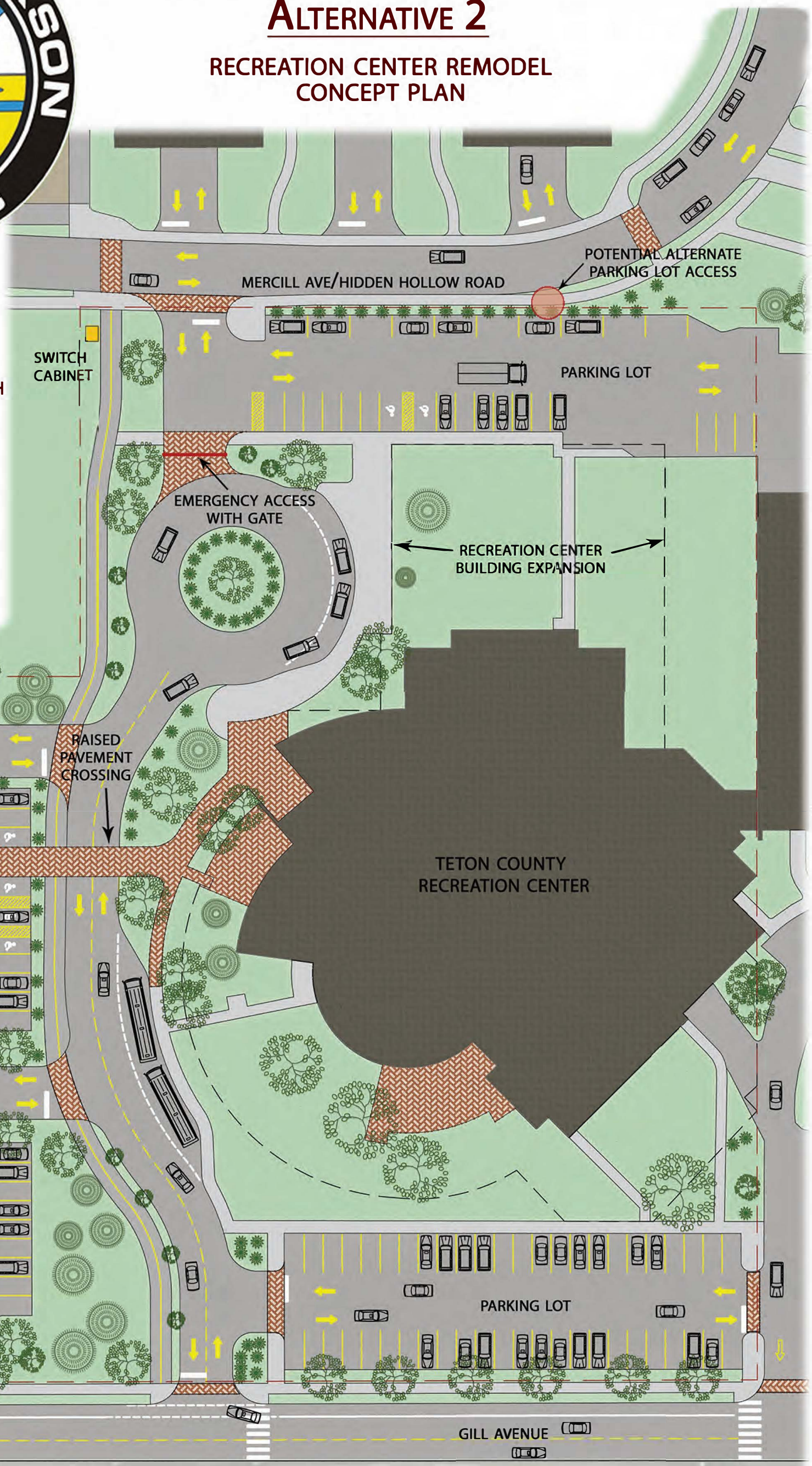
Key Features

TURNAROUND LOOP AT NORTH END

EMERGENCY ACCESS THROUGH GATED ACCESS TO MERCILL

BICYCLE CONNECTION TO NORTH JACKSON PATHWAYS

PEDESTRIAN CONNECTION HIDDEN HOLLOW DEV. TO RECREATION CENTER AND SOUTH STREET NETWORK



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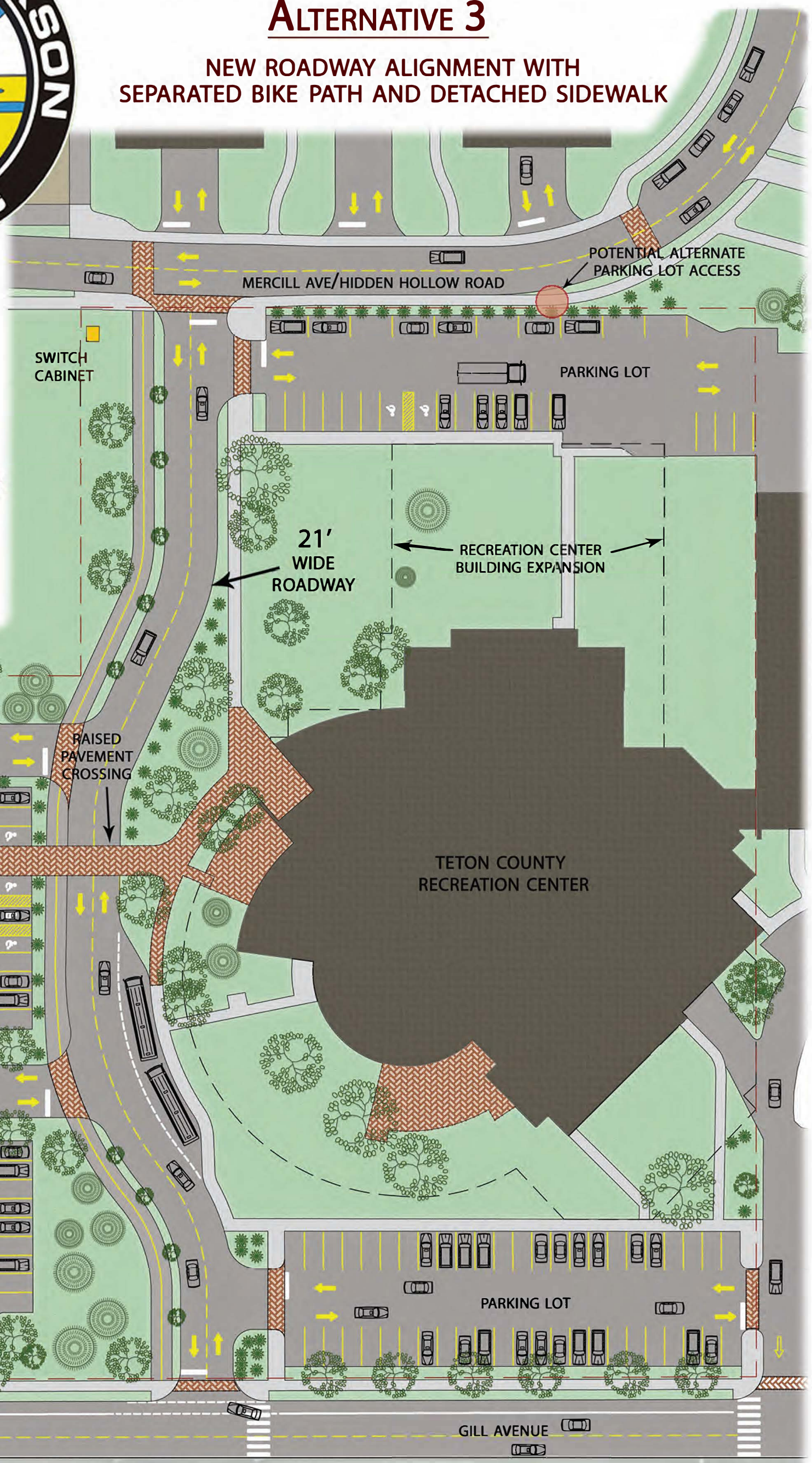
North King Street Extension

Alternative 3

New Roadway Alignment with Separated Bike Path and Detached Sidewalk

Key Features

- Complete Streets & Continous Flow
- 10.5′ Traffic Lanes & 5′ Landscape Buffers
- 10′ Pathway & 6′ Sidewalk
- Raised Ped Crossings
- Pedestrian Connection Through Property



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North King Street Extension

Alternative 4

New roadway alignment with 12' lanes and 5' bikepath

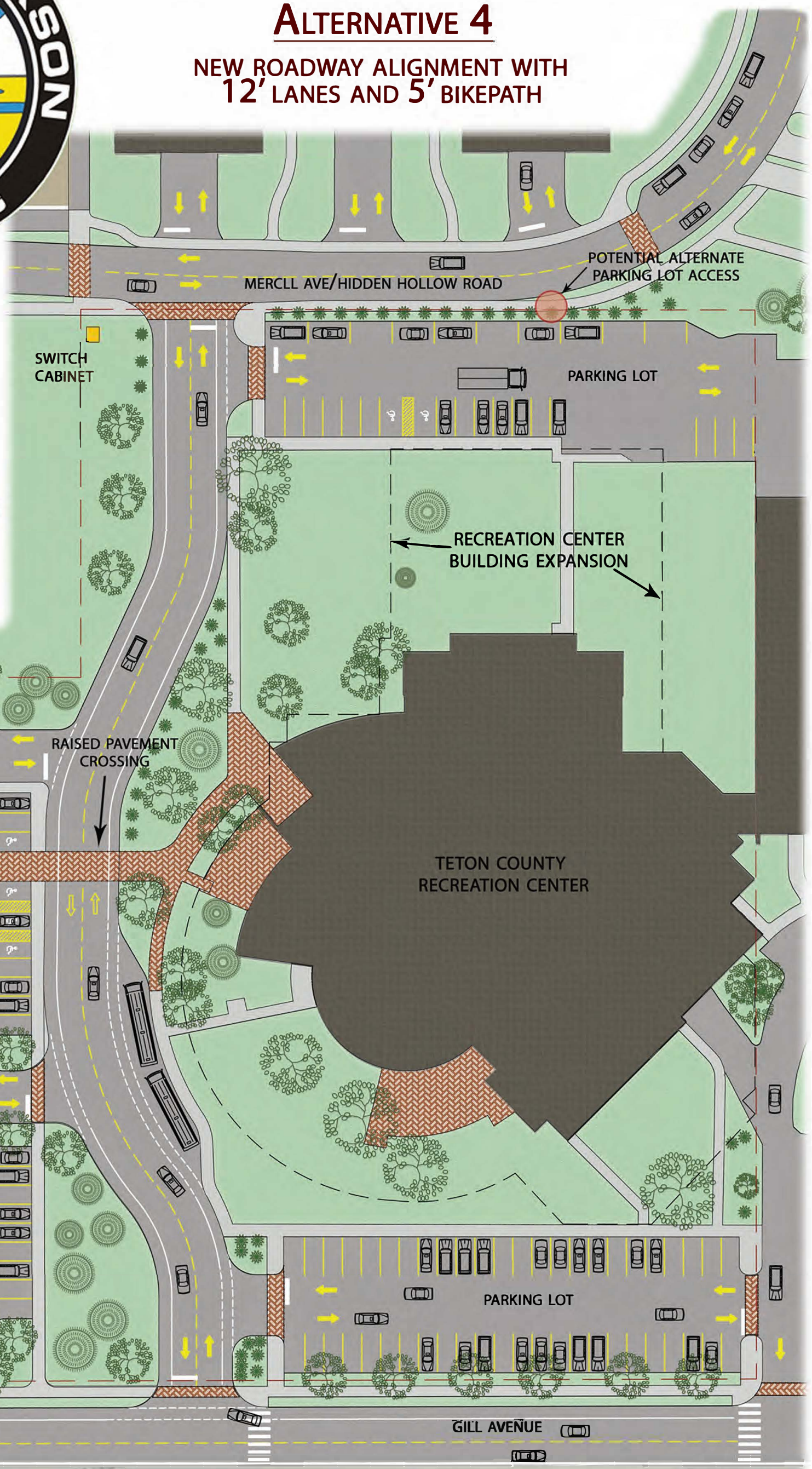
Key Features

Complete streets & continuous flow

Mercill to Gill connection bicycle lanes roadway

Raised pedestrian crossings

Pedestrian connection through property



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TRAFFIC FIGURES

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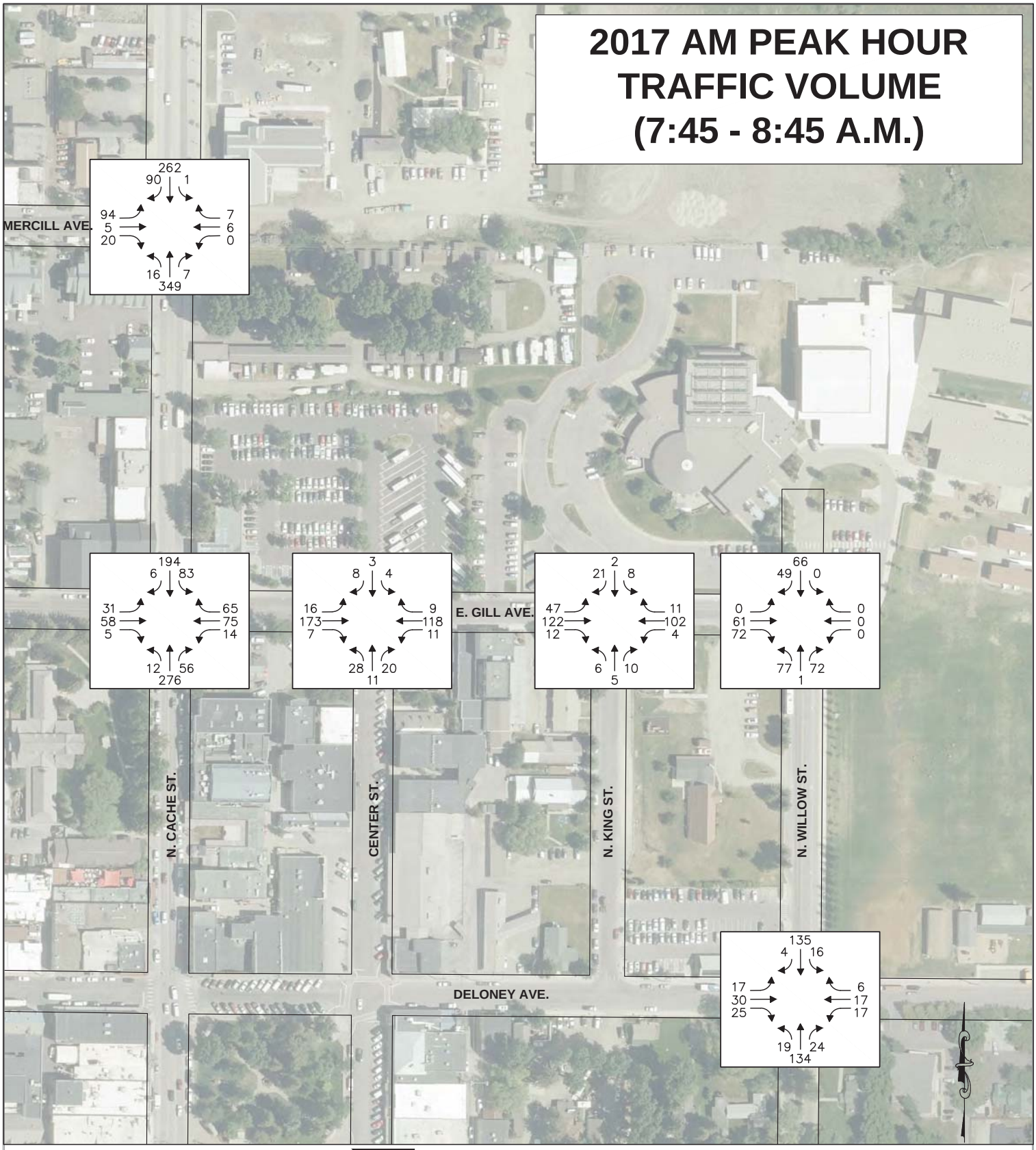
FIGURE 1
NORTH KING EXTENSION STUDY



DRAFTED BY: TJ
CHECKED BY: AP

JORGENSEN
It's About People, Trust and Know How

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SCALE: 1" = 16'

Map Prepared: March 23, 2018

Project No.: 17036

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FIGURE 2
NORTH KING EXTENSION STUDY

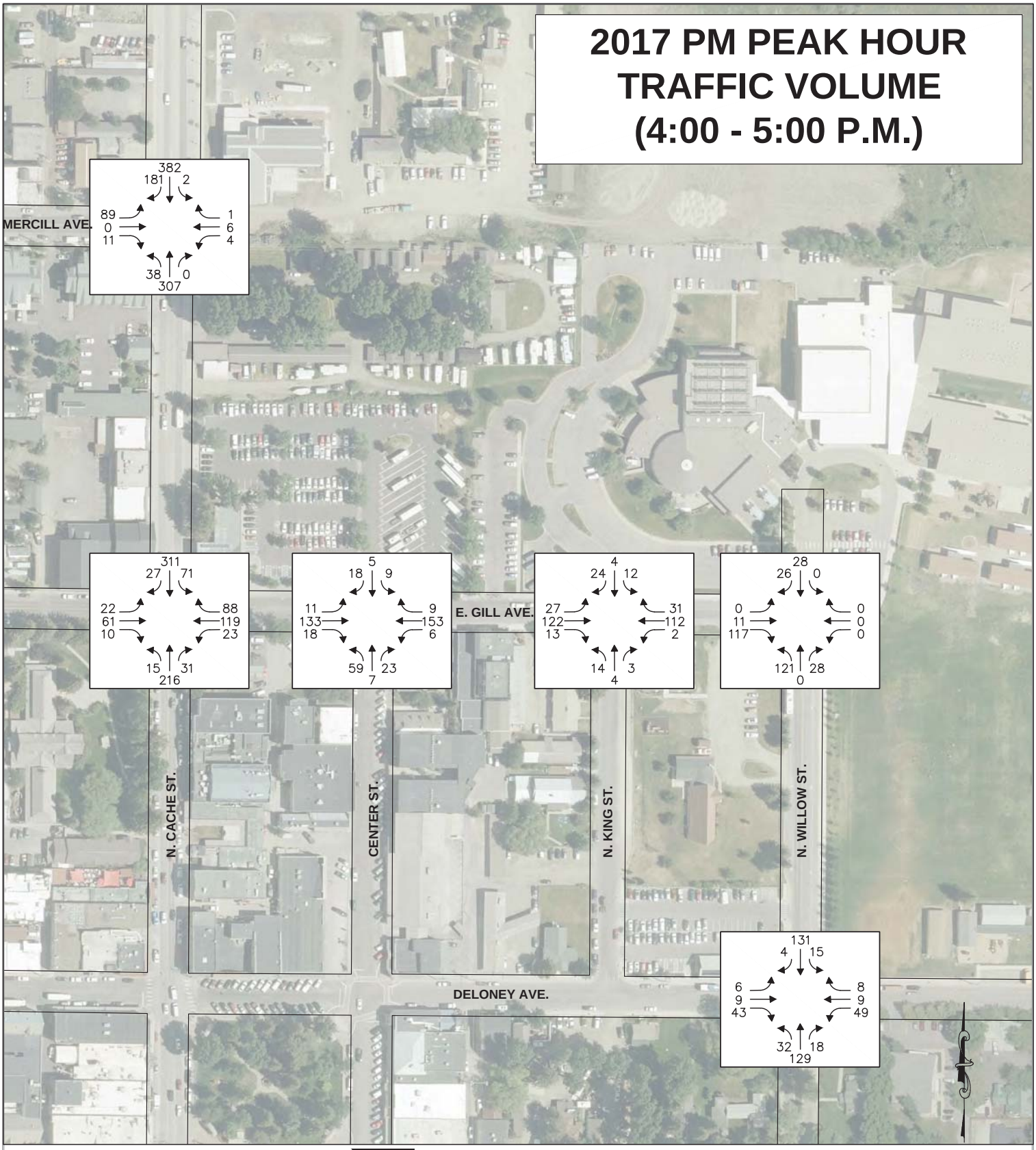

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FIGURE 3
NORTH KING EXTENSION STUDY

2027 BASELINE AM PEAK HOUR TRAFFIC VOLUME (WITHOUT HIDDEN HOLLOW)

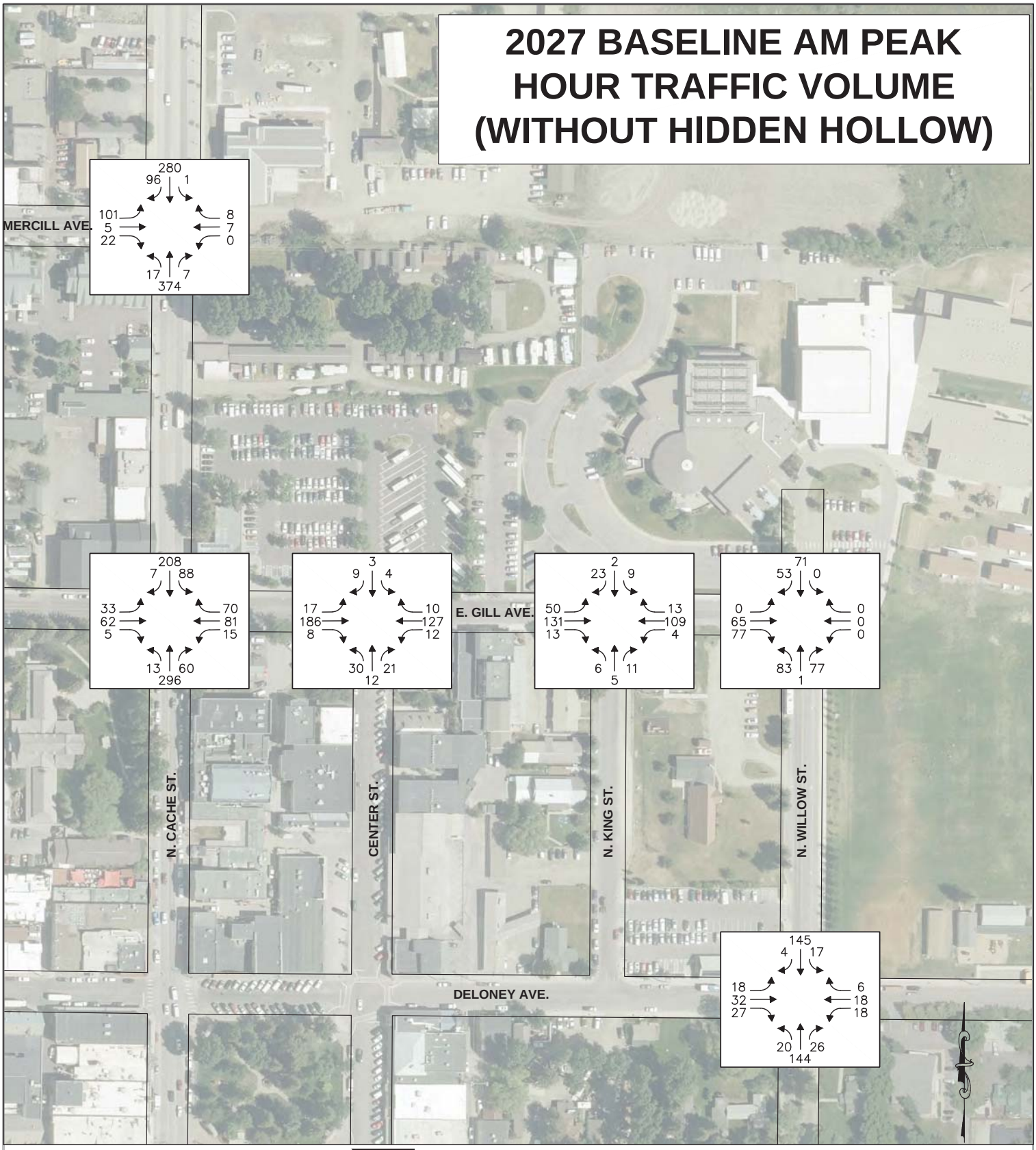

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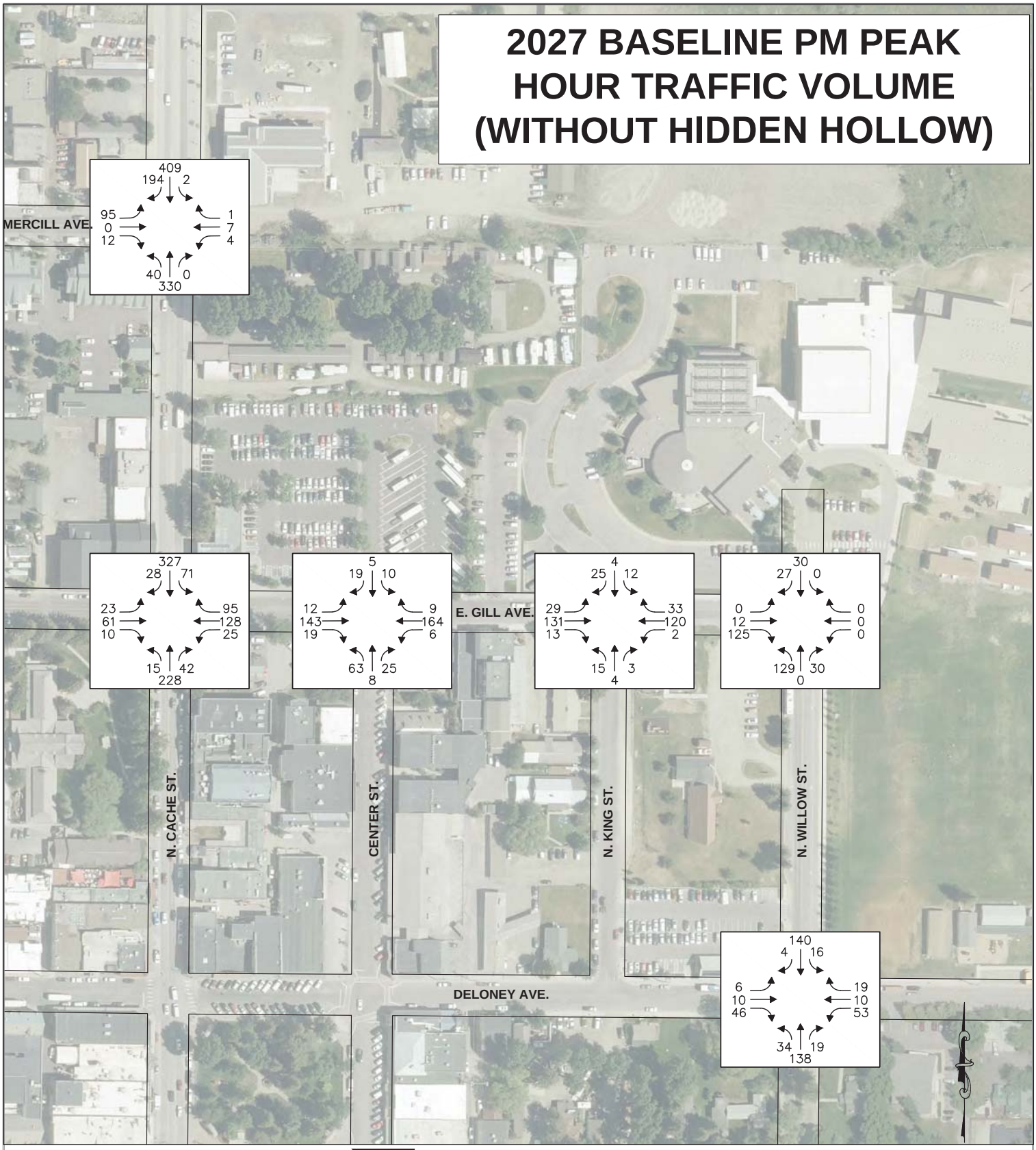
FIGURE 4
NORTH KING EXTENSION STUDY

2027 BASELINE PM PEAK HOUR TRAFFIC VOLUME (WITHOUT HIDDEN HOLLOW)



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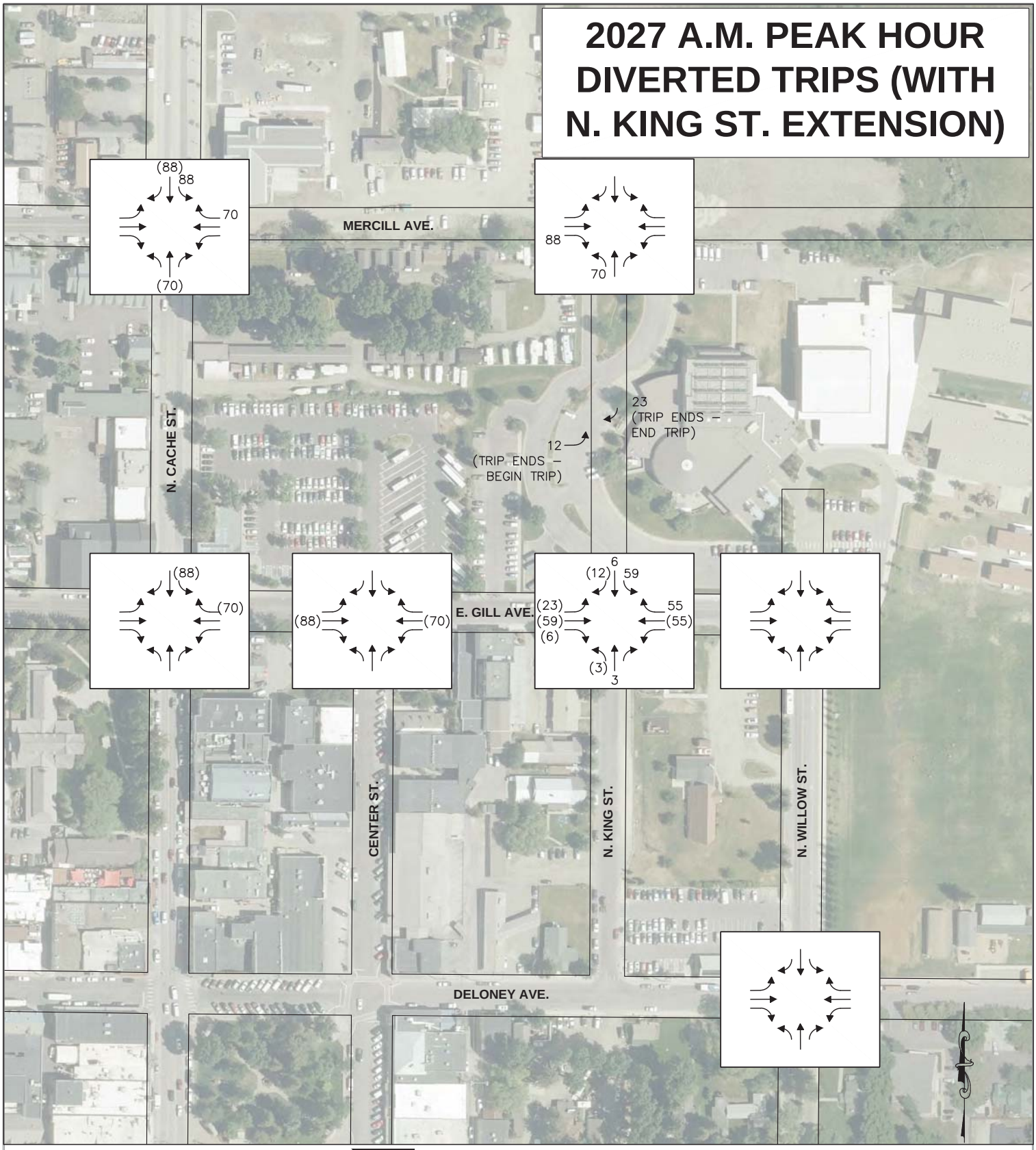
LEGEND
XX - 2027 BASELINE DIVERTED (ADDED TRIPS)
(XX) - 2027 BASELINE DIVERTED (REMOVED TRIPS)

FIGURE 5
NORTH KING EXTENSION STUDY



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LEGEND

XX - 2027 BASELINE DIVERTED (ADDED TRIPS)
(XX) - 2027 BASELINE DIVERTED (REMOVED TRIPS)

FIGURE 6
NORTH KING EXTENSION STUDY

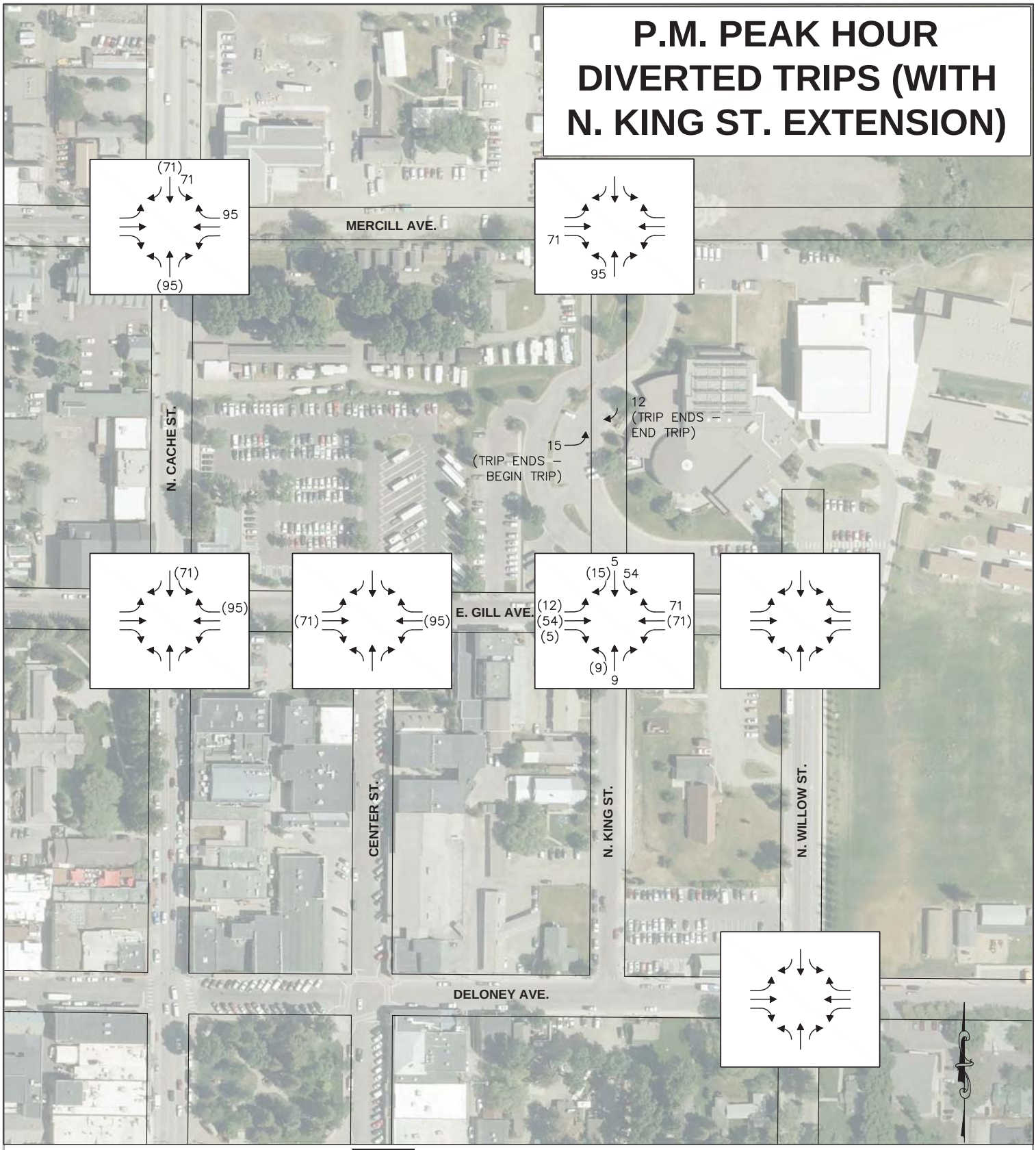

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FIGURE 7
NORTH KING EXTENSION STUDY

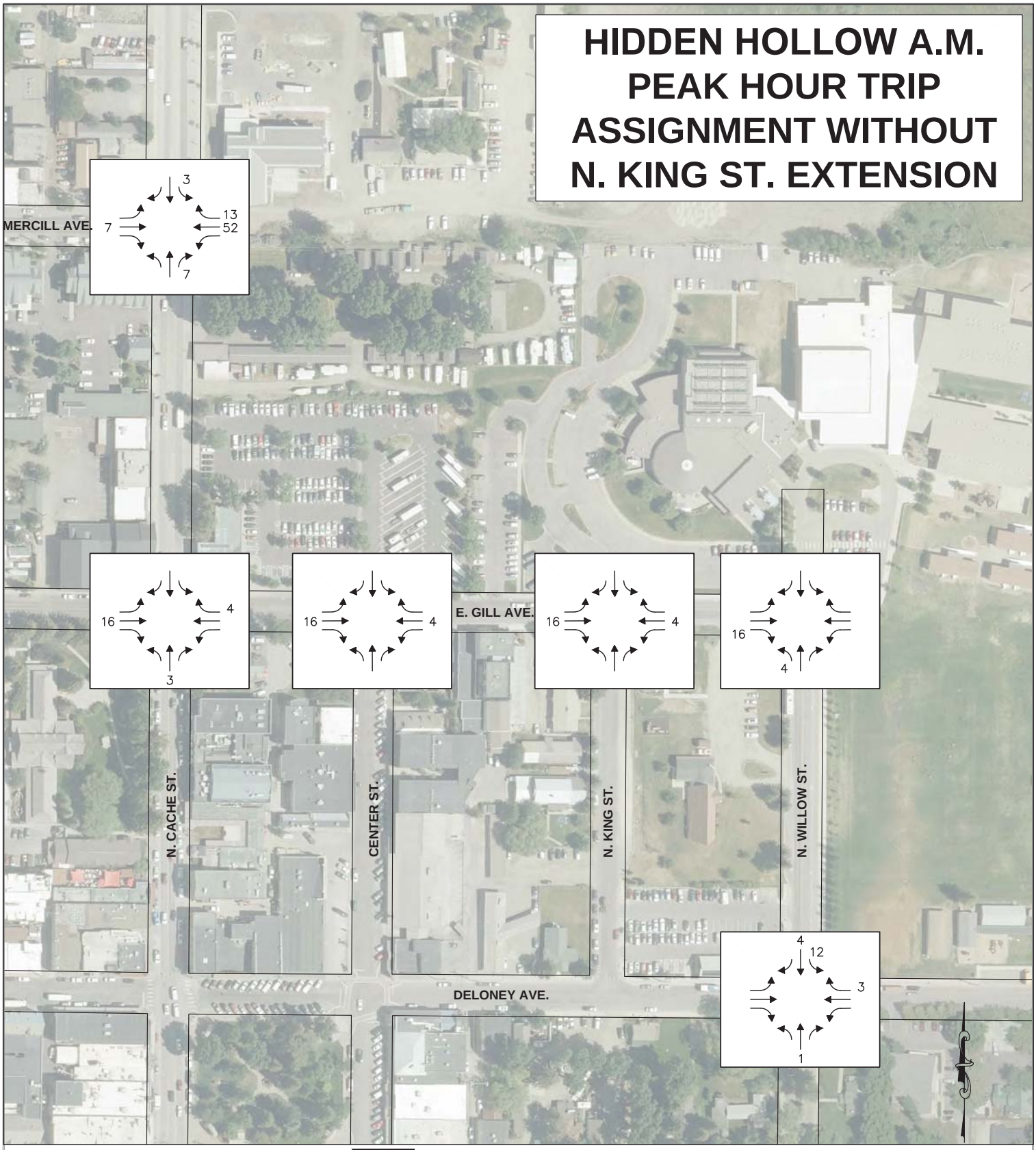

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FIGURE 8
NORTH KING EXTENSION STUDY

HIDDEN HOLLOW A.M. PEAK HOUR TRIP ASSIGNMENT WITH N. KING ST. EXTENSION

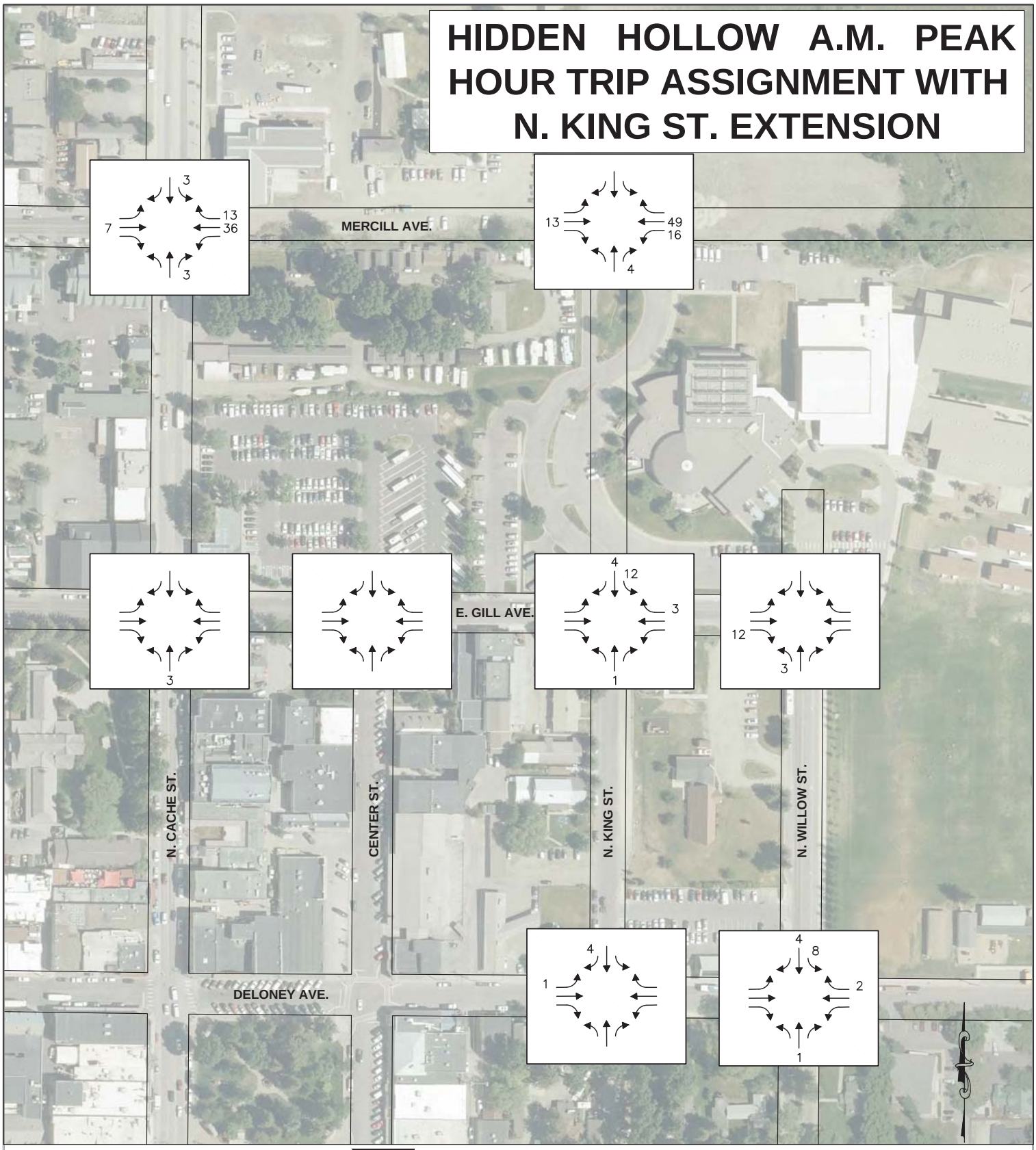

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FIGURE 9
NORTH KING EXTENSION STUDY

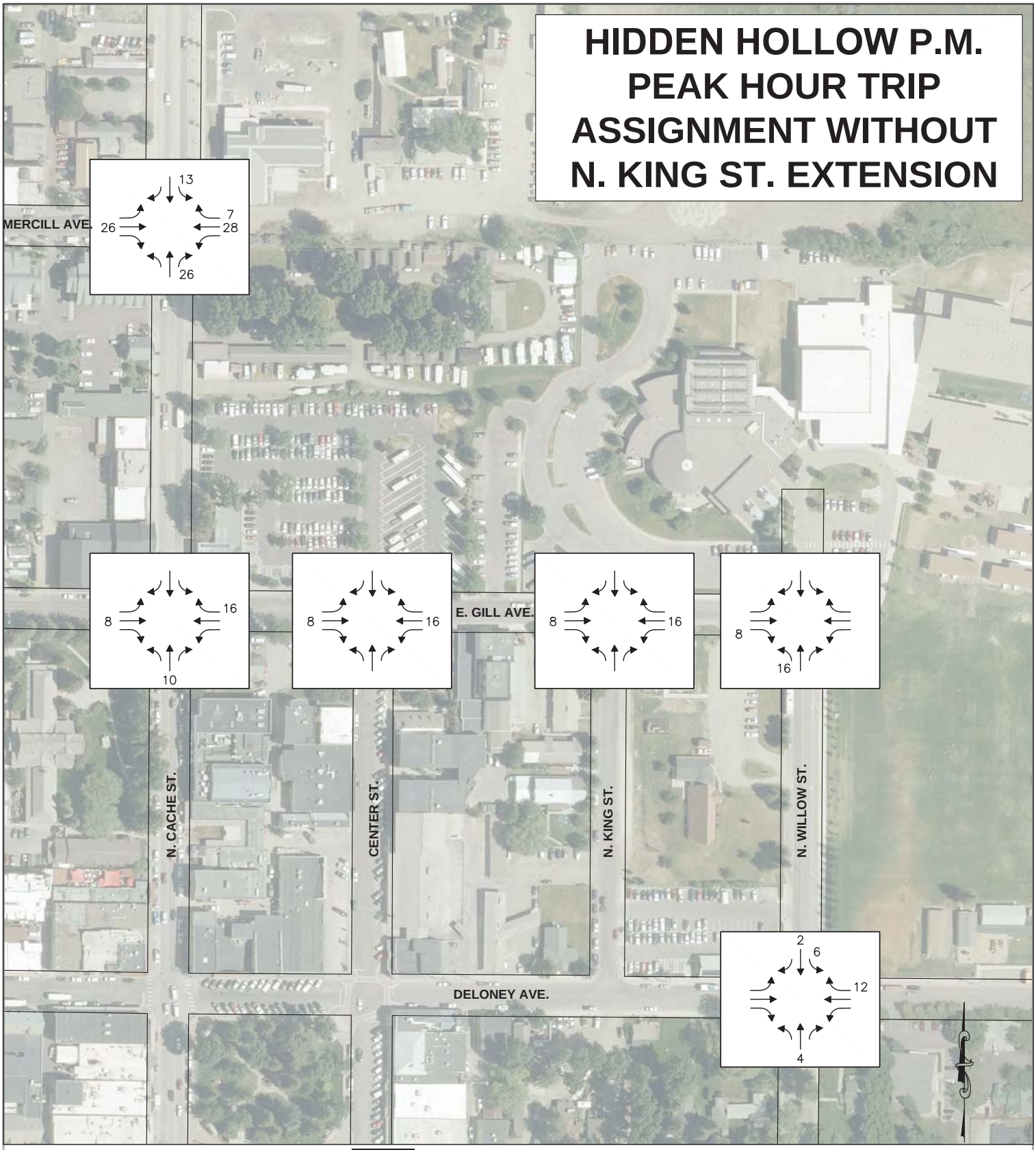

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FIGURE 10
NORTH KING EXTENSION STUDY

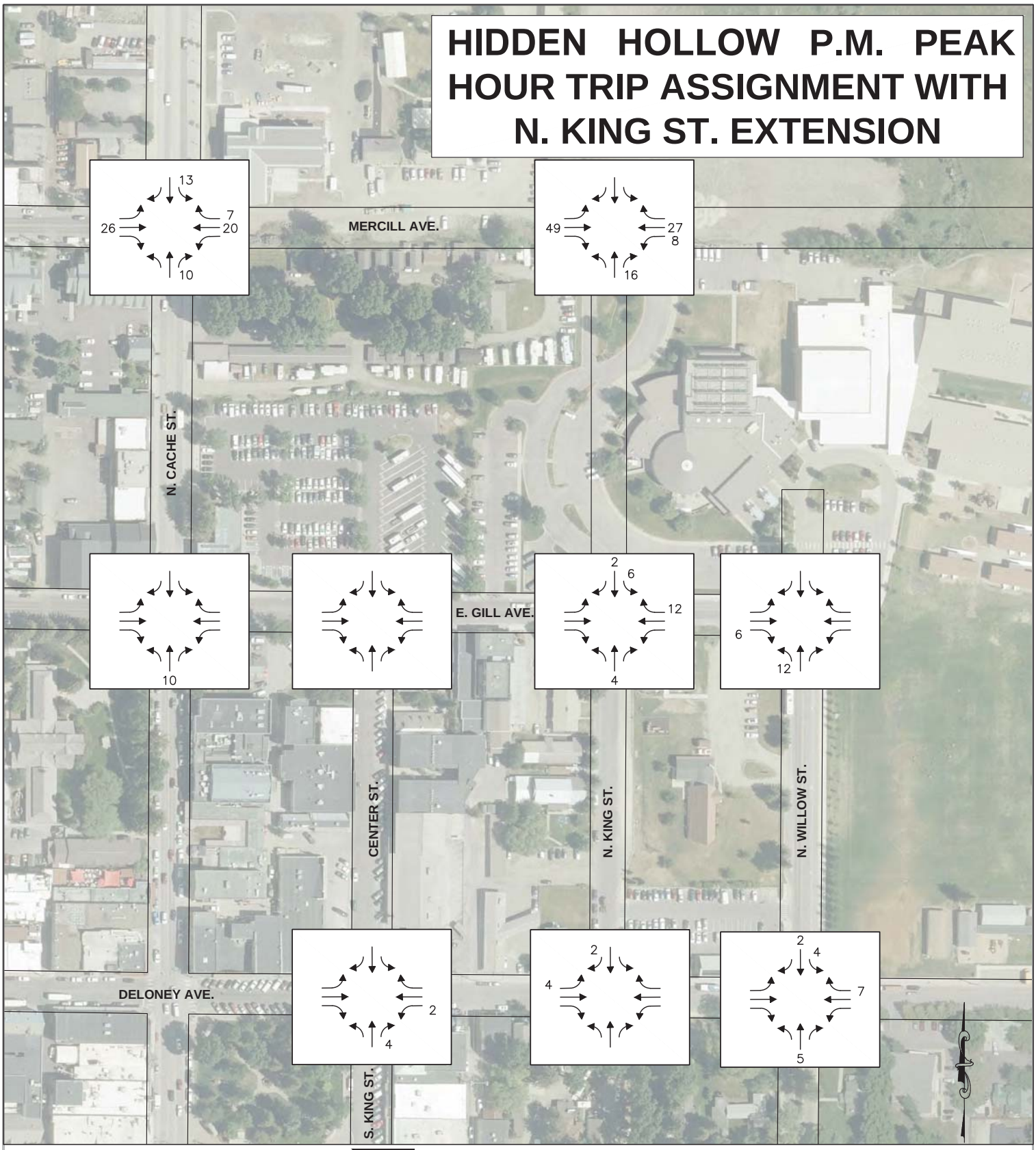

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FIGURE 11
N. KING EXTENSION STUDY

2027 A.M. PEAK HOUR TRAFFIC VOLUME WITH N. KING ST. EXTENSION AND HIDDEN HOLLOW

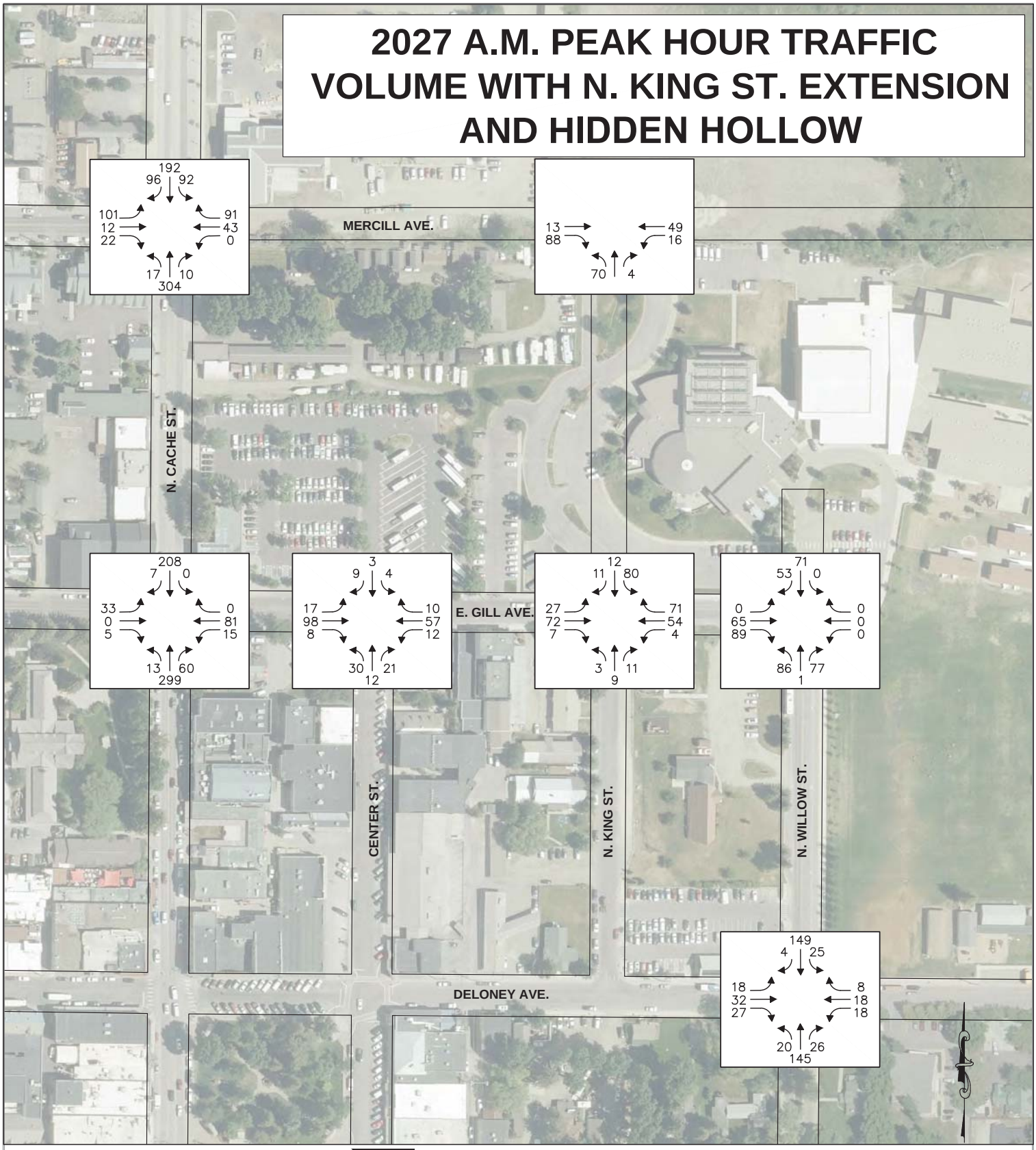

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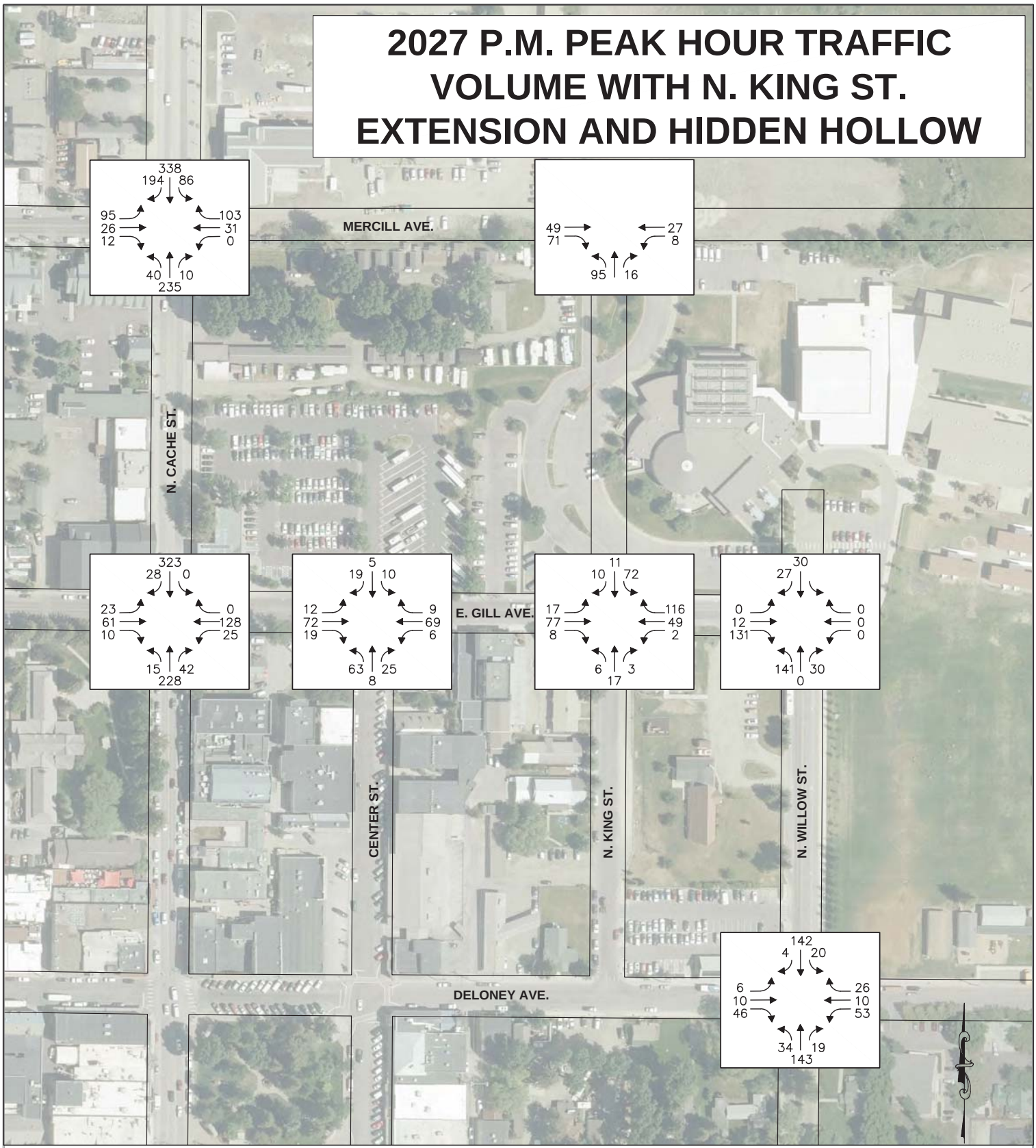
FIGURE 12
NORTH KING EXTENSION STUDY

2027 P.M. PEAK HOUR TRAFFIC VOLUME WITH N. KING ST. EXTENSION AND HIDDEN HOLLOW



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Appendix A

User Group Interview
Questions & Notes

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North King Extension Project
Town of Jackson
Kick-off Meeting Agenda
November 1, 2017, 2:00 p.m.
Project No.: 17036.00

Draft Stakeholder Interview List:

Jackson Hole Fire/EMS
Jackson Hole Community Pathways
START Bus
Teton County Parks and Recreation
Teton County School District (TCSD)
    TCSD Transportation Services
    TCSD Jackson Elementary School Access
Town of Jackson Planning Department
WYDOT

Draft Interview Questions:

1. Project briefing – N King Street Extension
    a. Please describe your agencies' current circulation patterns in the vicinity of N. King Street. Morning, mid-day, and afternoon
    b. Please describe how you would expect to use a N King Street connection to Mercill Avenue. Would current operations be modified?
        i. Vehicles; access, egress, drop-off/pick-up
        ii. Pedestrians
        iii. Bicycles
        iv. Buses
        v. Deliveries
        vi. Emergency vehicles
        vii. Parking
    c. What would be the benefit to your agency of a N King Street connection to Mercill Avenue?
    d. What are your concerns?
    e. How might the concerns be addressed through street design or traffic operations?
        i. Roadway cross section
        ii. Roadway alignment
        iii. Intersection turn movement restrictions at N King Street and Mercill Avenue
        iv. One-way versus two way motor vehicle access
        v. Slow speeds through design (traffic calming) posted speed limit, and enforcement
        vi. Pedestrian crosswalks
        vii. Bicycle use

2. Mercill Avenue and N Cache Street – short briefing
    a. Early findings of potential modifications to channelization and signal operations
    b. Feedback or other thoughts
3. Any other feedback you would like to share about traffic and transportation in the project vicinity?

Appendix A

N King Street Extension Project

User Group Interview Notes

Interviews conducted by: Reed Armijo, Jorgensen Engineering, Claudia Hirschey, Transportation Consulting Services.

Interview dates: November 15, 16, 17, 2017

Teton County School District
Jeff Daugherty, Assistant Superintendent
Paul Rossolo, Facilities Director

Schools are encouraging walking to school within 1 mile and so less concerned with traffic congestion due to drop-off/pick-up.

WY Ch. 20 of RCW – state pays for transportation beyond 1.0 to 1.5 miles, unless there is a safety concern. State will become stricter in distribution of transportation funds due to decreased budgets. School district will encourage walking to reduce bus transportation cost.

Walking school buses need a 10-foot sidewalk.

Deliveries are on the north side of building, accessed through the Recreation Center.

If parking stalls are lost at the Recreation Centers drivers will park at Jackson Elementary

Maintain ability for school bus circulation.

Encourage quality pedestrian infrastructure between Hidden Hollow, Jackson Elementary, and the Recreation Center.

Other notes of nearby activity:

NE quadrant of N Willow Street and E Deloney Avenue will be a day care.

Will maintain field adjacent to N Willow Street for athletics.

Plans for employee housing along E Deloney Avenue, probable two-story multi-family.

School population will reduce by one third when Munger Mountain Elementary School opens.

Jackson Hole EMS
Kathy Clay, Fire Marshal
Todd Smith, Police Chief
Larry Pardee, Director of Public Works, Town of Jackson

Access for emergency response and emergency vehicle circulation always encouraged.

Minimum 20 feet of street width needed for fire trucks.

Concern with risk associated if pedestrians are crossing through traffic to access the Recreation Center from the parking lot.

Consider gates for fire access.

N King Street south of E Gill Avenue does not have sidewalks. Tour buses are using this segment for parking.

Consider making N King Street one-way southbound and N Willow Street one-way northbound. The purpose would be to reduce traffic in front of Jackson Elementary. Pedestrians crossing at the intersection of E Gill Avenue and N Willow Street would only need to look for traffic from one direction. Construct a curb bulb in the southwest quadrant of E Gill Avenue and N Willow Street to reduce pedestrian crossing distance and block southbound movement of N Willow Street for vehicles exiting the school.

For the segment of N King Street between E Gill Avenue and Mercill Avenue, could shift the alignment to the west adjacent to the property.

Teton County
Sean O'Malley, Directory of Public Works
Amy Ramage, Engineering Manager
Brian Lenz, Town Engineer, Town of Jackson

Consider grade separation. If the street drops down there would be less vertical distance to construct a grade-separated pedestrian crossing.

Consider incremental approach. First implementation of N King Street would be for pedestrians, bicycles, and emergency vehicles. Add traffic later.

Discussion of one-way circulation option on N King Street and N Willow Street.

The county encourages development of a transportation network and developing redundancy in the transportation network.

Teton County Jackson Parks & Recreation Center
Steve Ashworth, Director
Brian Lenz, Town Engineer, Town of Jackson

Jackson Elementary deliveries use the parking lot to the north of the Recreation Center to back in to the delivery doors. Teachers also park there.

Busiest time at Recreation enter is about 8 a.m. tapering off by 9 a.m. Jackson Elementary drop-off also uses the parking lot to the south of the Recreation Center. School buses do not impact the Recreation Center.

Drainage on the north side of the Recreation Center is problematic. There can be 10-12 inches of standing water.

The Town of Jackson temporary RV spots in the north parking lot were discussed. There were mixed feelings, but the spaces provided temporary housing for seasonal workers at the Recreation Center. The school district thought that loss of these spaces shifted parked cars to the school parking lot.

Recreation Center remodeling concepts should consider a future parking garage overlapping the surface parking footprint. A parking garage could serve dual needs to provide tourism parking at the north end of town and recreation center. The solution for N King Street should not preclude a parking garage.

The campus concept for the Recreation Center and Jackson Elementary should set the stage for discussion of street improvements.

The Recreation Center has a fleet of vehicles to transport children to and from various activities throughout the year. There are seven to fifteen vans a minibus, and five passenger vehicles transporting during summer months. There is after school transportation to the Recreation Center and parent drop-off and pick-up. In addition, the recreation center transports kyaks, there is a race trailer, and there is summer RV parking.

The Recreation Center would prefer not mixing pedestrians and traffic.

Drop-off/pick-up at the front door is important to the children's safety.

Access to the Getting to the north pathway is difficult.

United States Forest Service (USFS)
Mike Oltman, Engineering and Minerals Staff Officer
Darin Martins, USFS Consultant

Asked why a connection to Rosencrans was not considered for Hidden Hollow.

Recognized that the last time N. King was considered was in 2006 after the Multi-Agency Campus was no longer moving forward.

Dispersing traffic through a more complete street network is a benefit. Encourages two points of connection to the street network for Hidden Hollow.

Encourages slow speeds.

Would be concerned with parking on Mercill Avenue due to USFS safety protocol.

A pathways connection to Rosencrans and north to the North pathway would be a beautiful facility.

START Bus
Darren Brugmann, Transit Director

Lack of redundancy in the street network affects START buses. START buses are sitting in the same traffic as everyone else.

START is in support of N. King so that there are options for restructuring transit service downtown. Future routing will need flexibility.

Currently buses circulate clockwise from transit center on W Deloney Avenue to northbound on Center Street, eastbound on W Gill Avenue, southbound on N Willow Street and westbound on E Deloney Avenue back to the transit center.

START would like to provide access to transit for Hidden Hollow residents.

Jackson Hole Community Pathways
Brian Schilling, Pathways Coordinator
Larry Pardee, Director of Public Works, Town of Jackson

Shared space encouraged with very slow speeds. Shared space means that modes are combined unless there is a need for separation due to differing speeds or differing mass.

Introduced concept of "Sustainable Safety". Dutch version of Vision Zero.

Physical features for traffic calming needed – vertical and horizontal deflections.

Manage pedestrian flow in a way that is the easiest, most logical, and direct route from the point of view of the pedestrian.

Include lighting for pedestrians from parking areas to Recreation Center entrance.

The more we have to add safety features, means the more we've shown that we haven't designed for the original intent which is to keep traffic slow. More emphasis on designing to keep cars moving slow.

Appendix B

June 18, 2018 Town Council
Workshop Staff Report

User Group Review Comments

JORGENSEN

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TOWN COUNCIL
WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: June 13, 2018
MEETING DATE: June 18, 2018

SUBMITTING DEPARTMENT: Public Works
DEPARTMENT DIRECTOR: Johnny Ziem (Interim)
PRESENTER: Brian Lenz, Town Engineer

SUBJECT: North King Street Extension Traffic Study and Preferred Alternatives

PURPOSE OF WORKSHOP ITEM
The purpose of this item is to continue the discussion and seek Town Council input on the extension of North King Street from Gill to Mercill based on the Traffic Impact Study (TIS) conducted in 2017 and the conceptual designs that were the product of the study. If a preferred alternative is selected, obtain direction from the Council to develop the concept with any revisions and continue the design work on the King Street extension.

DESIRED OUTCOME
The desired outcome would be for Town Council to provide direction to staff relating to a preferred alternative conceptual design that would consider modifications to the design addressing concerns and consider preliminary costs for design and construction.

BACKGROUND/ALTERNATIVES
At the January 17, 2017 Town Council workshop Council directed staff to proceed with a TIS including conceptual alternatives for the North King Street extension. Staff worked with Jorgensen Associates, who performed a TIS for the Hidden Hollow development. In addition to traffic counts and traffic volume forecasting Jorgensen and their traffic consultant interviewed the various public agency stakeholders regarding the project.

The existing traffic volumes and forecast volumes show that the extension would qualify as a local road, though at a 10-year forecast the traffic volume would be at the high end or slightly higher than local road standards.

Four conceptual alternatives were included with the report that ranged from minor modifications to the existing layout to accommodate pedestrians, bicycles, and emergency vehicles to complete realignment of the extension with a complete streets design options. A summary of the alternative concepts follows:

1. **Existing alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue.** This would be the lowest-cost alternative with fewest changes to the Recreation Center access and parking. This should be considered the minimum improvements necessary on site in order to supply pedestrian/bicycle connectivity to North Jackson as well as emergency access to Hidden Hollow.
2. **Proposed alignment – Recreation Center access only – Recreation Center Remodel Concept Plan** Similar functional use as design Alternative 1 with pedestrian/bike/emergency access to the north end of the Recreation Center. Based on the Recreation Center Remodel Plan, this alternative would provide functionality of the site including improved drop-off/pick-up, improved parking, improved roadway alignment. This alternative does not provide vehicle connectivity/redundancy to the transportation network while still requiring major investment. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

3. **Proposed alignment – all modes – Complete Street with traffic calming; detached non-motorized facilities**. Meets numerous transportation plan and policy goals. Concept level design provides opportunity to develop traffic calming measures in street design including narrow corridor, raised cross walks, buffers between traffic and pedestrian/bike facilities. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.
4. **Proposed alignment –all modes – Complete Street with traffic calming; attached non-motorized**. Meets numerous transportation plan and policy and goals. Concept level design provides opportunity to develop traffic calming measures in street design including raised cross walks and low marked speed limits. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015

The stakeholders agreed that the extending the road for all modes of traffic would be beneficial and inline with the guiding development doctrines for the town and county. Generally, they preferred Alternative 3 that provides a narrower complete street with detached sidewalk and pathway amenities.

Issues for consideration of the alternatives include:

- **Rec Center Internal Pedestrian Movements**. This connector road will bisect a large portion of the parking at the Rec Center and any design of the through road will need to encompass concerns related to internal site pedestrian safety.
- **Parking Access and Circulation**. There are various options for access to the parking lot that may reduce traffic across the pedestrian crossing, including a possible access on Gill.
- **Accessible Parking Locations**. Current concepts propose that the accessible parking spaces are located in the parking lots and are not directly adjacent to the building entrance.
- **Pedestrian Crossing Treatments.** There are several options for addressing the pedestrian crossing, a simple raised crossing was proposed uniformly across the concepts but plazas or other options exist.
- **Traffic Circulation in the Area.** Pedestrian and traffic crossings for other intersections in the area, e.g. pedestrians crossing Gill Ave. at Center and Cache Streets. These are crossings that do not have stop signs or involve turning maneuvers that may benefit from diverted traffic. The school district uses this road for large food delivery vehicles to the north side of the school.
- **Cache Tube Realignment.** The area proposed for realignment of the North King Street extension coincides with the propose realignment of the Cache Tube. Work on the Cache tube is proposed for Spring 2019 and Fall 2019.
- **Emergency Access and Redundancy.** A complete street North King extension provides redundancy and continuity in our local roadway system. This is valuable not just during emergencies and peak travel periods, but also during times of construction. A rogue version of this redundancy already occurs through the Ranch Parking lot and providing a planned route better serves the community.

Stakeholders have discussed this issue at length and are recommending the Town Council affirm the extension of King Street and direct staff to continue design work on a preferred King Street extension. The work would consider the Rec Center expansion the results of the parking study (if available), and the new Traffic Demand Model as it relates to future needs at the Home Ranch parking lot, the Recreation Center, and the Jackson Elementary School.

The proposed North King Street extension has been in the Town's 10-year Capital Improvement Plan (CIP) for some time with $300,000 identified for the project out of the 2006 SPET but not being appropriated until FY2021. Should the Council want to move up the design of this project, that $300,000 could be expensed much earlier than 2021. The approved language from the 2006 SPET proposition is below:

> *2006 SPET Proposition #4 – Roadway Extension, Downtown Parking, Downtown Public Restrooms and Downtown Public Amenities - $8,656,440:*

For the purpose of funding the acquisition of land and easements, and for the cost of planning, engineering and construction of a downtown roadway extension between East Gill Avenue and North Cache Drive, and to fund the construction of downtown parking, downtown public restrooms and downtown public amenities, and to the extent necessary and allowed by law, the pledge to or payment of debt service and/or lease payment thereon (the "project"), which project is sponsored by the Town of Jackson, Wyoming.

This remainder of the 2006 SPET proposition monies have already been spent on other approved projects associated with the ballot initiative.

Council has many options for consideration.

1. Affirm the extension of King Street with a preferred alternative and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).
2. Discuss the King Street extension and continue the discussion to a future Town Council workshop.
3. Make a motion for approval and vote against the motion thereby providing direction to staff to consider options for the Rec Center site that do not include a through street.
4. Direct staff to include options for the design of the Rec Center expansion that both include the King Street extension and exclude it with the understanding that the Council will make a decision at that time as to whether the extension will occur.
5. Other.

STAKEHOLDER ANALYSIS

The stakeholders include residents and visitors to the community that would benefit from alternate routes to critical services and specific neighborhoods, our own critical service providers, and those in the community wanting to utilize alternative modes of transportation more safely and conveniently.

FISCAL IMPACT

In the capital budget we show $300,000 out of 2006 SPET monies to be expensed in 2021.

STAFF IMPACT

Staff time to coordinate with the consultant and stakeholders on the study and conceptual drawings will be necessary.

LEGAL ISSUES

No Legal review required at this time.

ATTACHMENTS

2018 North King Street Extension Traffic Impact Study Report, by Jorgensen Associates
January 17, 2017 North King Street Extension Town Council Workshop Staff Report

RECOMMENDATION

Staff recommends that Council affirm the extension of King Street with preferred alternative 3 with any revisions discussed and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).

SUGGESTED MOTION

Should the Council be ready to act, one possible motion would be:

I move to affirm the extension of King Street with preferred alternative (insert preferred alternative) with any revisions discussed and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).

Synopsis for PowerPoint (120 words max):
Purpose:
The purpose of this item is to continue the discussion and seek Town Council input on the extension of North King Street from Gill to Mercill based on the Traffic Impact Study (TIS) conducted in 2017 and the conceptual designs that were the product of the study. If a preferred alternative is selected, obtain direction from the Council to develop the concept with any revisions and continue the design work on the King Street extension.

North King St. Extension Report - June 4, 2018
Comments from TOJ/TC Pathways (6/11/18)

- Generally prefer the concepts of Alt. 3 and 4 of that include the following key principles:
    - Full connectivity for all modes between Gill and Mercill
    - Separated (protected) bike facilities (modification required for Alt. 4)
    - Pedestrian connections (sidewalks)
    - Street design to discourage cut-through traffic and encourage slow vehicle speed
    - Safe pedestrian crossing between west parking area and rec center entrance
    - No dropoff zone directly in front of rec center entrance (reduces impacts of idling vehicles on people entering the building and arriving by bike or on foot).
- However there are some key elements that can be improved, recognizing that these are design concepts and not final plans, and that many elements might be tweaked for final design.
    - Vehicle design speed
        - The critical design component that must be included in order for this street to achieve the goals of safe bike/ped travel, safe pedestrian crossings, and discouraging cut-through traffic is to **slow down the speed of motor vehicles**.
    - Lane width
        - Narrow lanes will be the key to discouraging high speeds and cut-through traffic
        - Lanes in both Alt. 3 and 4 are 12' or wider (with shoulders). These should be narrowed – 12' lanes are too wide to slow traffic effectively. Great for highways, not so good for slow speed streets. (10.5' centerline to curb face would slow drivers down).
        - We'll likely see the speed-reducing effect of narrower lanes on Snow King this summer (and that narrow lanes are doable)
        - Drop the center line striping
    - Protected bike lanes
        - Alt. 3 has a separated pathway (combo bike/ped) that is protected from the travel lanes. That's good.
        - Alt. 4 has shoulder painted bike lines. This essentially creates a wider travel lane than necessary and does not protect people on bikes sufficiently. Making this a vertically/horizontally separated protected bike lane would achieve multiple goals: protecting cyclists, providing a buffer for pedestrians, and narrowing travel lanes to slow down cars.
    - Pedestrian crossing
        - The table top crossing could be made wider than shown, creating a wide raised intersection that is very obvious to drivers and creates more of a shared-space plaza feel. This will help slow vehicles and indicate pedestrian priority.
    - West parking lot access
        - Consider moving the access to the west parking lot onto Gill. Eliminates curb cuts and turning movements on North King. Could provide a single narrow access point that helps create a few additional parking spaces.
    - Other Alt. 3
        - Provide a separation buffer between the pathway and travel lane (pavers or landscaping strip).

    - Other Alt. 4
        - Change striped (unprotected bike lanes) to protected bike lanes with vertical and horizontal separation.
        - Route northbound cycle track behind the bus turnout (so that it's outside the buses, not between the buses and vehicle travel lane).
- The big one is to reduce the travel lane width in order to slow down vehicles. That's really the foundation for everything else.

From:	Paul Anthony
To:	Brian Lenz
Cc:	Tyler Sinclair; Tyler Valentine; Darren Brugmann; Todd Smith; Jeremy Parker; Larry Pardee; Rachelle Rhodes; Brian Schilling; Kathy Clay; Steve Ashworth; Jeff Daugherty; moltman@fs.fed.us; Sean O"Malley; Amy Ramage; Reed Armijo; Abram Pearce; Claudia Hirschey; Sam Jewison
Subject:	Re: North King Extension Report
Date:	Monday, June 11, 2018 10:46:22 AM

I prefer the option with the separate cycle track which I think is option 3. Thx Paul.

Sent from my iPhone

On Jun 11, 2018, at 10:34 AM, Brian Lenz <btlenz@jacksonwy.gov> wrote:

> Good Morning and Welcome Back Mondays!
> Just a reminder that I need comments on the North King Extension Traffic Impact Study report by the end of the day.
> Thanks to Kathy Clay for already responding.
> Please clarify if you have a preference on which complete street option you prefer of the recommendation.
> Thanks,
> Brian
>
> ---
>
> **From:** Brian Lenz
> **Sent:** Wednesday, June 6, 2018 6:06 PM
> **To:** Tyler Sinclair <tsinclair@jacksonwy.gov>; Paul Anthony <panthony@jacksonwy.gov>; Tyler Valentine <tvalentine@jacksonwy.gov>; Darren Brugmann <dbrugmann@jacksonwy.gov>; Todd Smith <tsmith@jacksonwy.gov>; Jeremy Parker <jparker@jacksonwy.gov>; Larry Pardee <lpardee@jacksonwy.gov>; Rachelle Rhodes <rrhodes@jacksonwy.gov>; 'Brian Schilling' <bschilling@tetoncountywy.gov>; Kathy Clay <kclay@tetoncountywy.gov>; Steve Ashworth <sashworth@tetoncountywy.gov>; Jeff Daugherty <jdaugherty@tcsd.org>; moltman@fs.fed.us; 'Sean O'Malley' <somalley@tetonwyo.org>; 'Amy Ramage' <aramage@tetoncountywy.gov>; 'Reed Armijo' <rarmijo@jorgensenassociates.com>; Abram Pearce <apearce@jorgensenassociates.com>; 'Claudia Hirschey' <claudiahirschey@comcast.net>; Sam Jewison <sjewison@jacksonwy.gov>; 'Sean O'Malley' <somalley@tetoncountywy.gov>
> **Subject:** North King Extension Report
>
> Good Evening –
> You all are receiving this email and attached report because you have been involved with discussions pertaining to the North King Street Extension from Gill to Mercill through the Recreation Center property. Jorgensen Associates has prepared this final draft based on the input received in our May 30th group discussion. The report still needs an executive summary and also some guidance on a preferred preferred alternative between 3 and 4, each a complete street concept.

We are scheduled for a June 18 Town Council workshop at 3PM, which means I need my staff report completed by the end of the day Wednesday, which backs out to needing comments from you by end of day Monday to allow for Jorgensen to make any changes and for me to get the report complete. My apologies for the tight turn around the proposed development on King St. to the south added some additional trip analysis to the program.

Please contact me with any questions and your comments.
Thank you,
Brian Lenz, PE
Town of Jackson Engineer
307 739-4547

From:	Sam Jewison
To:	Tyler Sinclair; Brian Lenz; Paul Anthony; Tyler Valentine; Darren Brugmann; Todd Smith; Jeremy Parker; Larry Pardee; Rachelle Rhodes; Brian Schilling; Kathy Clay; Steve Ashworth; Jeff Daugherty; moltman@fs.fed.us; Sean O"Malley; Amy Ramage; "Reed Armijo"; Abram Pearce; "Claudia Hirschey"; Sean O"Malley
Subject:	RE: North King Extension Report
Date:	Monday, June 11, 2018 3:41:03 PM

Brian,

I like Alternative #3. A few thoughts for consideration, maybe put all the ADA parking spaces on the east side of King St., so people don't have to cross King St to get to the Rec Center. I see a couple spaces in the northern lot, but there aren't any in the south lot. Maybe put three in the north and south lot each, and possibly a couple on the southern end of the west lot with access to the START Bus stop. I also am not seeing any planned spaces for bikes to park.

Thanks!

Sam Jewison
Town of Jackson, WY
Public Works, Streets Mgr.
sjewison@ci.jackson.wy.us
307 733-3079 (o)
307 690-5864 (m)
307 739-1664 (f)

From: Tyler Sinclair
Sent: Monday, June 11, 2018 1:59 PM
To: Brian Lenz <btlenz@jacksonwy.gov>; Paul Anthony <panthony@jacksonwy.gov>; Tyler Valentine <tvalentine@jacksonwy.gov>; Darren Brugmann <dbrugmann@jacksonwy.gov>; Todd Smith <tsmith@jacksonwy.gov>; Jeremy Parker <jparker@jacksonwy.gov>; Larry Pardee <lpardee@jacksonwy.gov>; Rachelle Rhodes <RRhodes@jacksonwy.gov>; Brian Schilling <bschilling@tetoncountywy.gov>; Kathy Clay <kclay@tetoncountywy.gov>; Steve Ashworth <sashworth@tetoncountywy.gov>; Jeff Daugherty <jdaugherty@tcsd.org>; moltman@fs.fed.us; Sean O'Malley <somalley@tetoncountywy.gov>; Amy Ramage <aramage@tetoncountywy.gov>; 'Reed Armijo' <rarmijo@jorgensenassociates.com>; Abram Pearce <apearce@jorgensenassociates.com>; 'Claudia Hirschey' <claudiahirschey@comcast.net>; Sam Jewison <sjewison@jacksonwy.gov>; Sean O'Malley <somalley@tetoncountywy.gov>
Subject: RE: North King Extension Report

Brian,

I would recommend Alternative 3, with the elimination of the northern parking lot access to the western parking lot (hope that makes sense). The western alternative access point to the northern lot may also be desirable if we are able to get agreement from Hidden Hollow, however I would also include that the access to the rear of JES may need to be eliminated and access for deliveries may need to happen from the other side of the school. I am not sure whether the School District has a legal access easement through the site or not? Accommodating the size of vehicle required by the

school in this location will potentially compromise the intersection for other modes.

In addition, I would recommend making Appendix C, Appendix A as that is what readers will be looking for and strengthening the recommendation section eliminating Alternative 4 and further discussing Alternative 3. I am happy to discuss just let me know. Thanks,

Tyler Sinclair, AICP
Director of Planning and Building
Town of Jackson
P.O. Box 1687
Jackson, WY 83001
(307) 733-0440 x1301
tsinclair@jacksonwy.gov
www.townofjackson.com

From: Brian Lenz
Sent: Wednesday, June 6, 2018 6:06 PM
To: Tyler Sinclair <tsinclair@jacksonwy.gov>; Paul Anthony <panthony@jacksonwy.gov>; Tyler Valentine <tvalentine@jacksonwy.gov>; Darren Brugmann <dbrugmann@jacksonwy.gov>; Todd Smith <tsmith@jacksonwy.gov>; Jeremy Parker <jparker@jacksonwy.gov>; Larry Pardee <lpardee@jacksonwy.gov>; Rachelle Rhodes <RRhodes@jacksonwy.gov>; Brian Schilling <bschilling@tetoncountywy.gov>; Kathy Clay <kclay@tetoncountywy.gov>; Steve Ashworth <sashworth@tetoncountywy.gov>; Jeff Daugherty <jdaugherty@tcsd.org>; moltman@fs.fed.us; Sean O'Malley <somalley@tetoncountywy.gov>; Amy Ramage <aramage@tetoncountywy.gov>; 'Reed Armijo' <rarmijo@jorgensenassociates.com>; Abram Pearce <apearce@jorgensenassociates.com>; 'Claudia Hirschey' <claudiahirschey@comcast.net>; Sam Jewison <sjewison@jacksonwy.gov>; Sean O'Malley <somalley@tetoncountywy.gov>
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Please contact me with any questions and your comments.
Thank you,

Brian Lenz, PE
Town of Jackson Engineer
307 739-4547

From:	Sean O"Malley
To:	Brian Lenz; Tyler Sinclair; Paul Anthony; Tyler Valentine; Darren Brugmann; Todd Smith; Jeremy Parker; Larry Pardee; Rachelle Rhodes; Brian Schilling; Kathy Clay; Steve Ashworth; Jeff Daugherty; moltman@fs.fed.us; Amy Ramage; "Reed Armijo"; Abram Pearce; "Claudia Hirschey"; Sam Jewison
Subject:	RE: North King Extension Report
Date:	Monday, June 11, 2018 12:33:20 PM

Brian,

I concur with Amy Ramage's comments (copied below):

> *I highly prefer alternative 3 – ideally with the alternate parking lot access to the east to reduce conflicts and turning movement issues at the intersection.*
>
> *The ped crossing from the parking lot should be substantially visible to drivers (speed table, colored concrete with x-walk paint, consider hawk signal, etc.) I defer to Brian Schilling on what he recommends.*
>
> *When we have the travel demand model up and running (very soon) we can plug this connection into the model for further analysis.*

Also, while the attached bike lanes shown in Alternative 4 would probably work adequately for the traffic volumes, the added road width would likely encourage higher speeds. The narrower cross section in Alternative should help slow vehicles. Thanks for including us in the conversation!

Best,
Sean

Sean E. O'Malley, PE
Director of Public Works / County Engineer
Teton County, Wyoming
307.732-8580 - direct
Please change my email address to: somalley@tetoncountywy.gov

---

From: Brian Lenz <btlenz@jacksonwy.gov>
Sent: Monday, June 11, 2018 8:35 AM
To: Tyler Sinclair <tsinclair@jacksonwy.gov>; Paul Anthony <panthony@jacksonwy.gov>; Tyler Valentine <tvalentine@jacksonwy.gov>; Darren Brugmann <dbrugmann@jacksonwy.gov>; Todd Smith <tsmith@jacksonwy.gov>; Jeremy Parker <jparker@jacksonwy.gov>; Larry Pardee <lpardee@jacksonwy.gov>; Rachelle Rhodes <RRhodes@jacksonwy.gov>; Brian Schilling <bschilling@tetoncountywy.gov>; Kathy Clay <kclay@tetoncountywy.gov>; Steve Ashworth <sashworth@tetoncountywy.gov>; Jeff Daugherty <jdaugherty@tcsd.org>; moltman@fs.fed.us; Sean O'Malley <somalley@tetoncountywy.gov>; Amy Ramage <aramage@tetoncountywy.gov>; 'Reed Armijo' <rarmijo@jorgensenassociates.com>; Abram Pearce <apearce@jorgensenassociates.com>; 'Claudia Hirschey' <claudiahirschey@comcast.net>; Sam

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Thank you,
Brian Lenz, PE
Town of Jackson Engineer
307 739-4547

Correspondence, including e-mail, to and from employees of Teton County, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

Appendix C

Hidden Hollow
Trip Generation

JORGENSEN

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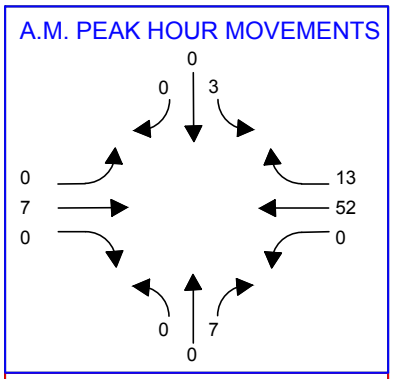
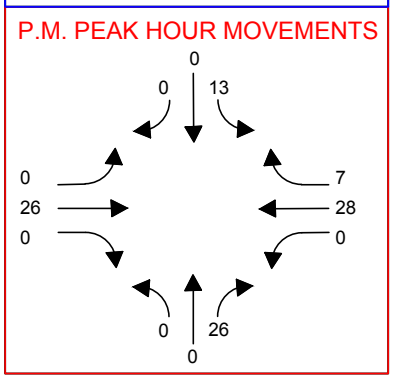
TRIP GENERATION

MERCILL AVE/N CACHE ST

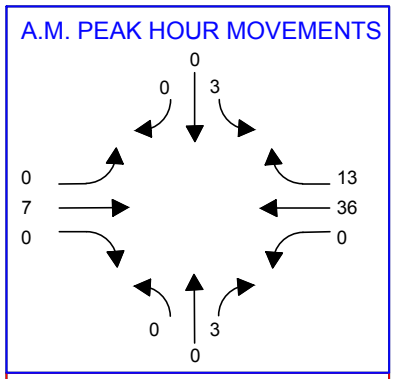
Figure 8 - HIDDEN HOLLOW TRAFFIC IMPACT STUDY
TRIP GENERATION W/OUT (LEFT) AND WITH (RIGHT)
NORTH KING STREET EXTENSION

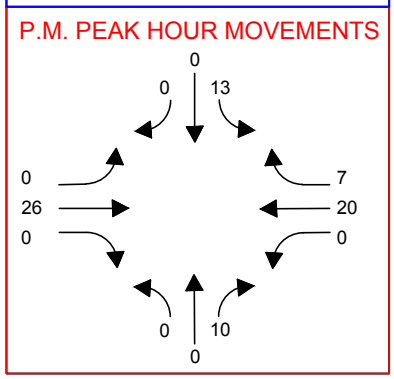
NO KING STREET ACCESS



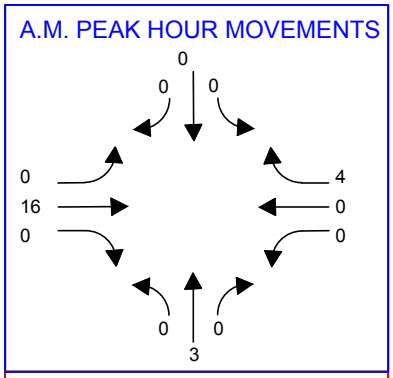


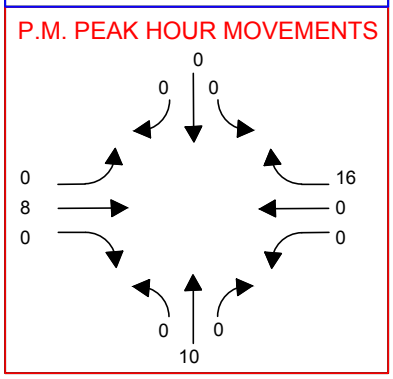
W/ KING STREET ACCESS

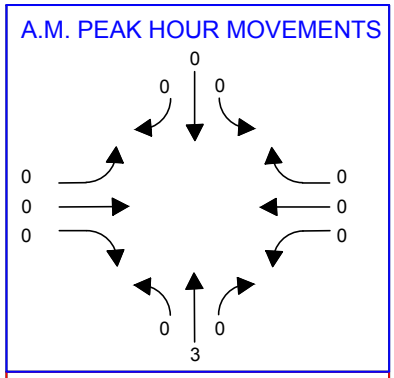


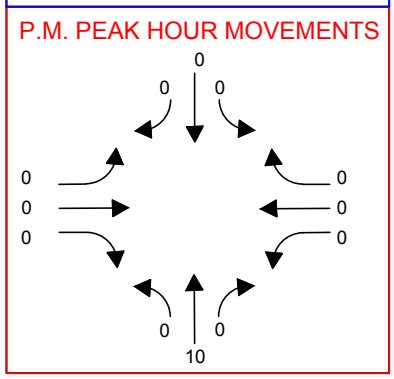


GILL AVE/N CACHE ST









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P.O. Box 9550, 1315 HWY 89 S., Suite 201, Jackson, Wyoming 83002
(307) 733-5150 FAX: (307) 733-5187
E-mail: ja@jorgensenassociates.com

NOTE:
A.M. PEAK HOUR IN BLUE
P.M. PEAK HOUR IN RED

BLANK PAGE

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PO Box 9550 | 1315 HWY 89 S., Suite 201
Jackson, WY 83002
307.733.5150

SECTION 3 –DRAWINGS

- **Phasing Plan**
- **Architectural Drawings**
- **Civil Drawings**

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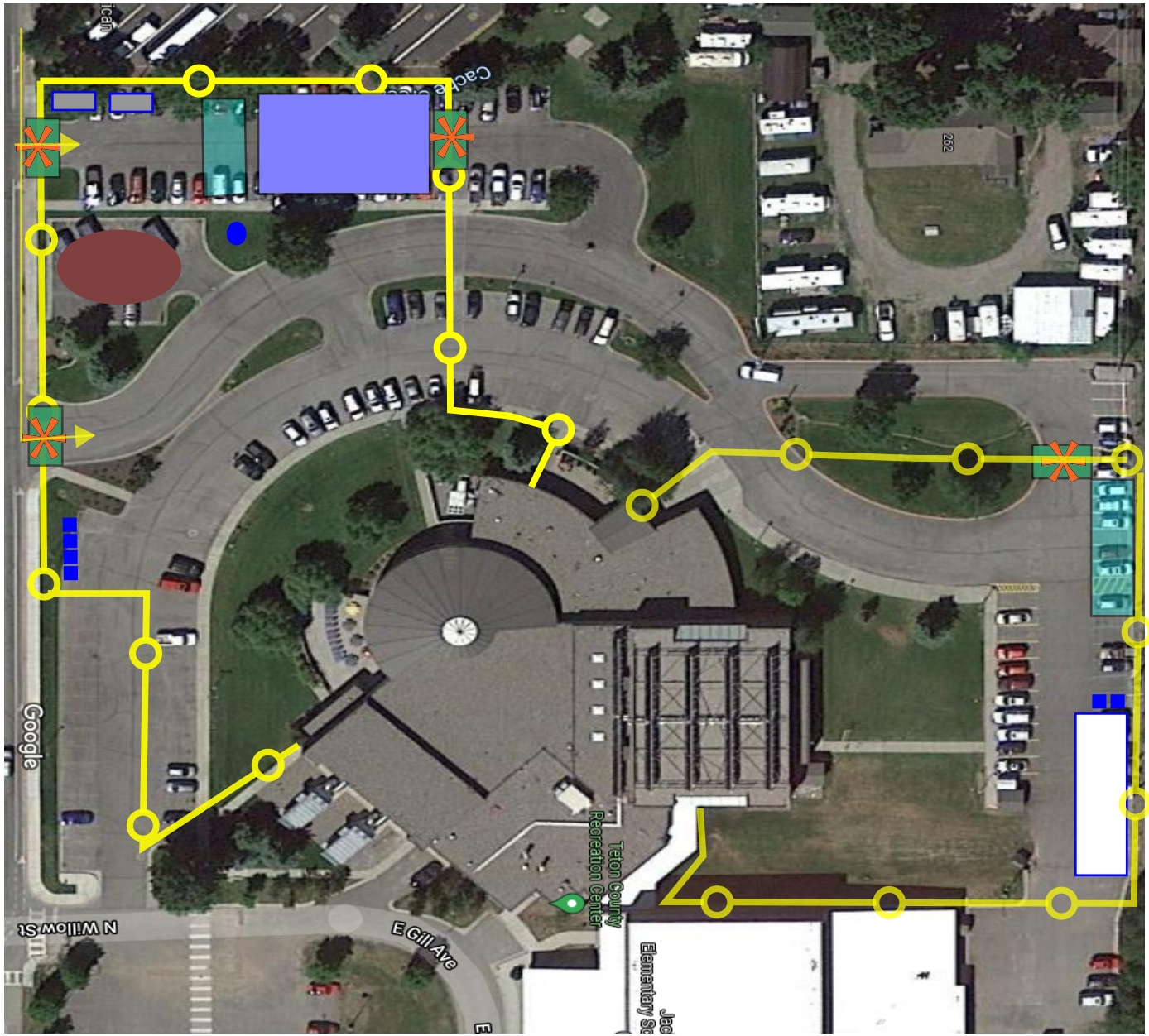
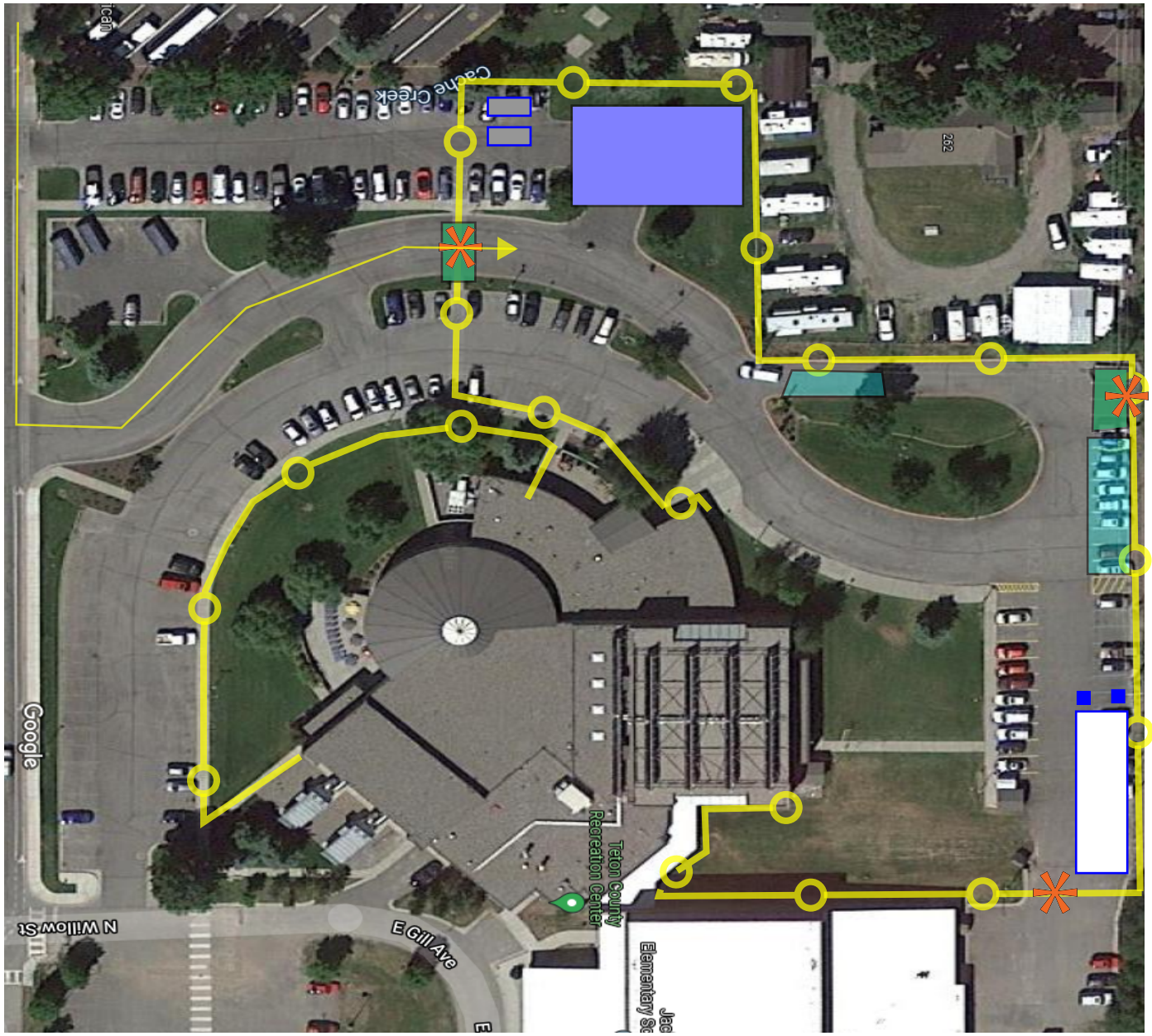
Phase 1



SIDEWALK CLOSED
COVERED WALKWAY
CONSTRUCTION TRAFFIC
CONSTRUCTION FENCE
CONSTRUCTION GATE
CONCRETE WASHOUT
STOCKPILE
SANOLET
DUMPSTER
DUMPSTER, RECYCLING
CONEX
CONSTRUCTION TRAILER
MATERIAL HOIST
BUILDING FOOTPRINT
LAY-DOWN AREA
CONSTRUCTION PARKING
CRANE PAD
TRACKING PAD

Phase 2



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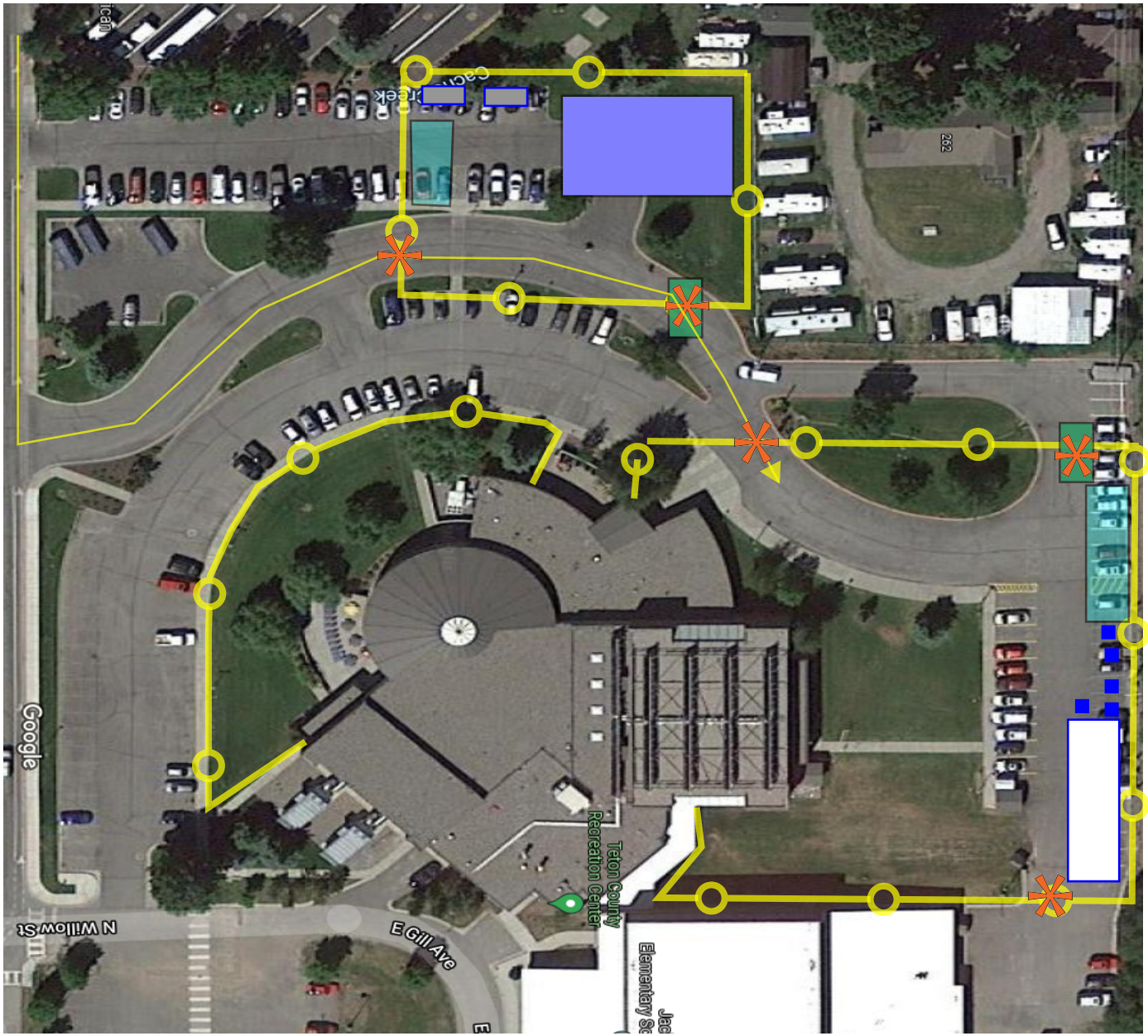
Phase 3



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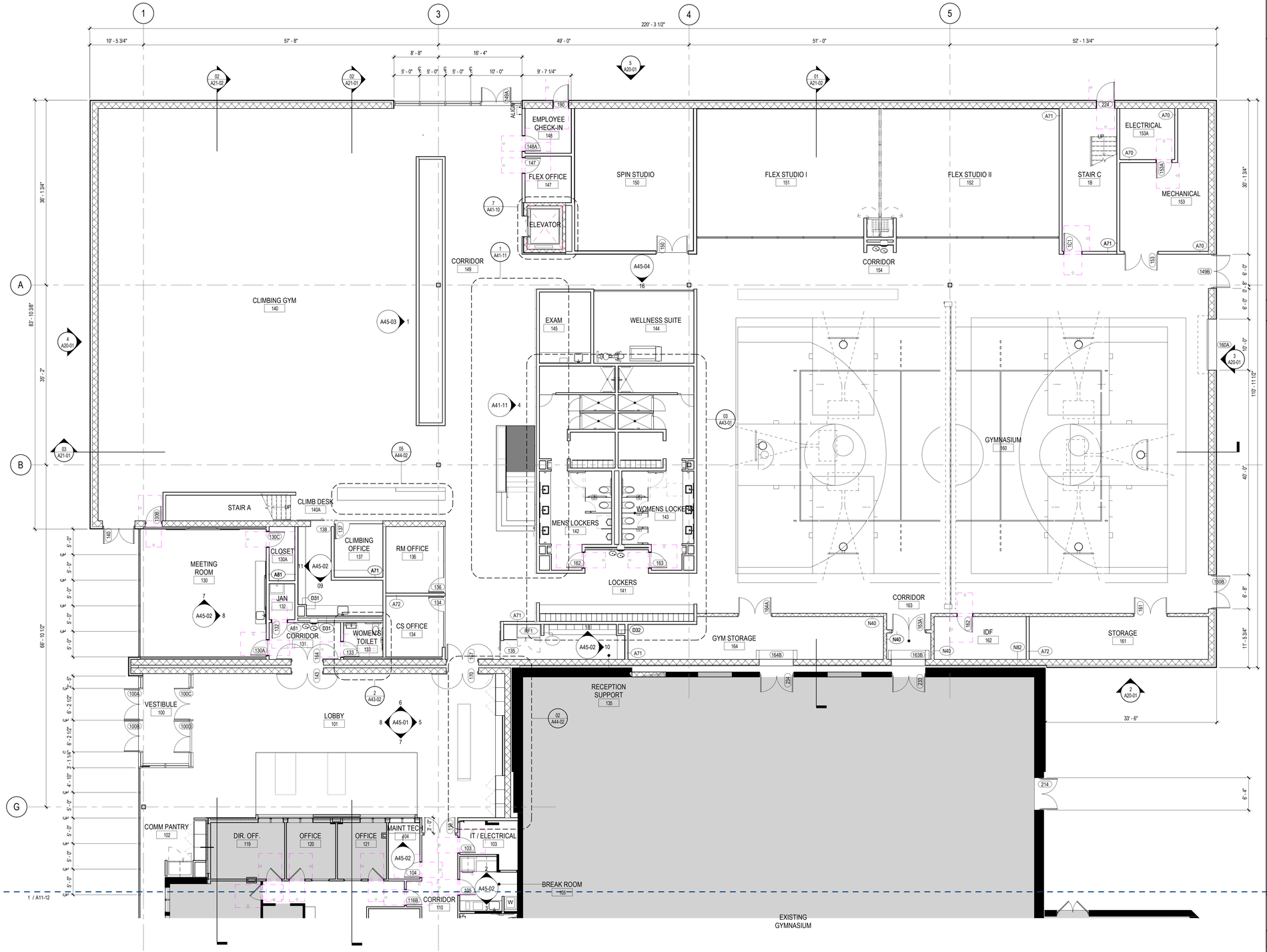

1 LEVEL 01 - SECTOR 1
1/8" = 1'-0"

GENERAL NOTES SECTOR PLANS

1. WATER CLOSETS SHALL BE MOUNTED A MIN. OF 1'-6" FROM THE CENTER OF THE WATER CLOSET TO THE FINISHED SURFACE OF THE SIDE WALL.
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FLOOR PLAN

- BUILDING EXPANSION JOINT
- EXISTING PARTITION TO REMAIN
- NEW PARTITION
- XX / A-XXX — EXTERIOR ELEVATION TAG
- XX / A-XXX — WALL SECTION TAG
- S/M — XX / A-XXX — BUILDING SECTION TAG
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- 1 (NUMERICAL) — INTERIOR GLAZING REFER: A63-0X SERIES FOR SCHEDULE
- 301A — DOOR TAG REF: A62-0X SERIES FOR DOOR SCHEDULE.
- A11 — PARTITION TAG REF: A61-0X SERIES FOR CHARTS
- FD — FLOOR DRAIN
- OWNER FURNISHED EQUIPMENT ITEM
- AREA NOT IN CONTRACT

FLOOR PLAN NOTES BY NUMBER

<<< Indicates Sheet Keynote on Plan

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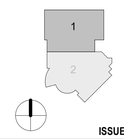


ISSUE CHART

MARK	ISSUE	DATE
	ISSUE FOR SCHEMATIC DESIGN	2021-08-24

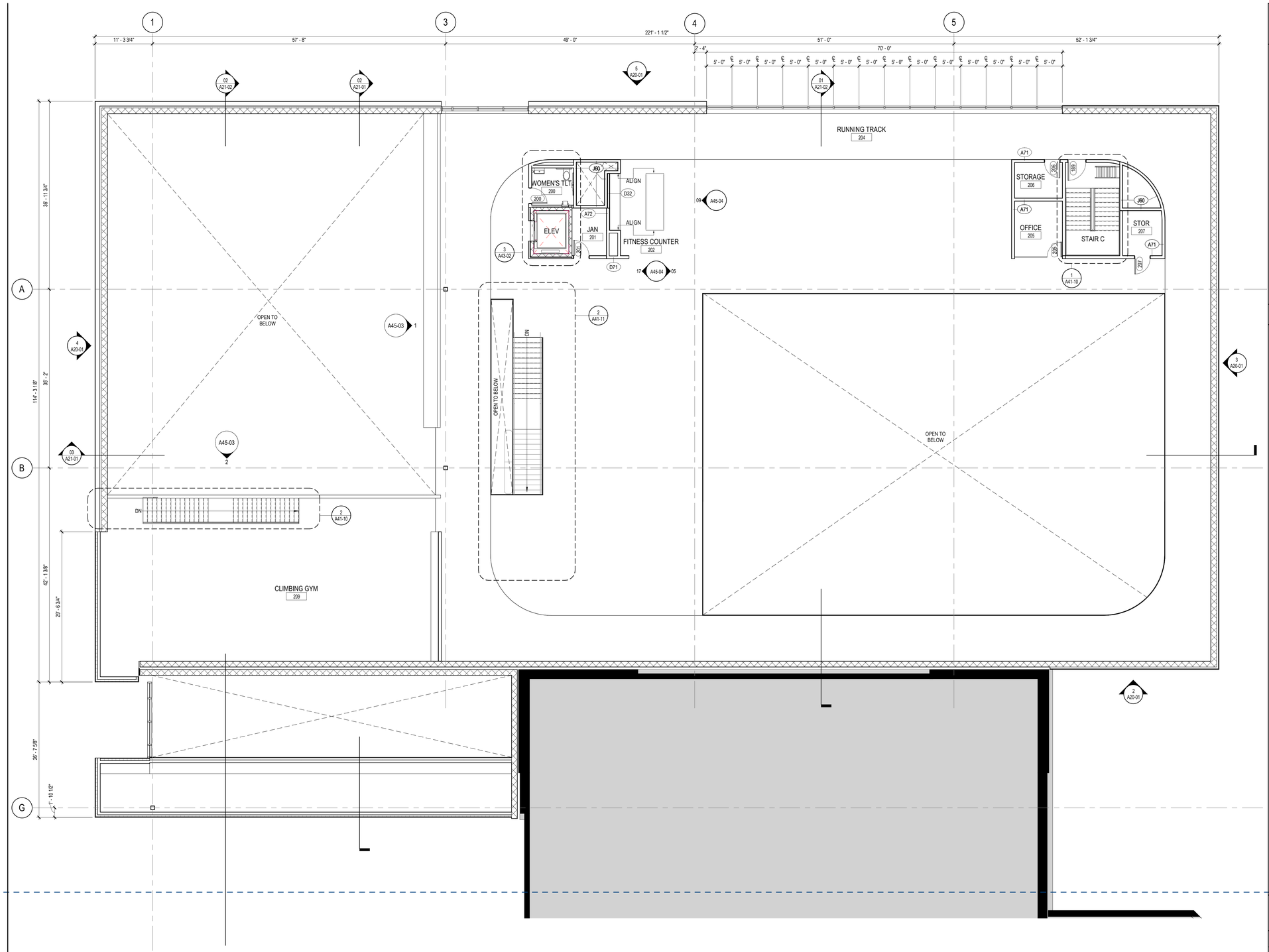
Job Number 222011

TITLE

FLOOR PLAN - LEVEL 01 - SECTOR 1

SHEET NUMBER

A11-11



1 CONSTRUCTION PLAN - LEVEL 02 - SECTOR 1
1/8" = 1'-0"

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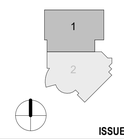


ISSUE CHART

MARK	ISSUE	DATE
	ISSUE FOR SCHEMATIC DESIGN	2021-08-24

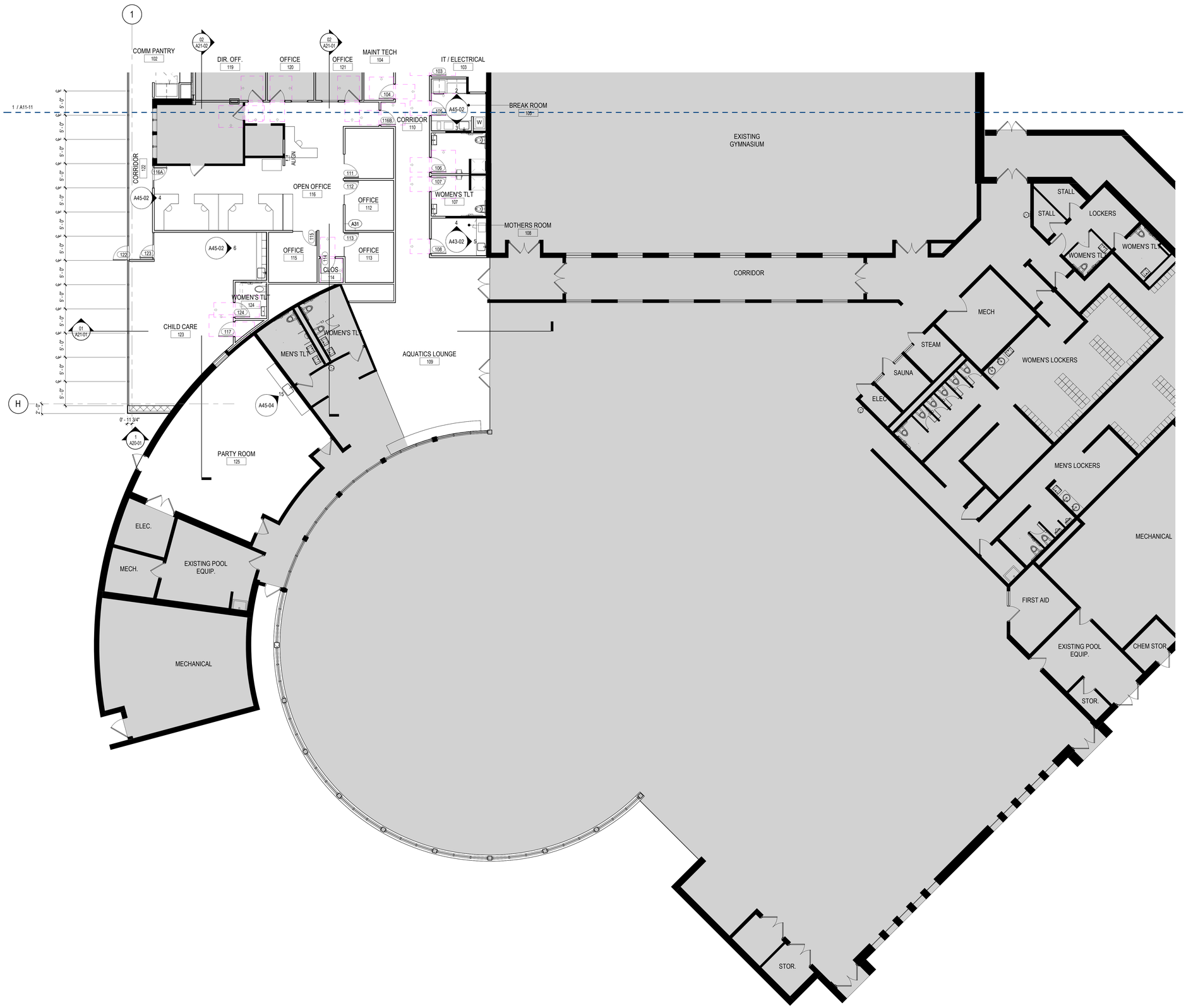
Job Number 222011

TITLE

FLOOR PLAN - LEVEL 02 - SECTOR 1

SHEET NUMBER

A11-21



1 LEVEL 01 - SECTOR 2
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JACKSON, WY 83001

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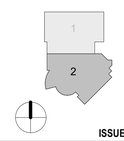


ISSUE CHART

MARK	ISSUE	DATE
	ISSUE FOR SCHEMATIC DESIGN	2021-08-24

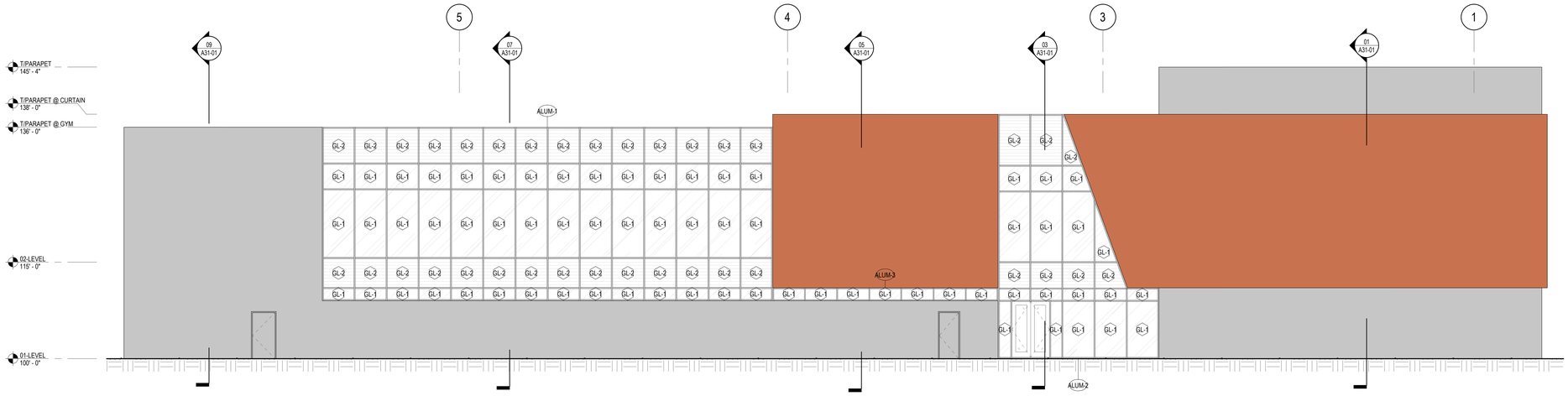
Job Number 222011

TITLE

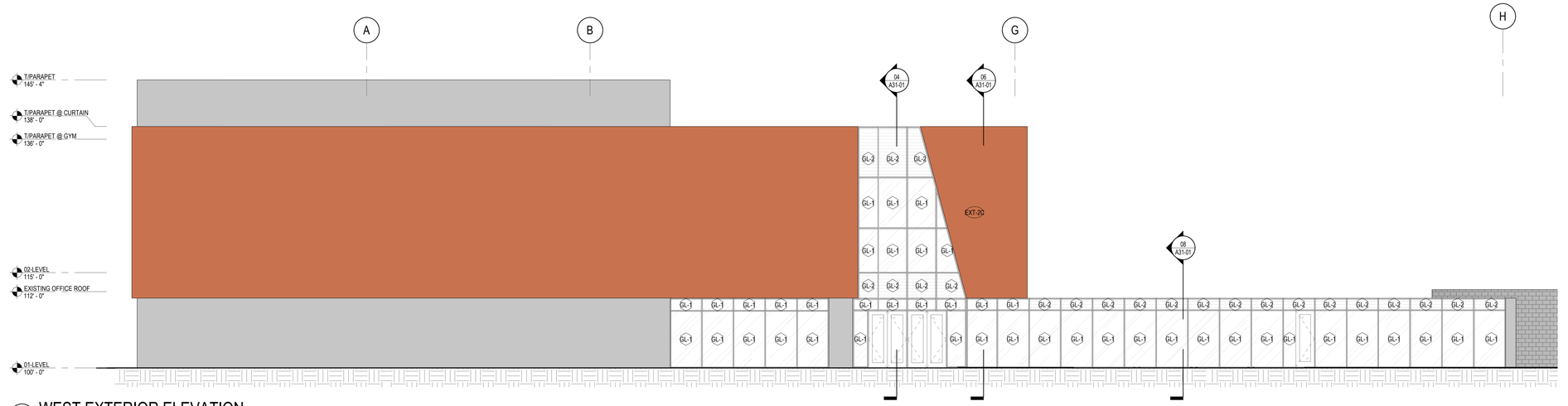
FLOOR PLAN - LEVEL 01 - SECTOR 2

SHEET NUMBER

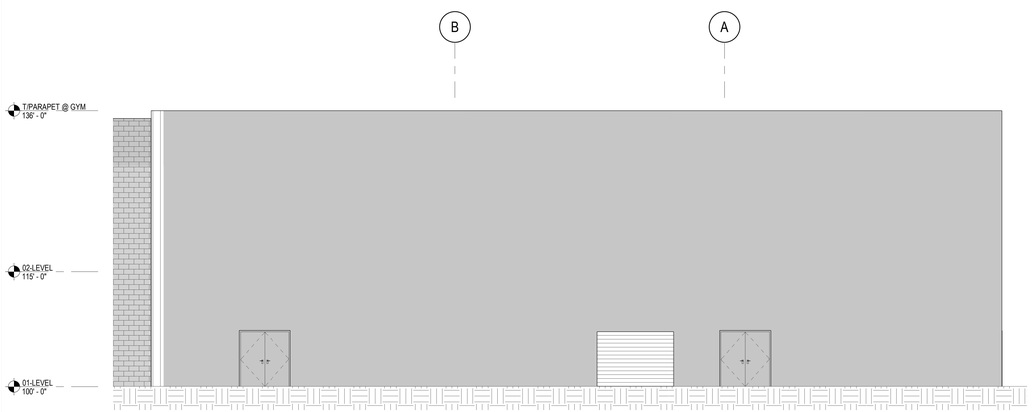
A11-12



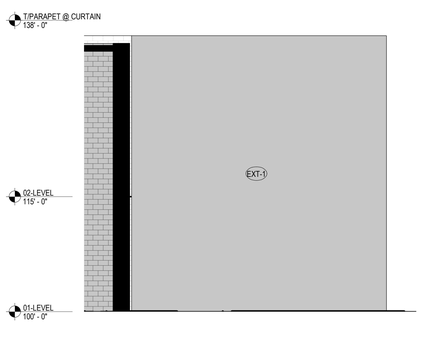
5 NORTH EXTERIOR ELEVATION
1/8" = 1'-0"



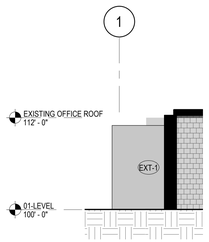
4 WEST EXTERIOR ELEVATION
1/8" = 1'-0"



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



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



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

EXTERIOR ELEVATION GENERAL NOTES

1. MATERIAL SYMBOLS ON ELEVATIONS ARE TO DISPLAY THE EXTENT OF THE MATERIAL ONLY. THEY ARE NOT TO SCALE.

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MARK	ISSUE	DATE
	ISSUE FOR SCHEMATIC DESIGN	2021-08-24

Job Number 222011

TITLE

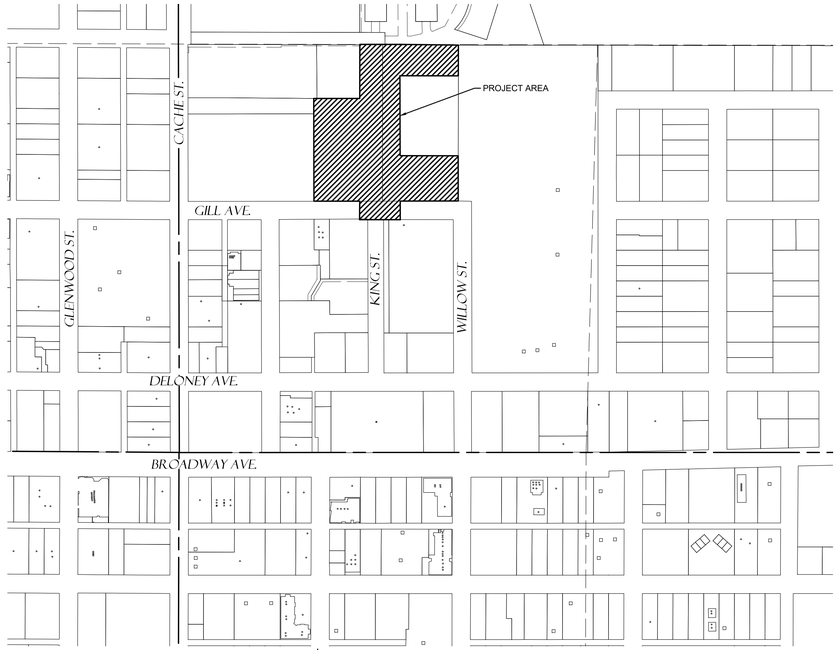
EXTERIOR ELEVATIONS

SHEET NUMBER

A20-01

TETON COUNTY/ TOWN OF JACKSON, RECREATION CENTER REDEVELOPMENT

LOCATED WITHIN
SW$\frac{1}{4}$ SECTION 27,
T41N, R116W, 6TH P.M.
TETON COUNTY, WYOMING



VICINITY MAP
1" = 200' for 22x34 Prints
1" = 400' for 11x17 Prints

Sheet List Table

Sheet Number	Sheet Title
C1.0	TITLE, VICINITY MAP & SHEET INDEX
C1.1	CIVIL PROJECT NOTES & LEGEND
C1.2	EXISTING CONDITIONS
C2.0	SITE OVERVIEW
C2.1	NORTH KING ST. EXTENSION GRADING PLAN
C2.2	WEST PARKING LOT GRADING PLAN
C2.3	SOUTH PARKING LOT GRADING PLAN
C2.4	NORTH PARKING LOT GRADING PLAN
C3.0	PROPOSED SANITARY SEWER
C4.0	CACHE CREEK TUBE REALIGNMENT
C4.1	ELEMENTARY SCHOOL PARKING STORM DRAIN REALIGNMENT
C5.0	PROPOSED WATER MAIN
C6.0	TYPICAL TRENCH DETAILS
C6.1	CCT VAULT DETAILS
C6.2	CCT VAULT DETAILS
C6.3	CCT VAULT DETAILS
C6.4	CCT TREATMENT UNIT DETAILS
C6.5	STORMWATER INFILTRATOR UNITS
C6.6	STORM INLET DETAILS
C7.0	WATER DETAILS
C7.1	WATER DETAILS
C8.0	SANITARY SEWER DETAILS
C9.0	SITE DETAILS
C9.1	SITE DETAILS
C9.2	ROAD SECTION DETAILS

– PRELIMINARY –
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MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

Job Number 222011

TITLE
TITLE, VICINITY MAP & SHEET INDEX

SHEET NUMBER
C1.0

LEGEND

EXISTING	PROPOSED	
		BOUNDARY, EASEMENT, AS NOTED
		EDGE OF ROAD
		GUTTERLINE
		EDGE OF CURB
		EDGE OF SIDEWALK/BIKE PATH
		EDGE OF GRAVEL
		EDGE OF BUILDING ENVELOPE
8"W		WATERLINE (SIZE IN LINETYPE)
W	W	WATER SERVICE LINE
s	8"S	SANITARY SEWER LINE
S	8"S	SANITARY SEWER CONNECTION LINE
stm	STM	STORM SEWER LINE
UT		ELECTRIC LINE
UT		UTILITY LINE
OH		OVERHEAD POWER
		FENCE, WOOD POST & RAIL
6230		INDEX CONTOUR (5' INTERVAL)
6231		INTERMEDIATE CONTOUR (1' INTERVAL)
T		TELEPHONE PEDESTAL
FO		FIBER OPTIC VAULT
TV		BROADBAND VAULT
		NATURAL GAS VALVE
G		GAS SERVICE
J		ELECTRIC JUNCTION BOX
		ELECTRIC METER/SERVICE
		ELECTRIC POWER TRANSFORMER
E		ELECTRIC UTILITY VAULT
		UTILITY POLE
		GUY ANCHOR
		SANITARY SEWER CLEANOUT
S	S	SANITARY SEWER MANHOLE
		SANITARY SEWER CONNECTION
		STORM DRAIN INLET
D	D	STORM DRAIN MANHOLE
		HYDRANT, FIRE PROTECTION
		WATER CURBSTOP
		WATER SERVICE W/CURBSTOP AND BACKFLOW
		SPIGOT
		WATER VALVE
TSC		TRAFFIC SIGNAL CONTROL VAULT
MW 1		MONITORING WELL
		SIGN, TRAFFIC REGULATORY OR INFORMATIONAL
		LIGHT POLE
		TREE. DECIDUOUS

ABBREVIATIONS

@	AT
ADJ	ADJACENT
ALT	ALTERNATE
APPROX	APPROXIMATE
AVE	AVERAGE
BLDG	BUILDING
BF	BOTTOM OF FOOTING
BM	BENCH MARK
BOW	BOTTOM OF WALL
BVC	BEGINNING VERTICAL CURVE
CFS	CUBIC FEET PER SECOND
C&G	CURB AND GUTTER
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
COORD	COORDINATE
CP	CONTROL POINT
CF	CUBIC FOOT
CY	CUBIC YARD
Δ	CENTRAL ANGLE
DESC	DESCRIPTION
DET	DETAIL
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENG	ENGINEER
EVC	ENDING VERTICAL CURVE
EW	EACH WAY
EX	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FF	FINISHED FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
FT	FOOT OR FEET
FTG	FOOTING
GRND	GROUND
GRD	GRADE
H	HEIGHT
HORIZ	HORIZONTAL
ID	INSIDE DIAMETER
IN	INCH
INV	INVERT
K	RATE OF VERTICAL CURVATURE
LB	POUNDS
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MI	MILE, MILES
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT
N	NORTH
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW
PC	POINT OF CURVATURE
PCF	POUNDS PER CUBIC FOOT
PI	POINT OF INTERSECTION
PK NAIL	SURVEY REFERENCE POINT
PL	PROPERTY LINE
POB	POINT OF BEGINNING
POC	POINT ON CURVE
POE	POINT OF ENDING
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
R	RADIUS, RIGHT, RISER
RCP	REINFORCED CONCRETE PIPE
REF	REFER OR REFERENCE
ROW	RIGHT-OF-WAY
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SF	SQUARE FOOT
SPEC	SPECIFICATIONS
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
STM	STORM SEWER
SW	SIDEWALK
TBC	TOP BACK OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
TYP	TYPICAL
UG	UNDER GROUND
VERT	VERTICAL
W	WEST
YD	YARD
YR	YEAR

NOTES:
1. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.
2. SOME ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.

PROJECT NOTES:

PROJECT SCOPE: RELOCATION FROM PRIVATE LANDS AND INCREASING CAPACITY OF THE CACHE CREEK TUBE FROM GILL ST. TO MERCILL AVE. PROVIDE UNDERGROUND UTILITIES TO SERVE THE TETON COUNTY REC CENTER & TOWN OF JACKSON, WHICH INCLUDE STORM DRAINS, SANITARY SEWER, AND WATER MAIN. PROVIDE ACCESS TO THE REC CENTER VIA THE NORTH KING ST. EXTENSION FROM GILL ST. TO MERCILL AVE.

1. PROJECT SCHEDULE: CONSTRUCTION OF UNDERGROUND UTILITIES TO BEGIN SPRING 2022 AND BE COMPLETED FALL 2022. SURFACE CONSTRUCTION EXPECTED TO BEGIN FALL OF 2022 AND BE COMPLETED FALL OF 2023

SURVEY NOTES:

1. THE ORIGINAL TOPOGRAPHIC SURVEY WAS PERFORMED BY JORGENSEN ASSOCIATES, P.C. DURING JUNE THROUGH SEPTEMBER 2018 AND PREPARED UNDER THE DIRECTION OF MATTHEW P. GOTHAM, WYOMING PLS 13002. ADDITIONAL BASE MAPPING OBTAINED BY SURVEYS PERFORMED BY JORGENSEN ASSOCIATES, P.C. IN 2014 AND 2017 UNDER THE DIRECTION OF KENNETH G. MAGRATH, WYOMING PLS 8469.
2. LOCATIONS OF UTILITIES DEPICTED HEREON ARE LIMITED TO VISIBLE STRUCTURES; UNDERGROUND LOCATIONS MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. HORIZONTAL COORDINATES ARE SCALED TO GROUND FROM NAD 83 STATE PLANE, WYOMING WEST ZONE
4. VERTICAL DATUM IS NAVD 88.

GENERAL CONSTRUCTION NOTES & SPECIFICATIONS:

1. ALL SITE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2015 EDITION OF WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS, THE TOWN OF JACKSON LAND DEVELOPMENT REGULATIONS, CODE, AND CONSTRUCTION STANDARDS (CURRENT EDITION), AND AS MODIFIED BY THESE PLANS AND SPECIFICATIONS. WHERE CONFLICTS BETWEEN THE DOCUMENTS ARE ENCOUNTERED, THE MORE STRINGENT INTERPRETATION SHALL APPLY.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL PROMPTLY NOTIFY THE ENGINEER OF ANY VARIATIONS OR DISCREPANCIES.
3. THE CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION DESIGNATED TO REMAIN, FROM ANY DAMAGE DURING CONSTRUCTION OPERATIONS. ANY EXISTING MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE RESET BY A WYOMING LICENSED PROFESSIONAL SURVEYOR AT THE CONTRACTOR'S OWN EXPENSE. THE CONTRACTOR AND ENGINEER SHALL NOTE THOSE MONUMENTS IN THE FIELD PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL REMOVE ALL MATERIALS, TOOLS, EQUIPMENT, AND CONSTRUCTION DEBRIS FROM THE SITE IMMEDIATELY AFTER COMPLETION OF THE WORK TASK. NO CONSTRUCTION DEBRIS SHALL BE DISPOSED OF AT THE WORK SITE.
5. CONTRACTOR SHALL ACTIVELY MINIMIZE THE AMOUNT OF DUST DEBRIS, AND NOXIOUS FUMES INTO THE AIR. BURNING WILL NOT BE PERMITTED AS A MEANS OF DISPOSAL OR CLEANING AT THE SITE. FUGITIVE DUST WILL BE CONTROLLED BY WATERING DURING DRY PERIODS OR AS REQUIRED BY ENGINEER.
6. CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISTURBANCE OF PRIVATE PROPERTY BY THEIR OPERATIONS. CONTRACTOR SHALL NOTIFY OWNER, OCCUPANT, AND ENGINEER PRIOR TO CONDUCTING ANY OPERATION THAT REQUIRES THE REMOVAL, REPLACEMENT, OR DAMAGE TO PRIVATE PROPERTY.
7. CONTRACTOR SHALL RETAIN AND PROTECT WHERE POSSIBLE ALL LANDSCAPING, TREES, EXISTING UTILITIES, DITCHES, CULVERTS, ETC. EXCEPT WHERE REMOVAL OF SUCH ITEMS IS SPECIFICALLY CALLED FOR ON THE DRAWINGS. ANY DAMAGE DONE BY THE CONTRACTOR SHALL BE REPAIRED AT HIS EXPENSE.
8. CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFETY SIGNING AND BARRICADES TO PREVENT THE PUBLIC FROM ENTERING WORK AREAS. SAFETY FENCE SHALL BE INSTALLED AND MAINTAINED AROUND ALL OPEN TRENCHES AND HAZARDOUS AREAS WHEN CONTRACTOR PERSONNEL AND OPERATIONS ARE NOT ACTIVE.
9. ALL PUBLIC STREETS SHALL BE MAINTAINED CLEAR OF DEBRIS DURING CONSTRUCTION. SHOULD DEBRIS BE TRACKED ONTO PUBLIC STREETS FROM THE CONSTRUCTION SITE, IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO CLEAN THE AFFECTED STREETS IMMEDIATELY OR AS DIRECTED BY THE TOWN.
10. CONSTRUCTION WORKING HOURS SHALL BE CONSISTENT WITH CURRENT TOWN OF JACKSON POLICIES, MONDAY THROUGH FRIDAY 7:00 AM TO 7:00 PM, OR AS APPROVED BY THE TOWN ENGINEER.
11. CONTRACTOR TO CONFIRM STOCKPILE AND STAGING LOCATIONS WITH THE OWNER.
12. ALL EROSION CONTROL MEASURES AND STRUCTURES SHALL BE IN-PLACE AND PROPERLY INSTALLED PRIOR TO SITE DISTURBANCE OR STOCKPILING MATERIALS. CONTRACTOR SHALL MAINTAIN AND MONITOR OPERATIONS THROUGHOUT THE PROJECT TO PREVENT EROSION. CONTRACTOR'S OPERATIONS SHALL NOT INJURE OR DISTURB TREES OR EXISTING VEGETATION OUTSIDE THE GRADING AREA.
13. ALL CONSTRUCTION STAGING, PROCESSING, AND STOCKPILE AREAS SHALL BE AS DESIGNATED ON THE PLANS OR AS SPECIFICALLY APPROVED BY ENGINEER. DISTURBED AREAS SHALL BE RECLAIMED ACCORDINGLY. USE OF TEMPORARY CONSTRUCTION STAGING AREAS SHALL CONFORM TO THE APPLICABLE PERMITS AND EASEMENT AGREEMENTS.
14. ALL REFUSE RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAUL OFF AND DISPOSE. CONTRACTOR SHALL NOT BURN ON THE SITE. IN NO CASE SHALL ANY MATERIAL BE LEFT ON THE PROJECT OR BE BURIED IN EMBANKMENTS OR TRENCHES ON THE PROJECT.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND MAINTAINING WYOMING POLLUTION DISCHARGE ELIMINATION SYSTEM (WPDES) PERMITS FOR CONSTRUCTION ACTIVITIES WHERE REQUIRED. THESE PERMITS ARE REQUIRED FOR, BUT NOT LIMITED TO, DISCHARGES INTO WATERS OF THE STATE AND CONSTRUCTION ACTIVITIES DISTURBING MORE THAN ONE (1) ACRES.
16. AGGREGATE MATERIALS SHALL BE OBTAINED FROM APPROVED SOURCES.

CIVIL UTILITY NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL BURIED AND OVERHEAD UTILITIES PRIOR TO ANY EXCAVATION IN THE VICINITY. UTILITY LOCATIONS SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ENGINEER DOES NOT WARRANT THE ACCURACY NOR COMPLETENESS OF THE INFORMATION SHOWN FOR EXISTING UTILITIES. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO INSTALLING IMPROVEMENTS. PRIVATE UNDERGROUND UTILITIES EXIST IN THE PROJECT AREA. CONTACT ENGINEER TO LOCATE EXISTING WATER LINES AND SEWER LINES.
2. THE CONTRACTOR WILL CALL THE UTILITY NOTIFICATION ONE CALL OF WYOMING, AT 1-800-844-2476, OR 811, FOR UTILITY LOCATIONS AT LEAST 2 BUSINESS DAYS, NOT INCLUDING THE DAY OF ACTUAL NOTIFICATION, PRIOR TO ANY EXCAVATION.
3. THE REMOVAL, ABANDONMENT, OR TERMINATION OF ANY EXISTING UTILITIES ON SITE SHALL BE COORDINATED WITH THE UTILITY OWNER, WATER AND SEWER MAINS TO BE REMOVED FROM SERVICE SHALL BE CAPPED AND ABANDONED IN ACCORDANCE WITH WYDEQ REGULATIONS.
4. ALL UTILITY CABLES AND GAS LINES SHALL BE BEDDED IN SAND. SEE TYPICAL TRENCH DETAIL.
5. ALL TRENCH BACKFILL SHALL BE TYPE A. MATERIALS USED FOR BEDDING AND BACKFILL SHALL BE CAREFULLY DEPOSITED IN LAYERS SUITABLE TO THE EQUIPMENT USED FOR COMPACTION, WETTED TO 3% BELOW TO 2% ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS D DETERMINED BY AASHTO T-99 (STANDARD PROCTOR). COMPACTION BY FLOODING WILL NOT BE PERMITTED. TYPE B TRENCH BACKFILL SHALL NOT BE ALLOWED, UNLESS AUTHORIZED BY THE ENGINEER.
6. ALL EXCAVATION ACTIVITIES SHALL COMPLY WITH PERMIT REQUIREMENTS ISSUED FOR THE PROJECT. CONTRACTOR SHALL REVIEW AND BE RESPONSIBLE FOR PERMIT COMPLIANCE.
7. CONTRACTOR SHALL NOT INTERRUPT UTILITIES PROVIDING SERVICES TO PROPERTIES ADJACENT TO THE WORK, EXCEPT AS SPECIFICALLY APPROVED BY THE ENGINEER AND OWNER. SERVICES DAMAGED OR INTERRUPTED BY CONTRACTOR'S OPERATION SHALL BE IMMEDIATELY REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
8. CONTINUOUS RIGID INSULATION WILL BE REQUIRED AT ALL STORM WATER CROSSINGS OF SEWER AND WATER MAINS AND SERVICES THAT DO NOT CONFORM TO MINIMUM BURY REQUIREMENTS. REFERENCE DETAILS.
9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION AND SHALL NOT BACK FILL UNTIL THE ENGINEER HAS MADE A VISUAL AND WRITTEN RECORD OF ITS LOCATION AND CONDITION.
10. CACHE CREEK TUBE IS A LIVE STORM DRAIN AND IRRIGATION WATER SUPPLY CONDUIT. FLOW CAN BE EXPECTED AT ALL TIMES. FLOW INTERRUPTIONS ARE POSSIBLE WITH PROPER COORDINATION BETWEEN TOWN AND IRRIGATORS (NATIONAL ELK REFUGE AND REDEEMER LUTHERAN CHURCH)

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ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

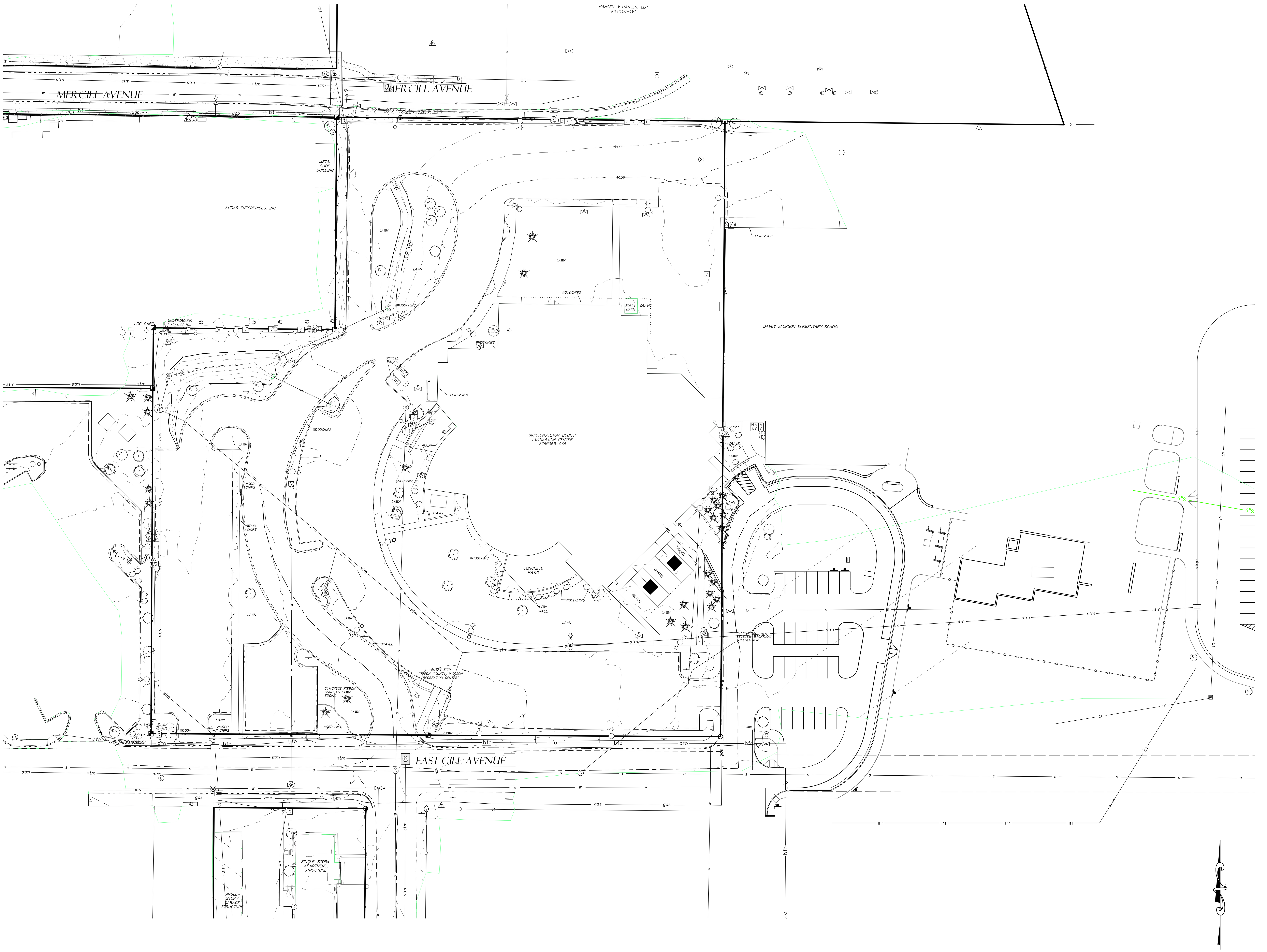
Job Number 222011

TITLE

CIVIL PROJECT NOTES & LEGEND

SHEET NUMBER

C1.1



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MARK	ISSUE	DATE

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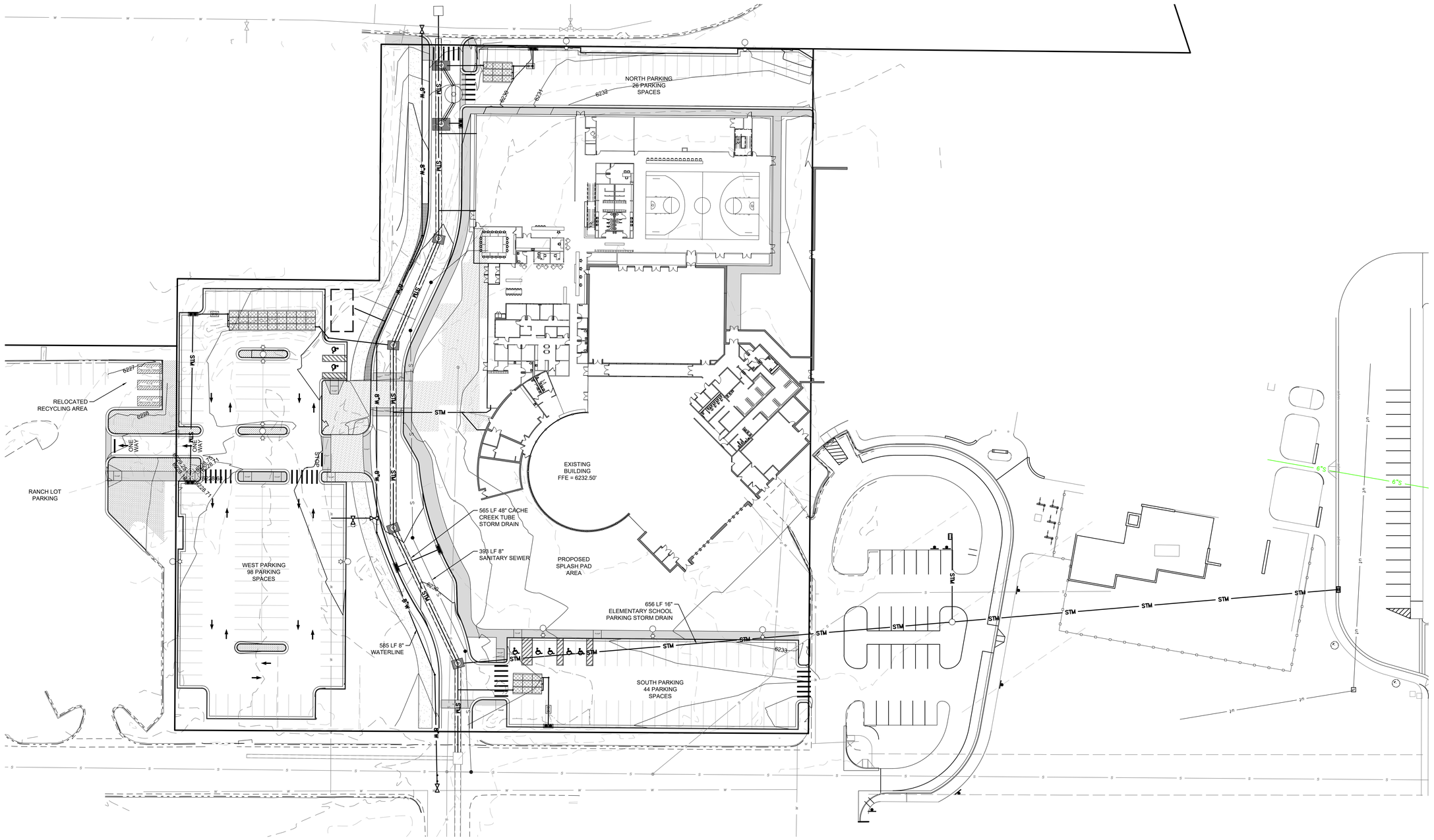
TITLE

EXISTING CONDITIONS

SHEET NUMBER

C1.2



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SITE OVERVIEW

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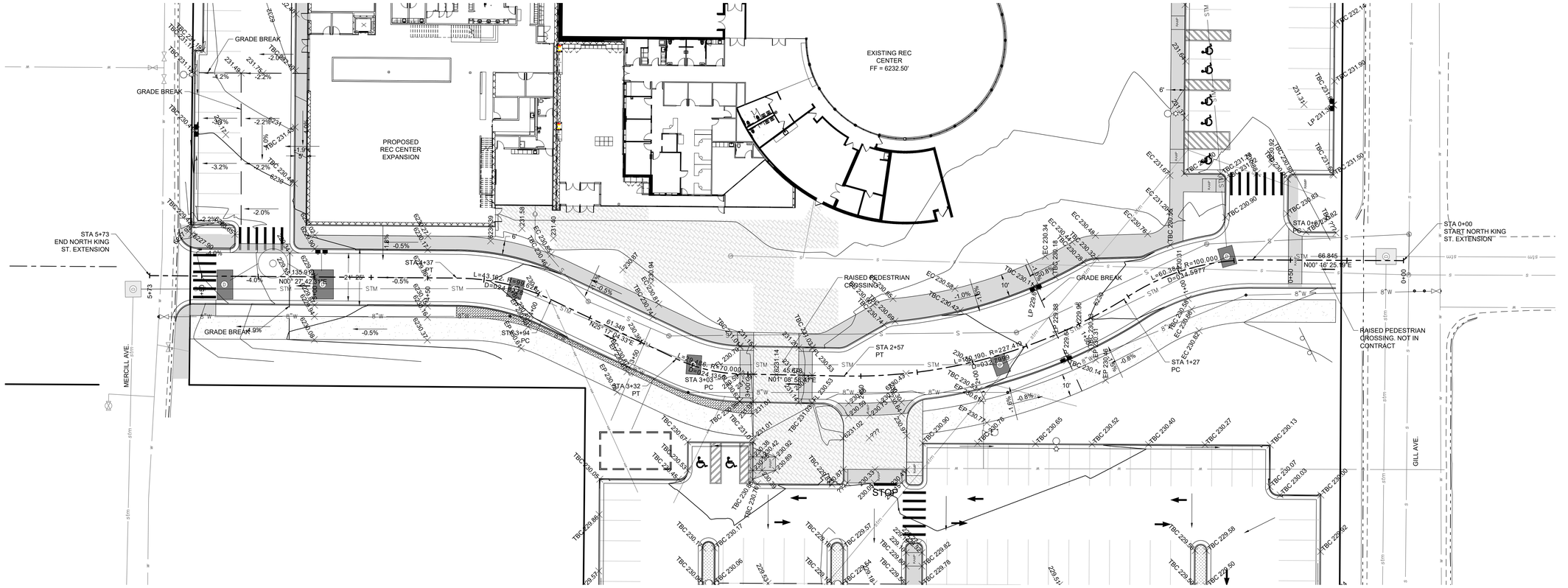

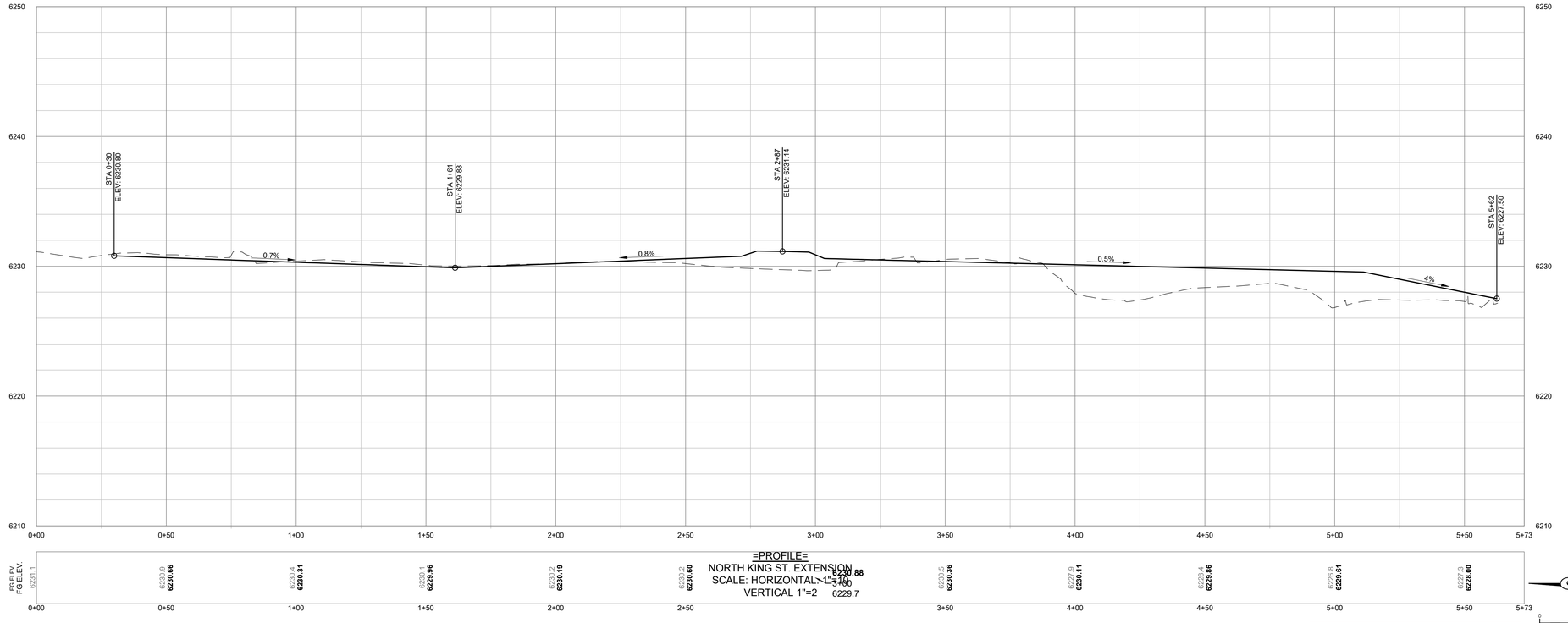

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NORTH KING ST. EXTENSION GRADING PLAN

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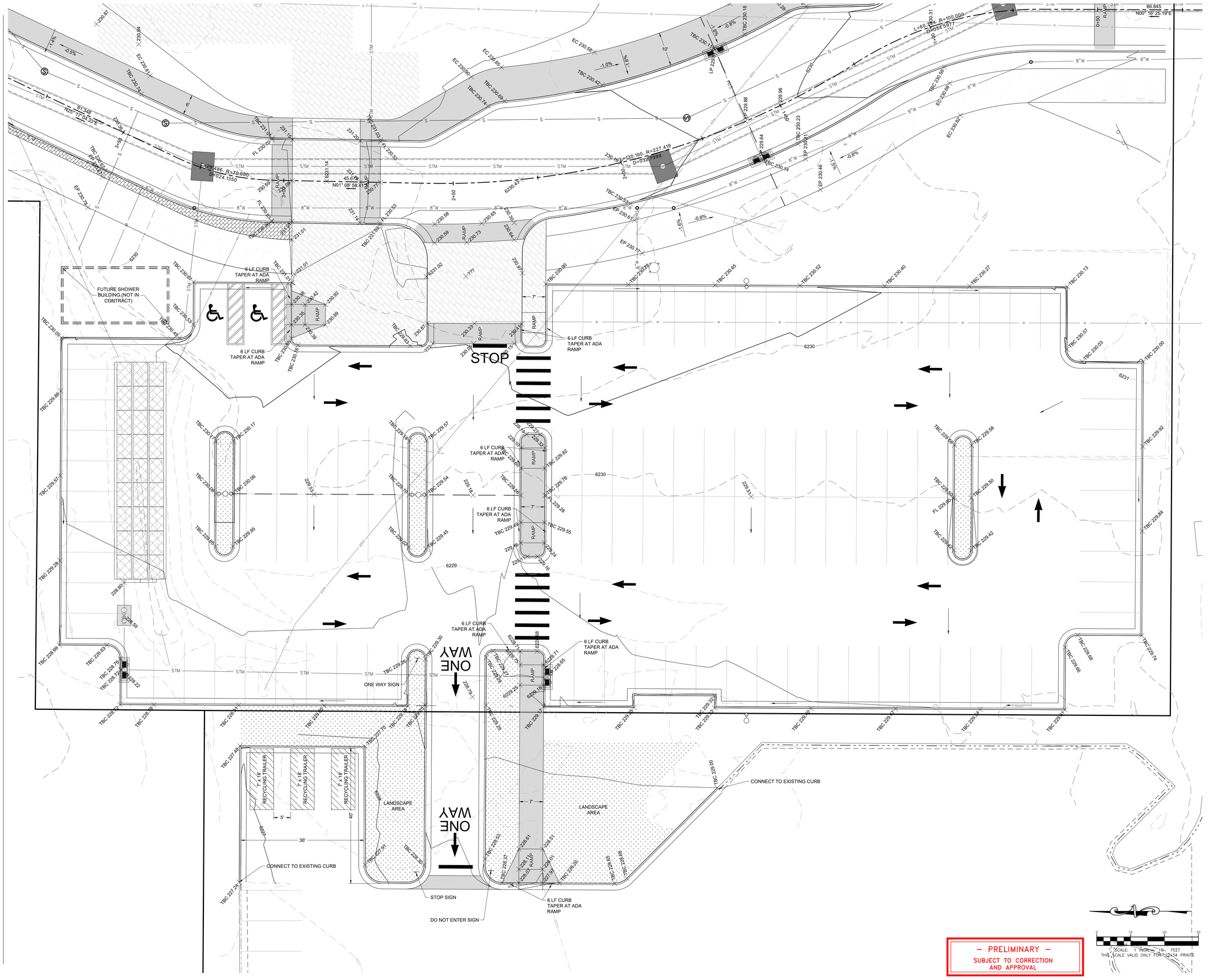

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MARK	ISSUE	DATE
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WEST PARKING LOT GRADING PLAN

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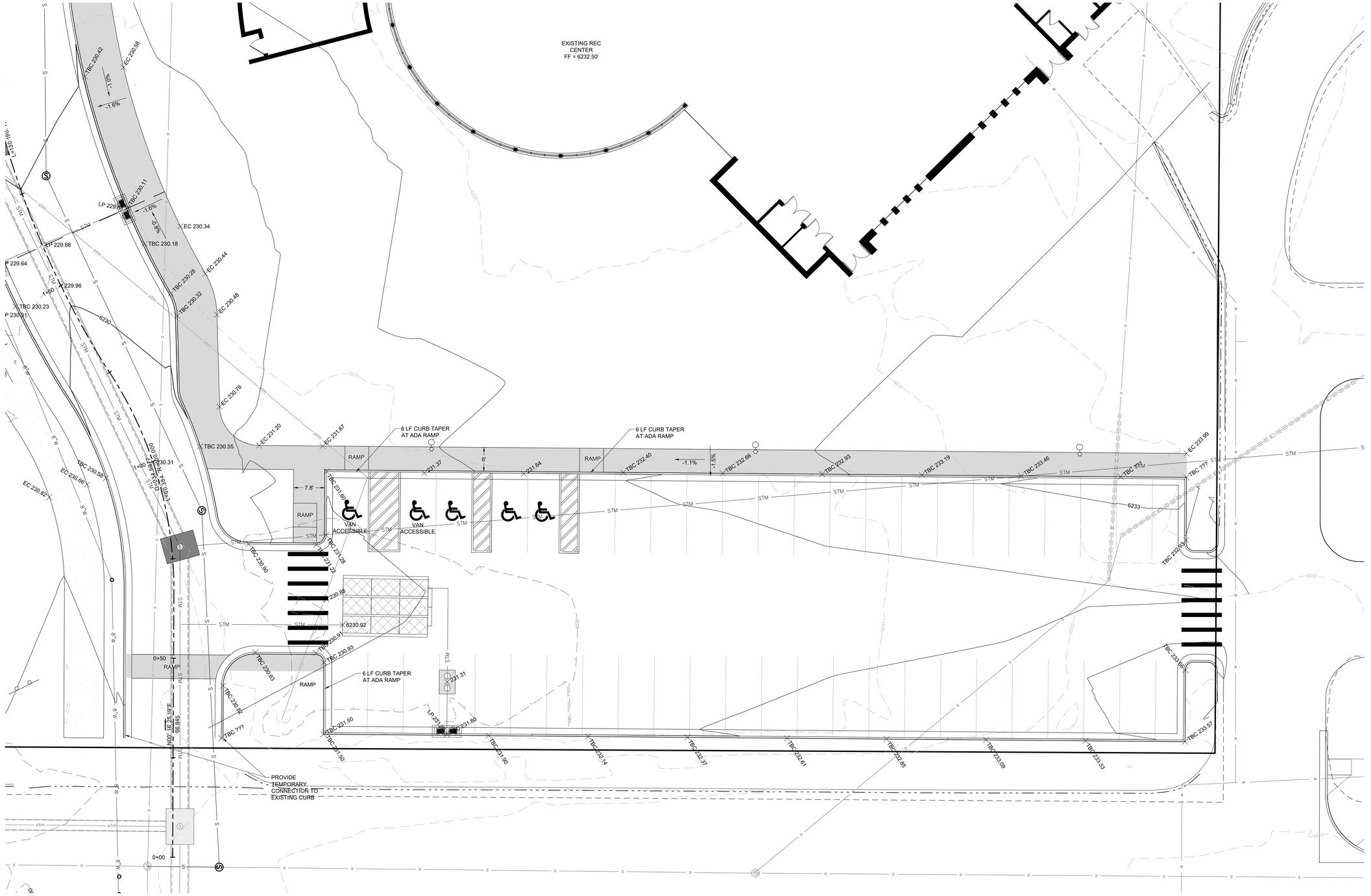

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KEYPLAN

ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

Job Number 222011

TITLE

SOUTH PARKING LOT GRADING PLAN

SHEET NUMBER

C2.3

PROPOSED
REC CENTER
EXPANSION

— PRELIMINARY —
SUBJECT TO CORRECTION
AND APPROVAL

SCALE: 1 INCH = 10 FEET
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KEYPLAN

ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

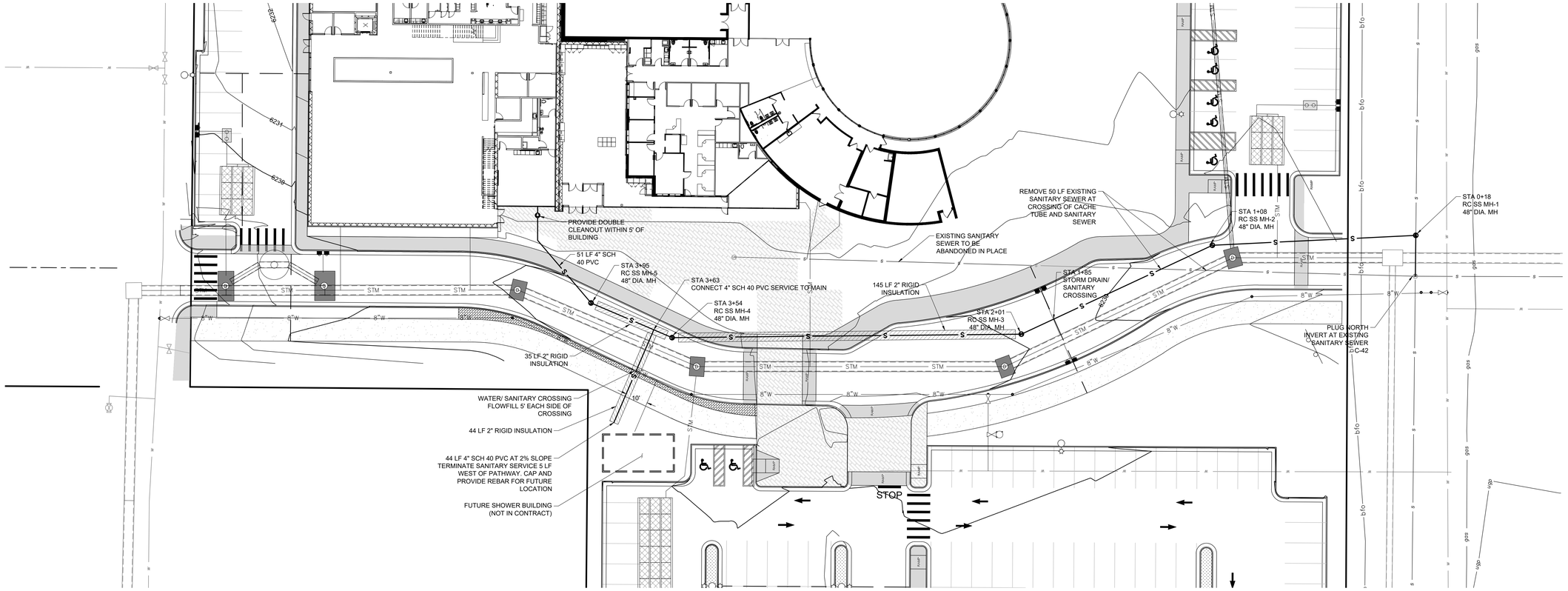
Job Number 222011

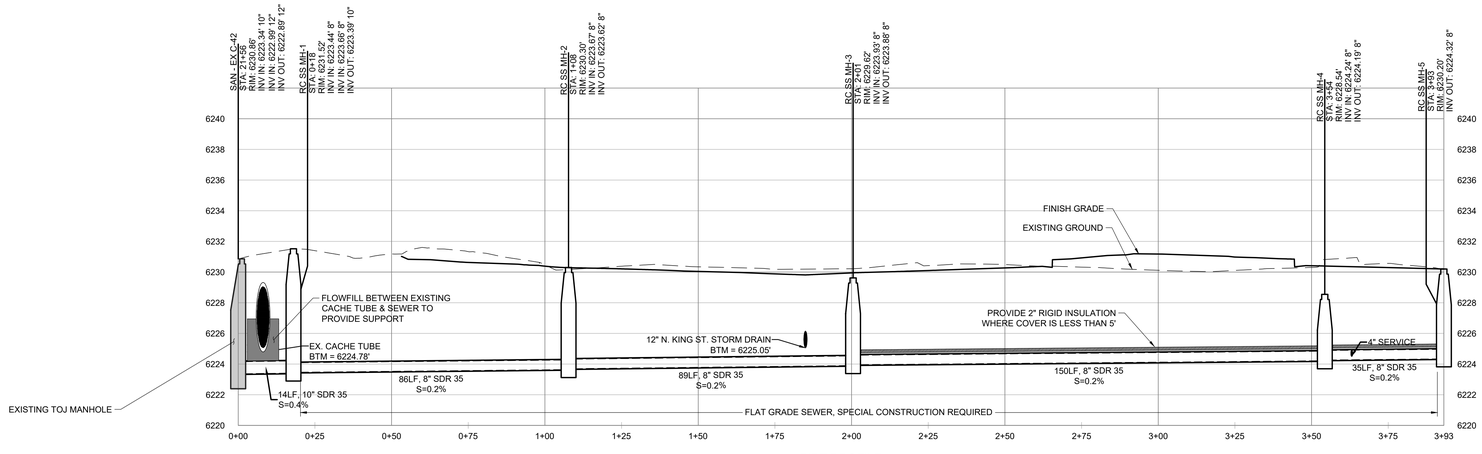
TITLE

NORTH PARKING LOT GRADING PLAN

SHEET NUMBER

C2.4





=PIPE PROFILE=
N. KING ST. EXTENSION SANITARY SEWER
SCALE: HORIZONTAL. 1"=10
VERTICAL 1"=2

– PRELIMINARY –
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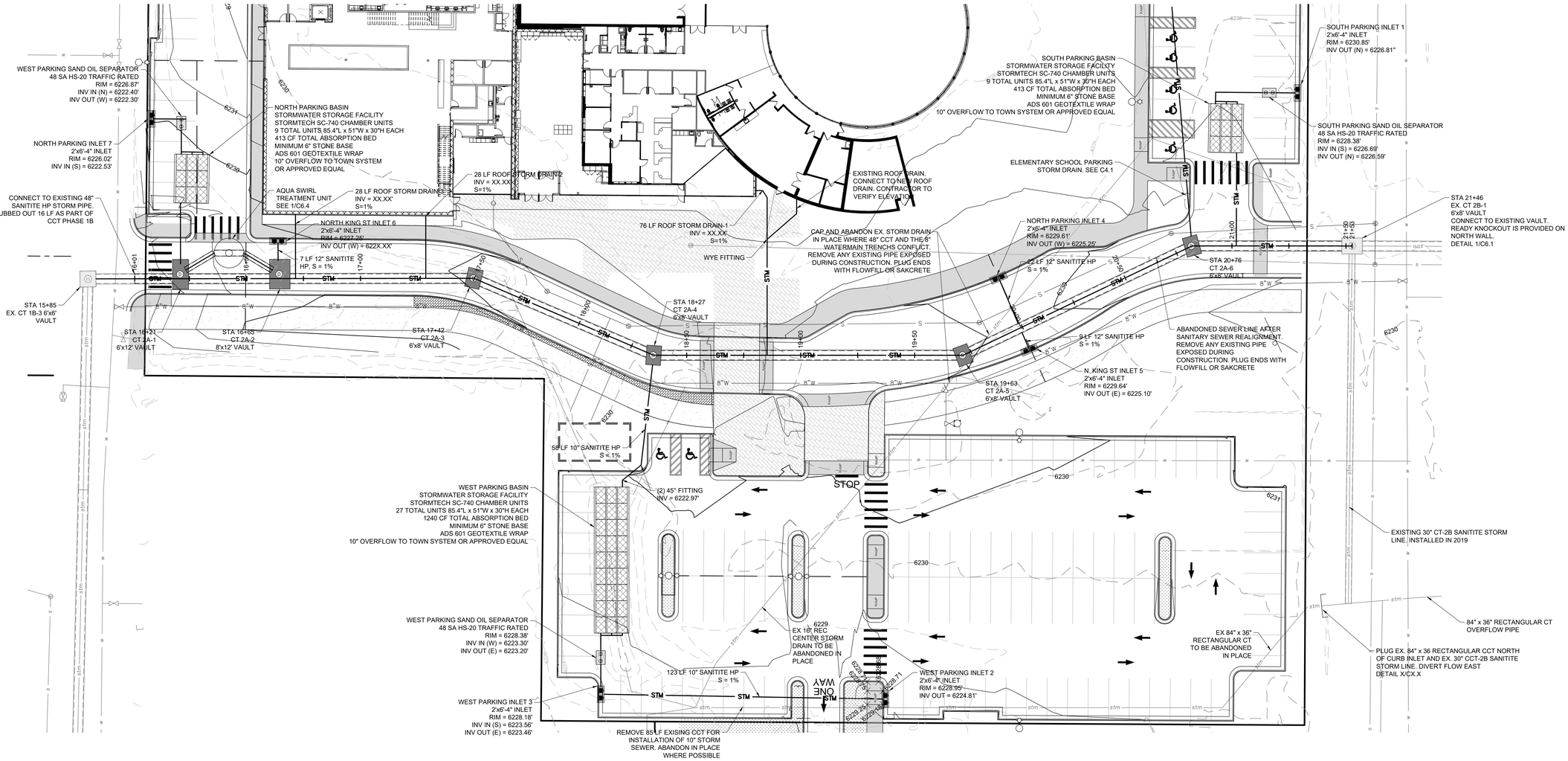
ISSUE CHART

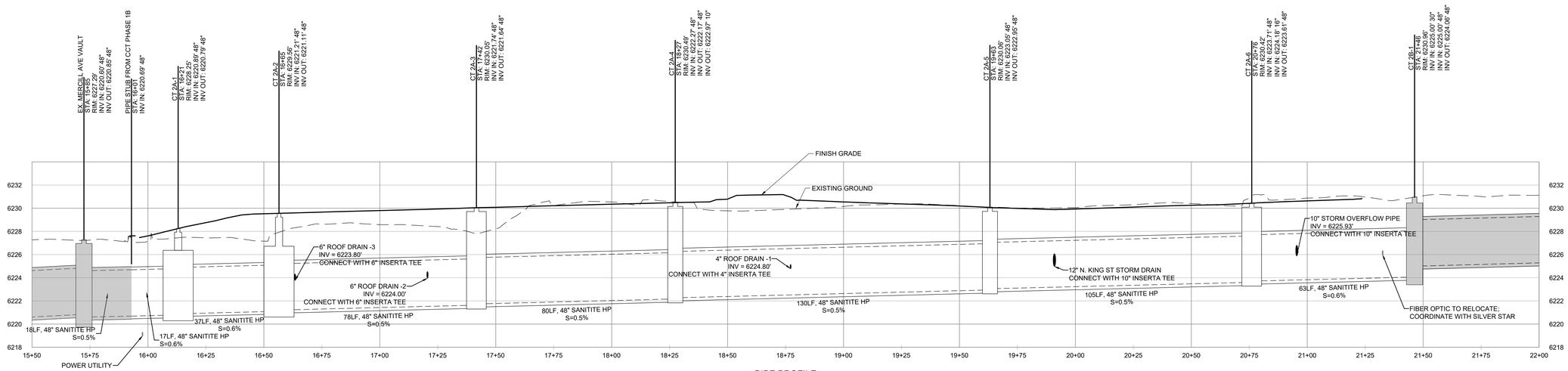
MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

Job Number 222011

TITLE
PROPOSED SANITARY SEWER

SHEET NUMBER
C3.0





=PIPE PROFILE=
CACHE TUBE
SCALE: HORIZONTAL. 1"=10
VERTICAL 1"=2

– PRELIMINARY –
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0 20 40 60
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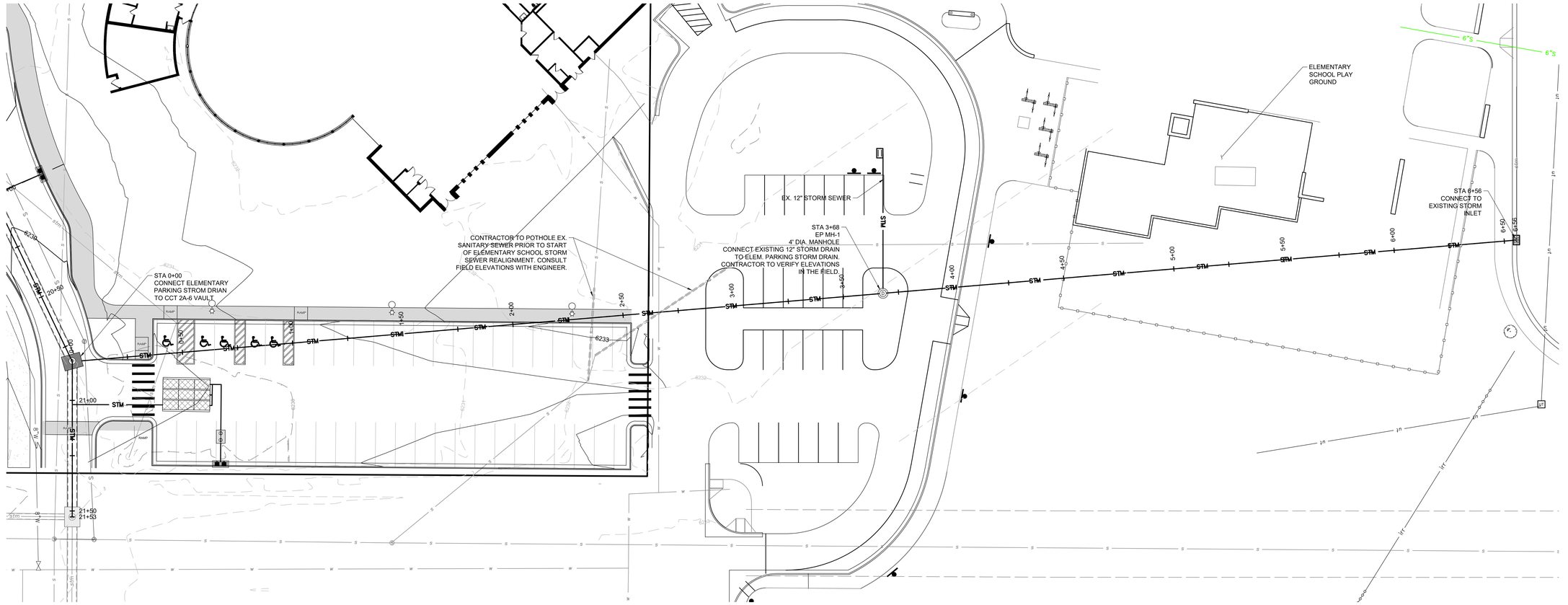
ISSUE CHART

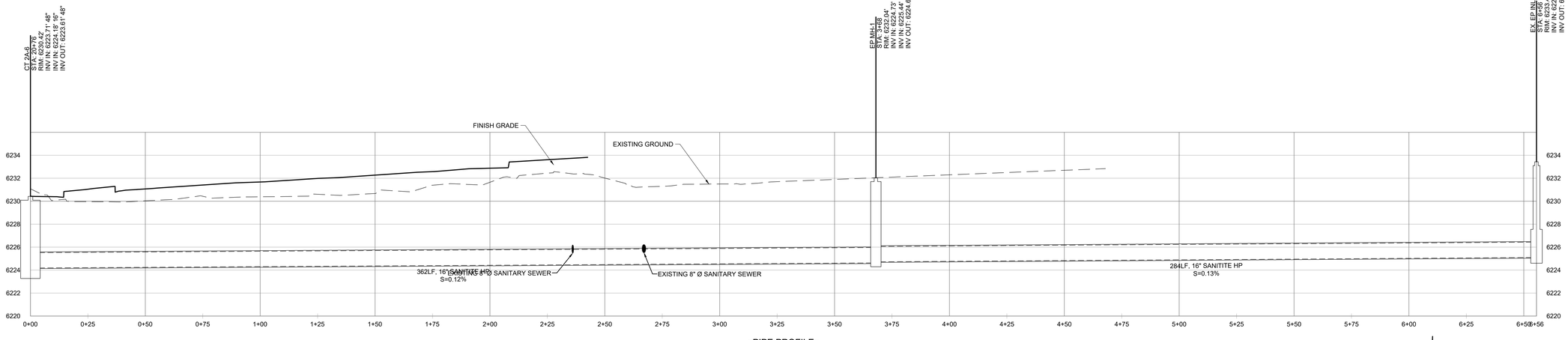
MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

Job Number 222011

TITLE
CACHE CREEK TUBE REALIGNMENT

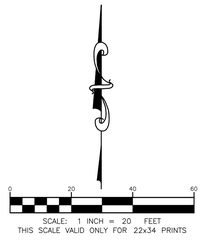
SHEET NUMBER
C4.0





=PIPE PROFILE=
ELEMENTARY PARKING STORM DRAIN
SCALE: HORIZONTAL. 1"=10
VERTICAL 1"=2

– PRELIMINARY –
SUBJECT TO CORRECTION AND APPROVAL



CONTRACTOR NOTE:

THE PROPOSED STORM SEWER IS ON THE SAME ALIGNMENT AS THE EXISTING STORM SEWER. 656 LF OF STORM SEWER WILL HAVE TO BE REMOVED OR ABANDONED IN PLACE WHERE POSSIBLE FOR INSTALLATION OF PROPOSED STORM SEWER.

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MARK	ISSUE	DATE
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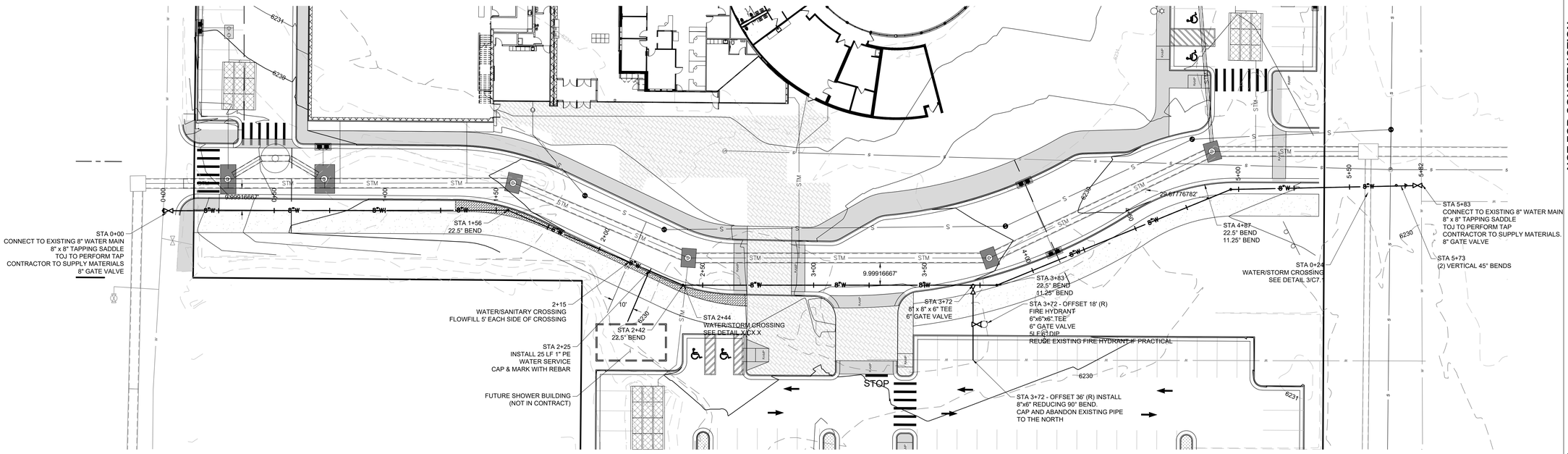
Job Number 222011

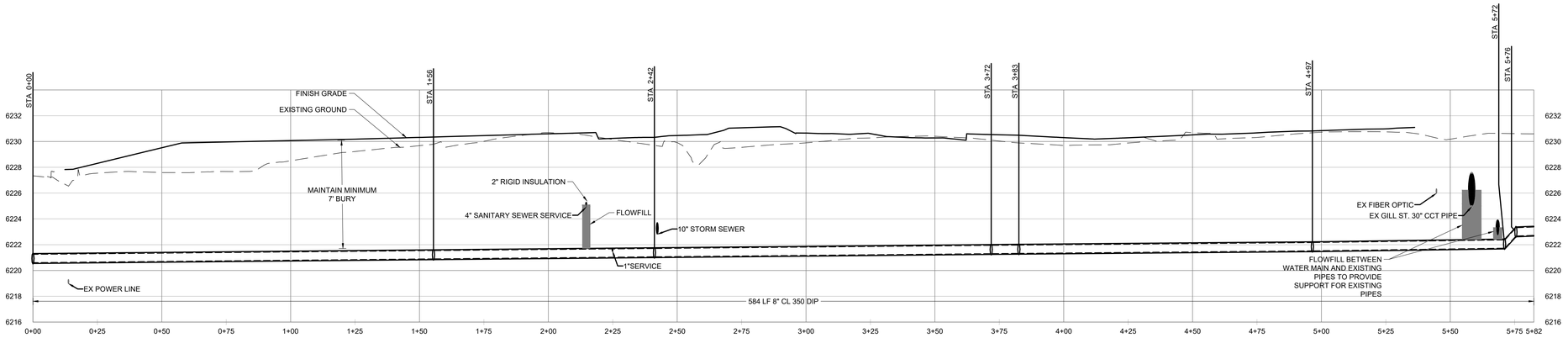
TITLE

ELEMENTARY SCHOOL PARKING STORM DRAIN REALIGNMENT

SHEET NUMBER

C4.1





=PIPE PROFILE=
N. KING ST EXTENSION WATERLINE
SCALE: HORIZONTAL. 1"=10
VERTICAL 1"=2

– PRELIMINARY –
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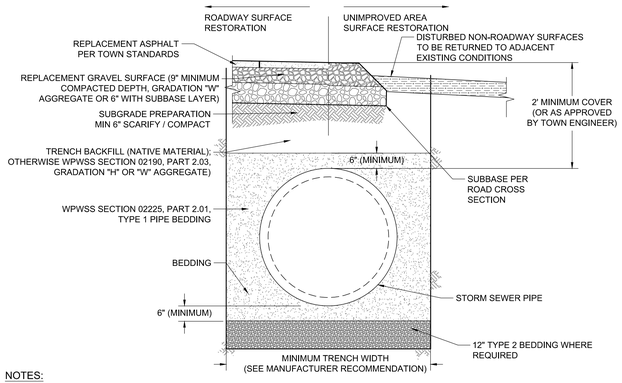
Job Number 222011

TITLE

PROPOSED WATER MAIN

SHEET NUMBER

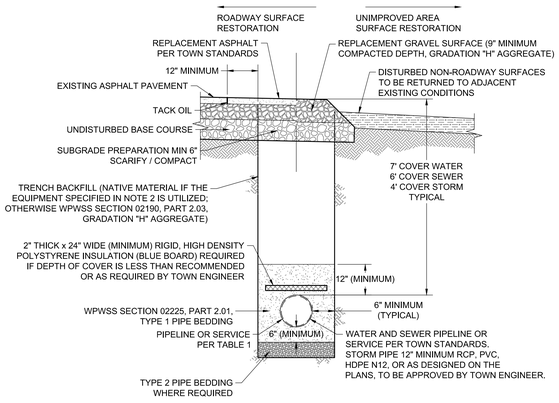
C5.0



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. 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.
4. 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), MINIMUM FILL HEIGHT 2 TIMES LARGEST ROCK OR 12".
5. PIPE BEDDING SHALL BE TYPE I PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT. TYPE 1 BEDDING SHALL BE THOROUGHLY RODDED UNDER PIPE HAUNCES.
6. UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
7. ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WYOSHA) REGULATIONS.
8. SUITABLE PIPE BEDDING SHALL BE TYPE I MATERIAL. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. PIPE >30" DIAMETER SHALL BE PLACED USING PIPE BEDDING MATERIAL AS SPECIFIED BY THE MANUFACTURER. CARE SHOULD BE TAKEN FOR PROPER PLACEMENT UNDER HAUNCHES (SEE MANUFACTURERS RECOMMENDATIONS).

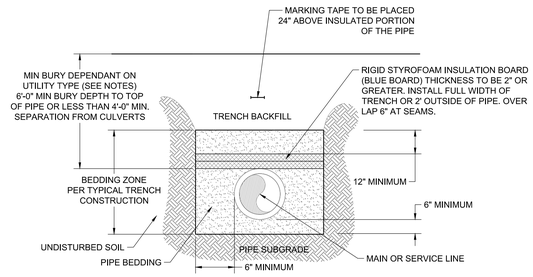
1 / C6.0 CACHE TUBE PIPE TRENCH DETAILS
NOT TO SCALE



2 / C6.0 PIPE TRENCH DETAIL
NOT TO SCALE

NOTES:

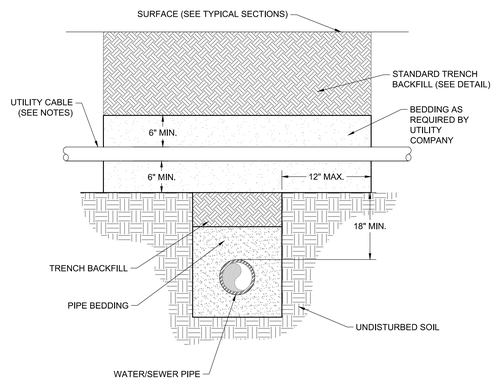
1. MINIMUM COVER VARIES BY UTILITY. SEE TOWN OF JACKSON STANDARD DETAILS W-100, SS-100, STM-100.
2. TRENCH BACKFILL BELOW THE SURFACE SHALL MEET THE FOLLOWING CRITERIA:
   - 95% MODIFIED PROCTOR DENSITY IN RIGHT-OF-WAY TO 5' OUTSIDE STREET AND ALLEY RIGHTS-OF WAY.
   - 90% MODIFIED PROCTOR DENSITY FROM 5' OUTSIDE STREET AND ALLEY RIGHTS-OF-WAY.
3. 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 APROVED BY TOWN ENGINEER PRIOR TO BACKFILLING).
4. PIPE BEDDING SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED WITH A JUMPING JACK TO PROVIDE UNIFORM PIPE SUPPORT. THOROUGHLY WORK BEDDING MATERIAL BELOW THE PIPE HAUNCHES BY STABBING OR OTHER EFFECTIVE METHOD.
5. UNLESS OTHERWISE DIRECTED, ALL BASE COURSE AND GRAVEL SURFACE REPLACEMENT SHALL BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
6. WHERE THE SPECIFIED MAXIMUM TRENCH WIDTH IS EXCEEDED, OR IF THE PIPE IS INSTALLED IN COMPACTED EMBANKMENT, THEN PIPE EMBEDMENT SHALL BE COMPACTED TO 96% OF STANDARD PROCTOR MAXIMUM DENSITY (ASTM D-698) TO A POINT AT LEAST 3 PIPE DIAMETERS FROM THE PIPE ON BOTH SIDES OF THE PIPE OR TO THE TRENCH WALL, WHICHEVER IS LESS.
7. WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT IN A STRAIGHT LINE PARALLEL TO THE EDGE OF THE EXCAVATION BY USE OF A CONCRETE SAW OR SIMILAR APPROVED EQUIPMENT TO OBTAIN A STRAIGHT, SQUARE, CLEAN BREAK. PAVEMENT CUTS SHALL BE TWO FEET WIDER THAN THE ACTUAL TRENCH OPENING AND CENTERED OVER SUCH BREAK.
8. DETECTABLE WARNING TAPE SHALL BE 2" MINIMUM WIDTH WITH STANDARD COLOR AND PRINTING, AND MINIMUM TENSILE STRENGTH OF 7,500 LBS. COLOR SHALL MATCH PIPE USING APWA UNIFORM COLOR CODES FOR UNDERGROUND UTILITIES.
9. ALL TRENCH EXCAVATION SHALL CONFORM TO WYOMING OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (WYOSHA) REGULATIONS.



NOTES:

1. ALL UTILITIES ARE TO CONFORM TO TOWN OF JACKSON STANDARDS FOR MINIMUM BURY. BURY DEPTH MAY BE REDUCED WITH THE INSTALLATION OF 2" OF RIGID INSULATION PER FOOT OF REDUCED BURY FROM MINIMUM REQUIREMENTS (2" MINIMUM). INSULATION SHALL BE INSTALLED UPON ENGINEER APPROVAL PRIOR TO REDUCING BURY DEPTH FOR ALL PIPE THAT DOES NOT MEET MINIMUM BURY REQUIREMENTS.
   1.1. TOJ MINIMUM BURY
   1.1.1. SANITARY SEWER - 6' (REDUCED BURY TO 5' (2" INSULATION), 4' (4" INSULATION))
   1.1.2. WATER - 7' (REDUCED BURY TO 6' (2" INSULATION), 5' (4" INSULATION)) - SAME AS GEOTHERMAL
2. INSULATION SHALL BE INSTALLED ON ALL WATER OR SEWER PIPES THAT IS WITHIN FOUR FEET OF ANY DRAINAGE CULVERT. THIS APPLIES TO ANY SIDE OF THE PIPE WHICH IS NEAR THE CULVERT.
3. WATER/SEWER CROSSINGS UNDER THE CACHE CREEK TUBE ARE TO BE INSULATED WITH 4' WIDE, 4" THICK RIGID INSULATION EXTENDING 4' BEYOND THE EDGE OF THE CACHE CREEK TUBE. ALL DIMENSIONS MINIMUM. WHERE WATERLINE IS BLEOW BOTTOM OF TRENCH PLACE INSULATION AT BOTTOM OF STORM DRAIN PIPE.
4. OTHER FORMS OF INSULATION MAY BE UTILIZED AS LONG AS THEY ARE CLOSED CELL AND MANUFACTURED TO BE INSTALLED IN UNDERGROUND APPLICATIONS. INSULATION MATERIAL AND INSTALLATION MUST BE APPROVED BY THE ENGINEER.

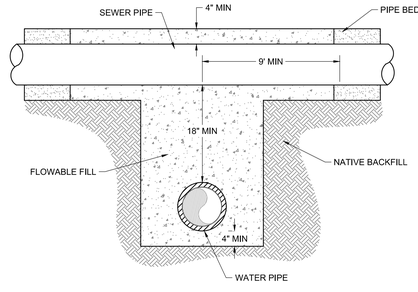
3 / C6.0 PIPE INSULATION DETAIL
NOT TO SCALE — TOJ W-116



NOTES:

1. **UTILITY CABLE SHOWN IS TYPICAL FOR ELECTRIC, TELEPHONE, CABLE TV, GAS LINES AND ANY OTHER DRY UTILITY LINE ENCOUNTERED.**
2. **NEW WATER AND SEWER LINES SHALL BE INSTALLED A MINIMUM OF 18" BELOW UTILITY CABLE CROSSINGS (WHENEVER POSSIBLE).**
3. **MAINTAIN MINIMUM UTILITY CABLE DEPTH AS REQUIRED BY UTILITY COMPANY.**
4. **REPLACE ANY UTILITY CABLES IN CONDUIT THAT ARE CUT DURING WATER/SEWER LINE INSTALLATION (AS REQUIRED BY UTILITY COMPANY).**

4 / C6.0 UTILITY CROSSING DETAIL
NOT TO SCALE

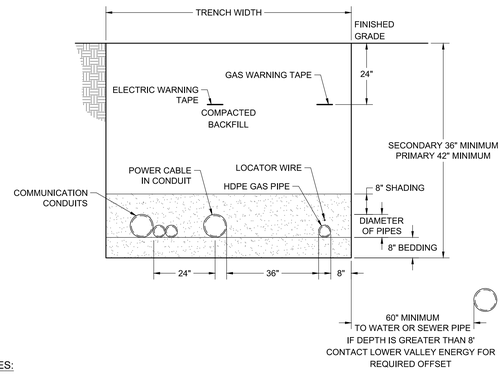


WATER/SEWER CROSSING NOTES:
NORMAL CONDITIONS - WATER MAINS CROSSING SANITARY SEWER MAINS, OR STORM SEWERS SHALL BE LAID ABOVE TO PROVIDE A VERTICAL SEPARATION OF AT LEAST EIGHTEEN (18) INCHES WHENEVER POSSIBLE. THE DISTANCE SHALL BE MEASURED FROM THE TOP OF THE SEWER PIPE TO THE BOTTOM OF THE WATER PIPE.
UNUSUAL CONDITIONS - WHEN LOCAL CONDITIONS PREVENT A VERTICAL SEPARATION OF AT LEAST EIGHTEEN (18) INCHES AS NOTED ABOVE, THE FOLLOWING CONSTRUCTION SHALL BE USED:

NOTES:

1. THE SANITARY SEWER OR STORM SEWER JOINTS SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION (SDR 26 OR C-900) AND SHALL BE TESTED FOR WATER TIGHTNESS BY SEWER LINE METHODS; OR
2. THE SANITARY SEWER, STORM SEWER OR WATER MAIN SHALL BE PLACED IN A SEPARATE CASING PIPE EXTENDING A MINIMUM OF NINE (9) FEET EACH SIDE OF THE CROSSING; OR
3. THE SANITARY SEWER SHALL BE ENCASED IN FLOWABLE FILL A MINIMUM OF NINE (9) FEET EACH SIDE OF CROSSING.
4. WATER MAINS PASSING UNDER SEWER LINES SHALL IN ADDITION TO THE ABOVE REQUIREMENTS, BE PROTECTED BY PROVIDING FLOWABLE FILL BETWEEN WATER AND SEWER LINES FOR ADDITIONAL SUPPORT.
5. FLOWABLE FILL SHALL BEAR ON UNDISTURBED SOIL AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 30 PSI TO 60 PSI. REFERENCE WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS SECTION 02510.

5 / C6.0 WATER / SEWER CROSSING DETAIL
NOT TO SCALE



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. CUSTOMER 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 HDPE GAS PIPE AND POWER CABLE OR TRENCH WILL BE REJECTED.
5. BEDDING AS SHADING MATERIAL MUST BE SMOOTH, FREE OF ROCKS, AND MUST BE ABLE TO SIFT THROUGH A ¼" SCREEN (SAND RECOMMENDED).

6 / C6.0 TYPICAL UTILITY TRENCH DETAIL
NOT TO SCALE

– PRELIMINARY –
SUBJECT TO CORRECTION AND APPROVAL

NOT FOR CONSTRUCTION

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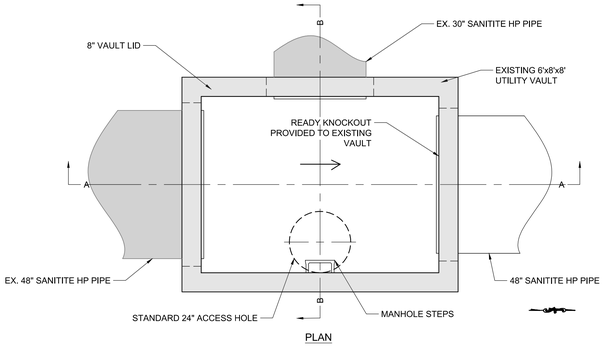
ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

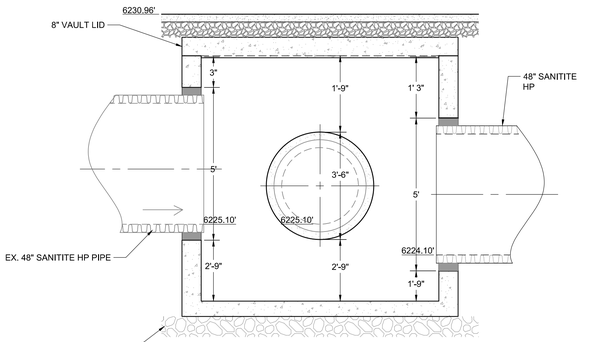
Job Number 222011

TITLE
TYPICAL TRENCH DETAILS

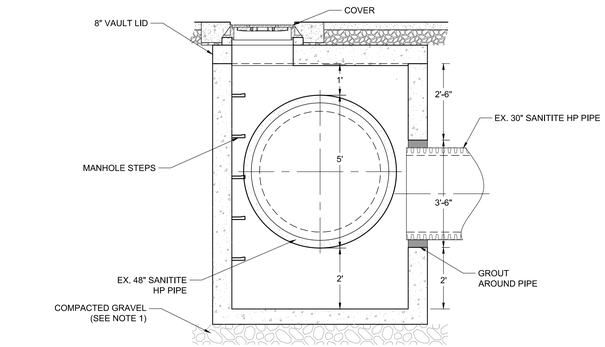
SHEET NUMBER
C6.0



PLAN



SECTION A

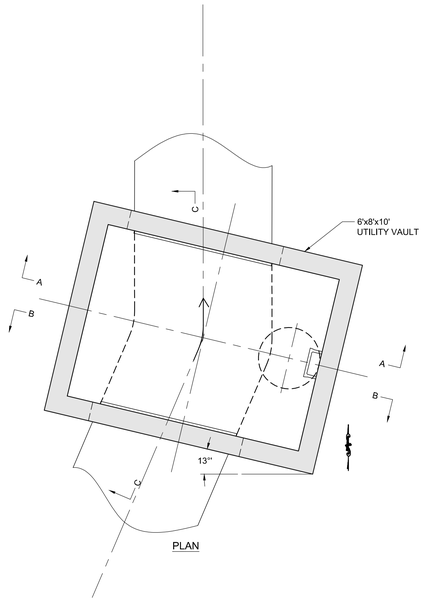


SECTION B

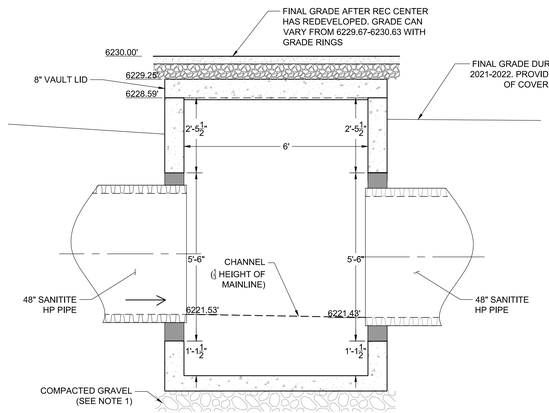
NOTE:

1. GRAVEL SHALL BE EIGHT (8) INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, PART 2.03, GRADING H OR W, AND BE INSTALLED PER WPWSS SECTION 02231, PART 3.03.
2. NO CHANNEL CONSTRUCTION REQUIRED INSIDE OF VAULT
3. STRUCTURE TO BE RATED TO AASHTO HS-20 LOADING CRITERIA
4. PIPES TO BE INSTALLED TO VAULTS USING HDPE WATERSTOP GROUTED MANHOLE CONNECTIONS OR APPROVED EQUAL.
5. VAULT TO BE CONSTRUCTED AND ENGINEERED TO HAVE 60"X60" CUTOUT COMPLETED ON WALL DURING FUTURE WORK TIE IN. SUBMITTAL TO INCLUDE DETAIL ON CUTOUT LOCATION AND CERTIFIED STRUCTURAL RATING.

1 / C6.1 STA 21+54 CT 2B-1 6'x8' TEE VAULT
NOT TO SCALE



PLAN



SECTION C

NOTE:

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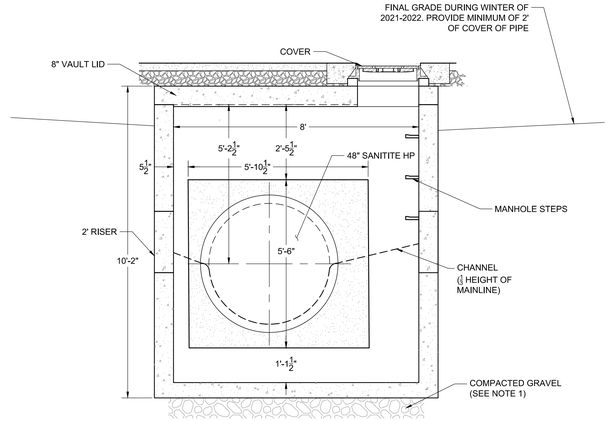
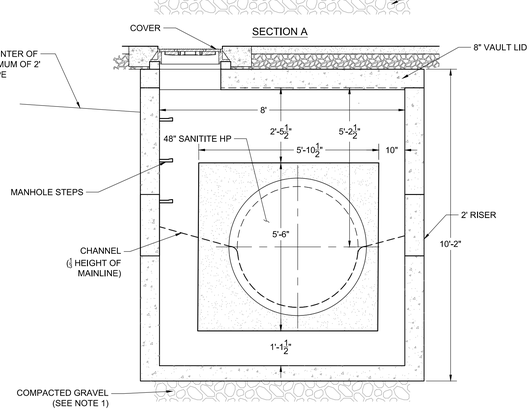
4. PIPES TO BE INSTALLED TO VAULTS USING HDPE WATERSTOP GROUTED MANHOLE CONNECTIONS OR APPROVED EQUAL.

2 / C6.1 STA 17+42 CT 2A-1 6'x8' VAULT
NOT TO SCALE



SECTION A



SECTION B

– PRELIMINARY –
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ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

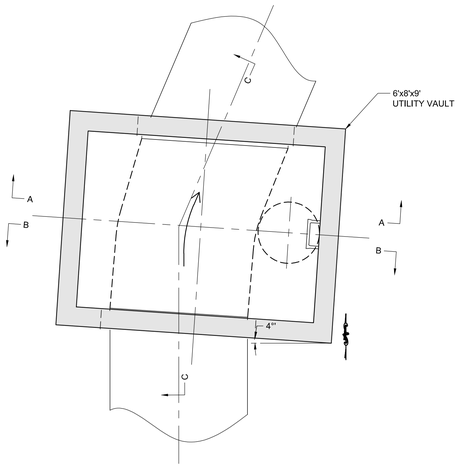
Job Number 222011

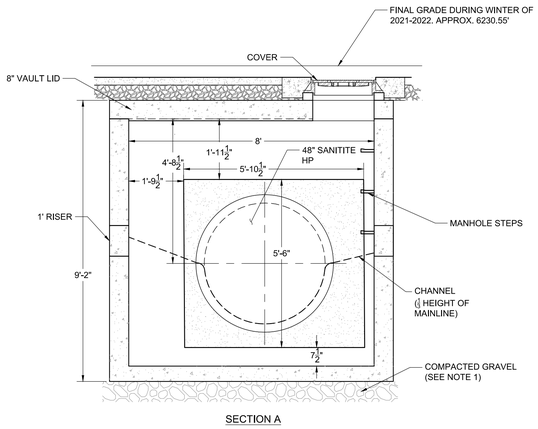
TITLE

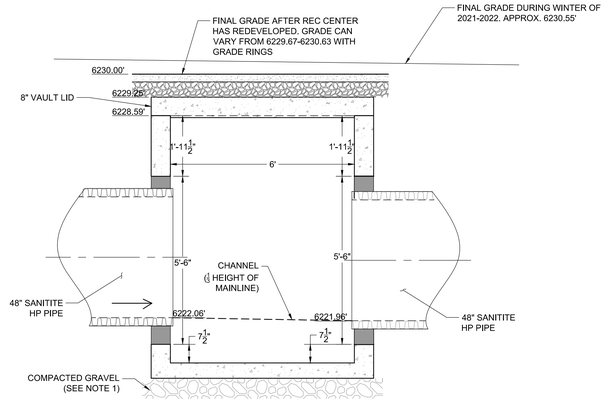
CCT VAULT DETAILS

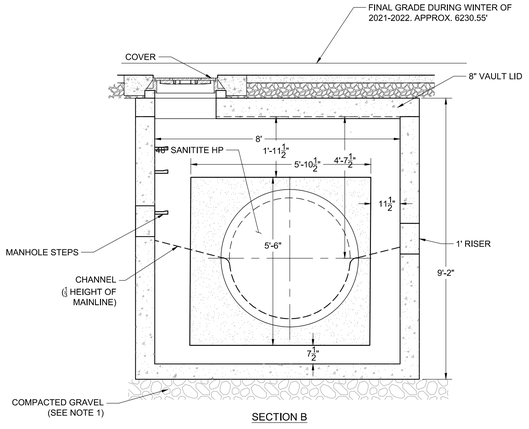
SHEET NUMBER

C6.1









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1 / C3.9 STA 18+27 CT 2A-2 6'x8' VAULT
NOT TO SCALE

– PRELIMINARY –
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AND APPROVAL

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ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

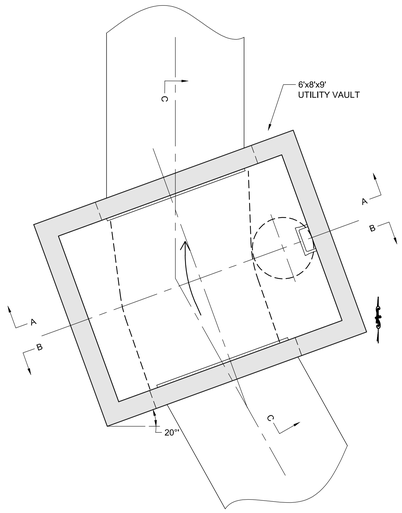
Job Number 222011

TITLE

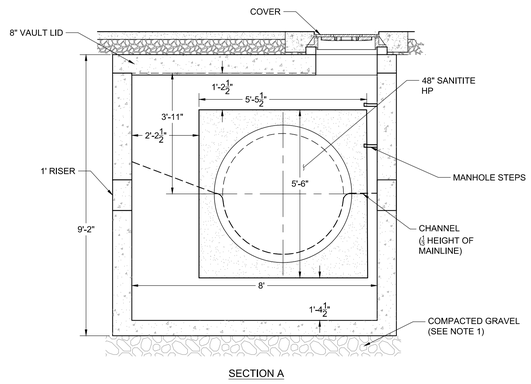
CCT VAULT DETAILS

SHEET NUMBER

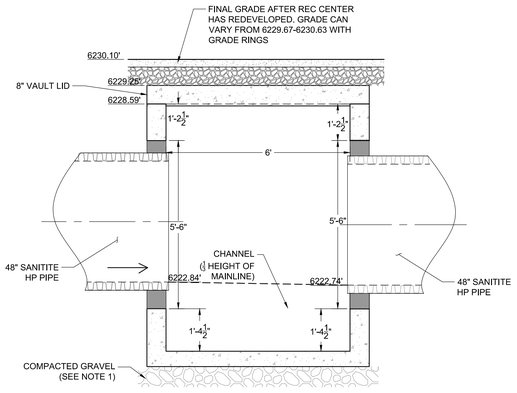
C6.2



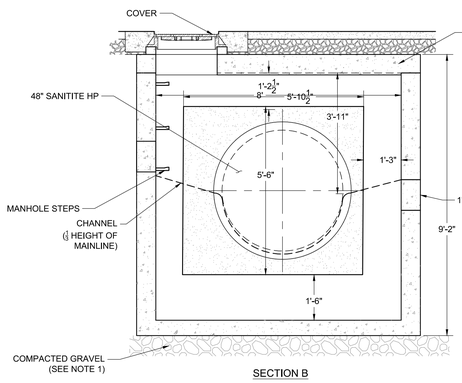
PLAN



SECTION A



SECTION C



SECTION B

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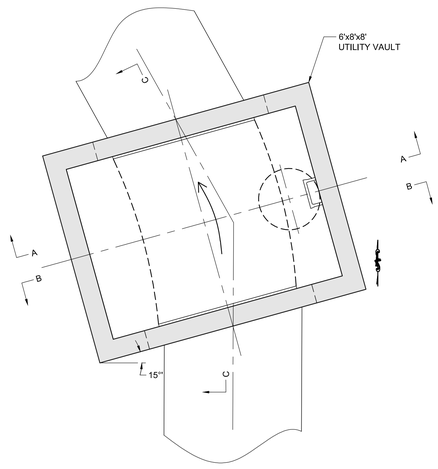
NOT TO SCALE



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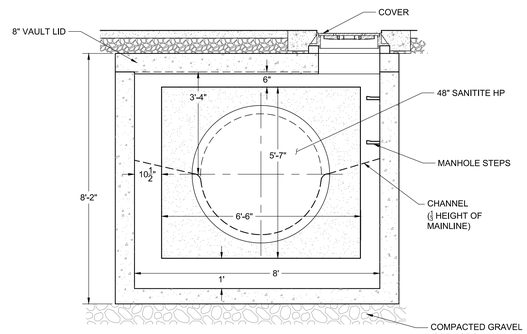
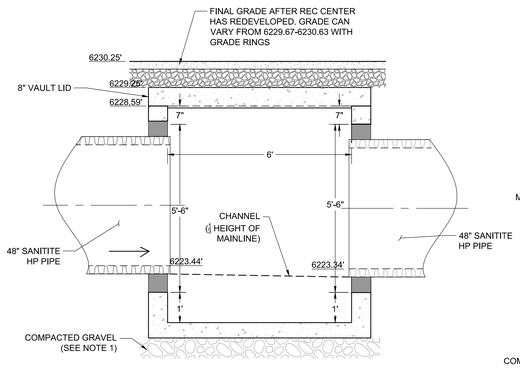
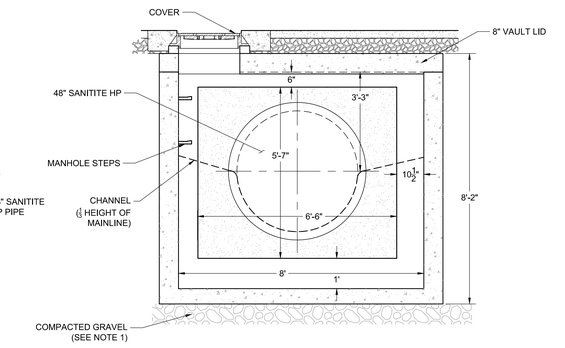


SECTION B



SECTION C



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1 / C3.9 STA 20+62 CT 2A-4 6'x8' VAULT
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KEYPLAN

ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

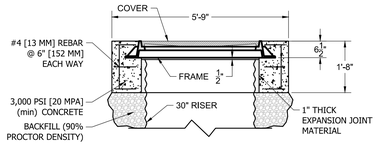
Job Number 222011

TITLE

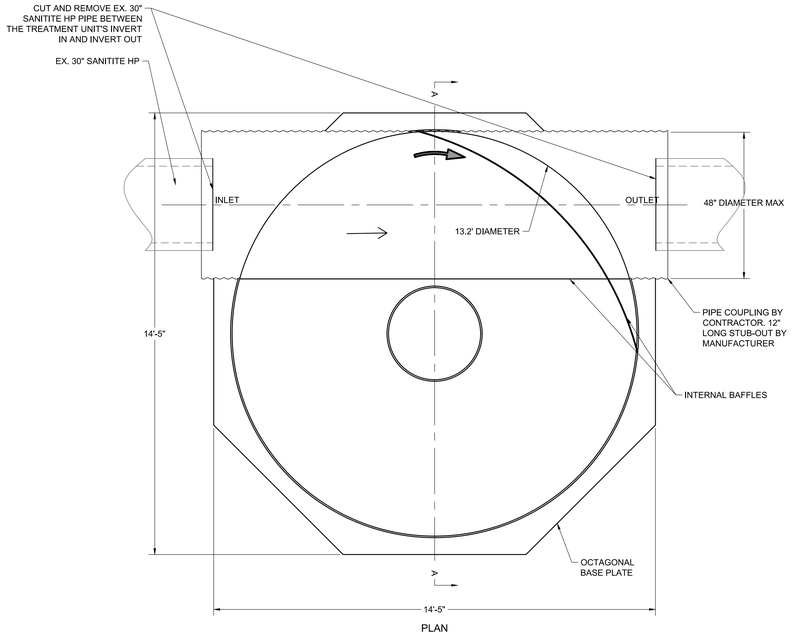
CCT VAULT DETAILS

SHEET NUMBER

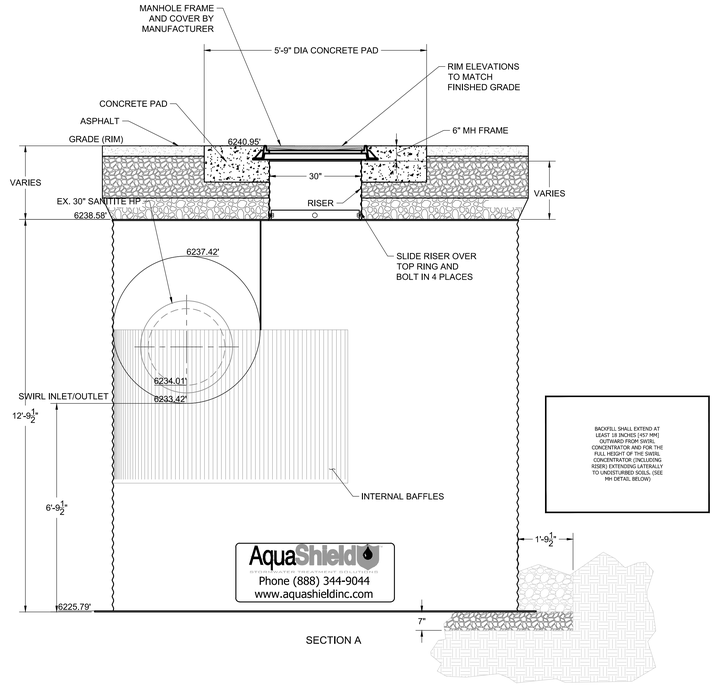
C6.3



TREATMENT UNIT MANHOLE FRAME & COVER DETAIL
FOR TRAFFIC LOADING AREAS
NTS



PLAN



SECTION A

NOTE:

1. IF TRAFFIC LOADING (HS-25) IS REQUIRED OR ANTICIPATED, A 5'-9" DIAMETER, 20" THICK REINFORCED CONCRETE PAD MUST BE PLACED OVER THE STORMWATER TREATMENT SYSTEM RISER TO SUPPORT AND LEVEL THE MANHOLE FRAME, AS SHOWN. THE TOP OF RISER PIPE MUST BE WRAPPED WITH COMPRESSIBLE EXPANSION JOINT MATERIAL TO A MINIMUM 1"] THICKNESS TO ALLOW TRANSFER OF WHEEL LOADS FROM MANHOLE COVER TO CONCRETE SLAB. MANHOLE COVER SHALL BEAR ON CONCRETE SLAB AND NOT ON RISER PIPE. THE CONCRETE SLAB SHALL HAVE A MINIMUM STRENGTH OF 3,000 PSI [20 MPA) AND BE REINFORCED WITH #4 [13 MM] REINFORCING STEEL AS SHOWN. MINIMUM COVER OVER REINFORCING STEEL SHALL BE 3". TOP OF MANHOLE COVER AND CONCRETE SLAB SHALL BE LEVEL WITH FINISH GRADE.
2. **AS AN ALTERNATIVE, 69" OD, HS-20/25 RATED PRECAST CONCRETE RINGS MAY BE SUBSTITUTED. 20" THICKNESS MUST BE MAINTAINED.**
3. **PLEASE SEE ACCOMPANIED AQUA-SWIRL SPECIFICATION NOTES. SEE SITE PLAN FOR ACTUAL SYSTEM ORIENTATION.ORIENTATION MAY VARY FROM 90°, 180°, OR CUSTOM ANGLES TO MEET SITE CONDITIONS SEE REPRESENTATIVE FOR LARGER PIPE DIAMETERS AVAILABLE.**

TREATMENT UNIT SIZING PARAMETERS:
STORM: 5-YEAR
BASIN: 32.38 ACRES
SURFACE TYPE:
40% BUSINESS DOWNTOWN
60% RESIDENTIAL
PEAK FLOW: 14.50 CFS

TO BE DETERMINED

1 / C6.3 STA XX+XX AQUA-SWIRL POLYMER COATED STEEL (PCS) STORMWATER TREATMENT SYSTEM
NOT TO SCALE

– PRELIMINARY –
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KEYPLAN

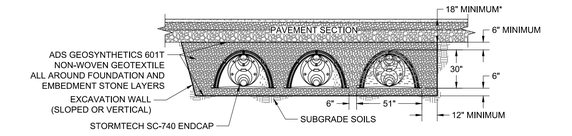
ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

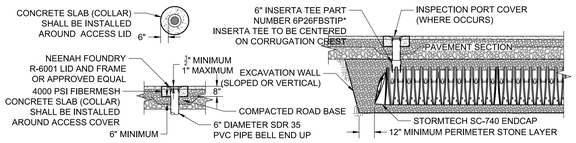
Job Number 222011

TITLE
CCT TREATMENT UNIT DETAILS

SHEET NUMBER
C6.4



END VIEW

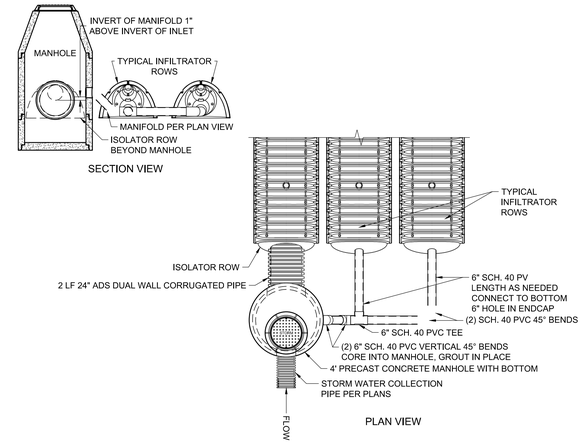


INSPECTION PORT COVER SIDE VIEW

NOTE

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. FOUNDATION, EMBEDMENT AND PERIMETER STONE TO BE ¾"-1½" CLEAN, ANGULAR GRAVEL.
7. FOUNDATION STONE TO BE RAKED OR DRAGGED TO ACHIEVE A FLAT SURFACE.

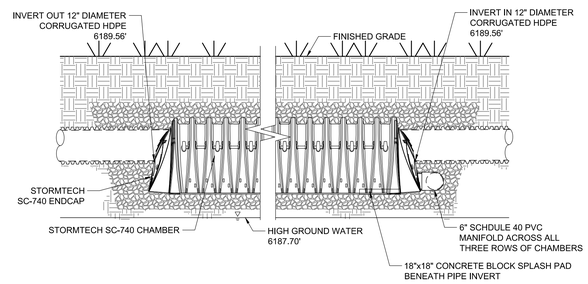
STORMTECH SC-740 CHAMBER SYSTEM DETAIL
NOT TO SCALE PAVED SURFACE



NOTE

1. ISOLATOR ROW SHALL HAVE TWO LAYERS OF 5' MINIMUM WIDTH CONTINUOUS STRIPS OF ADS GEOSYNTHETIC 315WTK, MIRAFI 600X OR APPROVED EQUAL WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS.
2. COVER ENTIRE ISOLATOR ROW WITH 8' WIDE STRIP OF ADS GEOSYNTHETIC 601T OR MIRAFI 160N OR APPROVED EQUAL NON-WOVEN GEOTEXTILE.

INFILTRATION SYSTEM DETAIL
NOT TO SCALE



INFILTRATION SYSTEM DETAIL
NOT TO SCALE

— PRELIMINARY —
SUBJECT TO CORRECTION
AND APPROVAL

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KEYPLAN

ISSUE CHART

MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

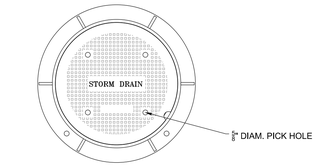
Job Number 222011

TITLE

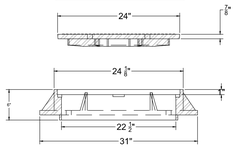
STORMWATER INFILTRATOR UNITS

SHEET NUMBER

C6.5



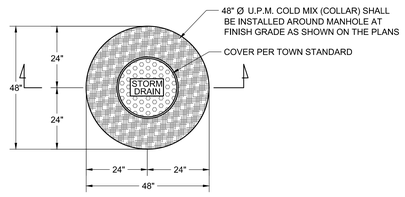
MANHOLE COVER



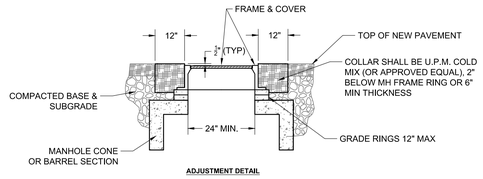
FRAME

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.

1 / C6.5 STORM DRAIN MANHOLE FRAME & COVER
NOT TO SCALE — TOJ STM-104



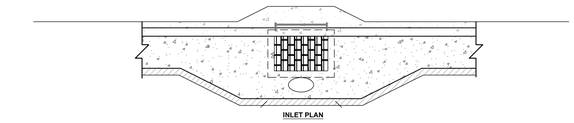
COVER AND COLLAR PLAN



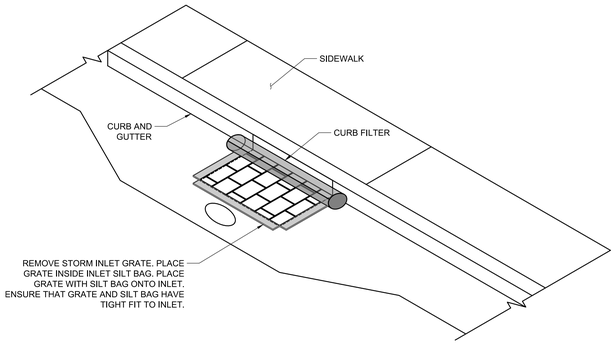
ADJUSTMENT DETAIL

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 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.

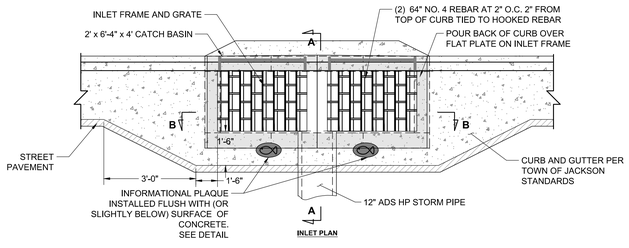
2 / C6.5 STORM DRAIN MANHOLE AND VAULTADJUSTMENT & COLLAR DETAIL
NOT TO SCALE — TOJ STM-103



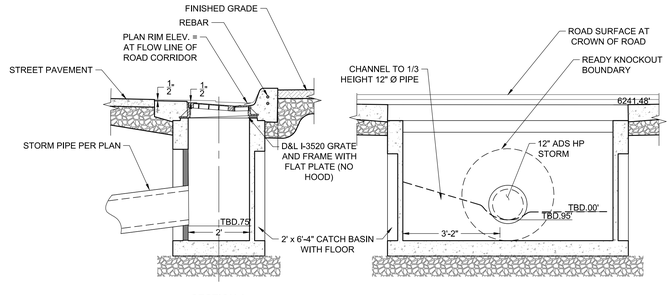
INLET PLAN



3 / C6.5 **STORMWATER INLET PROTECTION DETAILS**
NOT TO SCALE

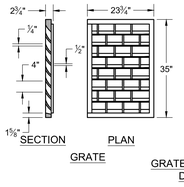


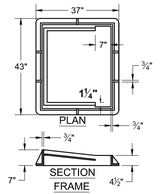
INLET PLAN



SECTION A — SECTION B

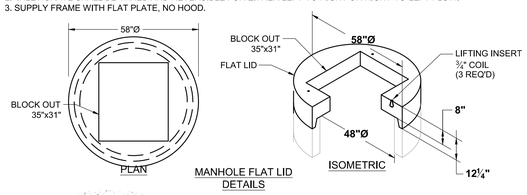
4 / C6.5 2'x6' INLET 1
NOT TO SCALE



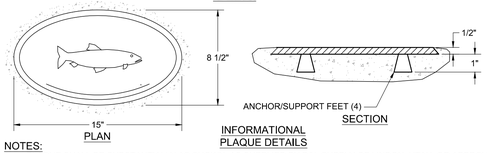


GRATE AND FRAME DETAILS

NOTES:
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.
3. SUPPLY FRAME WITH FLAT PLATE, NO HOOD.



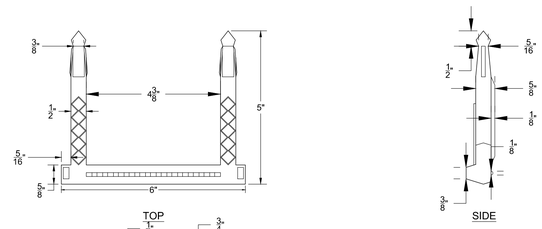
MANHOLE FLAT LID DETAILS



INFORMATIONAL PLAQUE DETAILS

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

5 / C6.5 **STORMWATER GRATE**
NOT TO SCALE



STEP IN MANHOLE WALL

NOTES:
1. PLACE INTO WET CONCRETE WALL DURING MANUFACTURE OR MORTAR INTO HOLES AFTER CONCRETE HAS SET.
2. PLASTIC COATED STEPS PER THIS STANDARD DRAWING OR AS APPROVED BY THE ENGINEER.

6 / C6.5 STANDARD MANHOLE STEPS DETAIL
NOT TO SCALE — TOJ SS-106

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MARK	ISSUE	DATE
	PROGRESS SET	2021-11-16

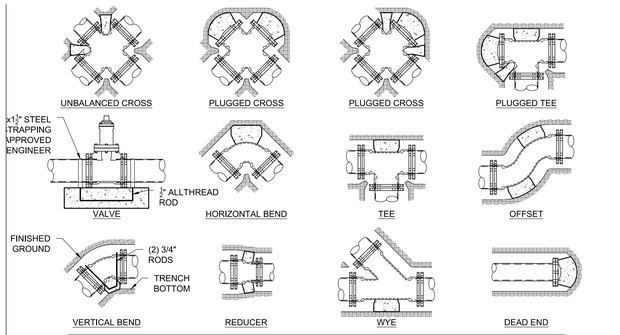
Job Number 222011

TITLE

STORM INLET DETAILS

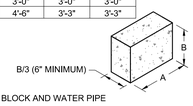
SHEET NUMBER

C6.6

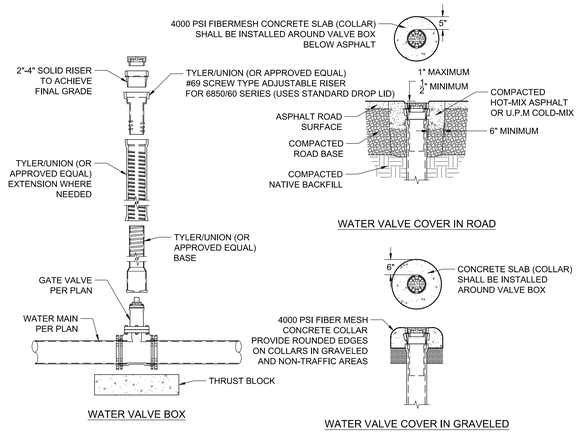


MINIMUM DIMENSIONS FOR THRUST BLOCKING NOTES										
FITTING SIZE	TEES AND PLUGS		90° BENDS		45° BENDS AND WYES		REDUCERS AND 22 1/2° BENDS		11 1/2° BENDS	
	A	B	A	B	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"	1'-7"	0'-6"	0'-6"	0'-6"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"	1'-9"	0'-10"	1'-0"	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"

NOTE:
1. SIZE BLOCKS SHALL BE A MINIMUM OF 6" THICK
2. ALL BLOCKING SHALL BEAR AGAINST UNDISTRIBUTED 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

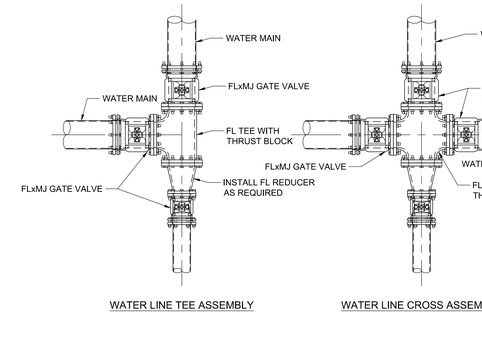


THRUST BLOCK DETAIL
NOT TO SCALE — TOJ W-111

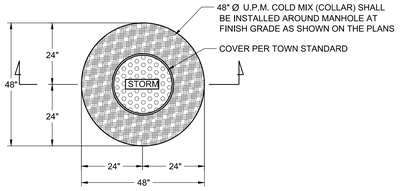


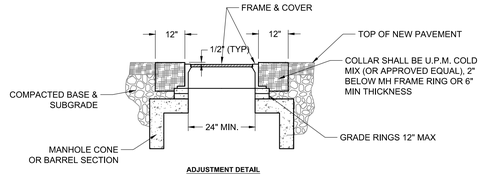
NOTE
1. ADJUST WATER VALVE BOX UPWARD OR DOWNWARD AS REQUIRED. FINAL ADJUSTMENT SHALL BE MADE AFTER PAVING AND BEFORE SEAL COATING
2. THE TOWN SHALL INSPECT THE VERTICAL ALIGNMENT BEFORE AND AFTER BACKFILLING.
3. MUD PLUGS ARE REQUIRED TO BE PLACED IN ALL VALVE BOXES

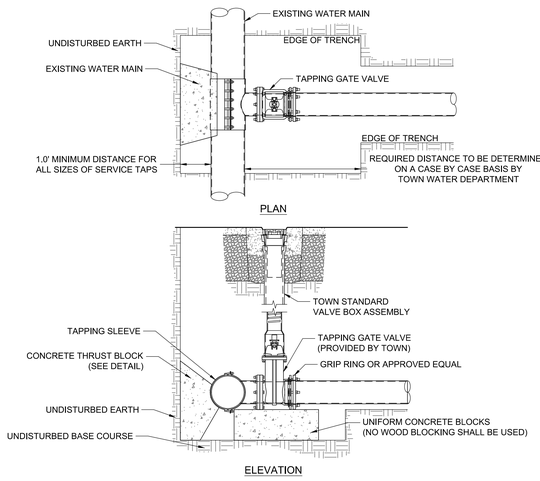
2 C6.2 WATER GATE VALVE DETAIL
NOT TO SCALE — TOJ W-106



3 C6.2 WATER TEE AND CROSS ASSEMBLY DETAIL
NOT TO SCALE — TOJ W-107





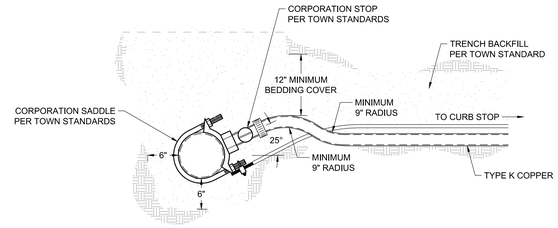


NOTE
1. THE TOWN SHALL COMPLETE THE TAPPING OF THE MAIN. NO OTHER PERSONS SHALL COMPLETE TAP WITHOUT CONSENT OF TOWN. ALL OTHER WATER MAIN WORK SHALL BE THE RESPONSIBILITY OF THE OWNER.
2. TRENCH WILL BE EXCAVATED TO MEET ALL WYOSHA STANDARDS PRIOR TO TAPPING.
3. EXCAVATION OF TAPPING LOCATION SHALL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

4 C6.2 WATER MAIN TAPPING DETAIL
NOT TO SCALE — TOJ W-118

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 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.

5 C6.2 STORM DRAIN MANHOLE AND VAULTADJUSTMENT & COLLAR DETAIL
NOT TO SCALE — TOJ STM-103



PROPERLY INSTALLED CORPORATION STOP WITH GOOSENECK IN SERVICE PIPE

3 C4.1 1" SERVICE LINE CONNECTION DETAIL
NOT TO SCALE — TOJ W-102

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KEYPLAN

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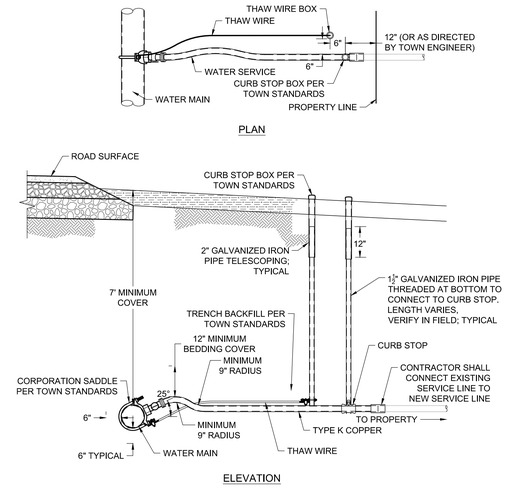
	PROGRESS SET	2021-11-16

Job Number 222011

TITLE
WATER DETAILS

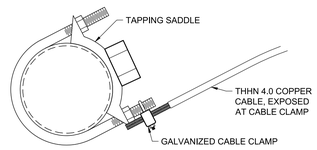
SHEET NUMBER
C7.0



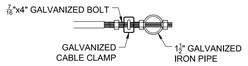
NOTE:

1. THAW WIRE TO BE INSTALLED ON ALL NEW AND EXISTING WATER SERVICES IN THE TOWN OF JACKSON.

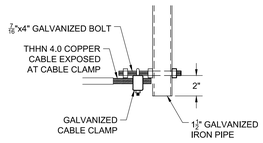
4 / C4.1 **1" SERVICE WITH THAW WIRE DETAIL**
NOT TO SCALE TOJ W-102/103



THAW WIRE-TAPPING SADDLE CONNECTION

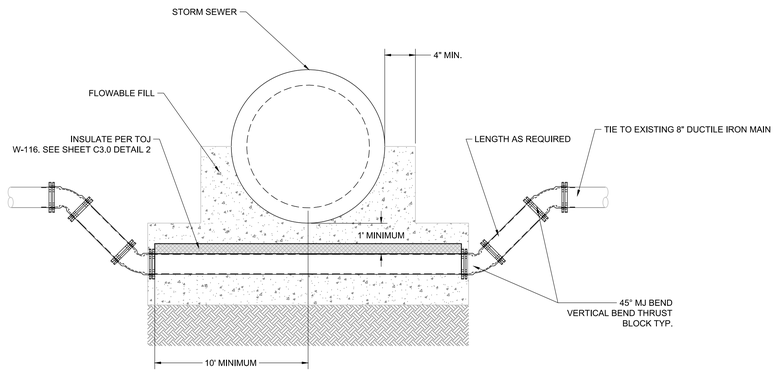


THAW WIRE BOX PLAN



THAW WIRE BOX ELEVATION

5 / C4.1 **SERVICE CONNECTION THAW WIRE DETAIL**
NOT TO SCALE TOJ W-104



NOTES:

1. WATER MAINS PASSING UNDER STORM SEWER LINES SHALL BE PROTECTED BY PROVIDING FLOWABLE FILL BETWEEN WATER AND SEWER LINES FOR ADDITIONAL SUPPORT.
2. FLOWABLE FILL SHALL BEAR ON UNDISTURBED SOIL AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 30 PSI TO 60 PSI. REFERENCE WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS SECTION 02510.
3. EXTEND FLOW FILL UNDER STORM SEWER 9' EITHER SIDE OF WATER CROSSING.
4. ALL FIITINGS SHALL HAVE STAINLESS STEEL OR CORROSIVE RESISTANT BOLTS AND BE "POLY WRAPPED".

1 / C3.5 **WATER MAIN VERTICAL DEFLECTION DETAIL**
NOT TO SCALE

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	PROGRESS SET	2021-11-16

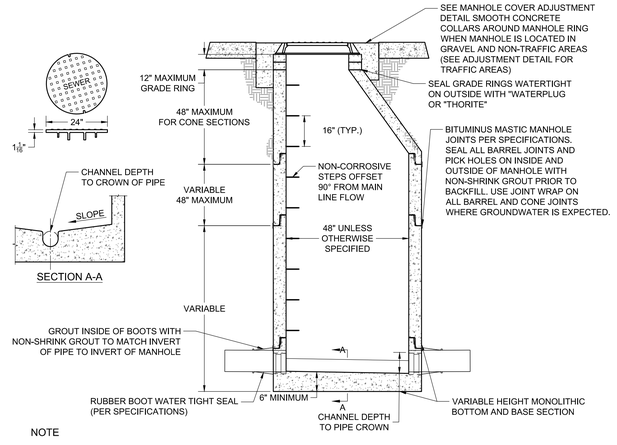
Job Number 222011

TITLE

WATER DETAILS

SHEET NUMBER

C7.1



NOTE

1. DROP ACROSS INVERT SHALL BE 0.10', UNLESS OTHERWISE NOTED. INVERT DROPS OF LESS THAN 0.10' AND FLAT GRADE SEWER CONSTRUCTION SHALL GET 2 COATS (RED THEN GRAY) SITKGUARD 62 EPOXY.
2. PRECAST CONCRETE MANHOLE BASES SHALL HAVE A MINIMUM THICKNESS OF 6".
3. MANHOLE BASES SHALL BE REINFORCED TO WITHSTAND THE DEAD LOAD OF THE MANHOLE STRUCTURE AND HS-20 AASHTO LIVE LOAD.
4. REINFORCEMENT FOR PRECAST SECTIONS SHALL BE AS PER ASTM C-478.
5. C.I. RING AND COVER HS-20-44 ONE VENT HOLE OR AS SHOWN ON PLAN SHEET.
6. MOUND CRUSHED GRAVEL BASE AROUND TOP OF MANHOLE AT ROAD SURFACING LOCATIONS.
7. ALL MANHOLE BASES, BARRELS, AND CONES SHALL BE VACUUM TESTED.

4 / C5.1 STANDARD MANHOLE DETAIL
NOT TO SCALE — TOJ SS-101

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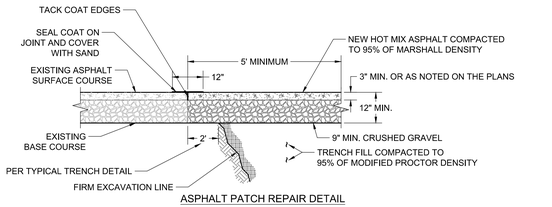
Job Number 222011

TITLE

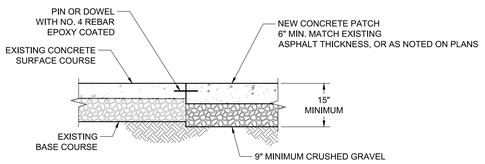
TYPICAL TRENCH DETAILS

SHEET NUMBER

C6.0



ASPHALT PATCH REPAIR DETAIL

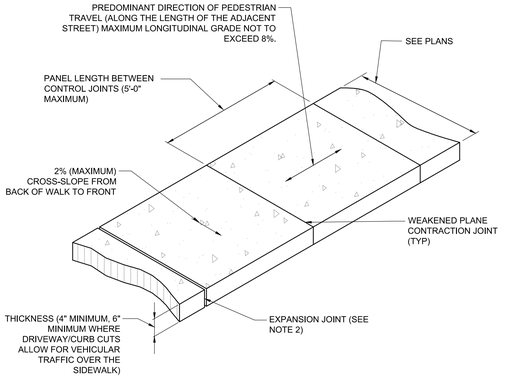


CONCRETE PATCH REPAIR DETAIL

NOTES:

1. REPLACEMENT ASPHALT SHALL BE 1" THICKER THAN EXISTING WITH A MINIMUM THICKNESS OF 3".
2. ASPHALT SHALL BE PLACED IN TWO (2) LIFTS, EACH NO LESS THEN 1½" IN THICKNESS, AND COMPACTED TO 95% OF MARSHALL DENSITY.
3. BITUMINOUS MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF SECTION 02545 BITUMINOUS MATERIAL OF WYOMING PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
4. PORTLAND CEMENT CONCRETE PAVEMENT SHALL MEET APPLICABLE REQUIREMENTS OF SECTION 02520, 02776 AND 03304 AS DIRECTED BY TOWN OF JACKSON PUBLIC WORKS DEPARTMENT.
5. PROVIDE 3' ASPHALT PATCH ADJACENT TO ANY CONCRETE CURB OR VALLEY GUTTER REMOVAL

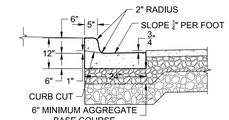
1 / C3.3 CONCRETE AND ASPHALT PATCH DETAIL
NOT TO SCALE — TOJ ST-118



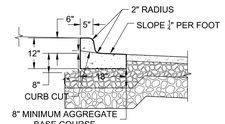
NOTES:

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.
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 SIX INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, GRADING H OR W, AND BE INSTALLED PER WPWSS SECTION 02231.

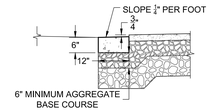
2 / C3.3 **SIDEWALK DETAIL**
NOT TO SCALE — TOJ ST-127



24" VERTICAL CURB



18" VERTICAL LIP CURB

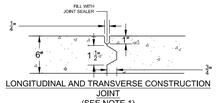


RIBBON CURB

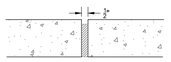
NOTES:

1. CURBS SHALL CONFORM TO WPWSS SECTION 02528. EXCEPT THAT PORTLAND CEMENT CONCRETE SHALL BE CLASS 4000 CONCRETE CONFORMING WITH WPWSS SECTION 03304.
2. AGGREGATE BASE COURSE SHALL BE SIX INCH MINIMUM THICKNESS, CONFORM TO WPWSS SECTION 02190, GRADING H OR W, AND BE INSTALLED PER WPWSS SECTION 02231.
3. REMOVAL AND REPLACEMENT OF CURB SHALL TAKE PLACE IN FULL PANELS.
4. VERTICAL CURB SHALL BE USED IN PREFERENCE TO ROLL CURB.

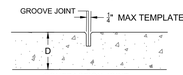
3 / C3.3 CURB SECTION DETAIL
NOT TO SCALE — TOJ ST-110



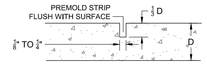
LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINT
(SEE NOTE 1)



EXPANSION JOINT
(SEE NOTE 2)



CONTRACTION JOINT
(SEE NOTE 3)

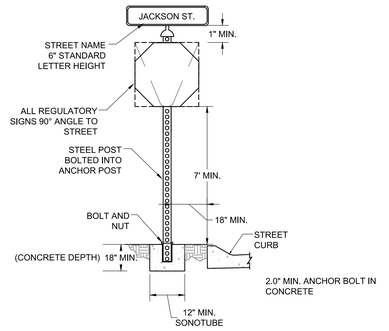


SAWED OR PREMOLDED STRIP LONGITUDINAL OR TRANSVERSE JOINT

NOTES:

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 EVER 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.**

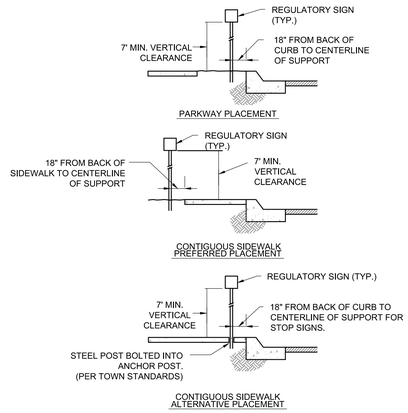
4 / C3.3 **PAVING AND CONCRETE JOINTS**
NOT TO SCALE — **TOJ ST-123**



NOTES:

1. ALL REGULATORY SIGNS SHALL BE DIAMOND GRADE .060" ALUMINUM.
2. SIZES SHALL MEET THE MIN REQUIREMENTS OF WYDOT AND MUTCD.
3. ALL OTHER SIGN FACE MATERIAL SHALL BE MIN. H.I.P. (HIGH INTENSITY PRIZMATIC) GRADE TYPES (REFLECTIVE)
4. POST SIZES & MATERIALS: POST-2" SQUARE PERFORATED STEEL POST POWDERCOATED BROWN., ANCHOR POST-2 ½" SQUARE SOLID STEEL ANCHOR POST. POSTS SHALL BE MIN. 12' IN HEIGHT AND SHALL BE TRIMMED OF EXCESS AFTER SIGN PLACEMENT.
5. HARDWARE-BOLTS & NUTS
6. STREET NAME SIGNS SHALL HAVE 6" WHITE LETTERING ON GREEN H.I.P. SHEETING, BE DOUBLE BLADED, AND BE NO LESS THAN 1" ABOVE STOP SIGNS AND/OR YIELD SIGNS.
7. MINIMUM EMBEDMENT OF ANCHOR POST SHALL BE 18" FROM GROUND LEVEL.
8. ALL SIGNS SHALL BE INSTALLED SUCH THAT THE FACE IS PERPENDICULAR TO THE DRIVE LANE.

5 / C3.3 **STREET SIGN DETAIL**
NOT TO SCALE — **TOJ ST-104**



NOTES:

1. HORIZONTAL CLEARANCES AROUND SIGNAGE SHALL CONFORM TO TOWN STANDARDS.
2. SIGNS SHALL BE INSTALLED SUCH THAT THE FACE IS PERPENDICULAR TO THE DRIVE LANE.

6 / C3.3 **SIGN PLACEMENT DETAIL**
NOT TO SCALE — **TOJ ST-105**

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Job Number 222011

TITLE

SITE DETAILS

SHEET NUMBER

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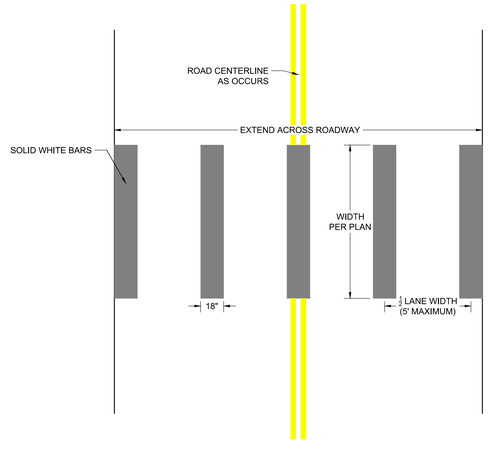
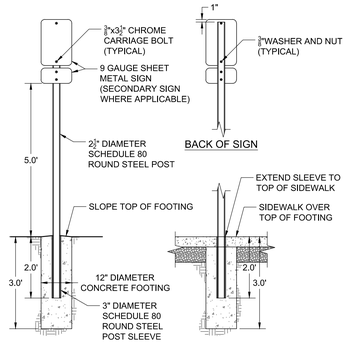


NOTE

1. TO REDUCE WEAR, SPACE CROSSWALK LINES TO AVOID VEHICLE WHEEL PATHS. GENERALLY LOCATE CROSSWALK LINES AT THE EDGE AND CENTER OF LANES.
2. ROAD AND PARKING LOT LINES SHALL BE 4" WIDE STANDARD STRIPING PAINT.

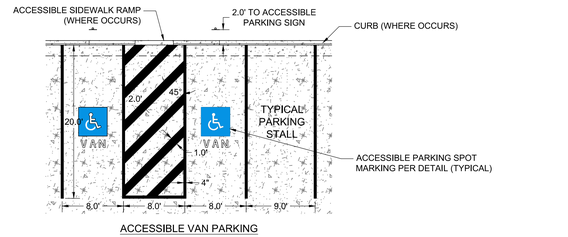
CROSSWALK DETAIL
NOT TO SCALE

SIGN GRAPHICS

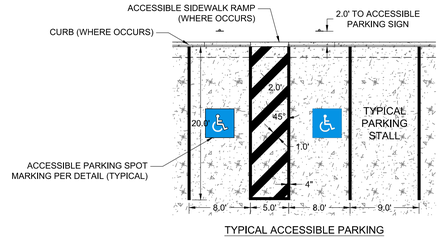


SIGN BASE SIGN BASE IN SIDEWALK

DET# / SHT# ACCESSIBLE PARKING SIGN DETAIL
NOT TO SCALE



ACCESSIBLE VAN PARKING



TYPICAL ACCESSIBLE PARKING

NOTE

1. PAVEMENT MARKINGS TO BE TYPE B, SOLID WHITE UNLESS OTHERWISE SPECIFIED.
2. PARKING DIMENSIONS PROVIDED ARE MINIMUM. SEE PLAN SHEETS TO FOR SITE SPECIFIC DIMENSIONS.

DET# / SHT# ACCESSIBLE PARKING STALL DETAIL
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TITLE

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SHEET NUMBER

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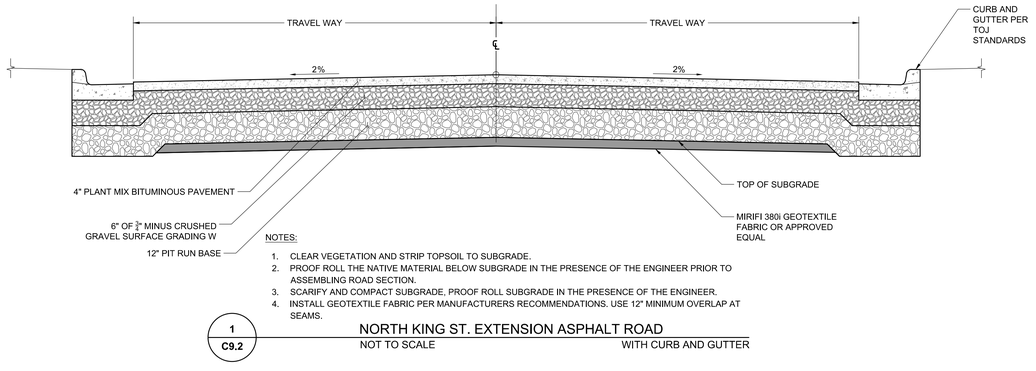

NOTES:

1. CLEAR VEGETATION AND STRIP TOPSOIL TO SUBGRADE.
2. PROOF ROLL THE NATIVE MATERIAL BELOW SUBGRADE IN THE PRESENCE OF THE ENGINEER PRIOR TO ASSEMBLING ROAD SECTION.
3. SCARIFY AND COMPACT SUBGRADE, PROOF ROLL SUBGRADE IN THE PRESENCE OF THE ENGINEER.
4. INSTALL GEOTEXTILE FABRIC PER MANUFACTURERS RECOMMENDATIONS. USE 12" MINIMUM OVERLAP AT SEAMS.

1 / C9.2 NORTH KING ST. EXTENSION ASPHALT ROAD
NOT TO SCALE WITH CURB AND GUTTER

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SECTION 4 – SUPPORTING INFORMATION

- **4.1 Geotechnical Engineering Report**
- **4.2 Comprehensive Plan: District 4.2 Northern Hillside**

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SECTION 5 – APPLICATION MATERIALS

- **5.1 Application**
- **5.2 Warranty Deed**
- **5.3 Pre-application Conference Checklist**

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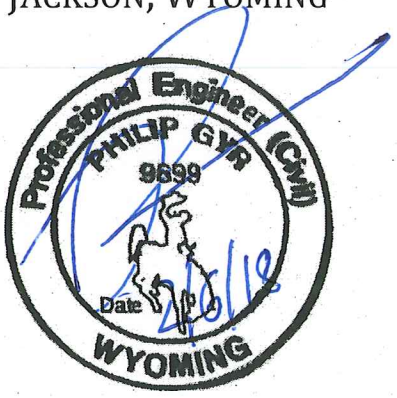
GEOTECHNICAL INVESTIGATION

TETON COUNTY/JACKSON
RECREATIONAL CENTER IMPROVEMENTS
JACKSON, WYOMING

PREPARED FOR:
TETON COUNTY/JACKSON
PARKS AND RECREATION DEPARTMENT
JACKSON, WYOMING

PREPARED BY:
NELSON ENGINEERING
JACKSON, WYOMING



FEBRUARY 2018
Project No. 15-197-01

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GENERAL AND PROJECT DESCRIPTION

This report pertains to a geotechnical investigation performed at the Teton County Recreation Center located at 155 East Gill Avenue in Jackson, Wyoming. The investigation is being conducted for the design and construction of additions and improvements to the existing center. Geotechnical recommendations contained herein are based on design development plans dated 10/09/15 prepared by Combs Dethlefs Architecture. Planned elements of the project include additional office and classroom areas, and additional gym, and expanded pool area facilities.

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 facility. The purpose of the subsurface investigation was to determine soils and groundwater characteristics. The results of the subsurface investigation and subsequent laboratory testing were utilized in an engineering analysis for foundation and paving recommendations. Slope stability analyses were not conducted, as it is our engineering judgment that the existing and proposed slope geometry and composition indicate stability. Specific recommendations for drainage and surface water conveyance were not within the scope of work for this report.

The foundation analysis and resulting recommendations contained herein are based on typical loads for the type of structures envisioned in the conceptual design. In the final design phase of the project, it will be critical that structural loads be properly communicated to the geotechnical engineer to verify that the imposed loading conditions on the proposed foundation configuration do not cause excessive settlement, exceed the bearing capacity of the site soils, or exceed the seismic loading capacity of the foundation elements. Lateral earth pressure recommendations contained within this report are general in nature; it is critical that final retaining wall designs are reviewed by the geotechnical engineer for review and approval. For this report, it is assumed that foundation elements would not be subjected to unusual loading conditions such as eccentric loads or vibratory equipment. Unusual load conditions can induce settlement or reduce the bearing capacity of foundation elements.

SITE CONDITIONS

Description

The existing facility was constructed in 1994 and is composed of both single story elements including office space, classrooms, and locker rooms plus higher roofed portions including the gymnasium and pool areas. The structure connects to the adjacent Jackson Elementary School. Lawns, trees, and asphalt parking areas compose the surrounding grounds. Various underground utilities traverse the site. Local topography slopes from southeast to northwest towards Flat Creek at about one percent descending.

Construction plans and the project geotechnical report (Inberg Miller Engineers, 1990) show the existing structure is composed of slab on grade flooring placed on structural fill and grade beam and driven pile foundations under walls and structural supports. Piles

were advanced through soft swamp deposits and bear on and within underlying dense, coarse-grained, alluvial soils.

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, 2003. Quaternary swamp deposits, described as "Q_s-Swamp Deposits-Clays, silt, and fine sand, dark-gray and brown, rich in vegetal debris," are mapped to the north of the project site. Flood plain deposits are mapped at the north/northwest portion of the site, and alluvial fan deposits are mapped at the south/southeast portion of the site. The surficial deposits are described as "Q_{fp}-Flood-Plain Deposits-Sand, silt, clay, and minor lenses of gravel" and "Q_f-Alluvial Fan Deposits-Water-laid gravel, sand, silt, and clay spreading out from mouths of ravines and canyons." Soil profiles observed in the borings consist of swamp deposits underlain by alluvial fan facies at depth. Alluvial fan deposits are described as "gravel, sand, silt and clay"; this description is similar to soils identified at depth in the borings.

The US Natural Resources Conservation Service's Soil Survey of Teton County has mapped the Greyback gravelly loam at the site. The soils are characterized as located on 0 to 3 percent slopes formed of alluvium and/or glaciofluvial deposits derived from igneous, metamorphic, and sedimentary rock. 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 and the project site are 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 Smith, Robert B., 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. The following active faults are mapped near the project site: the Teton Fault, Philips Canyon Faults, East Gros Ventre Faults, Cache Creek Thrust Fault, Jackson Thrust Fault, and secondary faults in 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 7.0 miles northwest of the site. Multiple minor earthquakes with epicenters near the site have occurred in recent years (USGS Earthquake Database).

SITE INVESTIGATIONS

Field Investigations

On October 5 and 6, 2015, six boreholes, BH-1 through BH-6, were advanced within the parcel. Borehole locations are shown on the Borehole Location Drawing in the Appendix. Boreholes were located with a Trimble GeoXT GPS unit. Borehole locations and depths were selected to determine subsurface conditions within the proposed building site.

IME of Riverton, Wyoming, drilled the boreholes with a Mobile B-57 truck mounted drill rig using an 8 inch outer-diameter hollow stem auger. Andy Pruett, a Professional Geologist at Nelson Engineering, logged the boreholes 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. Groundwater observations were made at the time of the excavation based on field observations of soil moisture conditions. Field observations and laboratory testing results are presented both on the boring logs and in the test result presentation 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.

Laboratory Investigations

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. Representative samples were selected for testing to determine the physical properties of the in-place soils and to estimate engineering properties. Engineering properties of concern at this location included bearing capacity, seismic response, shear strength, and site-specific construction recommendations that are influenced by soil type and condition.

Laboratory testing was conducted to provide additional information to determine the suitability of the soils for use as foundation and subgrade materials and to verify field observations and classification estimates. The finalized laboratory observations were used to estimate soil strength and compressibility characteristics for bearing capacity determinations, consolidation and settlement determinations, lateral and vertical pile load response analysis, and pavement designs. Specific tests included Atterberg Limits Tests - ASTM Designation D4318, Grain Size Analysis - ASTM Designation C117 & C136, Soil Moisture Content Determinations - ASTM Designation D2226, and Soil Classification - ASTM Designation D2487, One-Dimensional Consolidation – ASTM Designation D2435, Unconfined Compressive Strength – ASTM Designation D2166.

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

Soil profiles in each of the borings consisted of surficial clays and gravel deposits overlying lacustrine/swamp deposits overlying dense alluvial gravel and cobbles. Surficial soils consisted stiff to very stiff, moist clays, silts with occasional gravels in the upper 4 to 6 feet. Lacustrine deposits consisted of lenses soft to very stiff moist to saturated silts (ML), silty clays (CL-ML), lean clays (CL), sandy silts (ML), sandy clays (ML), clayey sands (SC), and gravels with sand and silt/clay (GW). Lacustrine/swamp soils appeared to be deposited as lens strata that varied in width, length, and thickness. Stratum thickness observed ranged from one inch to several feet. Standard penetration test corrected N corresponded to very soft to stiff consistency. Swamp deposits extended to 17.5 foot depth in BH-1, 18 foot depth in BH-2 and BH-4, 15 foot depth in BH-3 and BH-5, and to 13.5 foot depth in BH-6.

Underlying alluvium in the form of dense and very dense cobbles, gravels, and clayey gravels were encountered immediately below the softer fine grained swamp deposits in all of the borings. Gravels extended to the bottom depth of each boring at approximately 41.5 feet.

Groundwater

Groundwater was encountered in each of the borings. Saturated soils were first encountered at depths between 9 and 15 feet throughout the borings. Swamp deposits below this elevation were not uniformly saturated indicating that less permeable soils within the deposits form aquitards such that a continuous aquifer is not formed. A continuous aquifer is indicated in the underlying gravels and cobbles, which were saturated throughout.

Water levels measured in the monitoring wells on October 29, 2015 are given in Table 1 below:

Table 1: Approximate Groundwater Elevations 10/29/2015

BH #	Approximate G.S. ELEV. (ft.)	Water Depth BGS (ft.)	Water Surface Elevation
1	6225.1	10.9	6214.2
5	6227.5	13.3	6214.2

Groundwater elevation will rise seasonally and in response to snowmelt and after significant rainfall events. The magnitude of these fluctuations is estimated to be less than five feet, with peak elevation during wet years tracking the elevation of Flat Creek closely. Flat Creek flows highest during spring snowmelt and during irrigation season when water is diverted from the Gros Ventre River into the creek.

GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

Subsurface conditions encountered are typical of the mixed alluvial fan and swamp deposits found in the northern part of the Town of Jackson. The following sections discuss engineering analysis and construction recommendations for the project as depicted in the design development plan set.

Seismic Design Parameters

The 2015 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 and Latitude of 43.483° and Longitude of -110.759°.

Foundations

Deep foundation systems transferring structural loads to dense alluvial deposits are the appropriate foundation elements to support walls and roofs. Slabs-on-grade subjected to loading of less than 175 PSF can be supported by engineered fills with geogrid reinforcement (see Interior Slab on Grade Section below). Slabs-on-grade with loads exceeding 175 PSF should be supported on deep foundation systems. Deep foundation systems considered for this report are driven steel H-piles, driven pipe piles and helical piers. Drilled piers or caissons were not evaluated due to the high cost of advancing cased borings below the water table.

Driven H-Piles and Pipe Piles

AllPile© software was used to analyze several pile configurations. Software output files are provided in the Appendix. Other pile types and configurations may be considered by structural designers; load capacities should be evaluated by this office for each pile type. Recommended working load capacity, tip depth, and pile types evaluated are given in Tables 2 & 3. Other combinations of depth and pile type can be evaluated if requested. Settlement for individual piles at these working loads is estimated at less than 0.25 inches. A grade beam foundation system will be required to convey loads to driven piles. The recommendations and load limits given below are for specific pile sizes.

Table 2: Pile Analysis: Case 1 – Depth to Alluvium assumed 20-ft

PILE TYPE	PILE DEPTH (FEET)	ALLOWABLE COMPRESSIVE CAPACITY (KIP)[I]	ALLOWABLE UPLIFT CAPACITY (KIP)[II]
8-inch Concrete Filled Pipe**	25	42	7
10-inch Concrete Filled Pipe **	25	84	9
12-inch Concrete Filled Pipe**	25	87	13
12x53 H-Pile	25	24	14
14x74 H-Pile	25	29	15
14x89 H-Pile	25	36	19

**Assumed wall thickness for all pipe pile configurations is 0.25-inch. Pipe pile tips must be utilized.

[I] Allowable compressive capacity is calculated using the effective pile perimeter for side resistance, and the effective pile tip area for tip resistance. For the pipe pile configuration it is the circumference, and for the H-pile configuration it is rectangular excluding the inner web and flange dimensions.

[II] Allowable uplift capacity is calculated using the effective pile perimeter. For the pipe pile configuration it is the circumference, and for the H-pile configuration it is rectangular excluding the inner web and flange dimensions.

Table 3: Pile Analysis Case 2 – Depth to alluvium assumed 15-ft

PILE TYPE	PILE DEPTH (FEET)	ALLOWABLE COMPRESSIVE CAPACITY (KIP)	ALLOWABLE UPLIFT CAPACITY (KIP)[I]
8-inch Concrete Filled Pipe**	20	36	5
10-inch Concrete Filled Pipe **	20	67	6
12-inch Concrete Filled Pipe**	20	69	9
12x53 H-Pile	20	17	9
14x74 H-Pile	20	22	10
14x89 H-Pile	20	26	12

**Assumed wall thickness for all pipe pile configurations is 0.25-inch. Pipe pile tips must be utilized.

[I] Allowable compressive capacity is calculated using the effective pile perimeter for side resistance, and the effective pile tip area for tip resistance. For the pipe pile configuration it is the circumference, and for the H-pile configuration it is rectangular excluding the inner web and flange dimensions.

[II] Allowable uplift capacity is calculated using the effective pile perimeter. For the pipe pile configuration it is the circumference, and for the H-pile configuration it is rectangular excluding the inner web and flange dimensions.

Piles should be designed to resist lateral loading in the swamp soils using a modulus of horizontal sub-grade reaction of **30 PCI**, E_{20} of **2%**, and a modulus of subgrade reaction of **125 PCI** for the underlying gravels. Computations for lateral loading on piles shall consider seismic loading for both base shear at the pile cap and at the surface of the deep gravel deposits.

Actual pile load bearing capacity shall be determined by dynamic testing with signal matching for a minimum of 4 production piles to be located in roughly the four quadrants of the structure footprint. Contractor or Owner shall provide PDA analysis of proposed hammer and pile configuration to this office prior for review prior to mobilization. Dynamic testing shall be conducted both to ensure the contractors pile driving apparatus does not cause damage and to provide actual bearing capacity data to ensure design Factors of Safety are met. Piles should conform to all applicable material specifications in WYDOT Standard Specifications for Road and Bridge Construction. Dynamic testing shall be performed in general conformance with the most current WYDOT Specifications. Dynamic testing results shall be reviewed by this office prior to proceeding with production pile installation.

Helical Piers

Deep foundations utilizing helical piers can be expected to develop allowable axial loads of 25 to 50 kips. The industry standard, and a common Factor of Safety used in practice is 2.0 for helical pier capacities. Vertical, axially loaded helical piers do not have a sufficient section modulus to sustain lateral seismic loading. Therefore, later loading on the structure must be accommodated by battered helical piers. Battered helical piers would be installed at appropriate locations to provide lateral resistance for random seismic, directional loading. Placement of battered piers is dependent on the structural geometry and loading conditions. Helical piers systems should be installed by and experienced contractor specializing in helical pier installation according to manufacturer's specifications.

Pools and Pool Area Slabs-On-Grade

Pool bottoms shall be supported by either deep foundation systems transferring structural loads to dense alluvial gravel deposits or by continuous structural fills placed on underlying gravel deposits. Depending on the depth of pool bottoms, it may be more economical to excavate and remove soft soils down to gravel alluvium then backfill with structural fill to pool base than to install deep foundations. Dewatering of excavations will be a significant cost factor. Surrounding slabs areas in the wet pool environment should also be supported by deep foundation systems to reduce the risk of moisture infiltration into subgrades degrading slab performance.

Pool Excavation Dewatering

Dewatering plans should be submitted to this office for review and approval prior to construction. Dewatering should be sufficient to maintain a groundwater level one or two feet below the bottom of excavation during construction of the pool. Designers should consider installation of a permanent dewatering system in the pool area to allow for pool maintenance for pools with depths below groundwater.

Interior Slabs-On-Grade

Slab Loading Less than 175 PSF

Slab settlement of less than 0.4 inches will result for interior slab areas where loads do not exceed 175 PSF when placed the following section from top to bottom: **1)** a leveling course mat 6 inches in thickness composed of a ¾-inch minus free draining material (WYDOT Grade W or equivalent) compacted to a minimum of 95% of maximum density as determined by ASTM D 698, **2)** 24 inches of structural fill, and **3)** Tensar BX1200 geogrid or approved equivalent placed on native subgrade. Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill.

Slab Loading Greater than 175 PSF

Slabs with loading greater than 175 PSF shall be supported on deep foundations to prevent excessive total and differential settlement.

Lateral Earth Pressure

Pool sidewalls should be designed for lateral earth pressures assuming the walls will be backfilled with compacted structural fill per this report. We recommend that stem or sidewalls restrained from movement such that active earth pressures are will not be allowed to develop, an at-rest equivalent fluid pressure of **60PCF** 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 130 PCF, and 2) Internal Friction Angle= 32°, and 3) K_h of 0.12g (half of the maximum horizontal seismic acceleration in rock with a 10% exceedance in 50 years). The

more limiting case, at-rest or active seismic pressure, shall be utilized in the structural design of restrained or rigid retaining walls.

Sidewalks and Exterior Slabs

Sidewalks and exterior concrete slabs for foot traffic shall be placed upon a minimum of 4 inches of ¾-inch minus crushed gravel placed upon 1 foot of structural fill. Any fill required to increase the elevation of slabs should meet the requirements for granular structural fill. (Refer to the section on structural fill for requirements). Any excessively loose material or soft spots encountered in slab subgrade will require over-excavation and backfilling with structural fill. 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

One section is for existing paved areas, the other for newly paved portions of the site:

Pavement Section Components	Existing Paved Areas	Newly Paved Areas
Asphaltic Concrete	3 inches	3 inches
WYDOT Grade W Crushed Base Aggregate	6 inches	6 inches
Structural Fill Subbase	N/A	14 inches
Geotextile Fabric	N/A	Mirafi 160N Nonwoven Geotextile Placed on Compacted Subgrade. Or approved equivalents
Compacted Subgrade	Surficial 8 inches of native soil compacted as much as moisture and subgrade conditions permit	

CONSTRUCTION CONSIDERATIONS

Earthwork and Site Grading

Excavation work and heavy equipment access will be difficult due to soft to very soft 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 will be required to provide construction access and to provide platforms for equipment.** 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.

- Sandy clay, clayey sand, clay, and silt soils will be encountered throughout the excavations. These soils will exhibit undesirable engineering properties when wetted. **Every effort shall be made to ensure that moisture from rainfall and groundwater does not infiltrate foundation bearing, slab, and roadway subgrade soils during the entire construction period until backfilling is complete.** Measures to prevent moisture infiltration may include the placement of tarps or membranes; maintain grading during construction to drain storm water from exposed excavations during precipitation and snowmelt events, and others. In the event that moisture has been allowed to infiltrate 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 imported gravels (USCS classification GW or GP) with the following characteristics:

Sieve Designation	Percent Passing
4”	100
¾-inch	60-100
#4	30-50
#200*	<10

***Fines shall have a PI of less than 15.**

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.

If structural fill shall be placed to achieve the required subgrade elevation beneath footings where required. In areas where structural fill placement is necessary to achieve grade, a minimum of 2 feet of surficial soils shall be excavated and removed prior to placing structural fill. Structural fill shall extend

horizontally beyond the perimeter of all footers or slabs a minimum of 2 feet or a distance equal to the total depth of structural fill, whichever is less. Structural fill placed above the existing ground surface to achieve footing grade, beyond the 2-foot minimum level from the footings, shall have a maximum slope of 1.5(H):1(V).

- 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

It is critical that the structural engineer and other project designers review this report. When project plans and specifications are complete, a consultation with this office should be arranged to ensure compliance with this report. Additional or supplementary recommendations concerning foundations and earthwork may be required at this time. 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 Teton County/Jackson Parks and Recreation in Jackson, Wyoming ("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 Teton County/Jackson Parks and Recreation, 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.

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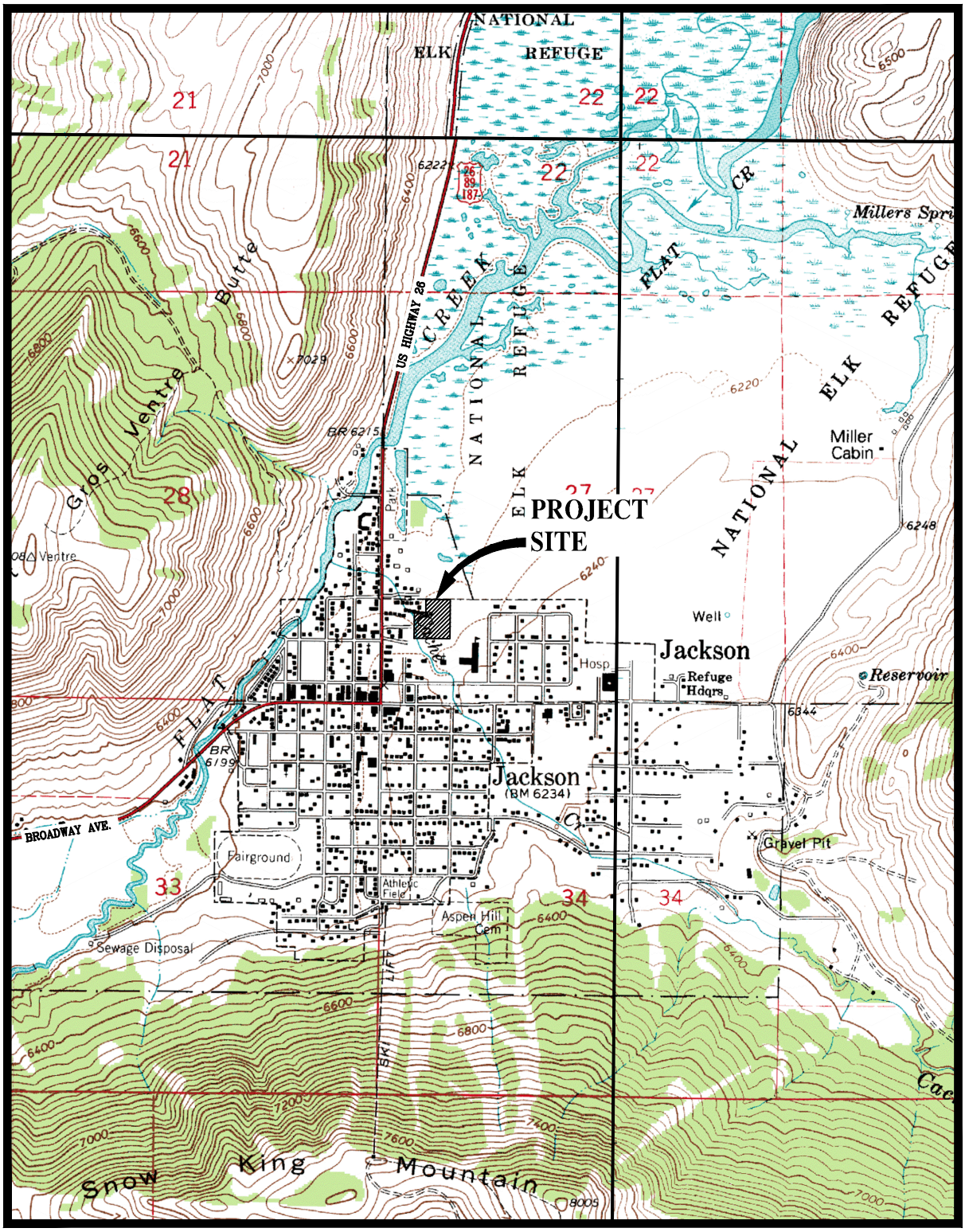
Geotechnical Engineer

Reviewed By:
Philip Gyr, PE
Sr. Geotechnical Engineer

APPENDIX

DRAWINGS



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VICINITY MAP

SCALE: 1"=2000'

DRAWING NO 1	TITLE: SITE VICINITY MAP TC/JACKSON RECREATION CENTER GEOTECHNICAL INVESTIGATION	NELSON ENGINEERING P.O. BOX 1599, JACKSON WYOMING (307) 733-2087	DATE	02/06/2018	REV.
JOB NO 15-197-01			SURVEYED	N/A	
			DRAWN	AP	
			CHECKED	BR	
			APPROVED	PG	

PROPERTY BOUNDARIES AND AERIAL PHOTOGRAPHY FROM 2015 PROVIDED BY TETON COUNTY GIS. SITE SURVEY COMPLETED BY JORGENSEN ASSOCIATES. BOREHOLES LOCATED WITH HANDHELD GPS UNIT WITH ±5 FEET ACCURACY.

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

DATE	02/06/2018	REV.
SURVEYED	JE	
ENGINEERED	AP	
DRAWN	AP	
CHECKED	BR	
APPROVED	PG	

DRAWING TITLE: BOREHOLE LOCATION MAP

JOB TITLE: TETON COUNTY/JACKSON RECREATION CENTER IMPROVEMENTS GEOTECHNICAL INVESTIGATION

DRAWING NO: 2

JOB NO: 15-197-01

S:\Proj\2015\197-01 (Teton County Recreation Center Improvements)\Rec Center TPLOCMAP.dwg (22x34 or 11x17) - Feb 06 2018 04:51:40 pm PLOTTED BY: rushing DWG FORMAT: 21.0

BORING LOGS

GEOTECHNICAL GENERAL NOTES

CORRECTED SPT: Standard Penetration Test values corrected to 60% of the theoretical free-fall hammer energy and for corrected for overburden pressure per AASHTO LRFD 6th ED Article 10.4.6.2.4.

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

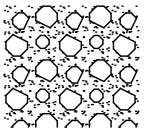
SOIL RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

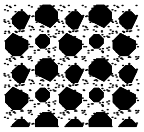
Non-Cohesive Soils	Standard Penetration Resistance	Cohesive Soils	Pp-(tons/ft^2)
Very Loose	0 - 4	Very Soft	0 - 0.25
Loose	4 - 10	Soft	0.25 - 0.50
Slightly Compact	8 - 15	Firm (Medium)	0.50 - 1.00
Medium Dense	10 - 30	Stiff	1.00 - 2.00
Dense	30 - 50	Very Stiff	2.00 - 4.00
Very Dense	50+	Hard	4.00+

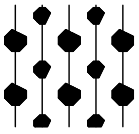
PARTICLE SIZE

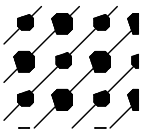
Boulders:	12 in.+	**Coarse Sand:**	5 mm(#4)-2 mm(#10)	**Silts and Clays: <#200**
Cobbles:	12 in.-3in.	**Medium Sand:**	2 mm(#10)-0.4mm(#40)	
Gravel:	3in.-5mm(#4)	**Fine Sand:**	0.4mm(#40)-0.075mm(#200)	

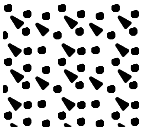
SOIL GRAPHICS

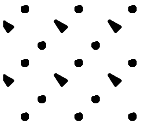
GW 

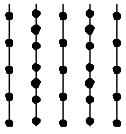
GP 

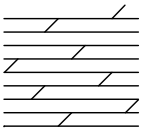
GM 

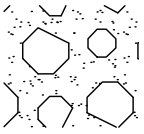
GC 

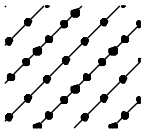
SW 

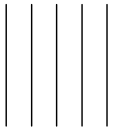
SP 

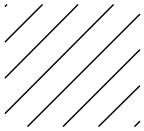
SM 

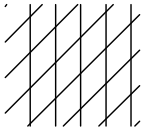
BEDROCK 

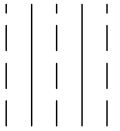
COBBLES/BOULDERS 

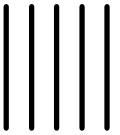
SC 

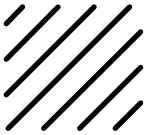
ML 

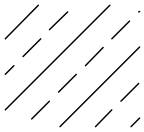
CL 

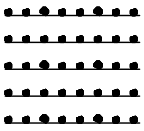
ML–CL 

OL 

MH 

CH 

OH 

PT 

NOTE: ANGLED DEMARCATIONS ON THE LOGS INDICATE APPROXIMATE OR POORLY DEFINED BOUNDARIES BETWEEN SOIL TYPES.

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PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. BH-1**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/5/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	

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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												BH LOCATED ON A GRASSY LANDSCAPED ISLAND ADJACENT TO ENTRANCE OF REC CENTER
2												
3	1 3 5			BH1-1 2" SS	122	2.5'–4.0' 0"–12" MOIST BROWN POORLY GRADED SAND 12"–22" MOIST DK BROWN SILT, STIFF			20			
4												
5				BH1-2 3" ST	75	~400 LBS MAX DOWNWARD FORCE APPLIED TO SHELBY TUBE 5.0'–7.0' MOIST DK BROWN LEAN CLAY, MEDIUM TO HIGH PLASTICITY, TRACE SALT SEAMS				86	23	FAST EASY DRILLING FROM 0'–17.5'
6												
7												
8	1 1 1			BH1-3 2" SS	106	7.5'–9.0' MOIST TO WET BROWN LEAN CLAY WITH SAND, SOFT, FREE WATER OBSERVED AT 8'			4			
9												
10	0 1 2			BH1-4 2" SS	100	10.0'–11.5' SAME AS ABOVE, MOIST, SOFT TO MEDIUM STIFF SATURATED FINE GRAINED SAND IN TIP OF SPOON			6			GROUNDWATER MEASURED AT 10.9' BGS ON 10/29/2015
11												
12												
13												
14												
15	0 0 2			BH1-5 2" SS	111	15.0'–16.5' MOIST TO WET DK BROWN/DK GRAY LEAN CLAY WITH SAND, SOFT, MINOR ROTTEN ORGANIC SWAMP DEBRIS			4			
16												
17												
18												
19												EASY TO MODERATE DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 17.5'–27.5'
20	7 15 20			BH1-6 2" SS	56	20.0'–21.5' SATURATED BROWN GRAVEL WITH SAND AND MINOR CLAY, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, DENSE			59			
21												

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-1** PAGE: **2 OF 2**

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
		22												EASY TO MODERATE DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 17.5'–27.5'
		23												
		24												
		25	2					6" HEAVE ABOVE SAMPLE						
		26	23			BH1-7 2" SS	72	25.0'–26.5' 0"–5" SAND HEAVE 5"–13" BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, DENSE			76			
			25											
		27												
		28												
		29												27.5'–32.5' MODERATE TO HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING
		30	17											
		31	32			BH1-8 2" SS	72	30.0'–31.5' SAME AS ABOVE, COARSER GRAVELS, VERY DENSE			106		13	
			39											
		32												
		33												
		34												
		35												
		36												
		37												32.5'–BOH HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING
		38												
		39												
		40	22					40.0'–41.5' 0"–10" SAND HEAVE						
		41	29			BH1-9 2" SS	117	10"–24" BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			88			
			36					BOH=41.5'						
		42						MONITORING WELL INSTALLED LOP=29.75' 1.5" SCHEDULE 40 PVC PERFORATIONS EVERY 6" FROM 5'–28' STICKUP=1.75'						
		43												
		44												

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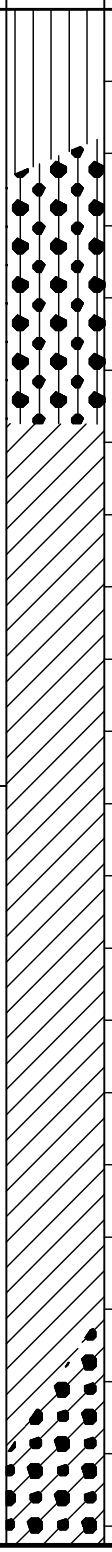
CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. BH-2**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/6/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	



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						C.I. 0'–2' MOIST BROWN SILT TOPSOIL						BH LOCATED ON A GRASSY LAWN AREA NORTH OF REC CENTER
2												BIT GRINDING AT 2'
3	4			BH2-1 2" SS	83	2.5'–4.0' MOIST DK BROWN GRAVELLY SILT/SILTY GRAVEL, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			96			
4	16											
5	23											HEAVY BIT GRINDING AT 4.5'
6	7			BH2-2 2" SS	100	5.0'–6.5' 0"–9" SAME AS ABOVE 9"–18" MOIST DK BROWN LEAN CLAY WITH GRAVEL AND SAND, VERY STIFF			31			
7	6											
8	8											FAST EASY DRILLING FROM 5'–18'
9												
10	1			BH2-3 2" SS	100	10.0'–11.5' SAME AS ABOVE WITH CLAYEY SAND LENSES, SOFT TO MEDIUM STIFF, SOILS BECOME WET AT 7"			6			GROUNDWATER ENCOUNTERED AT 10.75' WHILE DRILLING
11	1											
12	2											
13												
14												
15	1			BH2-4 2" SS	100	15.0'–16.5' SAME AS ABOVE, WET, BROWN, SOFT			4			
16	1											
17	1											
18												MODERATE DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 18'–23'
19												
20	5			BH2-5 2" SS	50	20.0'–21.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, MEDIUM DENSE			25			
21	5											
	10											

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-2** PAGE: **2 OF 2**

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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												*MODERATE DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 18'–23'*
		23												
		24												
		25												
		26												
		27												
		28												
		29												
		30												
		31												*23'–BOH HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING*
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40	34			BH2–6 2" SS	67	*40.0'–41.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, VERY DENSE*			85			
		41	33											
			31					*BOH=41.5'*						
		42												
		43												
		44												

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. BH-3**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/5/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	

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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						C.I. 0'–0.5' SILT TOPSOIL 0.5'–1.5' GRAVEL WITH SAND FILL						BH LOCATED IN A GRASSY LAWN AREA BETWEEN REC CENTER AND SCHOOL
		2												
		3	3			BH3-1 2" SS	33	2.5'–4.0' MOIST DK BROWN LEAN CLAY WITH MINOR GRAVEL, VERY STIFF			25			
		4	7											
		5	2											FAST EASY DRILLING FROM 1.5'–15'
		6	4			BH3-2 2" SS	83	5.0'–6.5' MOIST DK BROWN LEAN CLAY, USCS CLASSIFICATION–CL, STIFF, MINOR WHITE CALCAREOUS STRINGERS THROUGHOUT	36	21	17		24	
			4											
		7												
		8												
▽		9												GROUNDWATER ENCOUNTERED AT 9' WHILE DRILLING
		10		1		BH3-3 3" DM	75	10.0'–11.5' SAME AS ABOVE, MOIST TO WET, SOFT, ABUNDANT GRAVELS IN TOP OF DM SAMPLER, NO GRAVELS IN BOTTOM OF DM SAMPLER			4			
		11		3										
		12												
		13												
		14												
		15		X		BH3-4 3" ST	50	~900 LBS MAX DOWNWARD FORCE APPLIED TO SHELBY TUBE, LARGE GRAVEL ENCOUNTERED AT 15.5', PROGRESS STOPPED AT 16' DUE TO HARD STRATUM 15.0'–16.0' CLAYEY GRAVEL IN TOP AND BOTTOM OF ST						
		16		X										
		17												
		18												EASY TO MODERATE DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 15'–22'
		19												
		20	4					3" HEAVE BEFORE SAMPLE						
		21	19 25			BH3-5 2" SS	56	20.0'–21.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, DENSE			72			

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-3** PAGE: **2 OF 2**

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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'–30' MODERATE TO HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING*
		23												
		24												
		25												
		26												
		27												
		28												
		29												
		30	33			BH3–6 2" SS	122	*30.0'–31.5' 0"–10" SAND HEAVE* *10"–22" SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, VERY DENSE*			125			
		31	36											
			50											
		32												
		33												
		34												
		35												
		36												
		37												*30'–BOH HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING*
		38												
		39												
		40	28			BH3–7 2" SS	133	*40.0'–41.5' 0"–10" SAND HEAVE* *10"–24" SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, VERY DENSE*			81			
		41	31											
			30					*BOH=41.5'*						
		42												
		43												
		44												

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

CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. BH-4**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/6/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	

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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
		0						C.I. 0'–1' MOIST DK BROWN SILT TOPSOIL						BH LOCATED ON A GRASSY LAWN AREA SOUTHWEST OF REC CENTER
		3	3			BH4-1 2" SS	100	2.5'–4.0' MOIST DK BROWN LEAN CLAY WITH MINOR GRAVEL AND SAND, VERY STIFF			29			
		4	4											
		8	8											FAST EASY DRILLING FROM 0'–18'
		5	1			BH4-2 2" SS	78	5.0'–6.5' SAME AS ABOVE, MEDIUM STIFF, CLAYEY SAND LENS FROM 10"–12"			11			
		6	2											
			3											
		10		1		BH4-3 3" DM	83	10.0'–11.5' SAME AS ABOVE, SOFT, MOIST ON TOP, WET ON BOTTOM, OCCASIONAL CLAYEY SAND LENSES			3			
		11		2										
		12												GROUNDWATER ENCOUNTERED BETWEEN 11' AND 15' WHILE DRILLING
		13												
		14												
		15	0			BH4-4 2" SS	106	15.0'–16.5' SATURATED BROWN LEAN CLAY, USCS CLASSIFICATION–CL, SOFT	27	19	3		26	
		16	1											
			1											
		17												
		18												MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 18'–25'
		19												
		20	9			BH4-5 2" SS	39	20.0'–21.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, MEDIUM DENSE			26			
		21	9											
			7											

NELSON ENGINEERING
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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-4** PAGE: **2 OF 2**

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
		22												*MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 18'–25'*
		23												
		24												
		25												
		26												
		27												
		28												
		29												
		30												
		31												*25'–BOH HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING*
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40	8					*40.0'–41.5' 0"–6" SAND AND GRAVEL HEAVE*						
		41	37			BH4–6 2" SS	78	*6"–14" SATURATED BROWN CLAYEY GRAVEL WITH SAND, WELL GRADED, ANGULAR TO ROUND GRAVELS, FILGC, VERY DENSE*			85			
			28					*BOH=41.5'*						
		42												
		43												
		44												

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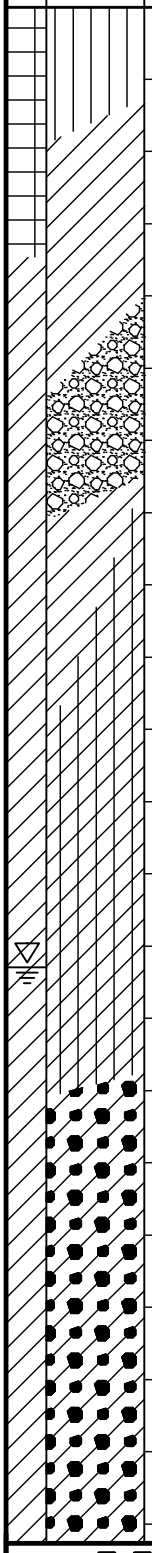
CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. BH-5**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/6/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	



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.						
0						C.I. 0'–0.5' SILT TOPSOIL 0.5'–1.5' GRAVELLY SILT						BH LOCATED IN A GRASSY LAWN AREA SOUTH OF REC CENTER
3	3 5 6			BH5-1 2" SS	94	2.5'–4.0' MOIST TO DRY DK BROWN LEAN CLAY WITH MINOR GRAVELS AND SAND, VERY STIFF			27			FAST EASY DRILLING FROM 1.5'–15'
5	6 10 6			BH5-2 2" SS	61	5.0'–6.5' 0"–3" SAME AS ABOVE 3"–11" MOIST BROWN GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, WELL GRADED, MEDIUM DENSE			35			D.R. GRAVELLY STRATUM 4'–6.5'
10				BH5-3 3" ST	92	~400 LBS MAX DOWNWARD FORCE APPLIED TO SHELBY TUBE 5.0'–7.0' SATURATED ORANGE BROWN SILTY LEAN CLAY, LOW PLASTICITY, TRACE SAND, VERY SOFT				103	23	
12												GROUNDWATER MEASURED AT 13.3' BGS ON 10/29/2015
15	8 13 13			BH5-4 2" SS	61	15.0'–16.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, MEDIUM DENSE			44			
18												HARD DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 15'–BOH
20	16 23 50			BH5-6 2" SS	100	1.5' HEAVE BEFORE SAMPLE 20.0'–21.5' 0"–8" SAND HEAVE 8"–18" SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			117			

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-5** PAGE: **2 OF 2**

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
		22												
		23												
		24												
		25												
		26												
		27												HARD DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 15'-BOH
		28												
		29												
		30	15			BH5-6 2" SS	78	1' HEAVE ABOVE SAMPLE 30.0'-31.5' 0"-4" SAND HEAVE 4"-14" SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			109			
		31	37											
			39											
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40	13			BH5-7 2" SS	61	40.0'-41.5' SAME AS ABOVE, VERY DENSE			77			
		41	29											
			30					BOH=41.5'						
		42						MONITORING WELL INSTALLED LOP=43' 1.5" DIAMETER PVC SLOTS EVERY 6" FROM 3.5'-40.25' STICKUP=2.75'						
		43												
		44												

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS**	**DRILL HOLE No. 6**	PAGE: **1 OF 2**
DATE STARTED / FINISHED: **10/6/2015**	DRILLER: **IME**	
LOGGED BY: **PRUETT**	DRILL TYPE: **MOBILE B-57**	
BOREHOLE LOCATION/ELEVATION: **SEE BORING LOCATION MAP**	HOLE DIAMETER: **8" OD HSA**	
	HAMMER TYPE: **140# AUTO**	

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
1						C.I. 0'–0.5' SILT TOPSOIL 0.5'–2.5' GRAVEL WITH SAND FILL						BH LOCATED IN A GRASSY LAWN AREA BETWEEN CURB AND SIDEWALK AT SOUTHEAST CORNER OF REC CENTER
2												
3	4 5 6			BH6-1 2" SS	83	2.5'–4.0' MOIST DK BROWN LEAN CLAY WITH SAND AND MINOR GRAVEL, VERY STIFF			27			BIT GRINDING FROM 0.5'–2.5'
4												
5	1			BH6-2 2" SS	67	5.0'–6.5' SAME AS ABOVE, MEDIUM STIFF, ½" DIAMETER ROOT RETURNED			9			FAST EASY DRILLING FROM 2.5'–13.5'
6	2 2											
7												
8												
9												
10 ▽		2		BH6-3 3" DM	83	10.0'–11.5' 0"–4" SAME AS ABOVE 4"–10" SAME AS ABOVE, BROWN AND SATURATED, OCCASIONAL CLAYEY SAND LENSES, SOFT			4			GROUNDWATER ENCOUNTERED AT 10.5' WHILE DRILLING
11	2											
12												
13												
14												
15	10			BH6-4 2" SS	22	15.0'–16.5' SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, DENSE			74			
16	20 21											
17												
18												MODERATE TO HARD DRILLING WITH CONSTANT BIT GRINDING IN GRAVELS FROM 13.5'–22'
19												
20	11			BH6-6 2" SS	61	20.0'–21.5' SAME AS ABOVE, DENSE			75			
21	21 24											

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

PROJECT NAME: **TC/JACKSON REC CENTER IMPROVEMENTS** **DRILL HOLE No. BH-6** PAGE: **2 OF 2**

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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'-BOH HARD DRILLING IN GRAVELS AND COBBLES WITH CONSTANT BIT GRINDING
		23												
		24												
		25												
		26												
		27												
		28												
		29												
		30	5					30.0'-31.5' 0"-1" SAND HEAVE						
		31	28			BH6-6 2" SS	72	1"-13" SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			93			
			35											
		32												
		33												
		34												
		35												
		36												
		37												
		38												
		39												
		40						1' HEAVE BEFORE SAMPLE						
			33					40.0'-41.5' 0"-13" SAND HEAVE						
		41	35			BH6-7 2" SS	117	13"-21" SATURATED BROWN CLAYEY GRAVEL WITH SAND, ROUND TO ANGULAR GRAVELS, FILGC, VERY DENSE			>50			
			50/5.5"					BOH=41.5'						
		42												
		43												
		44												

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CLIENT: **TETON COUNTY/JACKSON PARKS AND RECREATION JACKSON, WYOMING**

LABORATORY RESULTS

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USCS CLASSIFICATION

Sample ID: BH3-2 Depth (ft): 5'-6.5'

Unified Soils Classification
Lean Clay (CL)

Gravel	**0%**
Sand	**11%**
Fines	**89%**

Liquid Limit:	**36**
Plastic Limit:	**21**
Plasticity Index:	**15**

In-Situ Moisture Content	**23.9%**

Standard Sieve No.	Particle Size (mm)	Tare Weight (g)	Sample + Tare (g)	Sample Weight (g)	Cumulative % Retained	Percent Passing
1.5"	38	200.7	200.7	0.0	0%	100%
1"	25	200.7	200.7	0.0	0%	100%
3/4"	18.75	200.7	200.7	0.0	0%	100%
3/8"	9.5	200.7	200.7	0.0	0%	100%
#4	4.75	200.7	200.7	0.0	0%	100%
#10	2.00	200.7	201.2	0.5	0%	100%
#40	0.425	200.7	204.7	4.0	3%	97%
#100	0.15	200.7	205.3	4.5	5%	95%
#200	0.075	200.7	211.6	10.8	11%	89%
Pan	0	200.7	355.6	154.9	100%	0%
		Total Weight of Sample (g)		**174.7**		

Moisture Content	
Wet Wt + Tare (g)	387.9
Dry Wt. + Tare (g)	346.1
Wt of Water (g)	41.8
Tare Wt. (g)	171.4
Dry Wt. (g)	174.7
Moisture Content	23.9%
Wash	
Wet Wt. + Tare (g)	387.9
Pre Wash Dry (g)	174.7
Post Wash Dry (g)	19.8
Tare Wt. (g)	171.4
Wt.Of Minus #200 =	154.9

Project:	TC/Jackson Recreation Center
Job Number	15-197-01
Visual ID:	Dark Brown Clay

Sampled By:	AP
Date:	10/6/2015
Tested By:	AP
Date:	10/28/2015

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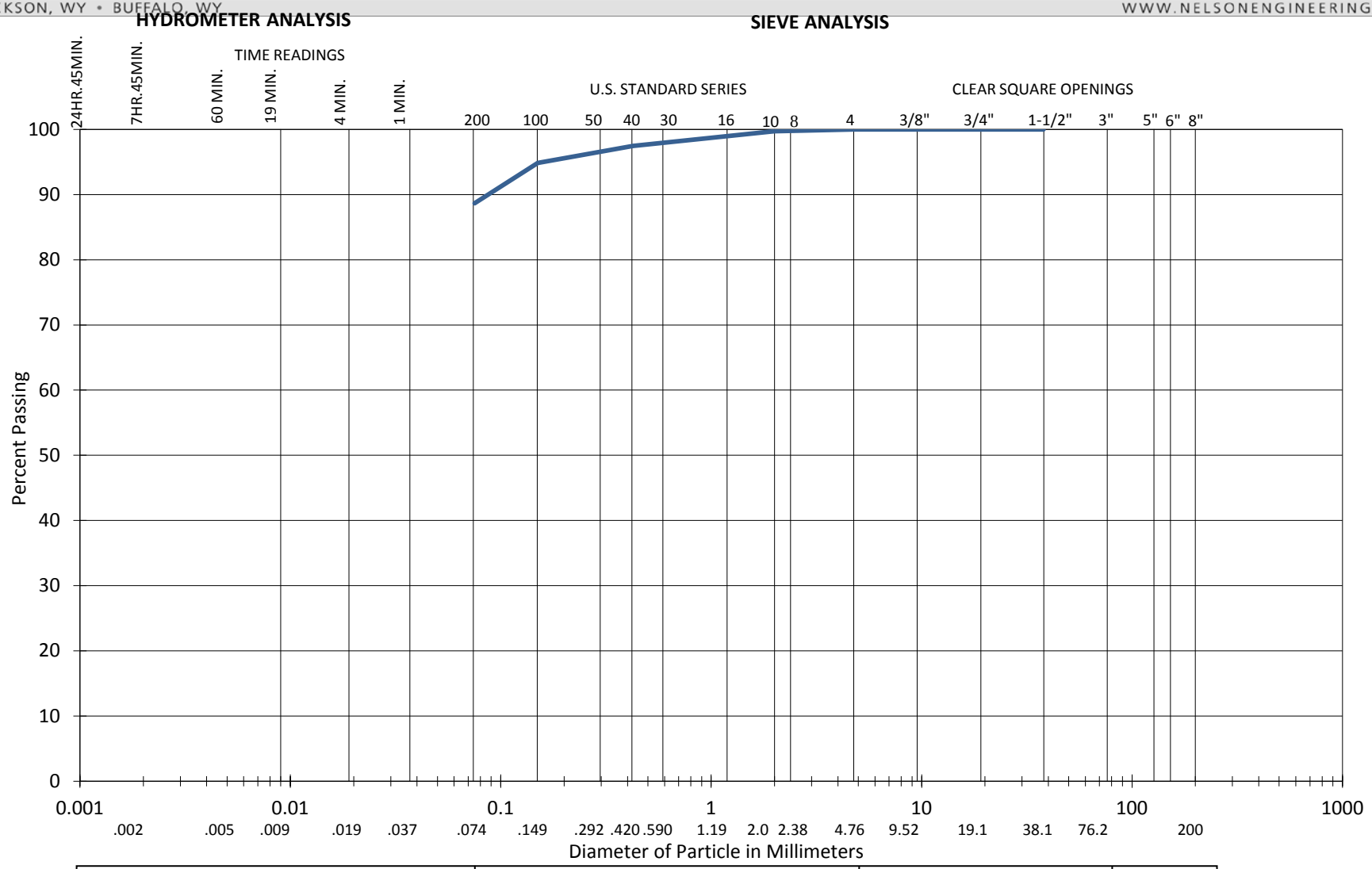
USCS CLASSIFICATION SIEVE CHART



CLAY (plastic) TO SILT (non-plastic)	SAND			GRAVEL		COBBLES
	FINE	MEDIUM	COARSE	FINE	COARSE	

BH3-2

TC/Jackson Recreation Center

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USCS CLASSIFICATION

Sample ID: BH4-4 Depth (ft): 15'-16.5'

Unified Soils Classification
Lean Clay (CL)

Gravel	**0%**
Sand	**8%**
Fines	**91%**

Liquid Limit:	**27**
Plastic Limit:	**19**
Plasticity Index:	**8**

In-Situ Moisture Content	**25.9%**

Standard Sieve No.	Particle Size (mm)	Tare Weight (g)	Sample + Tare (g)	Sample Weight (g)	Cumulative % Retained	Percent Passing
1.5"	38	200.8	200.8	0.0	0%	100%
1"	25	200.8	200.8	0.0	0%	100%
3/4"	18.75	200.8	200.8	0.0	0%	100%
3/8"	9.5	200.8	200.8	0.0	0%	100%
#4	4.75	200.8	201.7	0.9	0%	100%
#10	2.00	200.8	201.9	1.1	1%	99%
#40	0.425	200.8	202.5	1.7	1%	99%
#100	0.15	200.8	204.0	3.3	2%	98%
#200	0.075	200.8	220.7	19.9	9%	91%
Pan	0	200.8	485.9	285.2	100%	0%
		Total Weight of Sample (g)		**312.1**		

Moisture Content	
Wet Wt + Tare (g)	563.9
Dry Wt. + Tare (g)	482.9
Wt of Water (g)	81.0
Tare Wt. (g)	170.8
Dry Wt. (g)	312.1
Moisture Content	25.9%
Wash	
Wet Wt. + Tare (g)	563.9
Pre Wash Dry (g)	312.1
Post Wash Dry (g)	27.0
Tare Wt. (g)	170.8
Wt.Of Minus #200 =	285.2

Project:	TC/Jackson Recreation Center
Job Number	15-197-01
Visual ID:	Brown Clay

Sampled By:	AP
Date:	10/6/2015
Tested By:	AP
Date:	10/28/2015

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USCS CLASSIFICATION SIEVE CHART

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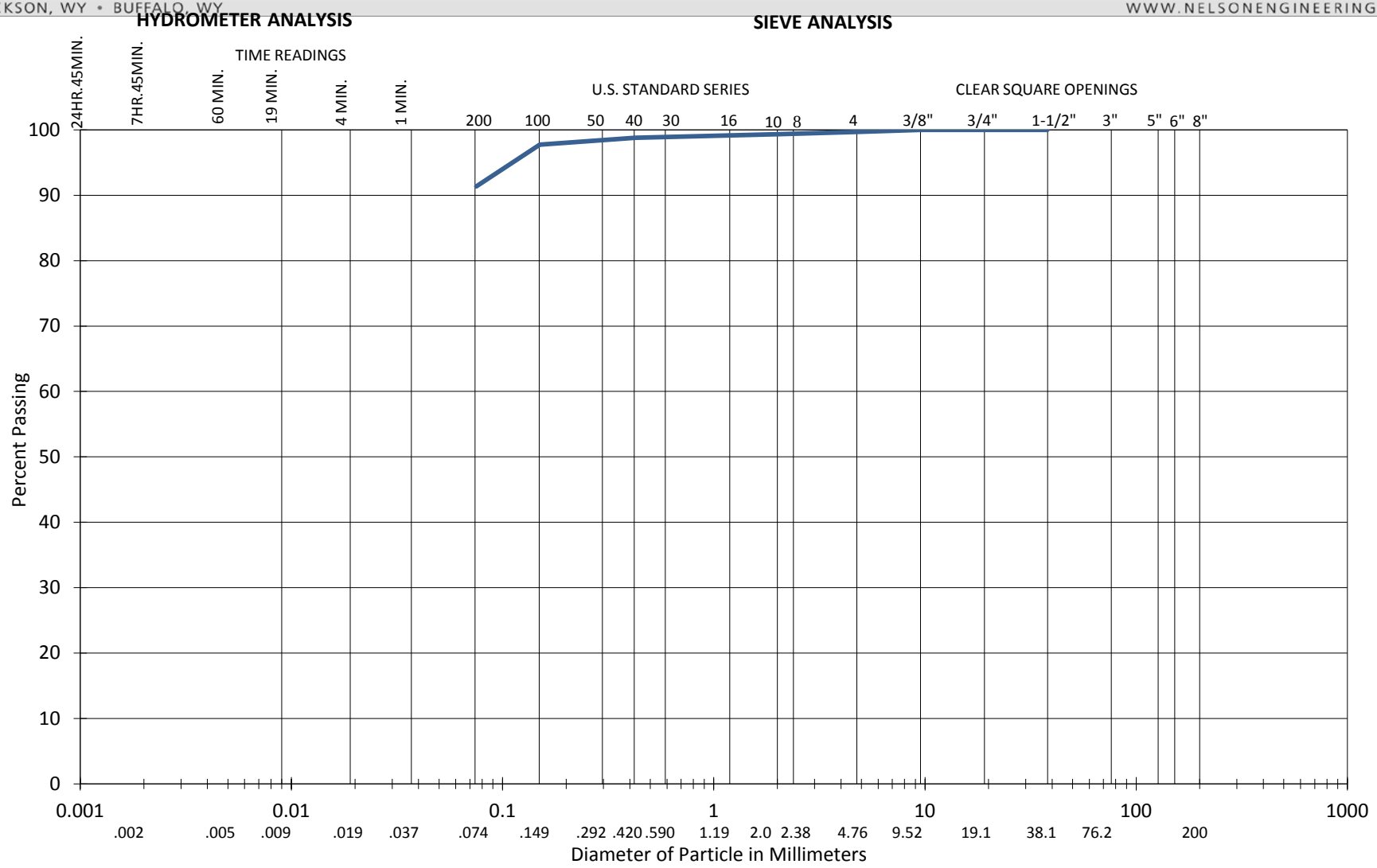
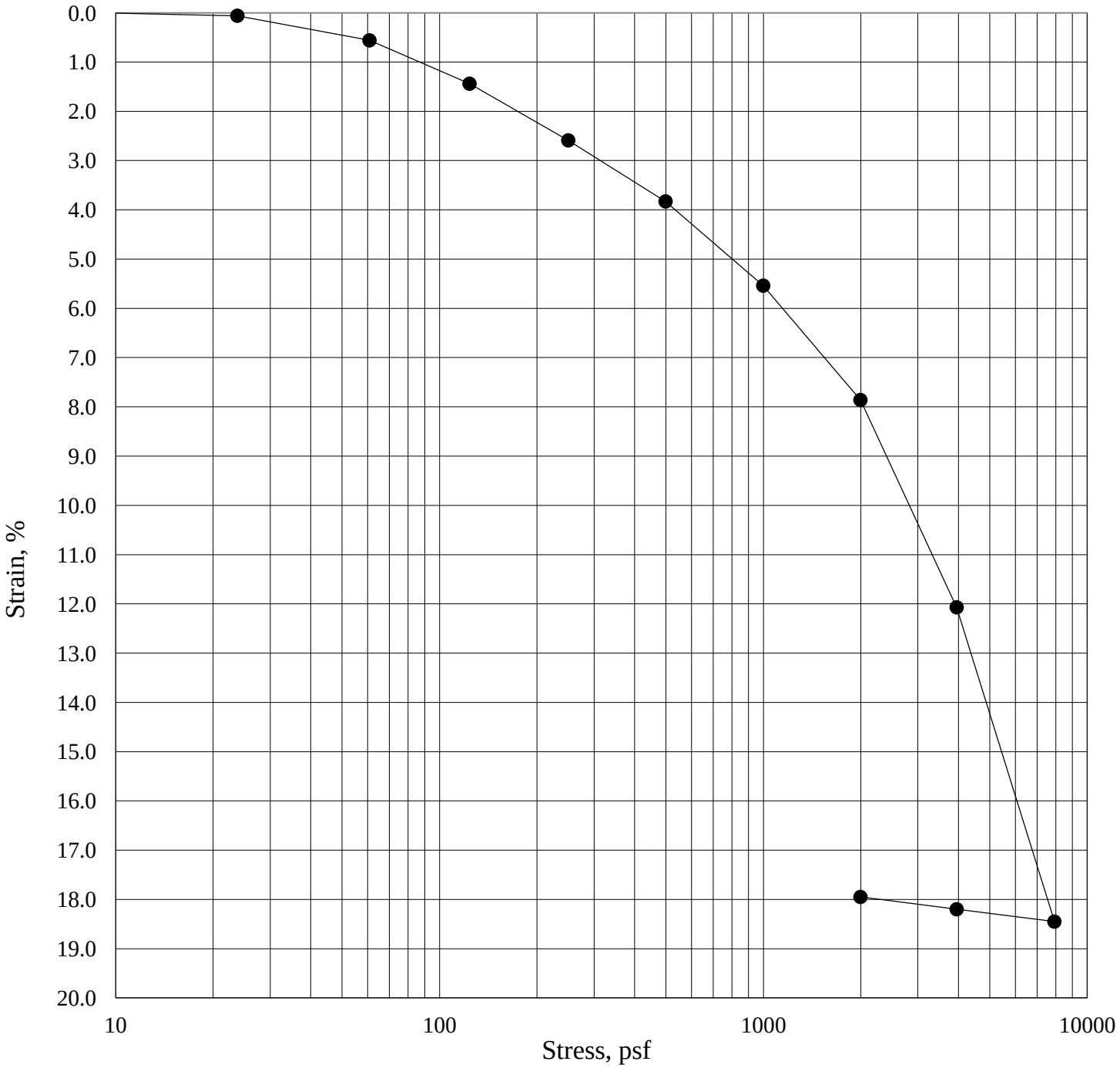


CLAY (plastic) TO SILT (non-plastic)	SAND			GRAVEL		COBBLES
	FINE	MEDIUM	COARSE	FINE	COARSE	

BH4-4

TC/Jackson Recreation Center



				Initial Dry Density (pcf)	Initial Moisture Content (%)
Boring No.	BH1-2	Depth:	5 - 7 '	**88.7**	**23.3**
Sampled By:	AP/NE	Date Received:	10/22/15		

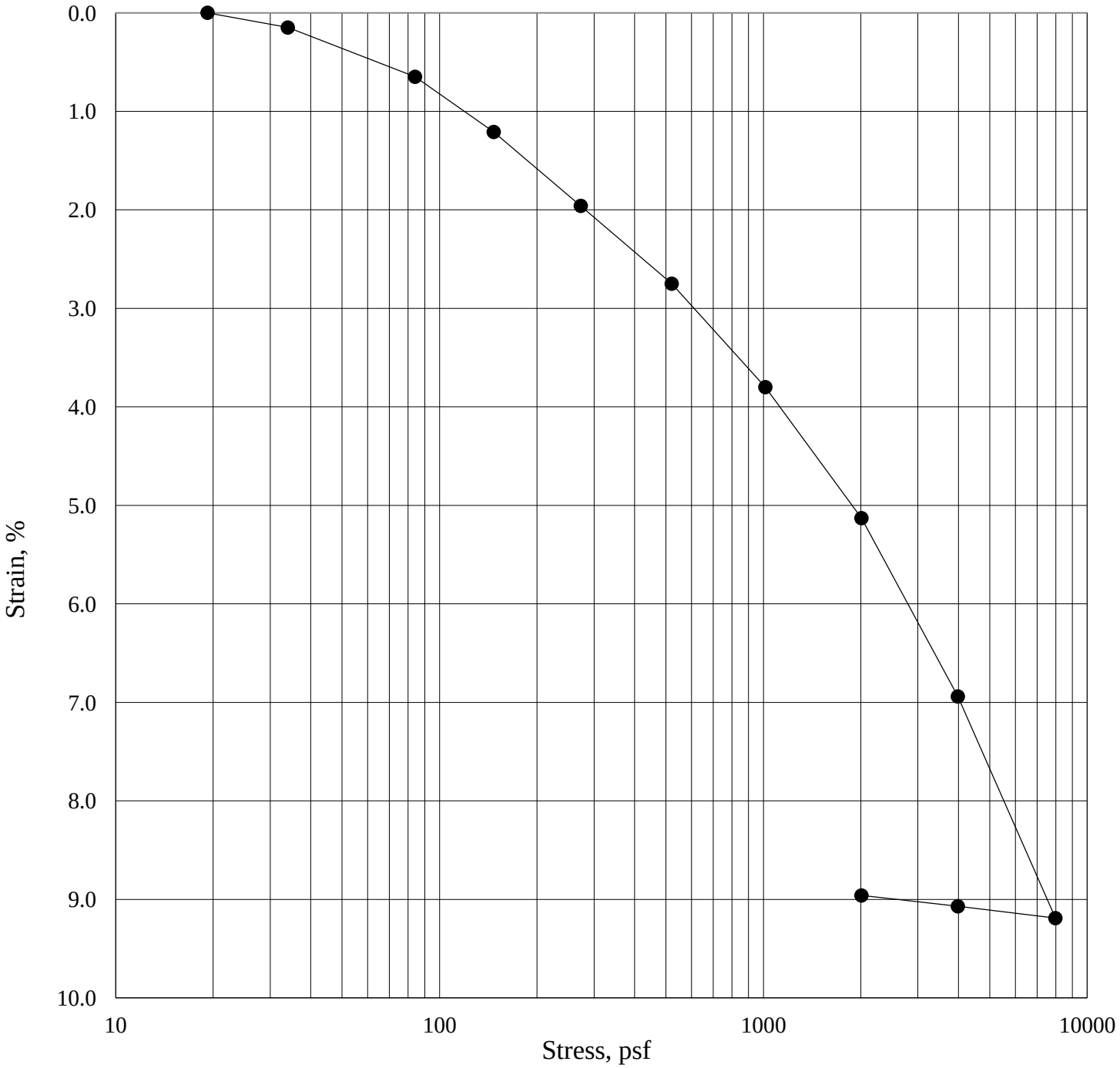
Soil Description: Lean clay, medium to high plasticity, trace salts, dark brown, moist, medium.
Entire curve and rebound curve performed at native moisture, without inundation.

11/2/15

SK GEOTECHNICAL
P. O. Box 80190
Billings, MT 59108-0190
Phone: 406.652.3930
Fax: 406.652.3944

Consolidation/Swell Test

SK Project Number: 08-2506
Nelson Project Number: 15-197-01
Jackson Recreation Center Improvements



				Initial Dry Density (pcf)	Initial Moisture Content (%)
Boring No.	BH5-3	Depth:	10 - 12 '	**99.8**	**23.0**
Sampled By:	AP/NE	Date Received:	10/22/15		

Soil Description: Silty lean clay, low plasticity, trace sand, orangish brown, saturated, very soft.
Entire curve and rebound curve performed at native moisture, without inundation.

11/2/15

SK GEOTECHNICAL
P. O. Box 80190
Billings, MT 59108-0190
Phone: 406.652.3930
Fax: 406.652.3944

Consolidation/Swell Test

SK Project Number: 08-2506
Nelson Project Number: 15-197-01
Jackson Recreation Center Improvements

2511 Holman Avenue
P. O. Box 80190
Billings, Montana 59108-0190
p: 406.652.3930; f: 406.652.3944
www.skgeotechnical.com

Unconfined Compressive Strength of Cohesive Soil

ASTM D 2166

Date: October 29, 2015

Project: **09-2506 Laboratory Testing**
Nelson Project 15-197-01
Jackson Recreation Center
Jackson, Wyoming

Client: Mr. Phil Gyr, PE
Nelson Engineering
430 South Cache Street
Jackson, Wyoming 83001

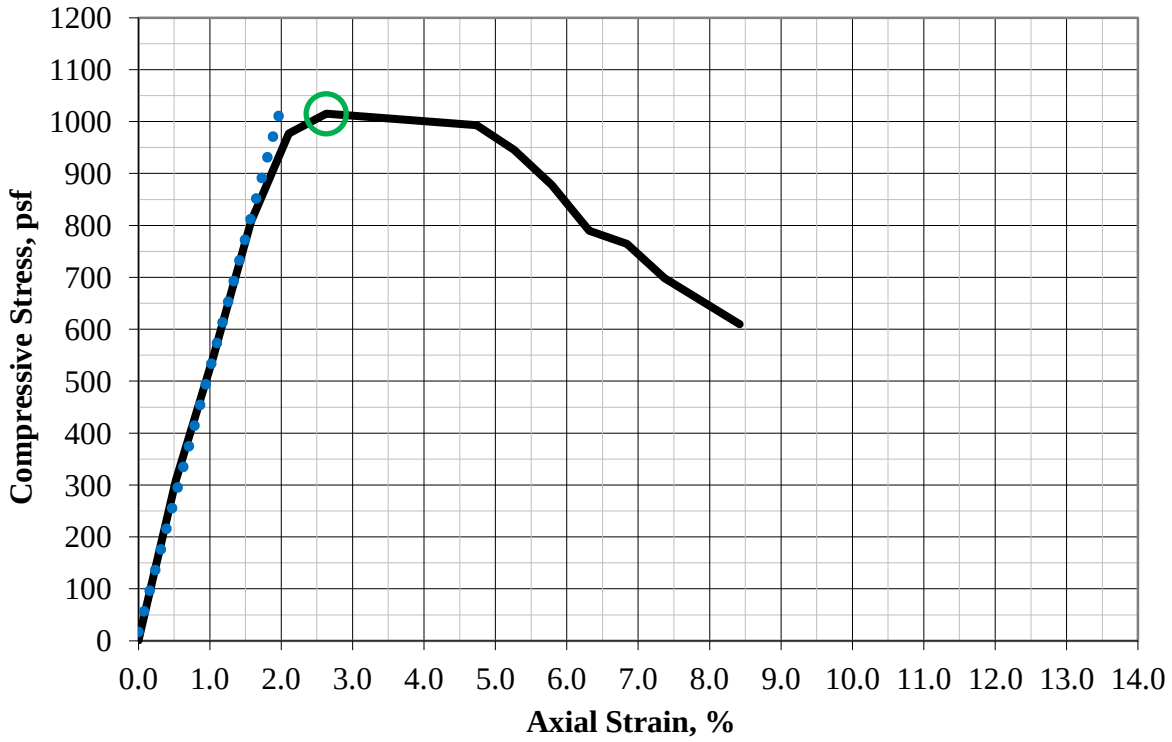
Sample Data:

Boring: BH1-2 Depth: 5 - 7 '

Description: Lean clay, medium to high plasticty, trace salt seams, dark brown, moist, medium

Specimen Properties:	
Moisture, %	23.3
Average Diameter, in.	2.875
Average Height, in.	4.750
Height/Diameter (L/D) ratio	1.65
Wet density, pcf	106.2
Dry density, pcf	86.1

Undrained Unconfined Strength Properties:	
Compressive strength, psf	1015
Shear strength, psf	507
Axial elastic modulus, psi	351
Failure strain, %	2.6
Strain rate, 0.5 - 2% per minute	0.9
Temperature, °F	72.0



Joe B. DeBar, PE
Materials Lab Manager

2511 Holman Avenue
P. O. Box 80190
Billings, Montana 59108-0190
p: 406.652.3930; f: 406.652.3944
www.skgeotechnical.com

Unconfined Compressive Strength of Cohesive Soil

ASTM D 2166

Date: October 29, 2015

Project: **09-2506 Laboratory Testing**
Nelson Project 15-197-01
Jackson Recreation Center
Jackson, Wyoming

Client: Mr. Phil Gyr, PE
Nelson Engineering
430 South Cache Street
Jackson, Wyoming 83001

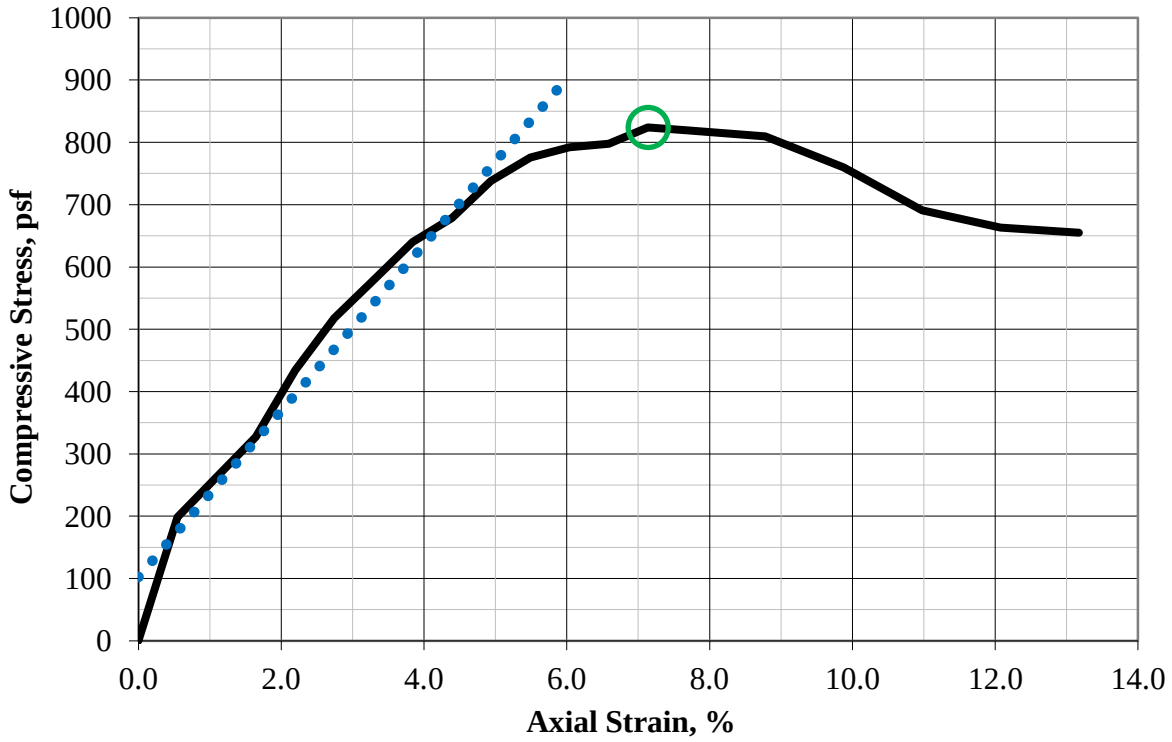
Sample Data:

Boring: BH5-3 Depth: 10 - 12 '

Description: Silty lean clay, low plasticty, trace sand, orangish brown, saturated, very soft

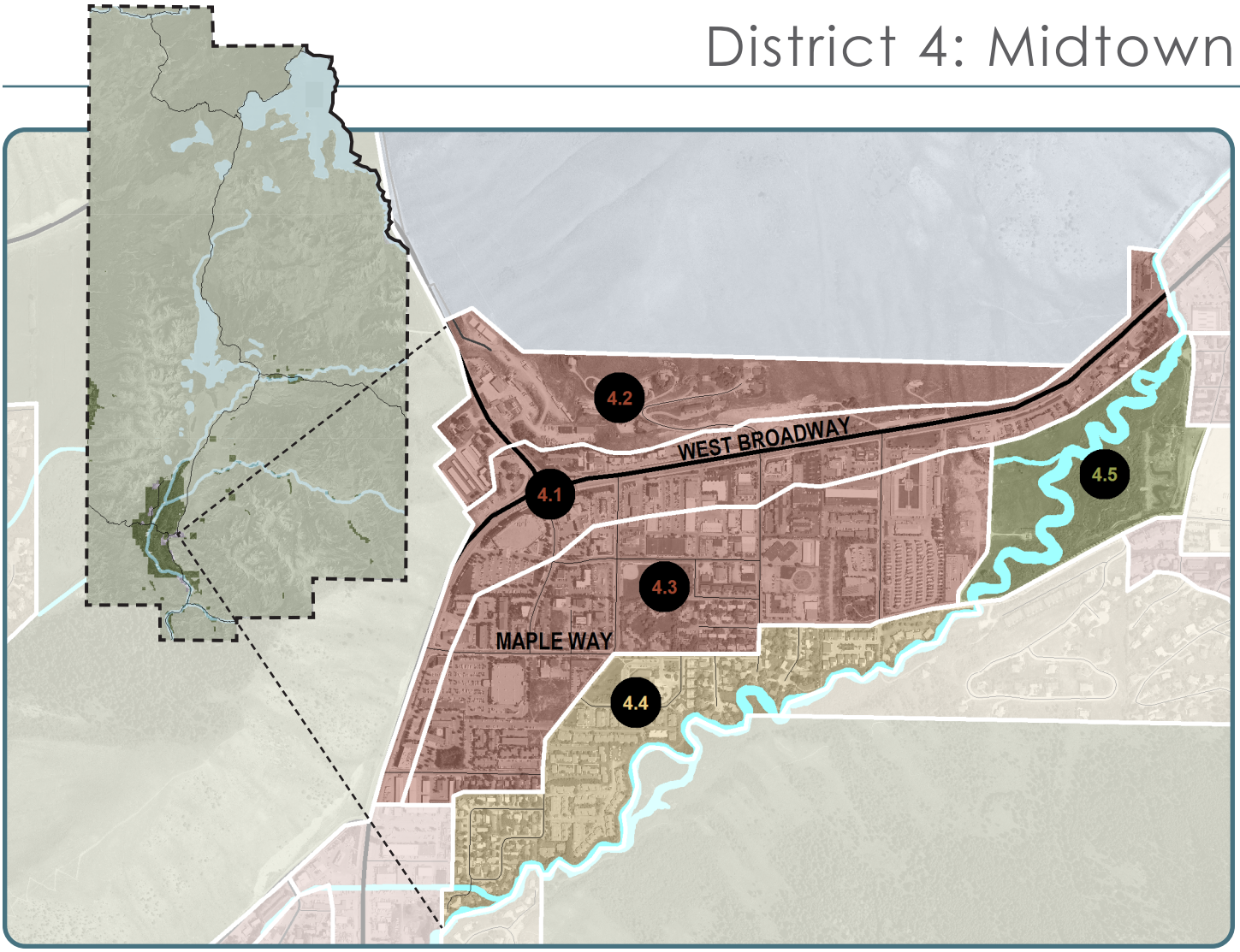
Specimen Properties:	
Moisture, %	23.0
Average Diameter, in.	2.875
Average Height, in.	4.555
Height/Diameter (L/D) ratio	1.58
Wet density, pcf	126.7
Dry density, pcf	103.0

Undrained Unconfined Strength Properties:	
Compressive strength, psf	824
Shear strength, psf	412
Axial elastic modulus, psi	93
Failure strain, %	7.1
Strain rate, 0.5 - 2% per minute	1.0
Temperature, °F	72.0



Joe B. DeBar, PE
Materials Lab Manager

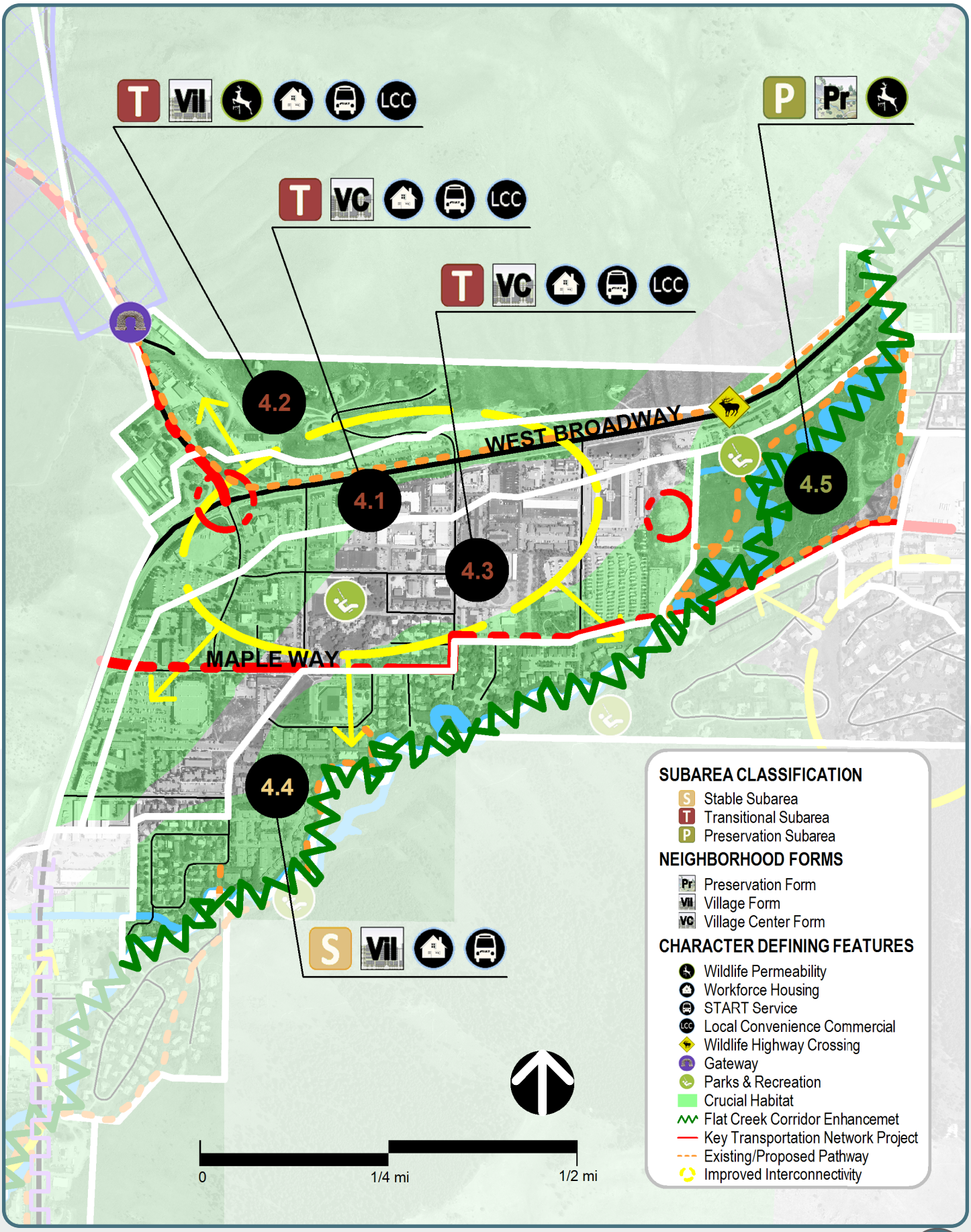
District 4: Midtown



Complete Neighborhood + Rural Area Chart

	DEFINITION	2012	FUTURE	
COMPLETE NEIGHBORHOOD	Defined Character/High Quality Design	○	●	2-3 stories, vibrant pedestrian mixed use, street wall with landscape buffer
	Public Utilities	●	●	Water, sewer, storm sewer
	Quality Public Space	●	●	Powderhorn Park, Karns Meadow and Garaman Park Pathway
	Variety of Housing Types	●	●	Single family, duplex, condominiums, townhomes, apartments, multifamily
	Walkable Schools, Commercial + Recreation	◐	●	Post office, START, limited convenience commercial, schools, parks, pathways
	Connection by Complete Streets	◐	●	Alternative transportation a priority
RURAL	Viable Wildlife Habitat + Connectivity	◐	◐	Flat Creek enhancement, wildlife crossings
	Natural Scenic Vistas	○	○	
	Agricultural + Undeveloped Open Space	◐	◐	Karns Meadow
	Abundance of Landscape over Built Form	○	○	
	Limited, Detached, Single family Res. Development	○	○	
	Minimal Nonresidential Development	○	○	

Legend: ● *Generally Present;* ◐ *Partially Present;* ○ *Generally absent*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SUBAREA CLASSIFICATION
Stable Subarea
Transitional Subarea
Preservation Subarea
NEIGHBORHOOD FORMS
Preservation Form
Village Form
Village Center Form
CHARACTER DEFINING FEATURES
Wildlife Permeability
Workforce Housing
START Service
Local Convenience Commercial
Wildlife Highway Crossing
Gateway
Parks & Recreation
Crucial Habitat
Flat Creek Corridor Enhancemet
Key Transportation Network Project
Existing/Proposed Pathway
Improved Interconnectivity

2012 + Future Desired Characteristics

Midtown is one of the most Complete Neighborhoods in the community. It contains many of the service, office and retail establishments that meet Teton County residents' daily needs. It also contains a significant amount of workforce housing in a variety of housing types, including single family, duplex and multifamily structures. Another important characteristic of the district is the "Y", the intersection of the community's two main highways, U.S. 89 and Wyoming 22. Midtown is a highly visible district that is experienced on a daily basis by most residents. Today, the land use pattern is automobile-oriented and made up of large superblocks containing low intensity single-use structures (both residential and non-residential) surrounded by significant surface parking, with little connectivity between blocks and lots. It is also the location of a significant amount of lodging uses developed prior to the Lodging Overlay that will be allowed to continue in the future. Flat Creek and the Karns Meadow are significant natural features in this district.

The future vision is to create a walkable mixed use district with improved connectivity and increased residential population. Key to achieving this vision will be the creation of a concentrated and connected land use pattern with a smaller block system than currently exists. To support this goal, future land uses will continue to include a variety of non-residential uses serving the needs of the local community and a variety of residential types focusing on workforce housing in multifamily and mixed use structures, specifically including deed-restricted rental units. Mixed use, non-residential and multifamily residential buildings should be two to three stories in height and oriented to the street. Four story structures may be considered when adjacent to a natural land form. In the future, a landscape buffer between buildings and the street with well-designed green space and/or hardscape will be important to create an attractive pedestrian environment becoming of a desirable, walkable, mixed use district. Parking areas should be predominantly located behind buildings or screened from view. The creation of complete streets will be critical to increase connectivity between uses and between blocks and lots by all modes of travel. It is also important to recognize Snow King Avenue as a primary transportation corridor that will need to be maintained and improved to support regional transportation goals.

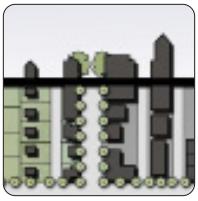
Despite the intensity of human activity within the district, Midtown contains or is adjacent to prominent natural resource lands such as the Karns Meadow, Flat Creek, East Gros Ventre Butte, High School Butte and the northwestern foot of Snow King Mountain. A key characteristic of this area is the mule deer movement corridor between East Gros Ventre Butte and Karns Meadow, and consequently, the high rate of wildlife vehicle collisions along West Broadway Avenue. The natural resources found in or adjacent to this district should be considered in the course of future planning, with development being located in a way that protects wildlife habitat and facilitates wildlife movement through the district. Future enhancements and redevelopment should seek to incorporate Flat Creek as a recreational and ecological amenity for the entire community.

Whether it is enhancing the gateway to Town at the Y intersection, redeveloping under-utilized properties with mixed use structures, improving alternative transportation infrastructure and connectivity, or enhancements to Flat Creek - change in this district is desirable.

Policy Objectives

Common Value 1: Ecosystem Stewardship	1.1.c: Design for wildlife permeability
Common Value 2: Growth Management	4.1.b: Emphasize a variety of housing types, including deed-restricted housing 4.1.d: Maintain Jackson as the economic center of the region 4.2.c: Create vibrant walkable mixed use Subareas 4.3.a: Preserve and enhance Stable Subareas 4.3.b: Develop Transitional Subareas 4.4.b Enhance Jackson gateways 4.4.d: Enhance natural features in the built environment
Common Value 3: Quality of Life	5.2.a: Provide a variety of housing options 5.3.b: Preserve existing workforce housing stock 6.2.b: Support businesses located in the community because of our lifestyle 6.2.c: Encourage local entrepreneurial opportunities 7.1.a: Increase the capacity for walking, biking, carpooling and riding transit 7.1.f: Complete major transportation projects based on Major Capital Group approach 7.2.d: Reduce wildlife and natural and scenic resource transportation impacts

4.2: Northern Hillside



Village Form

This TRANSITIONAL Subarea must strike a delicate balance between allowing some mixed use and residential development while maintaining wildlife permeability and the natural form of the undeveloped hillsides. A key to successful future development will be to sensitively place development in harmony with the existing terrain to minimize land disturbance. Development intensity in this subarea should be less than that found within the adjacent Midtown Highway Corridor (Subarea 4.1). Structures will be allowed up to two stories and may be configured in a variety of layouts with attached and detached units blending into the natural surroundings. Smaller building footprints will be encouraged to provide adequate open and/or landscaped areas. A variety of residential types, including live/work, multifamily, and duplexes, may be appropriate in this area depending on the specific characteristics of a site and its topography. Low density single family housing may continue to be appropriate at the edges of this area, particularly when adjacent to undisturbed hillsides. Future development should address wildlife permeability and assist in guiding wildlife movement to future roadway crossings.

SECTION 5 – APPLICATION MATERIALS

- **5.1 Application**
- **5.2 Warranty Deed**
- **5.3 Pre-application Conference Checklist**

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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: Teton County / Jackson Recreation Center Improvements

Physical Address: 155 E. Gill Avenue

Lot, Subdivision: _____ PIDN: 22-41-16-27-3-00-025 &22-41-16-27-3-00-017

PROPERTY OWNER.

Name: Town of Jackson Phone: 307-733-3932

Mailing Address: P.O. Box 1687 ZIP: 83001

E-mail: _____

APPLICANT/AGENT.

Name: Berning Project Management, attn: Jason Berning Phone: 307-699-3733

Mailing Address: 313 Mountainside Blvd., Victor, ID ZIP: 83455

E-mail: berningpm@gmail.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 #: P21-228 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?

N/A **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.

	November 16, 2021
Signature of Property Owner or Authorized Applicant/Agent	Date
Jason Berning	Owner's Representative
Name Printed	Title

91990720
999011-VF-3

WARRANTY DEED

RELEASED	
INDEXED	✓
ABSTRACTED	✓
SCANNED	

KNOW ALL MEN BY THESE PRESENTS, that THE JACKSON-TETON COUNTY PUBLIC FACILITIES JOINT POWERS BOARD, Grantor, for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration in hand paid, receipt of which is hereby acknowledged, **CONVEYS AND WARRANTS** to THE TOWN OF JACKSON, WYOMING, Grantee, the following-described property situated in the County of Teton, State of Wyoming, hereby releasing and waiving all rights under and by virtue of the homestead exemption laws of the State, to-wit:

See attached Exhibit A

Including and together with all and singular the tenements, hereditaments, appurtenances and improvements thereon or thereunto belonging, but subject to taxes, reservations, covenants, conditions, restrictions, rights-of-way and easements of sight and record, if any.

WITNESS our hands this 22nd day of September, 1993.

JACKSON-TETON COUNTY PUBLIC FACILITIES JOINT POWERS BOARD

By: Grant C. Larson
Chairman

Attest:
Sandy Shuptrine
Secretary

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

On this 22nd day of September, 1993 before me personally appeared Grant C. Larson, to me personally known, who, being first duly sworn, did say that he/she is the Chairman of the Jackson-Teton County Public Facilities Joint Powers Board; and that this instrument was sign and sealed on behalf of said Board, and said Chairman acknowledged said instrument to be the free act and deed of said Board.

Given under my hand and seal the date first above written.

EVELYN MEACHAM - NOTARY PUBLIC
COUNTY OF (Seal) STATE OF WYOMING
My Commission Expires August 11, 1995

Evelyn Meacham
Notary Public

My commission expires: August 11, 1995

GRANTOR: JACKSON-TETON COUNTY PUBLIC FACILITIES*
GRANTEE: TOWN OF JACKSON WYOMING
Doc 0752910 bk 731 pg 478-479 Filed At 13:47 ON 06/03/09
Sherry L. Daigle Teton County Clerk fees: 0.00
By Michele Fairhurst Deputy

999011-VF-3

91990720

EXHIBIT A

PARCEL NO. 1:

A Parcel of land located in the SW1/4SW1/4 of Section 27, T41N, R116W, 6th P.M., Teton County, Wyoming, being a portion of that tract in Book 10 of Deeds, page 642 as recorded in the Office of the Teton County Clerk and consisting of a 15.03 foot wide strip lying easterly of and adjacent to that record tract in Book 246 of Photo, page 568 to 569 as recorded in said office and being more particularly described as follows:

Beginning at a point on the north line of the S1/2SW1/4 of said Section 27, being also the north line of said tract in Book 10 of Deeds, which point lies S89°52'25"E, 306.21 feet from Corner No. 9, the Northwest Corner of said tract, and is the northeast corner of said record tract in Book 246 of Photo; thence proceeding along said north line, S89°52'25"E, 15.03 feet; thence departing said north line and proceeding South, 508.24 feet to the north line of Gill Avenue, a southerly boundary line of said tract in Book 10 of Deeds; thence proceeding along said north line of Gill Avenue, S89°52'52"W, 15.03 feet to the southeast corner of said record tract in Book 246 of Photo; thence departing said north line of Gill Avenue and proceeding along the easterly line of said tract in Book 246 of Photo, North, 508.30 feet to the POINT OF BEGINNING.

PARCEL NO. 2:

A parcel of land located in the SW¼SW¼ of Section 27, T41N, R116W, 6th P.M., Teton County, Wyoming, being a portion of that tract in Book 10 of Deeds, Page 642, as recorded in the Office of the Teton County Clerk, being also a portion of that tract recorded in Book 246 of Photos, pages 568 to 569 in said Office, and being more particularly described as follows:

Beginning at a point on the north line of the S½SW¼ of said Section 27, being also the north line of said tracts in Book 10 of Deeds and Book 246 of Photos, which point lies S89°52'25"E, 74.62 feet from the Northwest Corner of said tracts; thence proceeding along said north line, S89°52'25"E, 231.59 feet to the northeast corner of said tract in Book 246 of Photos; thence proceeding along the east line of said tract in Book 246 of Photos, South, 508.30 feet to the Southeast corner of said tract in Book 246 of Photos, a point on the south line of said tract in Book 10 of Deeds and on the north line of Gill Avenue; thence along said north line of Gill Avenue and the south line of said tracts in Book 10 of Deeds and 246 of Photos, S89°52'52"W, 231.59 feet; thence north, 509.29 feet to the point of beginning.

PRE-APPLICATION CONFERENCE SUMMARY

Planning & Development Department
Planning Division

150 E Pearl Ave. | ph: (307) 733-o440
P.O. Box 687 | fax: (307) 734-3563
Jackson, WY 83001 | www.townofjackson.com

This Summary will be prepared by Planning Staff. The applicant, or the applicant's agent, shall receive a copy of this summary for their reference in submitting a sufficient application.

Staff may request additional materials during review as needed to determine compliance with the LDRs.

PRE-APPLICATION MEETING GENERAL INFORMATION.

PAP#: P21-228

Date of Conference: 09/23/21

Planning Staff: Tyler Sinclair & Tyler Valentine

PROJECT.

Name/Description: Phase 2 Recreation Center + King Street Extension

Physical Address: 155 E. Gill Avenue

Lot, Subdivision _____ PIDN: _____

Zoning District(s): Public/Semi-Public (P/SP)

Overlay(s): N/A

STAKEHOLDERS.

Applicant: Teton County Park & Recreation – Steve Ashworth

Owner: Town of Jackson

Agent: _____

REQUIRED APPLICATIONS. *This project will require the following applications:*

Application	Reason	Fee
Development Plan (Sec. 8.3.2)	Required for projects larger than 5,000 sf	n/a
Conditional Use Permit (Sec. 8.4.2)	Required for all uses in the P/SP zone	n/a
Administrative Adjustment (Sec. 8.8.1.B.11)	Required to adjust parking to the appropriate amount	n/a
Design Review Committiee (DRC)	Required for all nonresidential development in P/SP	n/a
Grading Pre-App	Required prior to Building Permit for site disturbance greater than 3,000 sf or required at Town Engineer discretion.	n/a
Building Permit (Sec. 8.3.3)	Required for all physical development.	n/a

MEETING ATTENDEES:

Name	Company	Phone/Email
Tyler Valentine	Town Planning	(307) 733-0440 x1305
Tyler Sinclair	Town Plannng	(307) 733-3079 x1301
Steve Ashworth	Parks & Recreation	
Brian Schilling	Pathways	
Brian Lenz	Public Works	
Johnny Ziem	Public Works	
Andy Erskine	Parks and Recreation	
Darem Brugmann	START	
Michelle Weber	Police	
Lea Colasuonno	Legal	
Brandon Lucero		
Akasha Hueseman	GE Johnson	
Anthony Fasciano	GE Johnson	
Brad Hoyt	Hoyt Architects	

TIMELINES. *This table is intended to provide general information regarding the review process and timing of decisions. See Article 8 for a complete explanation of the review process.*

The following timelines are generally applicable:

Application Types:	Sufficiency	Decision-Maker	Timeline
Development Plan	14 days	Town Council	90-120 days after sufficiency
Conditional Use Permit	14 days	Town Council	Concurrent with Development Plan
Administrative Adjustment	14 days	Elevated to Town Council	Concurrent with Development Plan
DRC	1 week	DRC recommends to Town Council	Concurrent with Development Plan. Submittal Is separate from Dev Plan.
Grading Pre-App	1 week	Town Engineer	3-4 weeks
Building Permit	1 week	Building Official	First round review is typically 4 weeks.

Checklist Key.

√ Required*. Applicant must demonstrate compliance with this requirement.*

N/A Not Applicable*. Review requirement is not applicable to this project.*

General Information

Requirement		Notes
√	**Planning Permit Application.** The application should list all pertinent permits (use, physical development, interpretation, relief from the LDRs, Development Option/Subdivisions, Amendments to the LDRs) for which you are applying.	
√	**Notarized Letter of Authorization.** See "Permit and Applications" section on Planning Department website for copy of form.	Required If applicant is different than owner. Larry Pardee can sign.
√	**Application Fees.** Fees are cumulative. Applications for multiple types of permits, or for multiple permits of the same type, require multiple fees. See the currently adopted Fee Schedule in the Administrative Manual for more information.	Please see above.
n/a	**Review fees.** The applicant is responsible for paying any review fees and expenses from consulting services necessitated by the review of the application by the County Surveyor, Town Engineer, Title Company and any other required consultant. Such fees shall be paid prior to approval of the permit.	Waived for Town and County applications.
√	**Mailed Notice fee.** See Section 8.2.14.C.2 for notice requirements. If mailed notices are required, the applicant is responsible for paying for any mailing in excess of 25 notices.	Landowners within two hundred (200) feet of the land subject to the application. Done by Town Staff.
√	**Digital Format.** All applications submitted to the Town Planning Department must be submitted in digital format.	Please provide digital copy with application.
√	**Response to Submittal Checklist.** All applications require response to applicable review standards. For applications where a pre-application conference is required, applicable standards are identified below. If a pre-application conference is optional, see the submittal checklist for the relevant application type, established in the Administrative Manual.	This checklist serves as a guidline for process, but has additional concerns/recommendations throughout.
n/a	**Title Report.** A title report, title certificate or record document guarantee prepared within the last six months that includes evidence of ownership and all encumbrances on the subject property. Copies of the documents referenced in the report should not be submitted unless requested by the planner during review.	
√	**Narrative description of the proposed development.** Describe in detail the existing condition of the property and the proposed development, use, or subdivision for which you are seeking approval.	
√	**Findings for approval.** Include in your narrative a response to the findings for approval found in LDR Sec. 8.3.2, as applicable.	Application must include findings for Development Plan, CUP and Admin Adjustment.
√	**Proposed Development Program.** Provide a table that summarizes the the projects compliance with the primary development standards (setbacks, heights, FAR, LSR, etc.).	
√	**Site Plan.** Provide a detailed site plan of the proposed project. A list of minimum standards for a site plan are established in the Administrative Manual.	Please provide site plan to scale and dimensioned.
√	**Floor Plans.** Include floor plans for any existing buildings that will be occupied by a proposed use. If changes to existing buildings are proposed, indicate those on the floor plans.	Please provide site plan to scale and dimensioned.

n/a **Neighborhood Meeting Summary.** See Section 8.2.3 for Neighborhood Meeting requirements.

√ **Posted Notice.** See Section 8.2.14.C.4 for Posted Notice requirements for all public hearings.

ARTICLES 2 (COMPLETE NEIGHBORHOODS), 3 (RURAL AREA ZONES), and 4 (SPECIAL PURPOSE ZONES).

Applicable Zone: Public/Semi-Public (P/SP)

Applicable LDR Section: Sec. 4.2.1

PHYSICAL DEVELOPMENT. *Please see Subsection B in applicable Zone District for specific standards.*

Requirement		Notes
√	**Structure Location and Mass** (setbacks, height, FAR, etc.)	Show proposed floor area and building height.
N/A	**Maximum Scale of Development** (individual building size)	
√	**Design Review** (Design Guidelines and Design Review Committee)	
√	**Site Development** (Driveway and Access limits)	
√	**Landscaping** (see Div. 5.5 for more information)	Although this zone has no LSR or plant units are required, please provide a landscape plan if landscaping is proposed.
√	**Fencing** (see Sec. 5.1.2 for more information)	
√	**Environmental Standards (see Div. 5.1 and 5.2 for more information)** • Natural Resource Buffers • Irrigation Ditch Setback • Wild Animal Feeding • Natural Resource Overlay Standards • Bear Conflict Area Standards	
√	**Scenic Standards (see Div. 5.3 for more information)** • Exterior Lighting • Scenic Resource Overlay (SRO) Standards	Provide exterior lighting worksheet with building permit submittal, provide manufacturer cut sheets.
√	**Natural Hazards to Avoid (see Div. 5.4 for more information)** • Steep Slopes • Areas of Unstable Soils • Fault Areas • Floodplains • Wildland Urban Interface	Only if applicable
N/A	**Signs (see Div. 5.6 for more information)**	Signs approved separately.

√	**Grading, Erosion Control, Stormwater (see Div. 5.7 for more information)** • Grading • Erosion Control • Stormwater Management	Grading pre-app will be required. All grading info will be included in the building permit.

USE STANDARDS. *Please see Subsection C in applicable Zone District for specific standards.*

Requirement		Notes
√	**Allowed Uses** (see Div. 6.1 for more information)	Developed Recreation
√	**Parking** (see Div. 6.2 for more information)	Applicant needs to provide more data on how the currently proposed amount of parking will meet demands.
_____	**Employee Housing** (see Div. 6.3 for more information)	Uses in P/SP are exempt from affordable workforce housing requirements. Although, providing FT/PT employment would be helpful to understading current/proposed operations.
n/a	**Maximum Scale of Use**	
√	**Operational Standards (see Div. 6.4 for more information)** • Outside Storage • Refuse and Recycling • Noise • Vibration • Electrical Disturbances • Fire and Explosive Hazards • Heat and Humidity • Radioactivity	

DEVELOPMENT OPTIONS. *Please see Subsection D in applicable Zone District for specific standards.*

Requirement	Notes

n/a **Allowed Subdivision and Development Options** (see Div. 7.1 and 7.2 for more information)

n/a **Residential Subdivision Requirements** (see Div. 7.4 and 7.5 for more information)

- School and Parks Exactions

√ **Infrastructure (see Div. 7.6 and 7.7 for more information)**

- Transportation Facilities
- Required Utilities

OTHER APPLICABLE LDR STANDARDS

Requirement **Notes:**

N/A **Division 1.9, Nonconformities**

- **1.9.2** Nonconforming Physical Development
- **1.9.3** Nonconforming Uses
- **1.9.4** Nonconforming Development Options and Subdivisions
- **1.9.5** Nonconforming Signs

ADDITIONAL COMMENTS

1. **Is there a phasing plan?**
2. **Construction staging should be considerd early on.**
3. **Any site plan changes since the project was last shown during the SPET vote?**
4. **Parking needs to be addressed through an Administative Adjustment because the current 4.5 space requirement cannot be met and is out-of-date. Need to propose independent calculation that shows adjacent public parking lots, on-street parking, peak demand in summer/winter, etc.**
5. **DRC will review the proposed addition and site improvements.**
6. **Discuss site circulation.**
7. **Ample dispersed bike racks should be provided, possibly some that are covered.**
8. **Would be helpful to provide informarion on FT/PT employees and the Parks N Rec housing that was built on Snow King to demonstrate that housing is being provided.**
9. **Are the temporary car-camping spaces remaining long-term?**
10. **Provide breakdown of uses by square footage.**

Background:

- **The Teton County/Jackson Recreation Center opened to the community in November of 1994. Roughly 37,950 sf on 4.91 acres.**

- **In 2006, 2012, 2016 P&R conducted a series of statistically valid community needs assessment through Leisure Vision Institute. The survey results consistently indicated a high need, and a high needs not being met for Indoor health and fitness, indoor climbing, and outdoor aquatic features. In 2010 voters approved a P&R SPET measure to design and plan**

future expansion to meet these needs. In 2017 voters approved a P&R SPET to upgrade existing amenities in the recreation center. The current SPET is a continuation of this process and our commitment to meeting the needs of the community.

- **Based upon this data, in 2010 the department went to the voters through the Specific Purpose Excise Tax (SPET) requesting funding to analyze and design additional programming space for the facility. Based on the needs of the community, the results of the design analysis would be brought back to the voters for future implementation funding consideration. The ballot question was approved by over 70% of participating voters. The following is the 2010 SPET ballot language:**

  Teton County/Jackson Recreation Center Roof, Pool, and GeneraL Capital Repair and Planning Fund for Expansion: $1,465,420 for the funding of the design, planning, engineering and construction of necessary roof, pool and general capital repair and replacement of existing infrastructure in the Teton County/Jackson Parks and Recreation Center. Also, for the funding of the design, planning and engineering of a facility expansion to include wellness and fi tness opportunities; community gathering space; youth, family and senior recreational areas; and associated infrastructure."

- **2019 - Proposition #9 -** ***Teton County/Jackson Recreation Center Expansion and Renovation, Community Climbing Gym, King Street Extension, and Stormwater Treatment. $22,000,000.00 for designing, planning, engineering, construction, and equipping the renovation and expansion of the Teton County/Jackson Recreation Center. The renovation and expansion includes an additional gymnasium, indoor walking/running track, indoor climbing gym, wellness and fitness opportunities, outdoor aquatics splash pad, general youth-to-senior recreational amenities, associated building infrastructure, King Street extension, storm-water management systems, and associated site parking, multimodal circulation and landscaping. Any unexpended funds, including any unused contingency funds, shall be placed into a designated account, the principal and interest of which shall be used for operations and maintenance of the Teton County/Jackson Recreation Center.***

PLAN REVIEW COMMITTEE. *The Plan Review Committee consists of the following listed agencies. Planning Staff will transmit pertinent portions of the application to each agency.* ***Other agencies and individuals not checked off on this list may be added to the PRC if necessary.***

	Agency	**Required for:**
√	Building Official	
√	Town Attorney	
√	Town Engineer	
√	Title Company – for subdivision plat	
√	County Surveyor – for subdivision plat	
√	Jackson Hole Fire EMS	
√	Housing Authority	
	Integrated Solid Waste & Recycling	
	National Park Service	
√	Parks and Recreation Department	
√	Pathways Coordinator	
	Public and Environmental Health	
√	Police Department	
	Teton Conservation District	
	Teton County School District	
	Teton County (required when subdividing land within one mile of the Teton County)	
	U.S. Forest Service (if adjacent to or accessing through forest service lands)	

_____ Wyoming Department of Environmemtal Quality

_____ Wyoming Department of Game & Fish

_____ Other