

PLANNING COMMISSION

City Hall—Council Chambers, 3989 Central Ave NE Tuesday, October 01, 2024 6:00 PM

AGENDA

ATTENDANCE INFORMATION FOR THE PUBLIC

Members of the public who wish to attend may do so in-person, or by using Microsoft Teams Meeting at columbiaheightsmn.gov/joinameeting: ID 252 586 988 371, Passcode ugquG3. For questions, please contact Administration at 763-706-3610.

Auxiliary aids or other accommodations for individuals with disabilities are available upon request when the request is made at least 72 hours in advance. Please contact Administration at 763-706-3610 to make arrangements.

CALL TO ORDER/ROLL CALL

APPROVE MINUTES

<u>1.</u> Approval of August 7, 2024 Planning Commission Meeting Minutes

PUBLIC HEARINGS

2. Site Plan Review for 999 50th Avenue NE

MOTION: Move to waive the reading of draft Resolution No. 2024-069, a Site Plan Review for 999 50th Avenue NE, there being ample copies available to the public.

MOTION: Move to recommend the Planning Commission approve draft Resolution No. 2024-069, a Site Plan Review for 999 50th Avenue NE, as presented and subject to the conditions of approval listed in the draft resolution.

3. Conditional Use Permit for Over-Height Sound Barrier (Fence) at 999 50th Avenue NE

MOTION: Move to close the public hearing and waive the reading of Draft Resolution No. 2024-068, there being ample copies available to the public.

MOTION: Move to recommend City Council approve the Conditional Use Permit as presented, subject to the following conditions of approval.

OTHER BUSINESS

ADJOURNMENT

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MINUTES CITY OF COLUMBIA HEIGHTS PLANNING COMMISSION MEETING Wednesday, August 07, 2024

The meeting was called to order at 6:00 pm by Chair Wolfe.

CALL TO ORDER/ROLL CALL

Commissioners present: Eric Sahnow, Tom Kaiser, Paul Moses, Laurel Deneen, Clara Wolfe, and John Gianoulis

Also present: Andrew Boucher, City Planner; Sarah LaVoie, Administrative Assistant; Mitch Forney, Community Development Director; Connie Buesgens, Council Liaison.

APPROVAL OF MINUTES

1. Approval of May 07, 2024 Planning Commission Meeting Minutes

Motion by Sahnow, seconded by Gianoulis, to approve the minutes from the meeting of May 07, 2024. All ayes. MOTION PASSED.

PUBLIC HEARINGS

2. Zoning Ordinance Amendments to amend Chapter 9 – Land Use:9.103 Definitions9.107 Specific Development Standards9.104 Administration and Enforcement9.109 Residential Districts9.105 Nonconformities9.110 Commercial Districts9.106 General Development Standards9.111 Industrial Districts

<u>Introduction</u>: Boucher stated at the July Work Session, staff briefed City Council on discussed potential amendments and updates to City Zoning Code – Chapter 9 Land Use based on observations, feedback, and recommendations from staff and community members to provide more flexibility in the Zoning Code that reflect the needs of the community while encouraging consistency as future development occurs.

Boucher added Some of these updates include 9.103 Definitions for uses that are presently allowed in residential, commercial, and industrial districts and have specific development standards but are not currently defined in code such as: arcade, billiards hall, consignment/secondhand store, firearms dealer, professional service, professional studio, etc. These definitions will also more accurately reflect housing and family trends as currently there are no definitions for single-family dwelling, two-family dwellings, and rental unit. Other changes will include an amendment to the existing definition of "Family" to remove unrelated occupancy maximums, new definitions for "Dwelling Unit, Accessory" and "Family, Shared Living Arrangement" to reflect current housing trends and a growing need to reduce housing expenses while encouraging social contact, mutual support, and assistance amongst diverse communities.

Boucher mentioned 9.104 Administration and Enforcement includes language to allow minor subdivisions (lot line adjustments) to be approved through administrative review if the proposal

does not require additional right-of-way or alters utility easements. Language in 9.105 Nonconformities is proposed to be amended to be consistent with MN Statute 934.36 Nonconformities Subd. 4. Nonconformities; certain classes of property.

Boucher noted 9.106 General Development Standards includes language to clarify the square footage requirement for building permits for accessory structures from 120 sq. ft. to 200 sq. ft. as well as introducing standards for accessory dwelling units. Other sections of 9.106 General Development Standards being updated include establishing a process for reviewing artificial turf through the existing code for Land Alteration to demonstrate that the proposed turf is permeable, the types of materials used, and whether there is a potential for illicit discharge, and Tree Preservation and Planting Standards will address turf as an impervious surface unless a land disturbance permit is issued and approved. Off-street parking and loading clarifies the parking requirements for residential care facilities (6 or fewer) and (7 or more) to reflect the single-family parking requirements for facilities serving (6 or fewer). A maximum paving of 50% of the front yard setback for residential properties is being introduced. Building Design and Sign Regulations are being updated to allow for painted public art and murals.

Boucher stated 9.107 Specific Development Standards includes removing any seasonal sales stands that explicitly have development standards and including these uses under "Seasonal Sales Stands"; updating the outdoor play area requirements for "Day Care, Home" to reflect the language for Adult and Child Day Care Centers; and amending the Residential Care Facility standards to exempt facilities serving six or fewer residents from the distance radius and zoning regulations except as otherwise required by law.

Boucher mentioned 9.109 Residential Districts includes streamlining the list of permitted accessory uses in all residential districts as well as allowing accessory dwelling units as a permitted accessory use for single-family properties and for shared family living arrangements. One significant change is to establish an impervious surface coverage maximum for residential lots instead of building coverage maximum; these percentages are the same as was required for building coverage; 35% impervious surface coverage for lots less than 6,500 sq. ft. and 30% for lots greater than 6,500 sq. ft. Another significant change is to utilize the language used to address minimum lot areas for duplexes in the R-2B district and use that same language to address the minimum lot area and lot width for single-family residences in the R-2A, R-2B, R-3, and R-4 districts to remove the legal nonconforming status for properties. For the R-2A and R-2B, One/Two Family Residential and Built-As-Duplex districts, twin homes and duplexes are proposed to be permitted uses by law.

Boucher stated 9.110 Commercial Districts and 9.111 Industrial Districts will include adjustments to uses that were previously conditional uses, but did not have specific development standards or standards that are being addressed through performance standards as well as allowing Seasonal Sales Stands as permitted accessory uses.

Boucher explained Section 9.104 (F) of the Zoning Ordinance outlines certain findings of fact that must be met in order for the City to grant approval for a zoning amendment. The findings are as follows:

a) The amendment is consistent with the comprehensive plan.

The City's 2040 Comprehensive Plan identifies strengthening the identity and image of the community as a desirable place to live, work, and play as well as preserving and enhancing the existing viable commercial and industrial areas within the community. The zoning code amendments proposed will

b) The amendment is in the public interest and is not solely for the benefit of a single property owner.

The zoning text amendments remove certain barriers that commercial business operators and homeowners have experienced and enables more flexibility in the zoning code by ensuring consistency across zoning districts.

c) Where the amendment is to change the zoning classification of a particular property, the existing use of the property and the zoning classification of property within the general area of the property in question are compatible with the proposed zoning classification.

The amendment is not to change the zoning classification of a particular property.

d) Where the amendment is to change the zoning classification of a particular property, there has been a change in the character or trend of development in the general area of the property in question, which has taken place since such property was placed in its current zoning classification.

The amendment is not to change the zoning classification of a particular property.

<u>Recommendation</u>: Boucher noted that Staff recommends that the Planning Commission recommend to the City Council; Approval of Draft Zoning Ordinance Amendment No. 1700 amending City Code 9.103 Definitions, 9.104 Administration and Enforcement, 9.105 Nonconformities, 9.106 General Development Standards, 9.107 Specific Development Standards, 9.109 Residential Districts, 9.110 Commercial Districts, and 9.111 Industrial Districts as presented.

Questions/Comments from Members:

Wolfe clarified that there were two different dates regarding the residential side. A few of them looked like they had just copied the established prior to rather than established after. She wanted to clarify that there were two different square footages with one being prior to January 1, 2005, and the second one is established after January 1. Boucher agreed and explained it would be grandfathering them in.

Sahnow asked how it was determined who was going to receive the public hearing notice. Boucher replied that Staff did the same for the tree preservation since there was not a specific site that it could be applied to. He added that Staff tried to get the public hearing notice out three weeks before the hearing. He noted he tried to provide a full readout of the zoning text with the

amendments proposed and then breakdowns of the specific changes that are being made.

Moses noted that there was something that mentioned three people per dwelling unit and asked if that would be removed. Boucher replied that it would be removed along with no accessory buildings so that it can allow for detached accessory dwelling units. He added that Staff are proposing to amend the definition of family to reflect that there can be more than three unrelated people living in a house together.

Deneen asked if there were any standards for safety regarding firearm dealers. Boucher replied that they are licensed federally so the City does not require any City licensing. The specific development standards that address firearms dealers are in relation to shooting ranges. Deneen asked if the standards ATF enforces include extra security when it is closed. Boucher agreed that there are federal standards.

Sahnow asked if there were restrictions for firearms dealers on distance away from certain uses and types that those facilities are allowed to occupy. Boucher is not for the sales side but there are restrictions for specific development standards requiring a minimum distance for the shooting range.

Sahnow asked if the Planning Commission would be able to add conditions to the proposed Ordinance amendment. Boucher replied that they could but he would like the City Attorney to reach through it to make sure it is legal. Deneen agreed and noted she would like to look at that.

Deneen asked if there were any restrictions on how many shooting ranges can be within the City. Boucher replied that there are not and the City looks at them like retail sales.

Public Hearing Opened.

John Nelson, City resident expressed his gratitude that the City was addressing ADUs. He spoke in favor of it and explained that his parents are farmers who are working on moving to Columbia Heights and being any to have a detached dwelling will allow the possibility of multi-generational families who desire to be together while also having some space.

Adden Vang, City resident, stated he was in favor of the changes the City is proposing, particularly to the occupancy limits from three unrelated members to no limit. He explained that his heritage is Hmong and his culture lives communally in communities. He added that it also extends to friends. He mentioned that he would like to see changes where unrelated people can also live in the same dwelling in order to keep people of various cultures that come from communal societies in the City.

Maddie Kim, City resident, agreed with the previous comments and thanked the commissioners for discussing the issues. She explained that the maximum occupancy limits were important to her. She noted that she is a single young individual who is working and living in the City and wants to find ways to live well with friends and community members. She added that the marriage age is rising and people are looking for ways to live sustainably both financially and for the planet. Studies are showing that being in contact with others and living together is important for mental health. She

added that she lives with roommates, and they are all interested in having policies and laws that support society as it is today and as it is continuing to evolve.

Boucher clarified that the current firearms-specific development standards include a radius distance requirement of it being located 300 feet away from any residential zone, property, or residential use, and 500 feet away from protected uses such as licensed daycare facilities, public or private educational facilities, schools, parks, and places of worship. Sahnow asked if it was a local or federal standard. Boucher replied that it was a local standard.

Wilton Howard, City business owner, shared about Grandma Mae who would like to have her children live with her as she has been aging but cannot because they want to make an unattached dwelling unit in the back but have not been able to. He added that he hopes that the City can change this so grandma Mae and other people like her to be able to live in community. He explained that it is a little bit racist to have nuclear family policies instead of allowing people to live within their cultural values.

Deneen noted that many of the individuals who spoke did a lot of research on ADUs and suggested bringing the information to the Council work session. She thanked the commissioners for doing the work.

Public Hearing Closed.

Motion by Moses, seconded by Sahnow, to waive the reading of draft Ordinance amendment No. 1700, there being ample copies available to the public. All ayes. MOTION PASSED.

Motion by Deneen, seconded by Moses, to recommend that the Planning Commission give a positive recommendation on draft Ordinance Amendment No. 1700 to City Council to approve draft Zoning Ordinance Amendment No. 1700 as presented. All ayes. MOTION PASSED.

OTHER BUSINESS

Boucher mentioned that the Met Council is taking the Comprehensive Plan amendment for Medtronic through the development review committee. There will be a Planning Commission next month with a site plan review and a conditional use permit. He added that in the future Staff would like to do some workshop items with the commissioners such as design guidelines, updating the sign code, and starting the SolSmart process. Forney added that the City Code is a mess and would like to utilize the Planning Commission to clean it up.

ADJOURNMENT

Wolfe adjourned the meeting at 6:50 pm.

Respectfully submitted,

Dyus lone

Sarah LaVoie, Recording Secretary



AGENDA SECTION	PUBLIC HEARINGS
MEETING DATE	OCTOBER 1, 2024

	ITEM:	Site Plan Review for 999 50 th Avenue NE	
I	DEPAR	TMENT: Community Development	BY/DATE: Andrew Boucher, City Planner; 9/25/24

CASE NUMBER:	2024-0904
APPLICANT:	Civil Site Group on behalf of Tsunami Express Car Wash
DEVELOPMENT:	Site Plan Review proposing demolition of the existing building at (999 50 th Avenue NE) in preparation for a new car wash facility.
LOCATION:	999 50 th Avenue NE
REQUEST:	Site Plan Review
PREPARED BY:	Andrew Boucher, City Planner

INTRODUCTION:

Civil Site Group on behalf of Tsunami Express Car Wash has requested approval of a Site Plan Review proposing demolition of the existing vacant office building in preparation for new construction of a car wash (between the intersection of 50th Avenue NE and Tyler Street NE off Central Avenue NE). The Site Plan Review only requires Planning Commission approval.

The applicant is proposing to demolish the existing approximately 7,000 sq. ft. vacant building on the 0.83 acre parcel and construct a new single-story 4,300 sq. ft. building containing the car wash bay, mechanical room, storage, office, and restroom as well as two accessory buildings including a 100 sq. ft. employee sales booth and 100 sq. ft. vacuum pump house serving 10 vacuums along the parking stalls. The subject site is located towards the northern end of the municipal boundary along Central Avenue and the surrounding adjacent properties to the immediate north, west, and south are all zoned for Commercial use through the General Business District. The property also abuts several residential neighborhoods to the north, east, and south containing multi-family, duplexes, and single-family residential zoning adjacent to Central Avenue.

The subject site is zoned, General Business District, and the use as a car wash is a permitted use in the district subject to Specific Development Standards 9.107 (10) for a car wash. The proposed site plan, as conditioned, shall meet the specific developments applying to car washes including:

- (a) Water from the car wash shall not drain across any sidewalk or into any public right-of-way;
- (b) Vacuum facilities shall be located in an enclosed structure or located at least 50 feet from any residential property line to avoid noise impacts.
- (c) The premises, all adjacent streets, sidewalks, and alleys, and all sidewalks and alleys within 100 feet of the use shall be inspected regularly for the purposes of removing litter found thereon.

The proposed site plan shows 18 parking stalls and four (4) stacking spaces in two (2) lanes for a total lane queue length of eight (8) total vehicles at the entrance. The required parking and vehicle stacking for an automobile washing facility is two (2) spaces per bay, plus four (4) stacking spaces per bay with one (1) space at the bay exit.

COMPREHENSIVE PLAN

The City's 2040 Comprehensive Plan guides the subject site, as well as properties to the north and east for "commercial land use" with additional "commercial land use" to the south as well as "medium density and low density residential" further to the south and east of the commercial parcels. The Plan describes the "commercial" designation as follows:

The Commercial land use designation is primarily located along major transportation corridors and includes a variety of retail uses, services, and office uses.

The subject site also lies within "Opportunity Area #2B" of the Comprehensive Plan which overlays the segment of the Central Avenue from 37th Avenue NE to the Fridley Border, specifically between Central Avenue NE and 49th Avenue NE. In this regard, the Plan identifies the area as having development potential for future commercial use. Some of the guiding principles for redevelopment include commercial uses with appropriate parking and pedestrian accesses to Central Avenue and emphasizing on businesses that provide goods or services that appeal to the community at large as well as the adjacent neighborhoods. This area is described as having an emphasis on providing sidewalks, four season landscaping, and lighting.

SITE PLAN REVIEW

1. Access

Two accesses to the site are proposed from the south via 50th Avenue NE, a 60-foot wide public right of way with a road width of 35 feet back of curb to back of curb, through an existing 24 foot wide driveway with directional markings for vehicles exiting the car wash and entering to use the vacuums with an additional access point at the southeastern corner of the property which has directional markings showing an entrance only for the car wash accommodating the vehicle stacking. As a condition of approval, a 24 foot fire access lane must be maintained for emergency vehicle access.

2. Off-Street Parking

<u>Supply Requirements.</u> The submitted site plan illustrates a total of 18 off-street parking stalls. The Zoning Ordinance requires two (2) spaces per bay plus four (4) stacking spaces for the one (1) car wash bay including one (1) stacking space at the exit. The Zoning Ordinance also specifies that that employee parking is only required when the parking requirements are based on employee counts, as such, the parking requirements for car washes are determined by the number of service bays and stacking spaces, not employee counts. Appropriately, one off-street parking spaces on the site has been designated as a disability stall (in accordance with the American Disability Act) along with an access aisle striped with "No Parking". The proposed site plan has more off-street parking than required and can accommodate any employee parking needs as presented.

Use Ratio **Required Parking Provided Parking** Stalls Car Wash 2 Two (2) parking 18 (+16) spaces per bay Automobile washing Four (4) stacking 4 stacking spaces at 8 stacking spaces at facility-automatic spaces per bay with entrance; 1 stacking entrance; 1 stacking one (1) space at the space at exit. space at exit bay exit Total 2 spaces 18 spaces (+16)

A traffic study was commissioned by the applicant and prepared by a licensed independent engineering firm which shows the anticipated traffic using trip generation estimates for trips during weekday a.m. and p.m. peak hours as well as a daily basis. The Trip Generation Summary provides estimates demonstrates on the in/out traffic for the a.m. and p.m. peak hours as well as the daily trips between the proposed car wash and the previous office use with the following trip estimates as shown:

Land Use	Size	AM Pea	ak Hour	PM Peak Hou	r	Daily	
Type (ITE Codes)		In	Out	In	Out		
Proposed Deve	lopment						
Automated	1 -	15	15	30	30	300	
Car Wash	Tunnel/4,500						
(947-949)	SF						
Former Land U	Former Land Use						
Office (710)	12,500 SF	25	3	3	25	190	
Overall Site Ch	ange (+/-)	-10	+12	+27	+5	+110	

Trips were routed to the adjacent roadway network using the following distribution based on existing area travel patterns and engineering judgement:

- Central Avenue (Highway 65) North and South: 35% each
- Tyler Street: 15%
- 50th Avenue West, 50th Avenue East, and Polk Place: 5% each

The traffic study indicates that all applicable intersections will continue to operate at Level-of-Service C or better and all approaches will continue to operate near the Level-of-Service D/E threshold or better during the peak hours. Minimal changes in queuing are expected nor any impacts to the proposed development driveways are expected. The daily traffic volume changes along Polk Place, 50th Avenue, and Tyler Street are minimal and within a typical daily variation of most roadways. The provided vehicle stacking distance is adequate and no impacts to 50th Avenue are expected.

Some recommendations the traffic study urges the City to consider are locating signage and landscaping to avoid any sight distance issues, review truck maneuverability to limit internal circulation conflicts, and adding a stop or yield sing along Tyler Street at 50th Avenue to better define the right-of-way for motorists and reduce potential conflicts. As conditioned, the proposed site plan shall meet vehicle access, stacking, and parking requirements in accordance with City Code.

<u>Dimensional Requirements.</u> The proposed off-street parking stalls meet the minimum dimensional requirements of the Ordinance (9 feet in width and 20 feet in depth, 18 feet for stalls which abut curbs) and the provided 24 foot-wide drive aisle is the minimum width required by the Ordinance.

<u>Building</u>, Parking, and Vacuum Area Setbacks. Within GB zoning districts, the following setbacks are imposed:

Parking Setbacks:					Building	Setbacks:	
Front:	Side:	Rear:	Side:	Front:	Side:	Rear:	Side:
15 feet	5 feet	5 feet	5 feet	15 feet	0 feet	20 feet	0 feet

The proposed site plan configuration would result in the following setbacks for Tsunami Express Car Wash:

Parking Setbacks:				Building Setbacks:			
Front:	Side (Aldi):	Rear:	Side	Front:	Side (Aldi):	Rear:	Side
26 feet	45 feet	Approx. 60	(Residential):	Approx. 70	49.5 feet	28.6 feet	(Residential):
		feet	35 feet	feet			40 feet

In addition to the building and parking setbacks, car washes have specific development standards requiring that the vacuum facilities must be located in an enclosed structure or located 50 feet from any residential property lines, which will be a condition of approval. The proposed site plan as presented will have building and parking lot setbacks that conform with 9.110 Commercial Districts (C) Lot dimension, height, and bulk requirements. The lot area, setback, height and lot coverage proposed satisfy these requirements. The vacuums, as conditioned, will meet the specific development standard setback of 50 feet from residential property lines and/or be enclosed.

As a condition of approval, two spaces shall be designated for employee use and an area shall be designated for snow storage and if snowfall exceeds the storage of that area, then it shall be required to be removed from the property. The proposed site plan, as presented, meets the parking and stacking requirements. As conditioned, the proposed site plan shall accommodate vehicle access and stacking in accordance with City Code.

3. Business Hours

It is understood that the car wash is proposing 7AM – 8PM hours of operation, Monday – Sunday, and any vacuum use shall be limited to hours of operation as a condition of approval.

4. Trash

A trash enclosure is shown on the site plan on the western side of the property alongside the parking lot and in the architectural renderings as being 6 feet, 11 inches from the slab and surrounded by at least three sides with screening walls that are similar to the construction material used on the new building. The open side of the enclosure shall not face any public street or the front yard of any adjacent property. Garbage pickup is expected to occur outside of business hours.

5. Signage

The applicant has submitted drawings for on-site signage which will require a building permit and are

subject to review for compliance by City Staff. As a condition of approval, all signage shall be reviewed by the City for approval.

6. Fire Access

The fire lane shall be marked with yellow curb paint and signage that states "No Parking – Fire Lane". As a condition of approval, this will be required to remain.

7. Pedestrian and Bicycle Access

The site does not have pedestrian or bicycle access along 50th Avenue NE and that access ends at the Aldi property in alignment with Central Ave. The applicant is proposing sidewalk from the edge of the western access to the site and connecting the sidewalk to the access on the eastern side of the property continuing the connection from the Aldi property and ending before the residential neighborhood. The 2040 Comprehensive Plan land use goals state that sites should have pedestrian and bicycle access. Pedestrian access is satisfied, but the site should incorporate a bicycle parking area to satisfy this goal. Staff is recommending that a bicycle rack capable of accommodating two to four bicycles be a condition of approval.

8. Exterior Lighting

The applicant has provided a lighting plan and specifications for the proposed lighting fixtures satisfying the requirements of 9.106 General Development Standards (K) and addresses potential security concerns from Public Safety. One of the SCM-LED-08L-SC-40 lighting fixtures shall be relocated so there is no more than 0.5 footcandles along the eastern property line as a condition of approval.

9. Loading Area

The applicant is not proposing any discernable loading areas and the code requirements for off-street loading spaces apply to non-residential uses receiving or distributing materials or merchandise by trucks or similar vehicles and has a gross floor area of 5,000 sq. ft. or more are not applicable to this proposal. The loading area requirements are satisfied per 9.106 General Development Standards (L) (12) as there are no deliveries beyond standard commercial delivery vehicles (UPS, Fed-Ex, and USPS) occurring at the front door. A truck turning diagram has been provided showing that garbage trucks can make the appropriate turns and maneuvers within the site.

10. Tree Preservation and Replanting Standards

The applicant meets the Tree Preservation and Replanting Standards in 9.106 General Development Standards (M) and has provided both a tree preservation and landscaping plan showing location, size, quantity, and species of all existing and proposed plant materials subject to design standards and considerations reviewed by the Urban Forester. The Urban Forester is satisfied with the proposed preservation and landscaping plan, but recommends and encourages the applicant to work with Aldi to remove undesirable weed trees from the north of the property that leaning heavily over the property line. The tree preservation identifies 15 trees to be removed, one of which is considered a protected tree, and is proposing to preserve four (4) of the existing trees. The applicant is required to provide one tree for every 50 feet of street frontage and the property has 224 feet of frontage for a total of four (4) trees, a minimum of four (4) trees per one acre of lot coverage, and five (5) replacement trees per the replacement standards for a total of 13 trees proposed. Additionally, the applicant is proposing landscaping containing native plantings and pollinator friendly habitats for the majority of the trees, shrubs, and grasses used.

As a condition of approval, the applicant is required to provide a letter of credit or other security as acceptable to the City and shall be deposited with the Zoning Administrator, in an amount equal to 100% of the estimated as the security as acceptable.

cost of landscaping and/or screening. The letter of credit or other security as acceptable to the City, or portions thereof, shall be forfeited to maintain and/or replace materials for a period of time to include at least two growing seasons. A portion of the letter of credit or other security as acceptable may be released after one growing season as determined by the Zoning Administrator. The property owner shall be responsible for continued maintenance of landscaping and screening materials to remain in compliance with the requirements of this section. Plant materials that show signs of disease or damage shall be promptly removed and replaced within the next planting season.

11. Building Design

The proposed site is considered part of the Highway District in the City Design Guidelines and is subject to the standards and requirements of that design district. The proposed site plan demonstrates compliance with the design objectives of the Highway District, the building is set back from the street behind a parking lot and along a frontage road. The architectural renderings and site plan, as conditioned, show compliance with building configuration, façade and roof treatments, window and door openings, building equipment, drive-through facilities, landscaping and parking meet the design guidelines. Any proposed signage will be subject to the design standards as a condition of approval.

12. Performance Standards

The applicant shows a 5' retaining wall along the eastern property line as the site is 5 feet lower in elevation than the residential property adjacent to the site. The applicant has provided information on the proposed lighting plan showing photometrics, the reclaim system and equipment as well as safety data sheets for all chemicals used for operations. As a condition of approval, the applicant is required to implement the recommendations of a noise impact study to minimize the impact that the car wash and vacuum operations are going to have on the adjacent residential properties.

13. Noise Mitigation

The applicant was required to provide a noise impact study and implement the recommendations to minimize the impact that the car wash and vacuum operations are going to have on the adjacent residential properties. The Minnesota Pollution Control Agency defined the noise limit for Residential zones at the property lines at 60 dB(A), decibels and A-weighting of the sound pressure level for the purpose of determining the human response to sound through MN Statute § 7030 Noise Pollution Control.

The noise study indicates that the carwash-related noise levels will not exceed the residential limits with the addition of an 8' tall sound barrier (which requires a Conditional Use Permit) along the east and north property lines on top of the planned retaining wall with the combined height extending 2' above the top of the car wash entry doors. There are minimum acoustical requirements for the sound barrier wall: constructed from a material with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot. An example of a suitable material would be overlapping, 1" (nominal thickness) cedar or pine planks, assembled so the total, actual thickness of the wall is at least 1-1/2" along the entire length of the wall. These need to be screwed together so the natural warping over time odes not cause the planks to pull apart and create gaps; the wall must be constructed tight to the ground and must be inspected, maintained, and upkept over time. Post-construction sound testing will be required to confirm the barrier was built to the recommendations specified. Other operational requirements include installation of a muffler on the vacuum pump house and the blowers set to turn off when the exit doors open.

14. Neighborhood Notification

As required, neighborhood notification of the site plan review applications have been provided to prope 14

owners within 350 feet of the subject property and that list of property owners is attached. At the time of this report, City Staff has received 14 written comments and one verbal phone call from a resident as well as a few in-person visits; 6 of the written comments are from residents within the mailing radius.

Linda Rogers at 1057 Polk Place provided the written comment attached as she is opposed to the proposed site plan citing concerns with the existing traffic increases from Aldi, additional cars entering and exiting the car wash, and noise from both the car wash and vacuum operations.

Dana Alexon at 1035 Lincoln Terrace provided the written comments attached and had initial comments on traffic increasing, how the existing area handles traffic, and concerns over the sight lines considering the vehicle queuing and topography. Other remarks were made on the traffic lights and traffic lane arrangement at 50th and Central regarding marking, striping, and signage that is not being maintained, used incorrectly, and the signal timing is not effective enough to give adequate time for certain turns and contributes to risky decisionmaking by drivers. An additional written comment identified more specific concerns such as sight lines on the hill serving nearby residential streets, room for potential expansion in the future, employee parking, and other concerns related to overflow and queuing access onto adjacent streets.

Steve and Janine Ess at 5030 Mulcare Drive provided the written comment attached as they are concerned about the heavy traffic trying to get onto Central Avenue and 50th Avenue NE from the existing businesses.

Samantha Koshiol at 1240 Lincoln Terrace provided the written comment attached as she is opposed to the proposed site plan and has concerns that the intersection cannot currently support the existing vehicle traffic from the businesses and school traffic along with concerns about noise.

Garedew Ergette at 5000 Fillmore Street NE provided the written comment attached as they have concerns about the intersection and traffic from the existing businesses such as ALDI, Heights Bakery, Jimmy John's, safety concerns for multi-modal transportation users citing the lack of sidewalks, traffic backup, and concerns over the impact on property values and noise/emissions.

Carrie Gille at 3956 Reservoir Boulevard provided the written comment attached as she has concerns about noise, pollution, traffic and safety for school children, and light pollution as she states that there are traffic issues on Central Avenue already.

Bob and Sue Koponen at 1035 Polk Place provided the written comment attached as they are opposed to the proposed site plan with specific concerns about the sound pollution from the car wash, vacuums, and the effectiveness of the sound barrier wall as well as concerns with the exterior lighting spilling over into their back yard and traffic at the intersection at 50th Avenue NE and Central Avenue.

Tom and Cathy Kehrwald at 1060 50th Avenue NE provided the written comments attached as they are opposed to the proposed site plan with concerns over safety in regards to a lack of sidewalk facilities and concerns over the sidewalk being maintained during the winter as well as traffic concerns on Central Avenue and 50th Avenue NE. Other concerns identified are noise and light pollution impacts.

Tyler Whitney at 4922 Tyler Street NE provided the written comment attached as he is concerned about the additional traffic that will be generated by the business and worries about the through traffic and the effect that would have on families with small children as well as feedback on the possibility of a sound barrier wall facing Tyler Street NE on the south side of the proposed car wash noting that the sound barrier wall on anoth 15

property is in disrepair and does not deter noise pollution.

Gerri Moeller at 5000 Johnson Street NE provided the written comment attached as she is concerned about the traffic and safety needs of the neighborhood and that the intersection cannot handle additional traffic.

Jennifer and Dirk DeWester at 1200 50th Avenue NE provided the written comment attached as they are opposed to the proposed site plan and cited concerns regarding additional traffic and sight lines over the hill as well as concern in relation to noise pollution from the Speedway Gas Station and how the sound affects properties surrounding them.

Joe Pagliolo and Margaret Hare at 1180 50th Avenue NE provided the written comment attached as they are opposed to the proposed site plan and cited concerns regarding the existing traffic congestion from surrounding businesses.

Mark Colombo at 1105 50th Avenue NE provided the written comment attached as he is opposed to the proposed site plan and has concerns about the traffic intersection congestion from existing businesses with issues identified with the turn lane and additional traffic during the school year.

Ardell and Jon Schmidt at 1105 Polk Place provided the written comment attached as they are opposed to the proposed site plan and has concerns about water from the cars dripping and causing icy slopes, traffic and safety from the existing businesses causing backups, and the safety of pedestrians.

Nancy Sartor at 1498 Lincoln Terrace provided the written comment attached as they are opposed to the proposed site plan and has concerns about the traffic, safety, noise, and exhaust pollution.

15. Staff Review

The Public Works Department, Police Department, and Fire Department have been provided copies of the application materials. The Police Department was satisfied with the proposed site plan and had no concerns. The Fire Department had a few comments regarding the fire lane, keybox, and other fire related items that are conditions of approval.

In review of the application materials, Public Works/Engineering provided their department's requirements and comments on the proposed site plan in a memo dated August 22, 2024. General comments and requirements are in the memo attached to this report and are referenced in the site plan approval language as conditions of approval.

FINDINGS OF FACT

Section 9.104 (N) of the Zoning Ordinance outlines certain findings of fact that must be met in order for the City to approve a site plan review. The findings are as follows:

(a) The site plan conforms to all applicable requirements of this article.

Upon approval of the Site Plan Review, as conditioned, the proposed site plan will conform to all applicable requirements of the General Business (GB) District as well as City Code 9.106 General Development Standards.

(b) The site plan is consistent with the applicable provisions of the City's comprehensive plan.

The use and site plan is consistent with the applicable provisions of the City's comprehensive plan.

(c) The site plan is consistent with any applicable area plan.

With conditions imposed to ensure compatibility, the site plan will be consistent with the applicable Design Guidelines of the Highway District.

(d) The site plan minimizes any adverse impacts on property in the immediate vicinity and the public right-of-way.

As conditioned, the site plan minimizes any adverse impacts on property in the immediate vicinity and the public right-of-way.

RECOMMENDATION

Staff recommends the following to the Planning Commission:

- A. Approval of the Site Plan Review for property located at 999 50th Avenue NE (PID: 25-30-24-23-0002) subject to the following conditions:
- 1. The building and site plans adhere to the building and site plans dated August 5, 2024 as conditioned.
- 2. Contingent upon successful application for a Conditional Use Permit for an over-height sound barrier that is intended to be heard at the City Council meeting on October 14, 2024. An eight (8') foot tall sound barrier is required to be constructed in the manner specified in the Noise Impact Study dated August 23, 2024 with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot, the panels screwed together so there is an overlapping, 1" (nominal thickness) assembled so that the total actual thickness of the wall is at least 1-1/2" along the entire length of the wall.
- 3. The applicant shall adhere to the requirements and comments provided by the City Public Works and Engineering Departments in a memo dated August 22, 2024. The applicant is responsible for filing and recording any proposed easements with Anoka County Recorder's Office.
- 4. Two parking spaces for employees shall be identified and an on-site area shall be designated for snow storage and if snowfall exceeds the storage of that area, then it shall be required to be removed from the property.
- 5. Relocate one of the SCM-LED-08L-SC-40 lighting fixtures so there is no more than 0.5 footcandles along the eastern property line.
- 6. The applicant shall be responsible for conducting routine inspections to ensure that the sound barrier wall/fence is maintained and upkept.

- 7. Post-construction sound testing is required to demonstrate compliance with the recommendations made in the Noise Impact Study.
- 8. The applicant is required to maintain a 24 foot fire lane and shall be stripped with "No Parking Fire Lane".
- 9. The vacuums are required to be setback of 50 feet from residential property lines and/or be enclosed. Vacuum use shall be limited to the hours of operation, 7AM 8PM, Monday Sunday, and a muffler installed on the vacuum pump house as well as setting the blowers in the car wash to turn off whenever the exit doors open.
- 10. The open side of the enclosure shall not face any public street or the front yard of any adjacent property.
- 11. A letter of credit or other security as acceptable to the City and shall be deposited with the Zoning Administrator, in an amount equal to 100% of the estimated cost of landscaping and/or screening. The letter of credit or other security as acceptable to the City, or portions thereof, shall be forfeited to maintain and/or replace materials for a period of time to include at least two growing seasons. A portion of the letter of credit or other security as acceptable may be released after one growing season as determined by the Zoning Administrator. The property owner shall be responsible for continued maintenance of landscaping and screening materials to remain in compliance with the requirements of this section. Plant materials that show signs of disease or damage shall be promptly removed and replaced within the next planting season.
- 12. All rooftop or mechanical equipment shall be screened in a manner that minimizes the visual impact on adjacent properties and from public streets as a condition of approval.
- 13. The building and site shall be meet all requirements found in the Fire Code and the Building Code.
- 14. All new site signage shall require sign permits.
- 15. Provide a bicycle rack capable of accommodating two-four bicycles.
- 16. The applicant is required to receive final approval by the Fire Department or Authority Having Jurisdiction for the location of the keybox, fire alarm panel, fire annunciator, and FDC connection.
- 17. All required state and local codes, permits, licenses, and inspections will be met and in full compliance.

RECOMMENDED MOTION(S):

MOTION: Move to waive the reading of draft Resolution No. 2024-069, a Site Plan Review for 999 50th Avenue NE, there being ample copies available to the public.

MOTION: Move to recommend the Planning Commission approve draft Resolution No. 2024-069, a Site Plan Review for 999 50th Avenue NE, as presented and subject to the conditions of approval listed in the draft resolution.

ATTACHMENT(S):

Draft Resolution Application Narrative Plan Set Fence Specifications Noise Impact Study Traffic Study Truck Turning Diagram Notice of Public Hearing to Newspaper Notice of Public Hearing to Neighborhood Mailing List Written Public Comments

RESOLUTION NO. 2024-069

A resolution of the Planning Commission for the City of Columbia Heights, Minnesota, recommending approval of a Site Plan Review for property located at 999 50th Avenue NE in the City of Columbia Heights, MN;

Whereas, a proposal (Planning Case # 2024-0904) has been submitted by Civil Site Group on behalf of Tsunami Express Car Wash to the Planning Commission requesting approval of a Site Plan Review at the following location:

ADDRESS: 999 50th Avenue NE

<u>LEGAL DESCRIPTION:</u> (999 50th Avenue NE) THAT PART OF LOTS 8 & 9 AUDITORS SUBDIVISION NO 153 LYG ELY & SLY OF ALDI ADDITION, WLY OF MATHAIRE ADDITION & NELY OF 50TH AVE NE

THE APPLICANT SEEKS THE FOLLOWING:

1. Approval of a Site Plan Review for a new construction drive-through car wash on a 0.83 acre parcel in accordance with City Code Section 9.104 (N).

Whereas, the Planning Commission held a public hearing as required by the City Zoning Code on October 1, 2024;

Whereas, the Planning Commission has considered the advice and recommendations of the Planning Commission regarding the effect of the proposed site plan upon the health, safety, and welfare of the community and its Comprehensive Plan, as well as any concern related to traffic, property values, light, air, danger of fire, and risk to public safety, in the surrounding area;

Now, therefore, in accordance with the foregoing, and all ordinances and regulations of the City of Columbia Heights, the City of Columbia Heights Planning Commission makes the following:

FINDINGS OF FACT

- 1. The site plan conforms to all applicable requirements of this article.
- 2. The site plan is consistent with the applicable provisions of the City's comprehensive plan.
- 3. The site plan is consistent with any applicable area plan.
- 4. The site plan minimizes any adverse impacts on property in the immediate vicinity and the public right-of-way.

CONDITIONS

- The building and site plans adhere to the building and site plans dated August 5, 2024 as conditioned.
- 2. Contingent upon successful application for a Conditional Use Permit for an overheight sound barrier that is intended to be heard at the City Council meeting on October 14, 2024. An eight (8') foot tall sound barrier is required to be constructed in the manner specified in the Noise Impact Study dated August 23, 2024 with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot, the panels screwed together so there is an overlapping, 1" (nominal thickness) assembled so that the total actual thickness of the wall is at least 1-1/2" along the entire length of the wall.
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- 10. The open side of the enclosure shall not face any public street or the front yard of any adjacent property.

- 11. A letter of credit or other security as acceptable to the City and shall be deposited with the Zoning Administrator, in an amount equal to 100% of the estimated cost of landscaping and/or screening. The letter of credit or other security as acceptable to the City, or portions thereof, shall be forfeited to maintain and/or replace materials for a period of time to include at least two growing seasons. A portion of the letter of credit or other security as acceptable may be released after one growing season as determined by the Zoning Administrator. The property owner shall be responsible for continued maintenance of landscaping and screening materials to remain in compliance with the requirements of this section. Plant materials that show signs of disease or damage shall be promptly removed and replaced within the next planting season.
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- 13. The building and site shall be meet all requirements found in the Fire Code and the Building Code.
- 14. All new site signage shall require sign permits.
- 15. Provide a bicycle rack capable of accommodating two-four bicycles.
- 16. The applicant is required to receive final approval by the Fire Department or Authority Having Jurisdiction for the location of the keybox, fire alarm panel, fire annunciator, and FDC connection.
- 17. All required state and local codes, permits, licenses, and inspections will be met and in full compliance.

Passed this 1 st day of October, 2024	
Offered by: Seconded by: Roll Call:	
Attest:	Clara Wolfe, Chair
Andrew Boucher, City Planner	



Community Development Department 590 40th Ave. NE, Columbia Heights, MN 55421

SITE PLAN APPLICATION (UNDER 1 ACRE) ORDINANCE NO. 9.104 (N)

This application is subject to review and acceptance by the City. Applications will be processed only if all required items are submitted.

PROPERTY INFORMATION

Proposed name of development: <u>Tsunami Express Car Wash</u> Project Address/Location: <u>999 50th Ave. NE, Columbia Heights, MN 55421</u> Legal Description of property involved: <u>See Attached Word Document</u>

Present use of property <u>Office Building</u> Proposed use of property <u>Car Wash</u>

PROPERTY OWNER (As it appears on property title):

Name: <u>Tsunami</u> C	ar Wash Intermediate	<u>Holdco, LLC / Blake Ke</u>	etner
Mailing Address: 4	800 Meadows Road,	Suite 300	
City: Lake Osweg	0	State: <u>OR</u>	Zip: <u>97305</u>
Daytime Phone:9	20-744-9882	Cell Phone:	
E-mail Address: ^{bla}	20-744-9882 ke.ketner@tsunamiexp	ress.com	
Signature/Date: 🛛	lake Ketner	07/31/2024	
• · · ·			

APPLICANT:

	Civil Site Croup		
Company Name (please print):	Civil Site Group		
Contact Person (please print): Da	ve Knaeble		
Mailing Address: 5000 Glenwood	Ave		
City: Golden Valley	State: MN	Zip: <u>55422</u>	_
Daytime Phone: <u>612-615-0060</u>	Cell Phone:		
Email Address: <u>dknaeble@civils</u>	tegroup.com		
Signature/Date: Knaeble			
Disclaimer: Information submitte	d, including contact informa	tion shall be made available to	the public, unless

otherwise noted.



REASON FOR REQUEST (please attach a written narrative describing your proposal, the intended use of the property and justification for your request.)

FOR OFFICE USE ONL

CASE NO: ______ APPLICATION REC'D BY: _____ \$500 APPLICATION FEE REC'D: _____

DATE APPLICATION REC'D: ______ RECEIPT NUMBER: _____



31 July 2024

Community Development Department – City of Columbia Heights 590 40th Ave. NE Columbia Heights, MN 55421

RE: Tsunami Express Carwash -

To Whom It May Concern,

Tsunami Express Carwash ("Tsunami") is proudly presenting the proposed development plans for a state-of-the-art facility that will serve Columbia Heights (the "City") and the surrounding communities.

Introduction

The proposed development is located directly South of the Aldi located on Central Ave NE, and the parcel number is 25-30-24-23-0002. The property is a 0.83 acre site currently occupied by an abandoned building. The site is currently zoned as GB "General Business." The GB zoning district allows a car wash as a permitted use. The proposed facility is a single-story 4,300 SF building including the car wash bay, mechanical room, storage, office, and restroom. Accessory buildings include a 100 SF employee sales booth, 100 SF vacuum pump house, and dumpster enclosure.

Business Operations

Tsunami Express Carwash ("Tsunami") is a high-quality express car wash that uses state-ofthe-art equipment and provides customers with a wide variety of services. For washes, Tsunami offers several levels of memberships, or customers can pay for a single wash at every visit. The wash cycles are offered at varying price points to suit the needs of each customer.

The site will house 10 vacuums to serve 18 parking stalls. These stalls will be 13'-0" wide and 18'-0" deep. This is wider than the average parking stall to allow for more maneuverability around the vehicle. The vacuums will be available to customers for free regardless of whether they go through the wash. The free vacuums will only be available for use during regular business hours.

In addition to regular business operations, Tsunami also fosters community connections and is an advocate for supporting local organizations. They offer an opportunity to host fundraisers, giving a modern spin on the famous "community car wash" that was once a popular method of raising funds for various community organizations. Supporters of the organizations will receive a high-quality car wash, and the organization receives 50% of the proceeds from every wash donated back to them.

Regular business hours extend from 7:00 am to 8:00 pm daily. There will be attendants on duty for the full duration of the operating hours to assist customers and maintain the cleanliness of the site. Each shift will employ 2-3 employees with a total staff of approximately 8-10 employees. During these hours, Tsunami expects to service 200-400 customers per day.

Item 2.

Tsunami currently has five (5) facilities in the Milwaukee area including: Oak Creek, Greenfield, Waukesha, on Fond du Lac Avenue. They are excited to expand into and invest in the communities in Minnesota.

Entitlement Strategy & Timeline

Tsunami will comply with the local approval process by submitting a Site Plan Application for Plan Commission consideration. They anticipate receiving municipal approvals in Fall of 2024 with single-phase construction beginning in the Spring of 2025 thereafter. The facility is anticipated to be open and operational in early Fall of 2025.

Site Plan

The site is arranged such that the main car wash building is located on the north side of the site and is oriented to be parallel to 50th Ave NE. Tsunami strives to place themselves in areas that make access to their services convenient, allowing their customers to easily incorporate a car wash into their weekly errands.

- <u>Layout:</u> The plan shows (20) parking stalls with (2) being dedicated ADA spaces. The entrance to the wash includes (2) pay stations that allow space for the stacking of up to (8) vehicles (4) per lane.
- <u>Vacuum Design & Placement:</u> The vacuums are aligned along both sides of the parking lot with one vacuum post serving two parking stalls. Each vacuum has (2) hoses that are attached to a central vacuum system that routes to either the main building or the detached pump house at the southeast corner of the site. Each vacuum station is also equipped with a trash bin, a mat clip for easy vacuuming, and a central blower system to help clean those hard-to-reach places.
- Landscaping/Screening: There is ample landscaping throughout the site that has been designed by a professional landscape architect. The dumpster is screened by an enclosure constructed of materials that match the main building, and the pump house is a fully-enclosed secondary building also constructed of similar materials. There is a retaining wall along the East property line, and the site sits 5 feet lower than the residential property to the east. There will be a fence installed at the top of the retaining wall to provide visual screening and safety.
- Access: There are two entrances to the site. The curb cut located on the east end of the site allows customers to access the pay stations to enter the wash tunnel. After exiting the wash tunnel, vehicles can continue on straight to exit the site or turn left to access the free vacuums. The curb cut on the west end of the site allows vehicles to exit the site and/or access the free vacuums without going through the wash tunnel
- <u>Signage</u>: A full signage package complying with all code standards will be submitted for approval. There will be signage on the building as well as one monument sign on the west end of the site directly east of the site access lane.
- <u>Lighting</u>: The proposed lighting plan includes general pole lighting, wall packs, and canopy lighting that provide an average illumination of 2.0 footcandles.

Architecture

The design of the building consists of beige split-faced concrete block, gray masonry, clear anodized aluminum storefront windows, and a blue standing seam metal roof. The long façade

is broken up with brick accent piers. The windows located in the mechanical room will be spandrel glazing.

The main structure of the building consists of structural CMU walls, precast hollow core planks for the roof of the wash tunnel, steel joists and metal deck for the roof of the mechanical/support rooms and poured-in-place concrete foundation walls.

The tunnel contains dual overhead doors at both the entrance and the exit. The interior door will be insulated metal with vision lites to provide thermal protection and security during non-operational hours; the exterior overhead door will be vinyl roll-up doors that will correspond with Tsunami's blue and yellow branding. These vinyl doors are intended to provide protection from the elements in the winter months when the metal doors are open.

Conclusion

Tsunami Express Carwash is excited for the opportunity to submit their state-of-the-art facility to the Plan Commission to be considered for this site. They will prove to be a valuable addition to the Columbia Heights community.

Documents

Accompanying this narrative are all the documents required for the City to review and consider the project for approval. Also included are supplemental documents that provide additional information that may be of use to the Plan Commission while reviewing our submittal. These supplemental documents include:

- **Exhibit 1:** Lighting Cut Sheets Specific information on all proposed lighting fixtures to supplement the site photometric plan. (Included in digital submittal only to conserve paper.)
- **Exhibit 2:** Reclaim System & Equipment Information regarding the reclaim system and equipment.

Other documents are available upon request. These documents include a <u>geotechnical survey</u> and <u>safety data sheets</u> for all chemicals used for operations.

A sound study is planned be conducted for this site specifically to show the car wash's noise impact on the adjacent properties. The final report will be available and shared with the city as soon as it is received.

Please do not hesitate to contact us with any additional questions.

Sincerely, Minanda R.Seals

Miranda R. Seals, AIA, NCARB Architect The Redmond Company









Community Development Department 590 40th Ave. NE, Columbia Heights, MN 55421

SITE PLAN APPLICATION (UNDER 1 ACRE) ORDINANCE NO. 9.104 (N)

This application is subject to review and acceptance by the City. Applications will be processed only if all required items are submitted.

PROPERTY INFORMATION

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PROPERTY OWNER (As it appears on property title):

Name: Tsunami Car Wash Intermediate	Holdco, LLC / Blake K	etner
Mailing Address: 4800 Meadows Road, S	uite 300	
City: Lake Oswego	State: OR	Zip: <u>97305</u>
Daytime Phone: <u>920-744-9882</u>	Cell Phone:	
Daytime Phone: <u>920-744-9882</u> E-mail Address: <u>blake.ketner@tsunamiexpre</u>	ess.com	
Signature/Date: Blake Ketner	07/31/2024	
APPLICANT:	0	
Company Name (please print):Civil Site	Group	
Contact Person (please print): Dave Knaet	ble	
Mailing Address: 5000 Glenwood Ave		
City: Golden Valley	State: MN	Zip: <u>55422</u>
Daytime Phone: <u>612-615-0060</u>	Cell Phone:	
Email Address: <u>dknaeble@civilsitegroup.c</u>	om	
Signature/Date: / Knable		

Disclaimer: Information submitted, including contact information shall be made available to the public, unless otherwise noted.



REASON FOR REQUEST (please attach a written narrative describing your proposal, the intended use of the property and justification for your request.)

FOR OFFICE USE ONL	Υ
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CASE NO: _____ APPLICATION REC'D BY: _____ \$500 APPLICATION FEE REC'D: _____

DATE APPLICATION REC'D: _____ RECEIPT NUMBER: _____

Legal Description of Property

That part of Lots 8 and 9, Auditor's Subdivision No. 153, in the Northwest 1/4 of Section 25, Township 30, Range 24, described as follows: Commencing at the Southwest corner of the Northwest 1/4 of said Section 25; thence Northerly along the West line of said Northwest 1/4 a distance of 710.00 feet; thence Easterly, deflecting 90 degrees 06 minutes, 32 seconds to the right, a distance of 140.06 feet; thence 90.16 feet along a tangential curve to the right having a radius of 766.35 feet, to the East line of the West 230.00 feet of said Northwest 1/4, being the actual point of beginning of the parcel of land to be described; thence continuing Easterly along said curve a distance of 223.58 feet to the East line of the West 445.00 feet of said Northwest 1/4; thence Northerly along the East line of the West 445.00 feet of the Northwest 1/4 a distance of 203.56 feet more or less to the intersection of said line with a line erected Easterly from a point in the West line of said Northwest 1/4 distant 850.00 feet Northerly of the Southwest corner thereof (said line erected Easterly at an angle of 90 degrees 06 minutes 32 seconds as measured from North to East); thence Westerly along said erected line a distance of 215.00 feet to the East line of the West 230.00 feet of said Northwest 1/4; thence Southwesterly along said East line of the West 230.00 feet of the Northwest 1/4 a distance of 145.30 feet to the point of beginning, Anoka County, Minnesota.



YOUR PREMIER DESIGN/BUILD PARTNER

31 July 2024

Community Development Department – City of Columbia Heights 590 40th Ave. NE Columbia Heights, MN 55421

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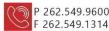
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Please do not hesitate to contact us with any additional questions.

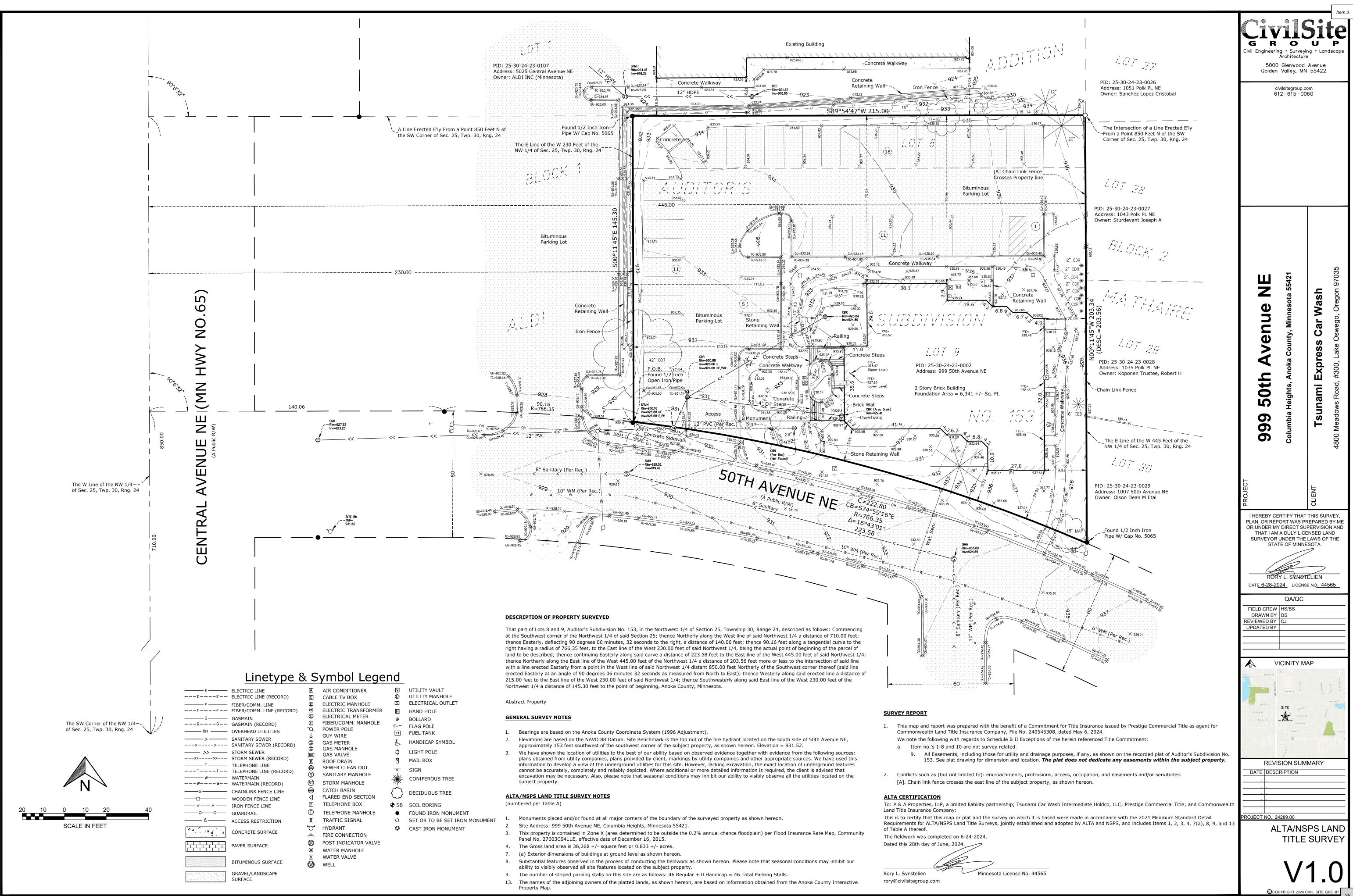
Sincerely, Miranda R.Seals

Miranda R. Seals, AIA, NCARB Architect The Redmond Company









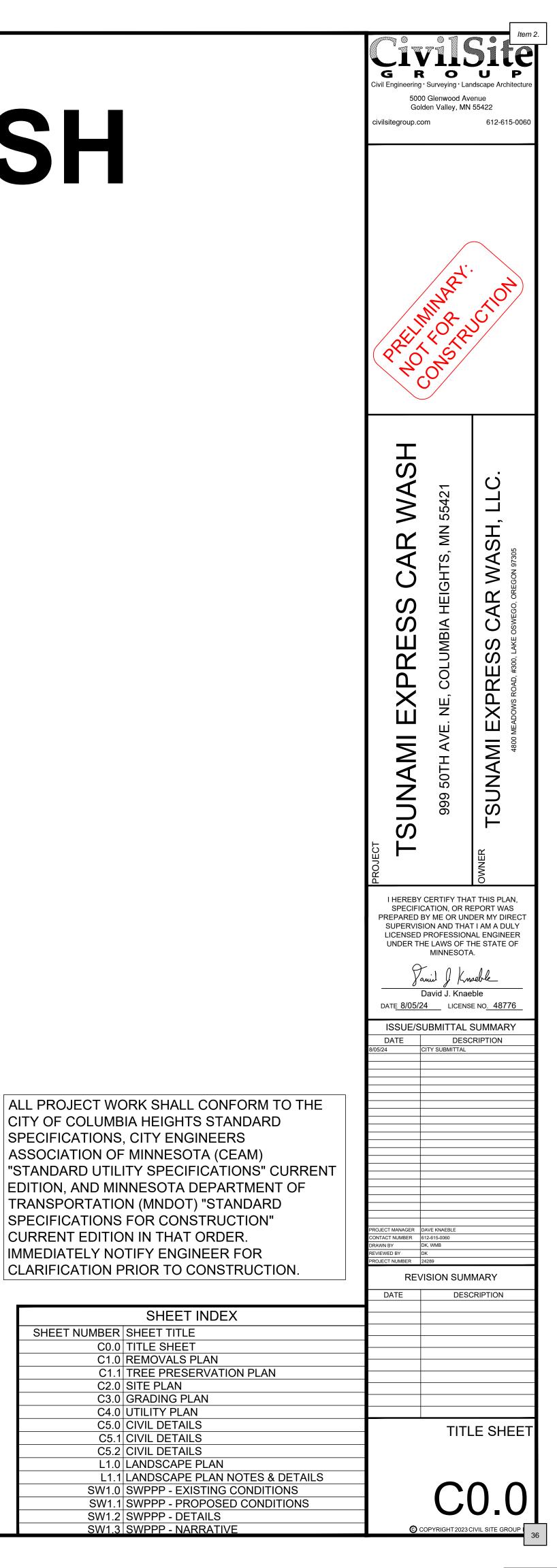
TSUNAMI EXPRESS CAR WASH COLUMBIA HEIGHTS, MINNESOTA **ISSUED FOR: CITY SUBMITTAL**



PROJECT CONTACTS		
	NAME & ADDRESS	CONTACT
CIVIL ENGINEER	CIVIL SITE GROUP 5000 GLENWOOD AVE GOLDEN VALLEY, MN 55422	DAVID KNABLE 612-615-0060 DKNABLE@CIVILSITEGROUP.COM
ANDSCAPE ARCHITECT	CIVIL SITE GROUP 5000 GLENWOOD AVE GOLDEN VALLEY, MN 55422	ROB BINDER 612-615-0060 RBINDER@CIVILSITEGROUP.COM
DEVELOPER	TSUNAMI EXPRESS CAR WASH, LLC. 4800 MEADOWS ROAD, SUITE 300 LAKE OSWEGO, OR 97035	CHRIS SCHULDT 920-744-9882 CHRIS@TSUNAMIEXPRESS.COM
PROPERTY OWNER	TSUNAMI EXPRESS CAR WASH, LLC. 4800 MEADOWS ROAD, SUITE 300 LAKE OSWEGO, OR 97305	CHRIS SCHULDT 920-744-9882 CHRIS@TSUNAMIEXPRESS.COM
ARCHITECT	THE REDMOND COMPANY W228 N745 WESTMOUND DRIVE WAUKESHA, WI 53186	MIRANDA SEALS 262-549-9600 MSEALS@THEREDMONDCO.COM
SURVEYOR	CIVIL SITE GROUP 5000 GLENWOOD AVE GOLDEN VALLEY, MN 55422	RORY SYNSTELIEN 612-615-0060 X 712 RORY@CIVILSITEGROUP.COM
GEOTECHNICAL ENGINEER	TBD	TBD

ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.





Know what's **below**. Call before you dig.

CITY OF COLUMBIA HEIGHTS STANDARD

EDITION, AND MINNESOTA DEPARTMENT OF

CLARIFICATION PRIOR TO CONSTRUCTION.

C0.0 TITLE SHEET

C2.0 SITE PLAN C3.0 GRADING PLAN C4.0 UTILITY PLAN C5.0 CIVIL DETAILS

C5.1 CIVIL DETAILS

C5.2 CIVIL DETAILS

L1.0 LANDSCAPE PLAN

SW1.2 SWPPP - DETAILS SW1.3 SWPPP - NARRATIVE

C1.0 REMOVALS PLAN

SHEET INDEX

C1.1 TREE PRESERVATION PLAN

SW1.0 SWPPP - EXISTING CONDITIONS

SW1.1 SWPPP - PROPOSED CONDITIONS

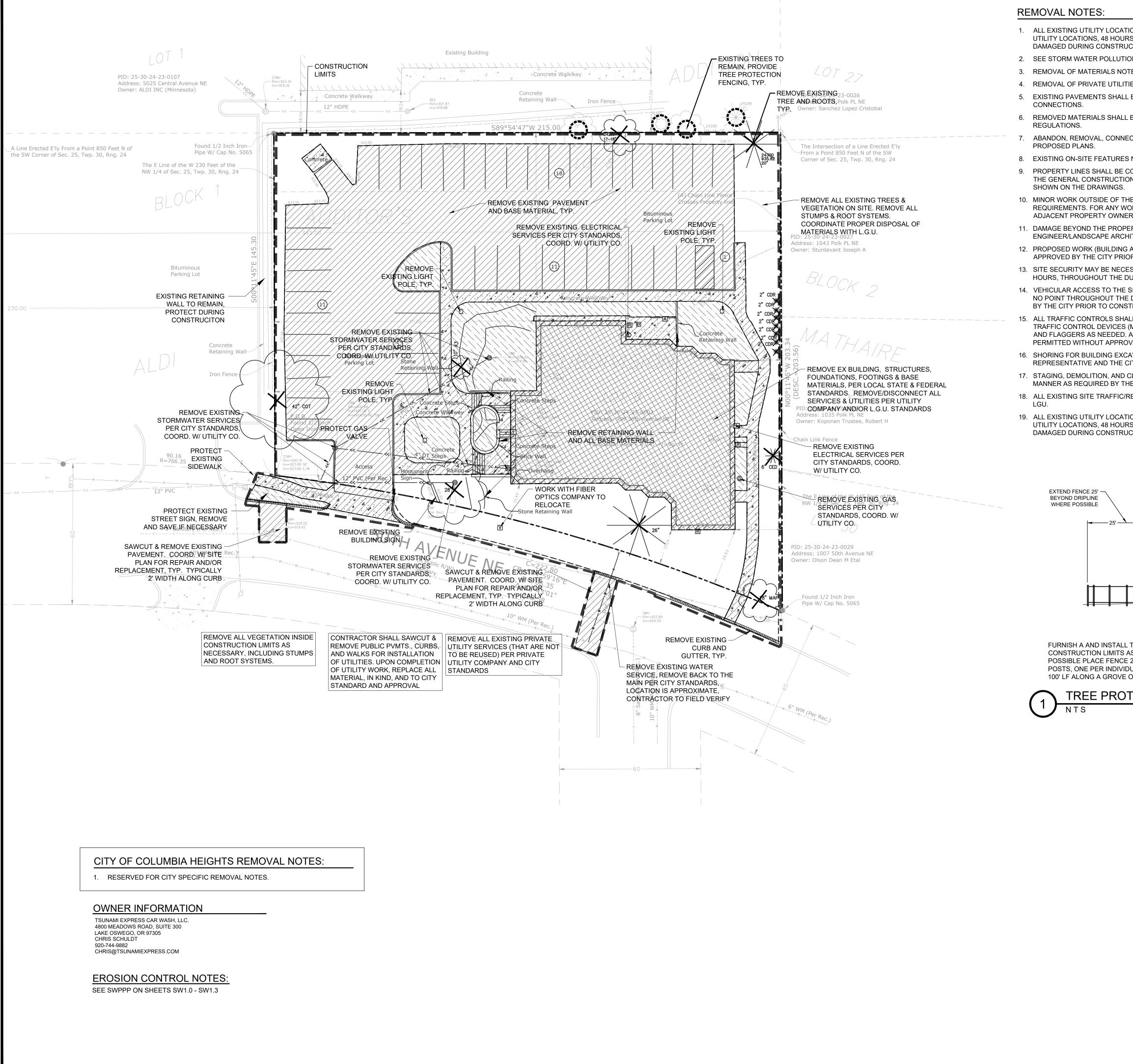
TRANSPORTATION (MNDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION"

SPECIFICATIONS, CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM)

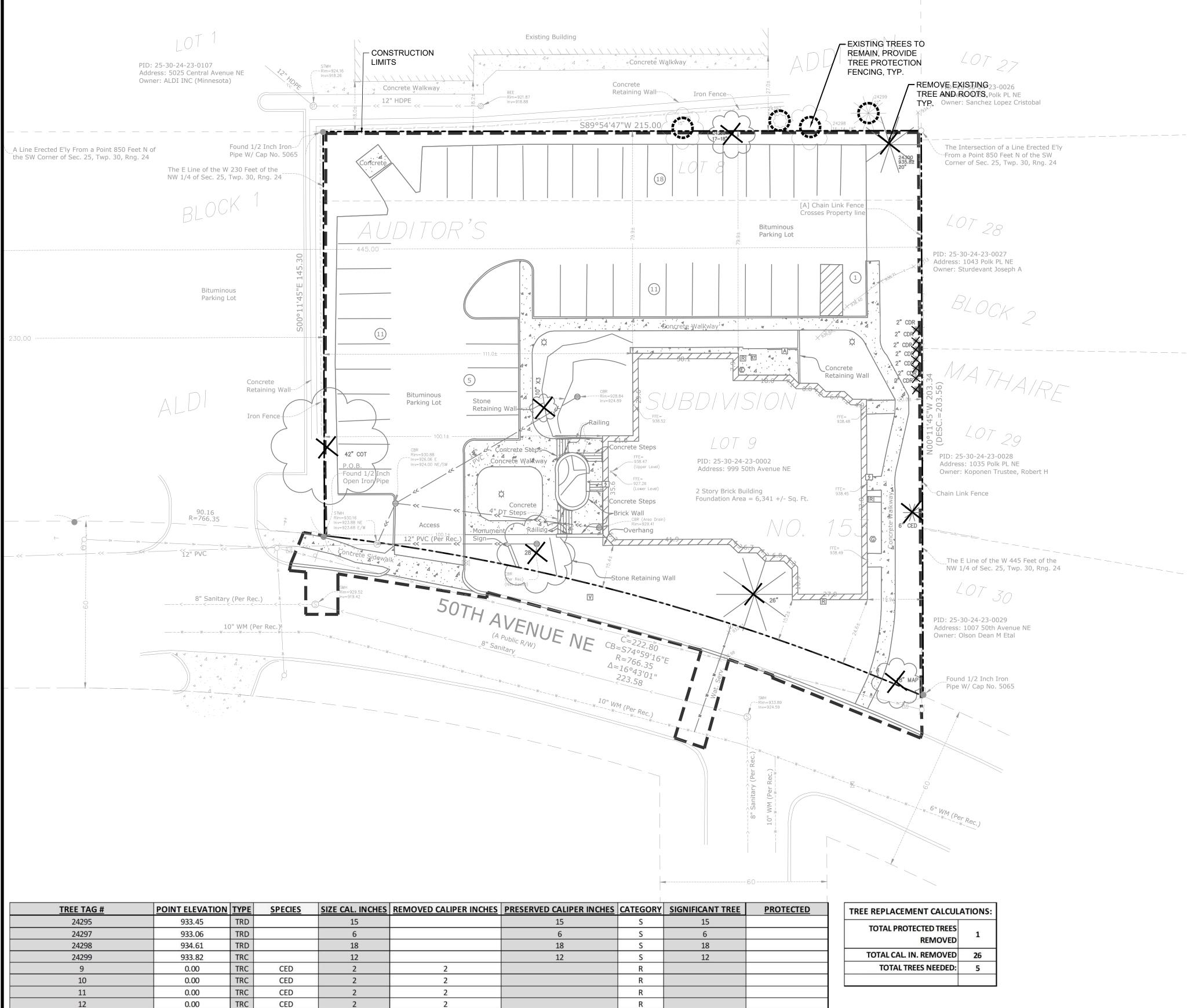
CURRENT EDITION IN THAT ORDER.

SHEET NUMBER SHEET TITLE

IMMEDIATELY NOTIFY ENGINEER FOR



		Civil	Site
ONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800 S PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES CTION AT NO COST TO THE OWNER.		G R O Civil Engineering · Surveying · La 5000 Glenwood Av Golden Valley, MN	enue
ON PREVENTION PLAN (SWPPP) PLAN FOR CONSTRUCTION STORM WATER MANAGEMENT PLA TED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH MNDOT, STATE AND LOCAL REGULA TES SHALL BE COORDINATED WITH UTILITY OWNER PRIOR TO CONSTRUCTION ACTIVITIES.		civilsitegroup.com	612-615-0060
BE SAWCUT IN LOCATIONS AS SHOWN ON THE DRAWINGS OR THE NEAREST JOINT FOR PRO	POSED PAVEMENT		
BE DISPOSED OF TO A LEGAL OFF-SITE LOCATION AND IN ACCORDANCE WITH STATE AND LC	DCAL		
CTION, AND PROTECTION NOTES SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINA	TE WITH		
NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT THE DURATION OF THE CO CONSIDERED GENERAL CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED ON THE DRAWING IN LIMITS SHALL INCLUDE STAGING, DEMOLITION AND CLEAN-UP OPERATIONS AS WELL AS CO	GS. WORK WITHIN	1APT	. 5
E GENERAL CONSTRUCTION LIMITS SHALL BE ALLOWED AS SHOWN ON THE PLAN AND PER CORK ON ADJACENT PRIVATE PROPERTY, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISS R PRIOR TO ANY WORK.		PRUT FOR	SCILE
ERTY LIMITS CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN A MANNER APPRO ITECT OR IN ACCORDANCE WITH THE CITY. AND CIVIL) SHALL NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE DR OR TO CONSTRUCTION.		PRVA ST	
SSARY AND PROVIDED IN A MANNER TO PROHIBIT VANDALISM, AND THEFT, DURING AND AFT URATION OF THE CONTRACT. SECURITY MATERIALS SHALL BE IN ACCORDANCE WITH THE CI SITE SHALL BE MAINTAINED FOR DELIVERY AND INSPECTION ACCESS DURING NORMAL OPER DURATION OF THE CONTRACT SHALL CIRCULATION OF ADJACENT STREETS BE BLOCKED WI	TY. ATING HOURS. AT		
TRUCTION ACTIVITIES. LL BE PROVIDED AND ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL C MMUTCD) AND THE CITY. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNAGE, BARRICAI ALL PUBLIC STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES S VAL BY THE CITY.	DES, FLASHERS,	WASH 55421	LLC.
AVATION MAY BE USED AT THE DISCRETION OF THE CONTRACTOR AND AS APPROVED BY THE ITY PRIOR TO CONSTRUCTION ACTIVITIES. CLEAN-UP AREAS SHALL BE WITHIN THE PROPERTY LIMITS AS SHOWN ON THE DRAWINGS AN		Ľ [™]	WASH, SON 97305
IE CITY. REGULATORY SIGNAGE TO BE INVENTORIED AND IF REMOVED FOR CONSTRUCTION SHALL BE	RETURNED TO	O Tel	ш
ONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800 S PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES CTION AT NO COST TO THE OWNER.		E S MBIA	SCAF
TREE DRIPLINE, OR CONSTRUCTION LIMITS TREE PROTECTION SIGN, TYP. POSTS AND FENCING		PROJECT TSUNAMI EXPR 999 50TH AVE. NE, COLUI	OWNER TSUNAMI EXPRES 4800 MEADOWS ROAD, #300,
DI DRIPLINE WIDTH TEMPORARY FENCE AT THE TREE'S DRIP LINE OR AS SHOWN ON PLAN, PRIOR TO ANY CONSTRUCTION. WHERE 25' BEYOND DRIP LINE. PLACE TREE PROTECTION SIGN ON UAL TREE (FACING CONSTRUCTION ACTIVITY), OR ONE EVERY		I HEREBY CERTIFY THA SPECIFICATION, OR R PREPARED BY ME OR UN SUPERVISION AND THA LICENSED PROFESSION UNDER THE LAWS OF T MINNESOT	EPORT WAS DER MY DIRECT T I AM A DULY IAL ENGINEER 'HE STATE OF
OR MULTI-TREE PROTECTION AREA.		Januil J Kw David J. Knae	peble
TECTION		DATE <u>8/05/24</u> LICENS	SE NO <u>. 48776</u>
		DATE DESC 8/05/24 CITY SUBMITTAL	
REMOVALS PLAN LEGEND:			
REMOVAL OF PAVEMENT AND MATERIAL, INCLUDING BIT., CO			
GRAVEL PVMTS. REMOVAL OF STRUCTURE INCLUDING ALL FOOTINGS AND	D	PROJECT MANAGER DAVE KNAEBLE CONTACT NUMBER 612-615-0060	
		DRAWN BY DK, WMB REVIEWED BY DK PROJECT NUMBER 24289 REVISION SUN	IMARY
PROPERTY LINE ++++++++++++++++++++++++++++++++++++			
GOVERNING UNIT. TREE PROTECTION			
TREE REMOVAL - INCLUDING ROOTS AND STUMPS			
		REMOV	ALS PLAN
Know what's below . Call before you dig.	1" = 20'-0" '-0" 0 20'-0"	© COPYRIGHT 2023	



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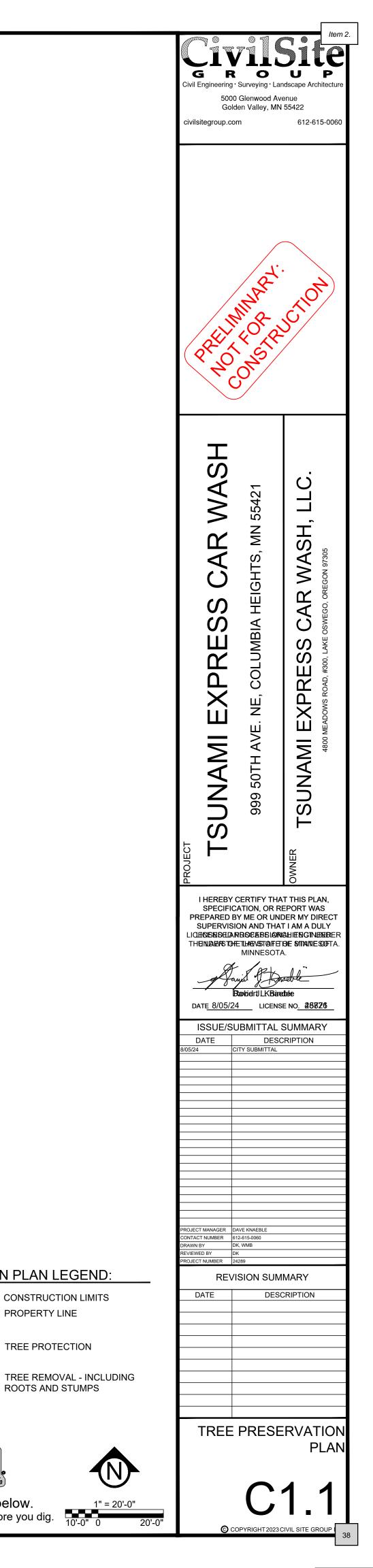
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18

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TREE TAG #	POINT ELEVATION	TYPE	SPECIES	SIZE CAL. INCHES	REMOVED CALIPER INCHES	PRESERVED CALIPER INCHES	CATEGORY	
24295	933.45	TRD	6	15		15	S	
24297	933.06	TRD		6		6	S	
24298	934.61	TRD	9 C	18		18	S	
24299	933.82	TRC	2 	12		12	S	
9	0.00	TRC	CED	2	2		R	
10	0.00	TRC	CED	2	2		R	
11	0.00	TRC	CED	2	2		R	
12	0.00	TRC	CED	2	2		R	
13	0.00	TRC	CED	2	2		R	
14	0.00	TRC	CED	2	2		R	
15	0.00	TRC	CED	2	2		R	
24044	932.24	TRD	Honey Locust	28	28		R	
24137	933.52	TRD	Amur Maple	30	30		R	
24237	933.30	TRC	Scotch Pine	26	26		R	
24296	934.46	TRD	Cottonwood	18	18		R	
24300	935.82	TRC	Scotch Pine	20	20		R	
70252	932.21	TRD	СОТ	42	42		R	
70448	938.23	TRD	NORWAY MAP	18	18		R	
70451	937.74	TRC	CED	6	6		R	
	TOTAL TREES ON SITE			19				
	OTAL INCHES ON SITE			253				
	TAL INCHES REMOVED				202			
	GE INCHES REMOVED				80%			
	TOTAL INCHES SAVED					51		
	NTAGE INCHES SAVED					20%		
	TOTAL TREES SAVED					4		
тс	TOTAL TREES REMOVED						15	



TREE PRESERVATION PLAN LEGEND:

PROPERTY LINE

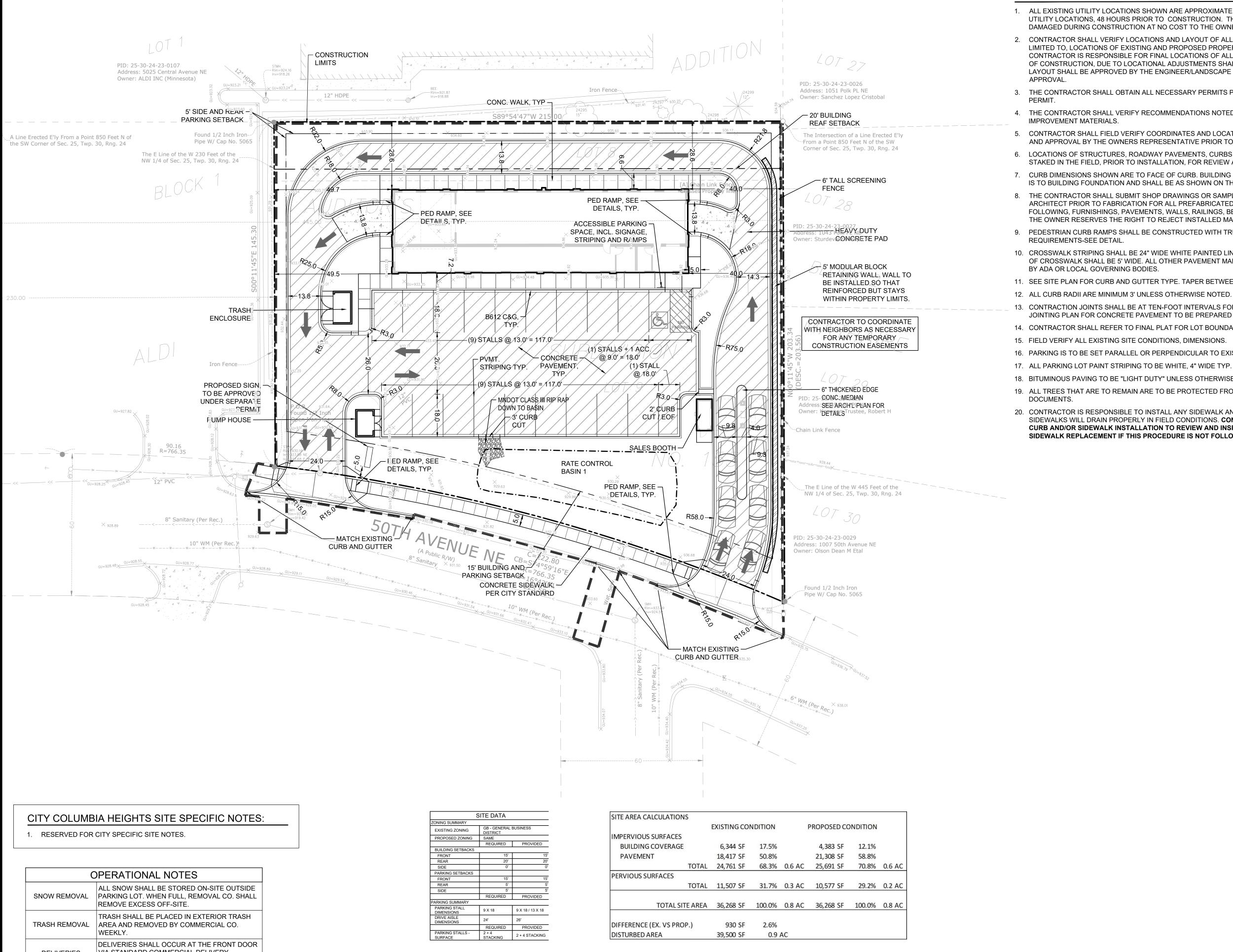
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CONSTRUCTION LIMITS

Know what's **below. Call** before you dig.

TREE PROTECTION

ROOTS AND STUMPS



SNOW REMOVAL	ALL SNOW SHALL BE STORED ON-SITE OUTSIDE PARKING LOT. WHEN FULL, REMOVAL CO. SHALL REMOVE EXCESS OFF-SITE.
TRASH REMOVAL	TRASH SHALL BE PLACED IN EXTERIOR TRASH AREA AND REMOVED BY COMMERCIAL CO. WEEKLY.
DELIVERIES	DELIVERIES SHALL OCCUR AT THE FRONT DOOR VIA STANDARD COMMERCIAL DELIVERY VEHICLES (UPS, FED-EX, USPS).

OWNER INFORMATION

TSUNAMI EXPRESS CAR WASH, LLC. 4800 MEADOWS ROAD, SUITE 300 LAKE OSWEGO, OR 97305 CHRIS SCHULDT

920-744-9882 CHRIS@TSUNAMIEXPRESS.COM

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

2. CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NO LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMI OF CONSTRUCTION, DUE TO LOCATIONAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO T LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR

3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENIN

4. THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE

5. CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS & ELEVATIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.

6. LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION, FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.

7. CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILD IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.

8. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAF ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING, FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLI THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.

9. PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS IN ACCORDANCE WITH A.D.A.

10. CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE, SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WID OF CROSSWALK SHALL BE 5' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRE

11. SEE SITE PLAN FOR CURB AND GUTTER TYPE. TAPER BETWEEN CURB TYPES.

SITE LAYOUT NOTES:

13. CONTRACTION JOINTS SHALL BE AT TEN-FOOT INTERVALS FOR CURB AND GUTTER AND FIVE-FOOT INTERVALS FOR SIDEWALK. FINAL JOINTING PLAN FOR CONCRETE PAVEMENT TO BE PREPARED BY THE CONTRACTOR.

14. CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.

16. PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.

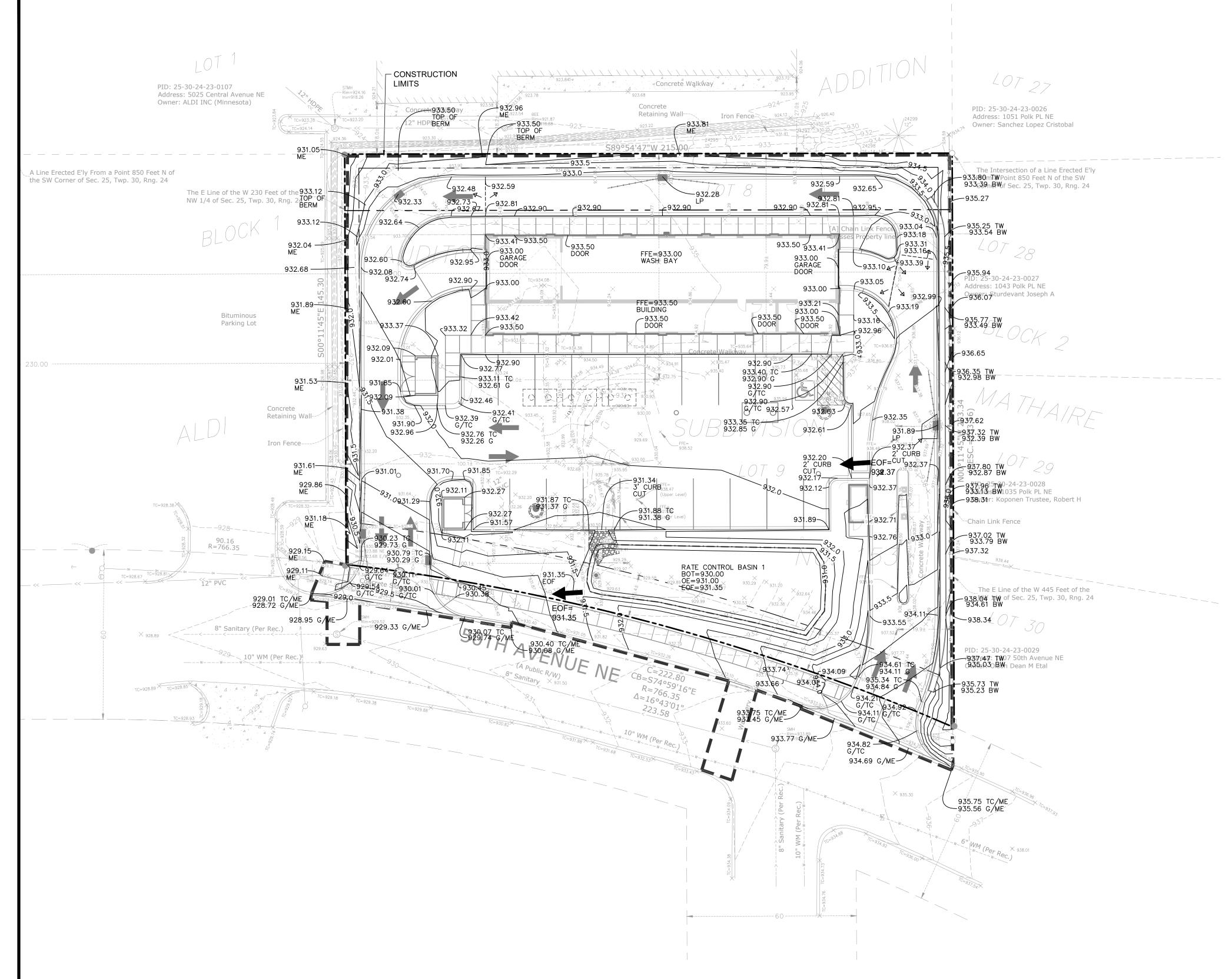
18. BITUMINOUS PAVING TO BE "LIGHT DUTY" UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.

19. ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAI

20. CONTRACTOR IS RESPONSIBLE TO INSTALL ANY SIDEWALK AND CURBING PER DESIGN PLAN. CONTRACTOR TO VERIFY ALL CURBS AND SIDEWALKS WILL DRAIN PROPERLY IN FIELD CONDITIONS. CONTRACTOR MUST CONTACT THE CIVIL ENGINEER 24-HOURS PRIOR TO ANY CURB AND/OR SIDEWALK INSTALLATION TO REVIEW AND INSPECT CURB STAKES. CONTRACTOR IS RESPONSIBLE FOR ANY CURB OR SIDEWALK REPLACEMENT IF THIS PROCEDURE IS NOT FOLLOWED.

SITE PLAN LEGEN	ND:		
	HEAVY DUTY CONCRETE PAD, WITH 1% OR LESS CONCRETE SLOPE.	ISSUE/S	SUBMITTAL SUMMARY
	CONCRETE PAVEMENT, WITH ALTERNATE FOR BITUMINOUS PAVEMENT.	DATE 8/05/24	DESCRIPTION CITY SUBMITTAL
	CONCRETE PAVEMENT (IF APPLICABLE) AS SPECIFIED (PAD OR WALK) SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & CONCRETE DEPTHS, WITHIN ROW SEE CITY DETAIL, WITHIN PRIVATE PROPERTY SEE CSG DETAIL		
	PROPERTY LINE		
	CONSTRUCTION LIMITS		
ТО	CURB AND GUTTER-SEE NOTES (T.O.) TIP OUT GUTTER WHERE APPLICABLE-SEE PLAN		
↑ ↑	TRAFFIC DIRECTIONAL ARROW PAVEMENT MARKINGS	PROJECT MANAGER CONTACT NUMBER DRAWN BY REVIEWED BY PROJECT NUMBER	DAVE KNAEBLE 612-615-0060 DK, WMB DK 24289
6	SIGN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED. HC = ACCESSIBLE SIGN NP = NO PARKING FIRE LANE ST = STOP CP = COMPACT CAR PARKING ONLY	DATE	VISION SUMMARY DESCRIPTION
	ACCESSIBILITY ROUTE ARROW (IF APPLICABLE) DO NOT PAINT.		
			SITE PLAN
			C2.0
	Know what's below . 1" = 20'-0" Call before you dig. 10'-0" 0 20'-0"	©	

		0 11	Item 2.
			dscape Architecture
		Glenwood Ave n Valley, MN	
THE			
DING PE LES. DTH ED	PREIM	MARTINART	SCTION
PE	TSUNAMI EXPRESS CAR WASH	999 50TH AVE. NE, COLUMBIA HEIGHTS, MN 55421	OWNER TSUNAMI EXPRESS CAR WASH, LLC. 4800 MEADOWS ROAD, #300, LAKE OSWEGO, OREGON 97305
OR	ISSUE/SUE DATE 8/05/24 CIT		SUMMARY RIPTION
DUT		E KNAEBLE	
GS	DRAWN BY DK, ' REVIEWED BY DK PROJECT NUMBER 2428	ION SUMI	MARY
		S	ITE PLAN
		C	2.0
			_



GENERAL GRADING NOTES:

- DURING CONSTRUCTION AT NO COST TO THE OWNER.

- SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
- NOTED. 4:1.
- PRIOR TO CONSTRUCTION.

- DEPTH OF 6 INCHES.
- NEW WORK.
- UNDERGROUND STORM RETENTION/DETENTION SYSTEMS.
- 16. TOLERANCES

- DIRECTED OTHERWISE BY THE ENGINEER.
- 17. MAINTENANCE
- RESEEDED AND MULCHED.

CITY OF COLUMBIA HEIGHTS GRADING NOTES:

1. RESERVED FOR CITY SPECIFIC GRADING NOTES.

EROSION CONTROL NOTES: SEE SWPPP ON SHEETS SW1.0 - SW1.3

1. CONTRACTOR SHALL VERIFY ALL BUILDING ELEVATIONS, (FFE, LFE, GFE), PRIOR TO CONSTRUCTION BY CROSS CHECKING WITH ARCHITECTURAL, STRUCTURAL AND CIVIL ELEVATIONS FOR EQUIVALENT "100" ELEVATIONS. THIS MUST BE DONE PRIOR TO EXCAVATION AND INSTALLATION OF ANY FOOTING MATERIALS. VERIFICATION OF THIS COORDINATION SHALL BE CONFIRMED IN WRITING BY CIVIL, SURVEYOR, ARCHITECTURAL, STRUCTURAL AND CONTRACTOR PRIOR TO CONSTRUCTION.

2. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED

3. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.

4. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.

5. ANY ELEMENTS OF AN EARTH RETENTION SYSTEM AND RELATED EXCAVATIONS THAT FALL WITHIN THE PUBLIC RIGHT OF WAY WILL REQUIRE A "RIGHT OF WAY EXCAVATION PERMIT". CONTRACTOR IS RESPONSIBLE FOR AQUIRING THIS PERMIT PRIOR TO CONSTRUCTION IF APPLICABLE 6. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION

7. PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.

8. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE

9. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS

10. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.

12. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.

13. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM

14. FINISHED GRADING SHALL BE COMPLETED. THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS. PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE

15. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER. NO TEST ROLL SHALL OCCUR WITHIN 10' OF ANY

16.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.

16.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.

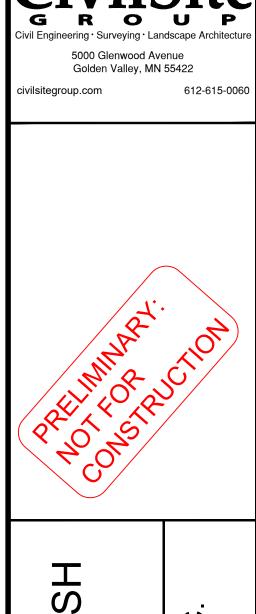
16.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS

16.4. TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.

17.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS. 17.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE

17.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

1125 1137	EX. 1' CONTOUR ELEVATION INTERVAL 1.0' CONTOUR ELEVATION INTERVAL		
41.26	SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)	PROJECT MANAGER CONTACT NUMBER DRAWN BY	DAVE KNAEBLE 612-615-0060 DK, WMB
891.00 G	SPOT GRADE ELEVATION GUTTER	REVIEWED BY PROJECT NUMBER	DK 24289
891.00 TC	SPOT GRADE ELEVATION TOP OF CURB	RE	VISION SUMMARY
891.00 BS/TS	SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS	DATE	DESCRIPTION
891.00 ME	SPOT GRADE ELEVATION MATCH EXISTING		
 @B	GRADE BREAK - HIGH POINTS		
то	CURB AND GUTTER (T.O = TIP OUT)		
EOF= 931.35 & 932.37	EMERGENCY OVERFLOW		
	CONSTRUCTION LIMITS		GRADING F
	Know what's below. 1" = 20'-0"		C3.



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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS

PREPARED BY ME OR UNDER MY DIREC

SUPERVISION AND THAT I AM A DULY

LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF

MINNESOTA.

David J. Knaeble DATE 8/05/24 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

CITY SUBMITTAL

proseble

DESCRIPTION

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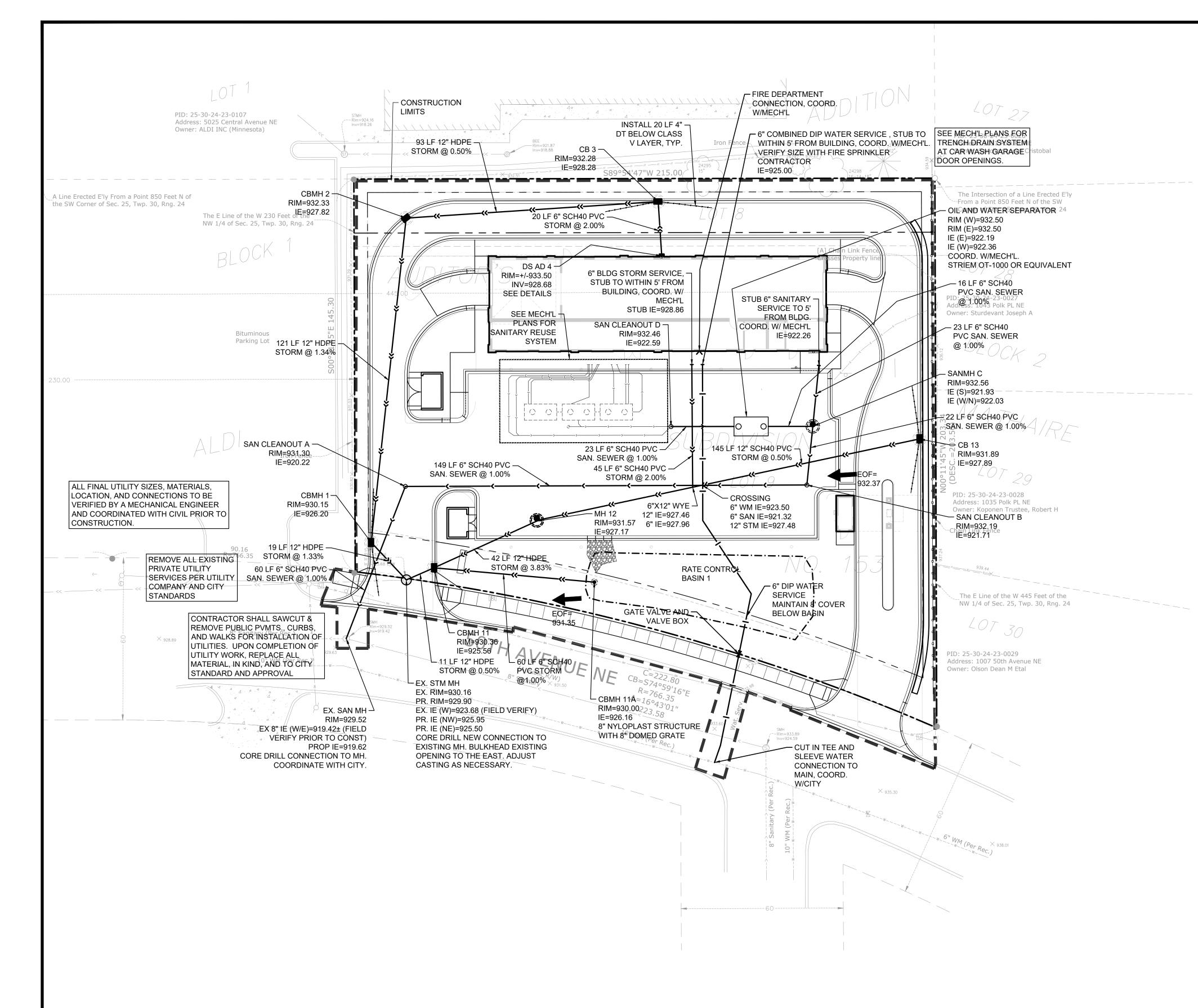
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GENERAL UTILITY NOTES:

- MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
- NOTED.
- UNLESS OTHERWISE NOTED.

- OTHERWISE NOTED.
- CONSTRUCTION.
- 17. CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.

- LOADING.
- COMPLETION OF WORK.
- MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
- ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.

1. RESERVED FOR CITY SPECIFIC UTILITY NOTES.

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

GROUP

5000 Glenwood Avenue Golden Valley, MN 55422

612-615-006

Civil Engineering · Surveying · Landscape Archite

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I HEREBY CERTIFY THAT THIS PLAN.

SPECIFICATION, OR REPORT WAS

PREPARED BY ME OR UNDER MY DIREC

SUPERVISION AND THAT I AM A DULY

LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF

MINNESOTA.

David J. Knaeble DATE 8/05/24 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

CITY SUBMITTAL

Janul

DATE

proseble

DESCRIPTION

vilsitegroup.com

2. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.

3. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS. 4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF

5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.

6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE

7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866)

8. ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 OR F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED. 9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.

10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.

11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.

12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.

13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL. 14. A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL. 15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS

16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO

18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.

19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF. 20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.

21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC

22. CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.

23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.

24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON

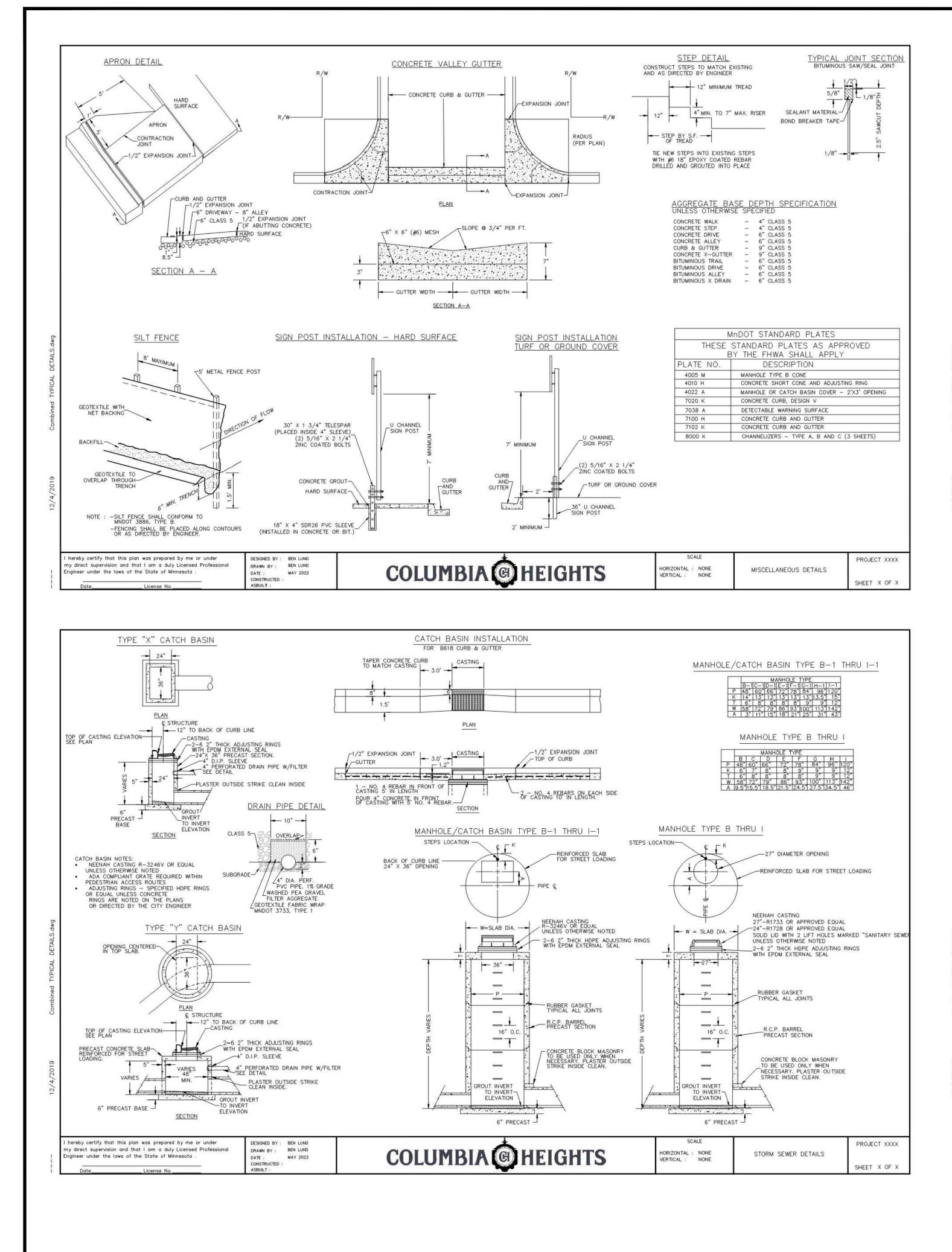
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS

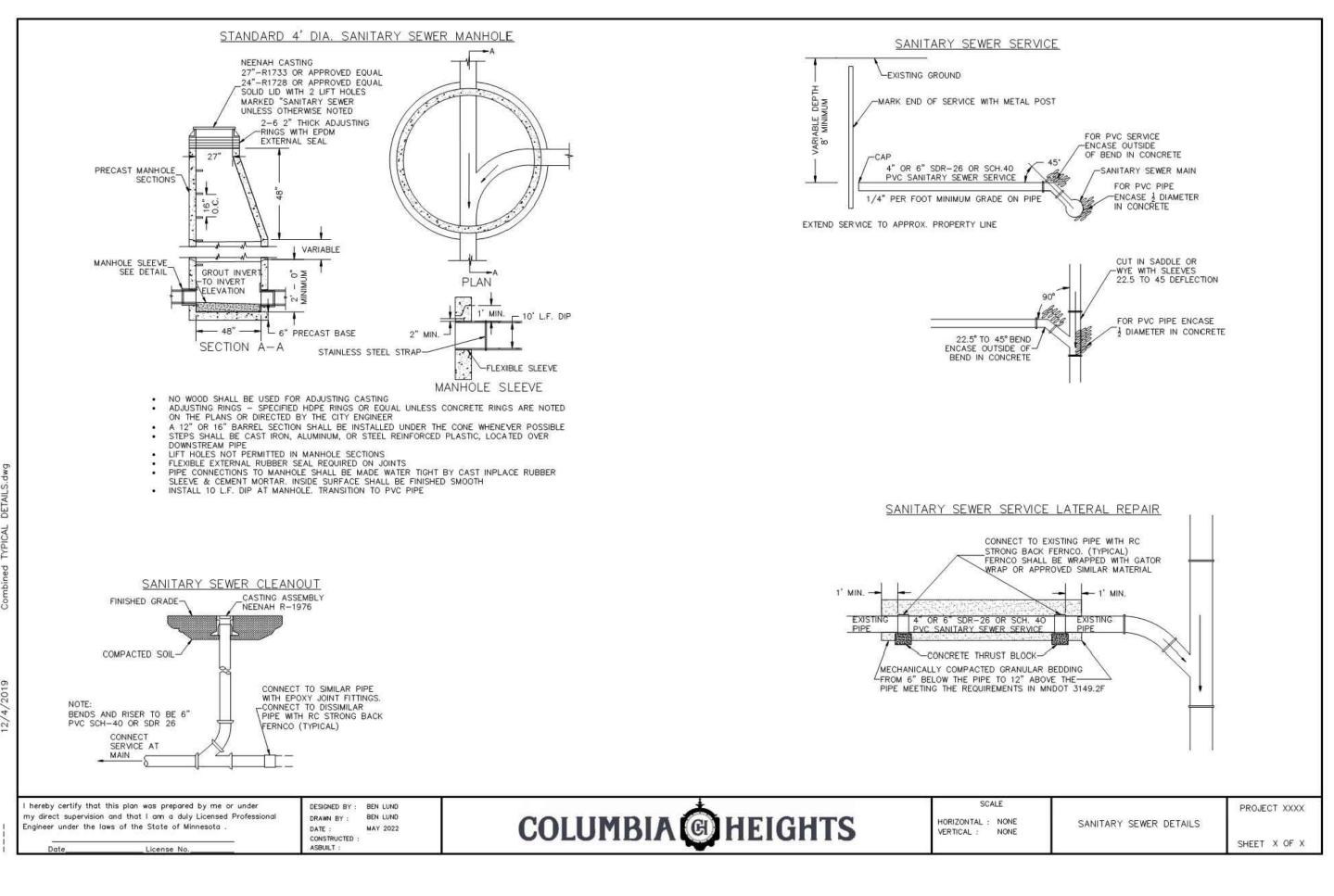
26. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN

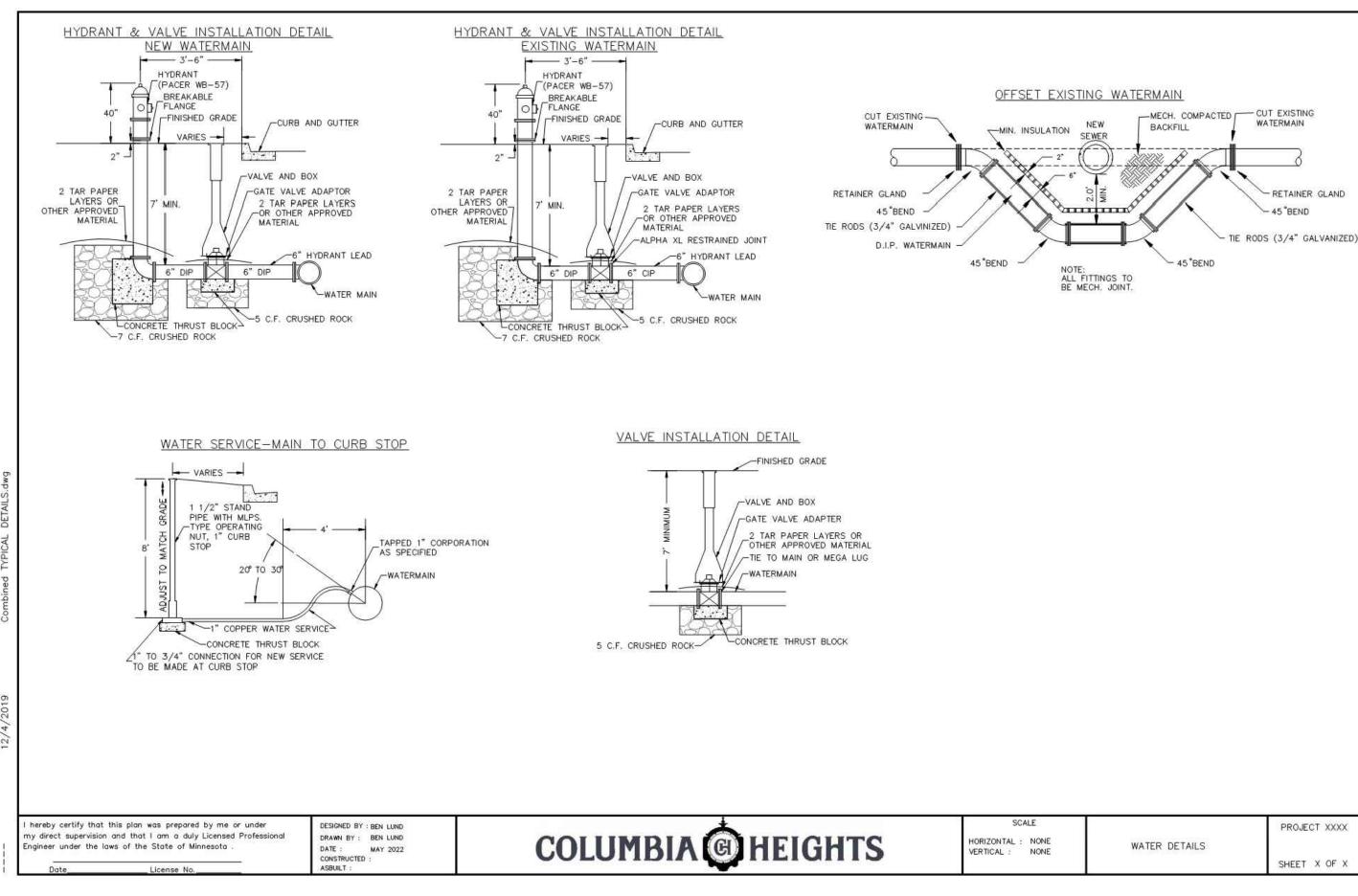
27. FOR ALL SITES LOCATED IN CLAY SOIL AREAS, DRAIN TILE MUST BE INSTALLED AT ALL LOW POINT CATCH BASINS 25' IN EACH DIRECTION. SEE PLAN AND DETAIL. INSTALL LOW POINT DRAIN TILE PER PLANS AND GEOTECHNICAL REPORT RECOMMENDATIONS AND REQUIREMENTS

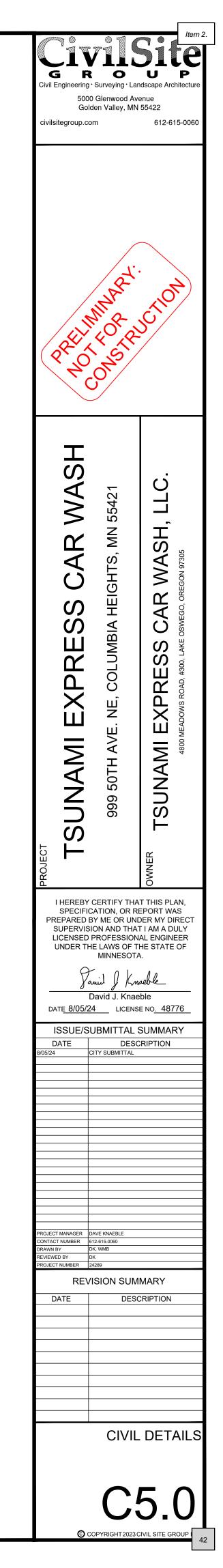
CITY OF COLUMBIA HEIGHTS UTILITY NOTES:

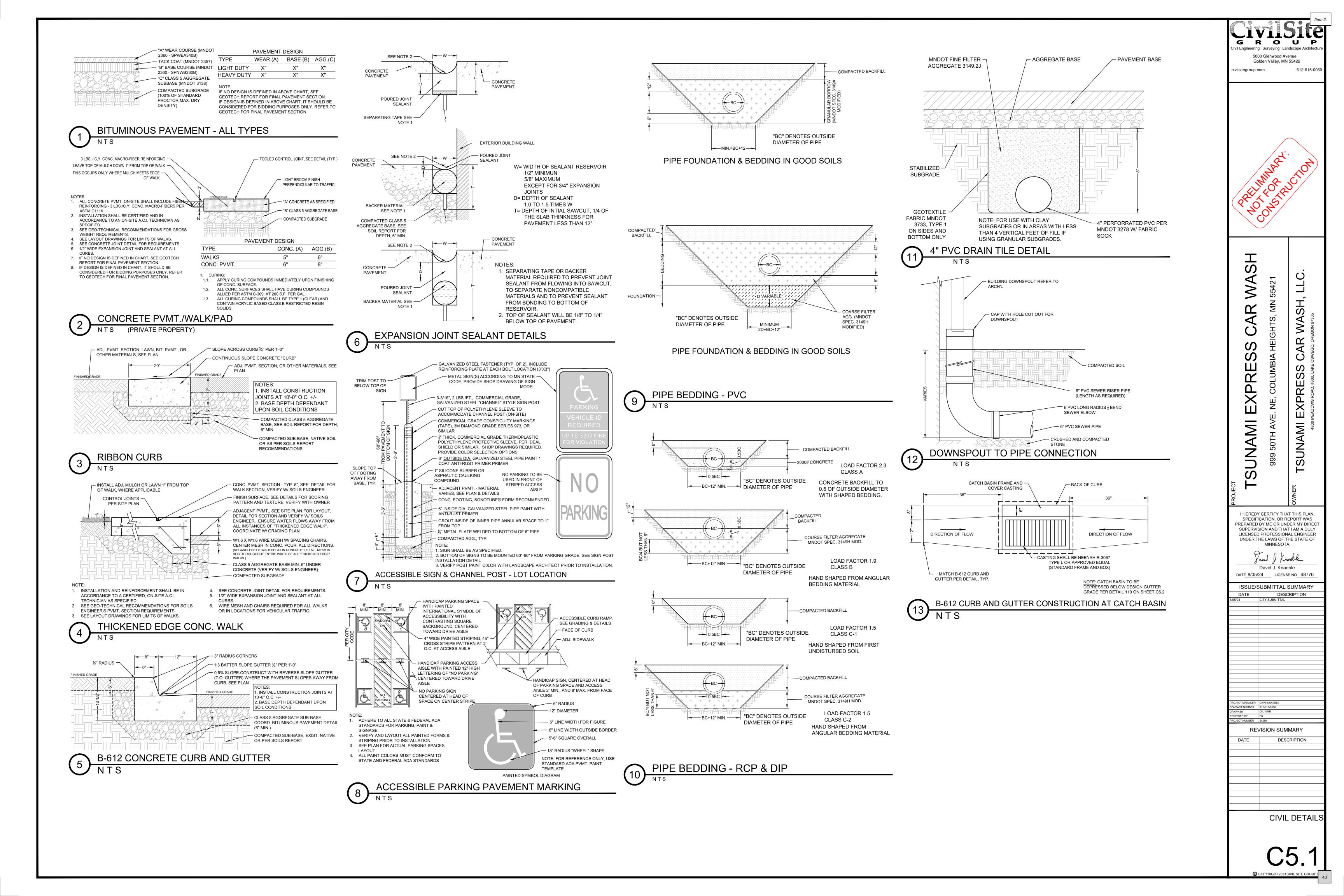
UTILITY PLAN LEGE	ND:		
	CATCH BASIN		
	MANHOLE		
		PROJECT MANAGER	DAVE KNAEBLE
	GATE VALVE AND VALVE BOX	CONTACT NUMBER	612-615-0060
1		DRAWN BY REVIEWED BY	DK, WMB DK
-	PROPOSED FIRE HYDRANT	PROJECT NUMBER	24289
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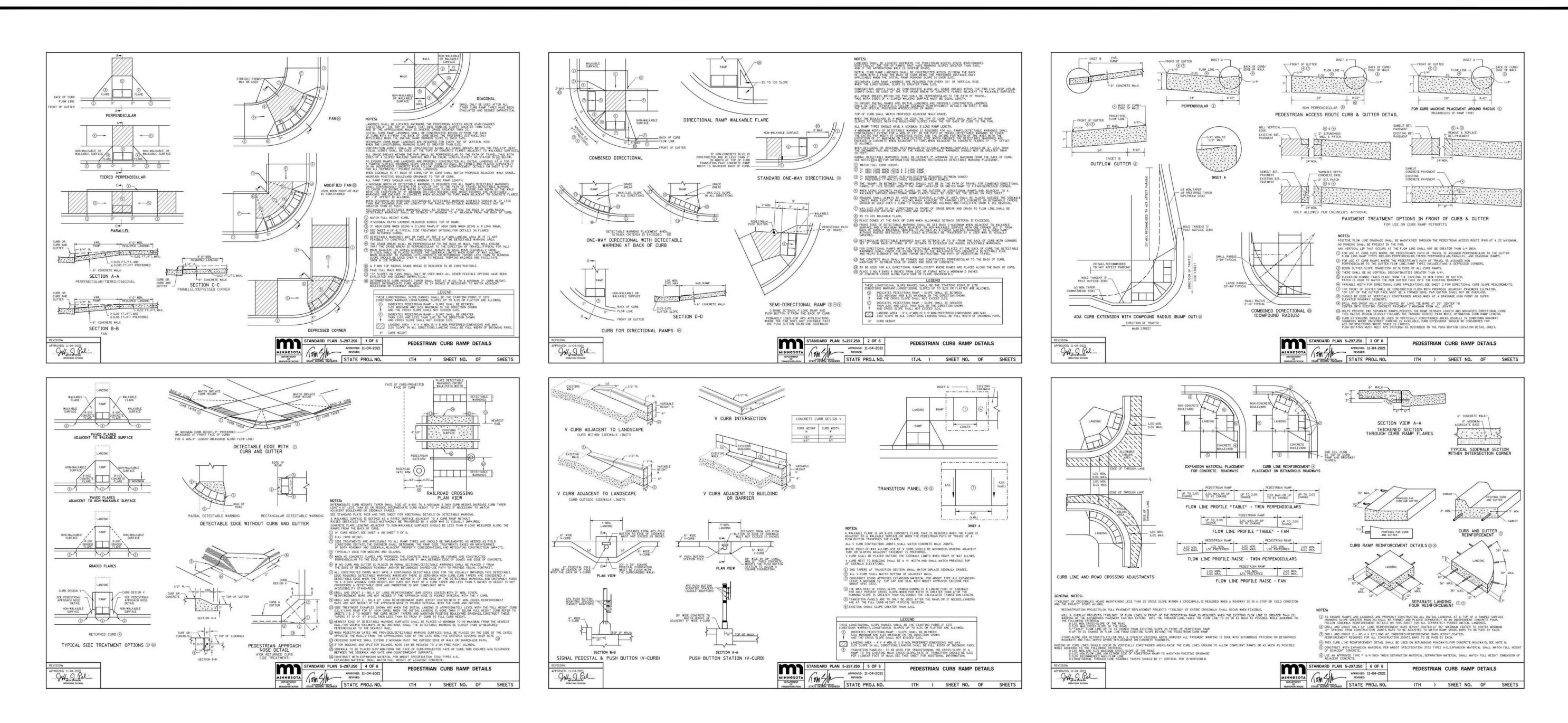


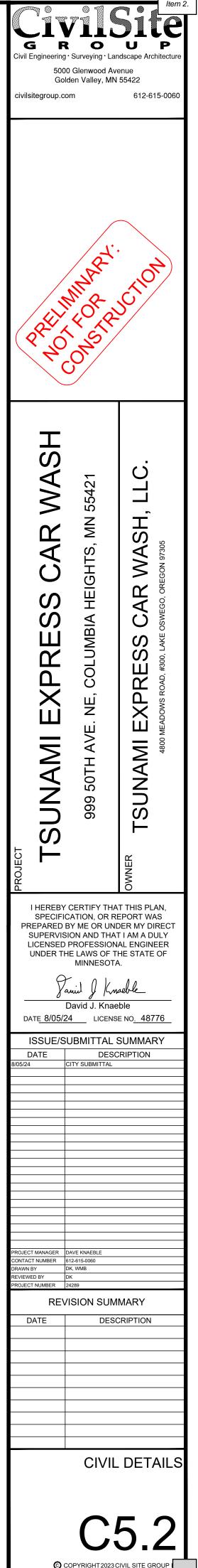


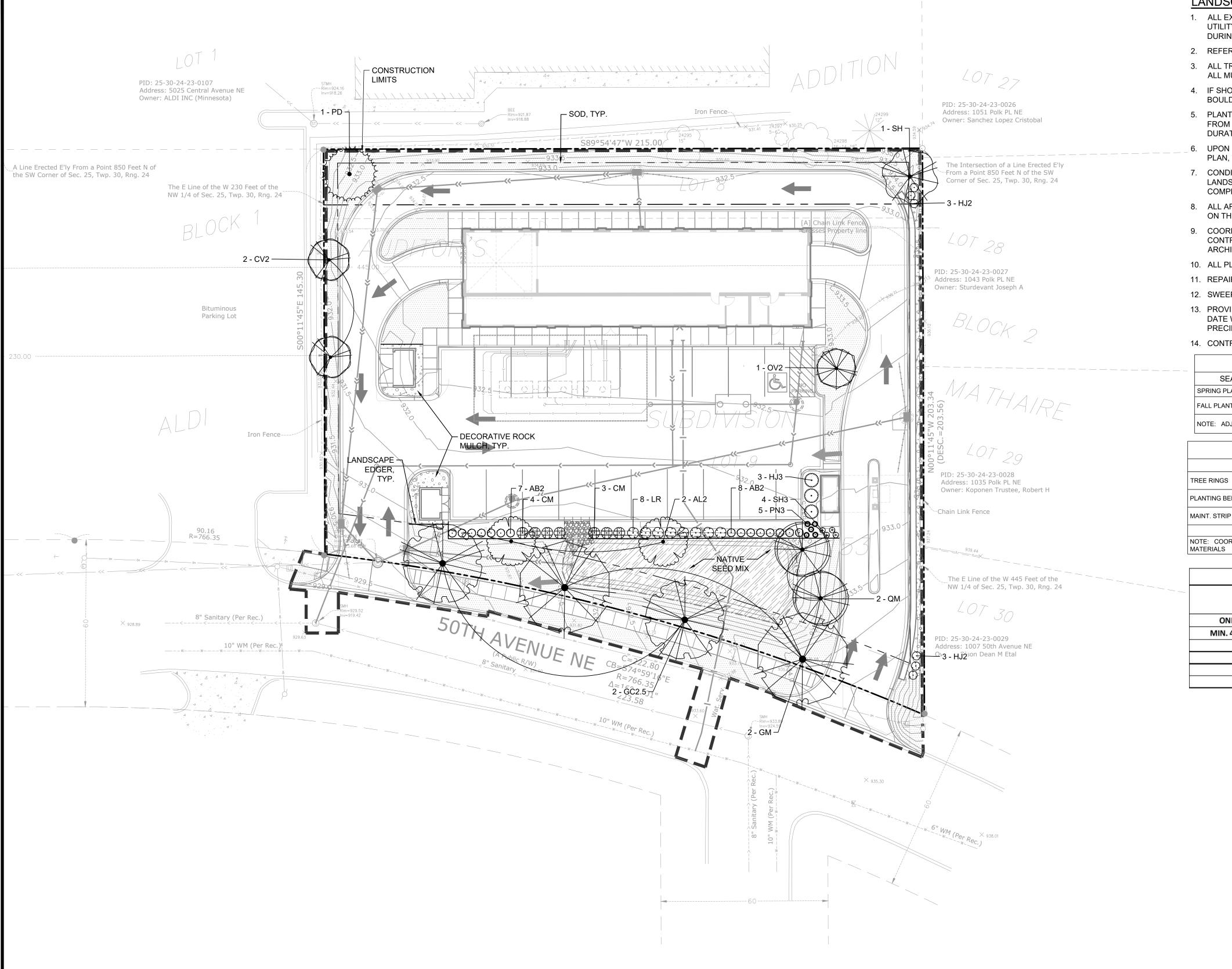












LANDSCAPE NOTES:

- DURING CONSTRUCTION AT NO COST TO THE OWNER.

- BOULDER SAMPLES PRIOR TO INSTALLATION.
- DURATION OF ACCEPTANCE PERIOD.
- PLAN, THE PLAN SHALL GOVERN.
- COMPLETION DATE.
- ON THE DRAWINGS.
- ARCHITECT PRIOR TO INSTALLATION.

PLANTING SEASON SCHEDULE					
SEASON	CONIFEROUS	DECIDUOUS	REMARKS		
SPRING PLANTING	APRIL 15 - JUNE 15	APRIL 15 - JUNE 15			
FALL PLANTING	AUGUST 21 - SEPTEMBER 30	AUGUST 15 - NOVEMBER 15			
NOTE: ADJUSTMENTS TO PLANTING DATES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.					

AREA TREE RINGS PLANTING BEDS MAINT. STRIP AND PARKING ISLANDS

LANDSCAPE CALCULATIO STREET FRO ONE TREE FOR 50 FEET OF STREET I MIN. 4 TREES PER ONE ACRE OF LOT TOTAL REPLACEM TOTAL TREES NEED 50% OVERS

10% CONIFER

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED

2. REFERENCE MULCH SCHEDULE FOR MULCH MATERIALS AND LOCATIONS.

3. ALL TREES SHALL BE MULCHED WITH SHREDDED CEDAR MULCH TO OUTER EDGE OF SAUCER OR TO EDGE OF PLANTING BED, IF APPLICABLE. ALL MULCH SHALL BE KEPT WITHIN A MINIMUM OF 2" FROM TREE TRUNK.

4. IF SHOWN ON PLAN, RANDOM SIZED LIMESTONE BOULDERS COLOR AND SIZE TO COMPLIMENT NEW LANDSCAPING. OWNER TO APPROVE

5. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMPNESS OF PLANT MATERIAL FOR

6. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE

7. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR TWO (2) FULL GROWING SEASONS FROM SUBSTANTIAL

8. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 6" LAYER TOPSOIL AND SOD AS SPECIFIED UNLESS OTHERWISE NOTED

9. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE

10. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.

11. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.

12. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.

13. PROVIDE SITE WIDE IRRIGATION SYSTEM DESIGN AND INSTALLATION. SYSTEM SHALL BE FULLY PROGRAMMABLE AND CAPABLE OF ALTERNATE DATE WATERING. THE SYSTEM SHALL PROVIDE HEAD TO HEAD OR DRIP COVERAGE AND BE CAPABLE OF DELIVERING ONE INCH OF PRECIPITATION PER WEEK. SYSTEM SHALL EXTEND INTO THE PUBLIC RIGHT-OF-WAY TO THE EDGE OF PAVEMENT/BACK OF CURB.

14. CONTRACTOR SHALL SECURE APPROVAL OF PROPOSED IRRIGATION SYSTEM INCLUDING PRICING FROM OWNER, PRIOR TO INSTALLATION.

MULCH SCHEDULE

MULCH TYPE	EDGING	FABRIC	REMARKS
4" DEPTH, SHREDDED HARDWOOD	YES	NO	SEE DETAIL SHT. L1.1 FOR DETAILS AND LANDSCAPE PLANTING NOTES
4" DEPTH, SHREDDED HARDWOOD	YES	NO	SEE DETAIL SHT. L1.1 FOR DETAILS AND LANDSCAPE PLANTING NOTES
NASHED RIVER ROCK	YES	YES	SEE GROUND COVER SCHEDULE SHEET L1.0 AND DETAIL SHT. L1.1

NOTE: COORDINATE ALL MULCH AND PLANTING BED MATERIAL PRIOR TO INSTALLATION, PROVIDE SAMPLES AND SHOP DRAWINGS/PHOTOS/DATA SHEETS OF ALL

ONS:	
ONTAGE (LF)	224
FRONTAGE:	4
COVERAGE:	4
IENT TREES:	5
ED ON SITE:	13
TORY TRESS	7
ROUS TREES	1

GROUN	ND COVER SCHEDULE		
SYMBOL	COMMON / BOTANICAL NAME	QTY	SIZE
GROUND C	OVERS		
	Rock Maintanence Strip / Rock Maintanence Strip 3"- 6" Washed river rock, uniform in size over filter fabric, composed of round rocks that may be varied in color. Include aluminum edging as shown on plan, or as needed. See detail.	784 sf	Mulch
	Blue Grass Based / Sod Commercial grade, locally grown, well rooted sod blend of improved Kentucky Bluegrass w/ uniform color, leaf texture, density and varieties consisting of a minimum of two and no more than four common cultivars.	7,519 sf	Sod
	Shooting Star Seed Mix / Wet Prairie Mix Seeding Rate: 10 lb/acre (100.9 seeds/square foot). Cover w/Straw Erosion control Blanket Double Natural Net. Refer to MN Seeding Manual(2023 Edition) for seeding dates and install methods.	1,889 sf	Seed Mix
	SUBTOTAL:	10,192 sf	
	PROPOSED EVERGREEN TREE SYMBOLS - SE SCHEDULE AND PLAN FOR SPECIES AND PLAN	PLAN FOR SI	
	PROPOSED ORNAMENTAL TREE SYMBOLS - S SCHEDULE AND PLAN FOR SPECIES AND PLA		
	PROPOSED DECIDUOUS AND EVERGREEN SH		
Sec.	PROPOSED PERENNIAL PLANT SYMBOLS - SE SCHEDULE AND PLAN FOR SPECIES AND PLA		

EDGING - SHALL BE COMMERCIAL GRADE, 4" DEPTH ALUMINUM, BLACK OR DARK GREEN IN COLOR, INCLUDE ALL CONNECTORS, STAKES, & ALL APPURTENANCES PER MANUF. INSTALL PER MANUF. INSTRUC./SPECS. CONSTRUCTION LIMITS







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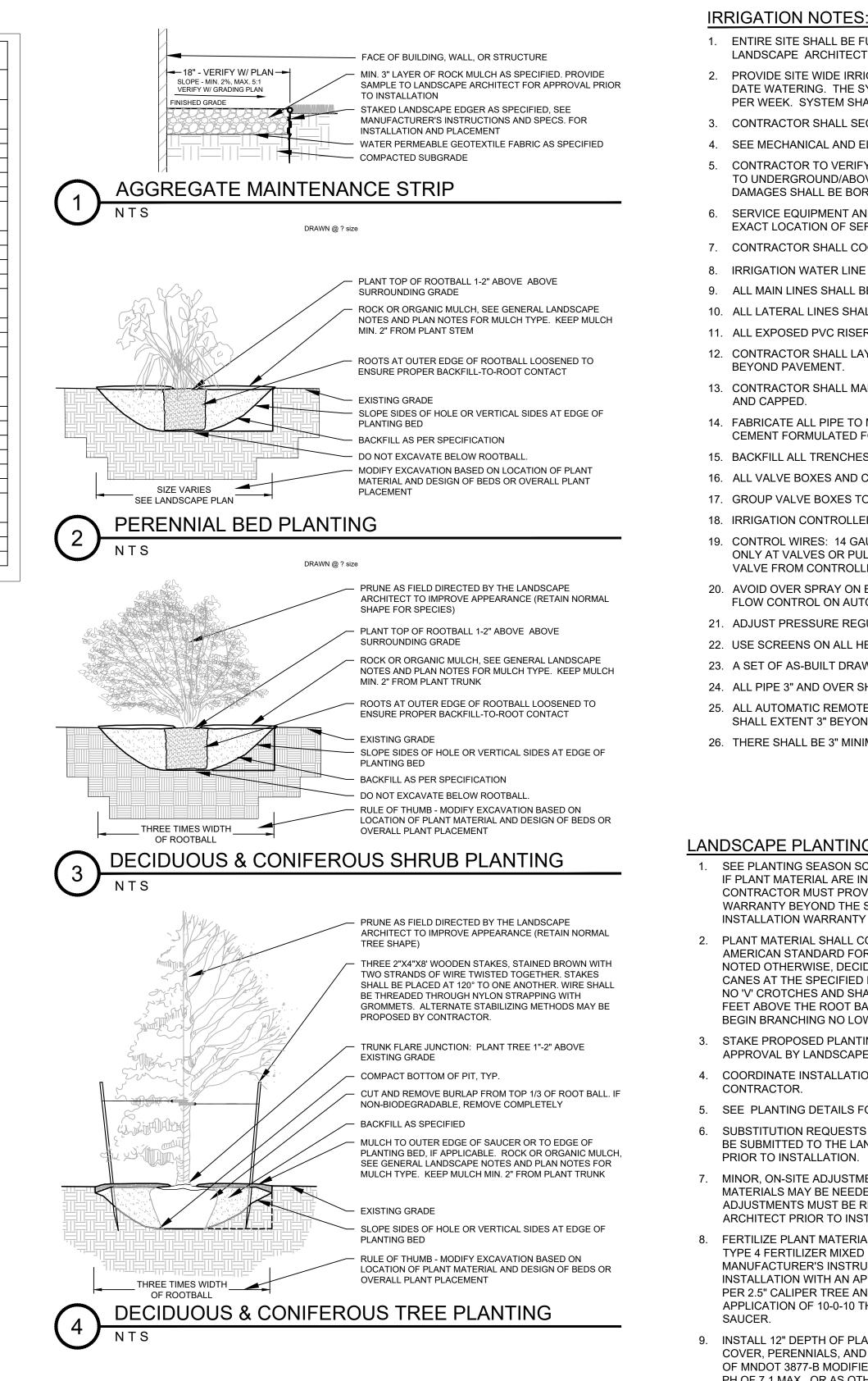
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LANDSCAPE PLAN

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/ (NT SCHEDULE: TREES, PERENNIAL AND SH				
CODE	COMMON / BOTANICAL NAME	QTY	CONT	NATIVE PLANTS	POLLINATOR FRIENDL
	ERSTORY TREE				
GM	Sugar Maple / Acer saccharum 'Green Mountain'	2	2.5" CAL. B&B	NATIVE CULTIVAR	Ŷ
SH	Skyline Thornless Honey Locust / Gleditsia triacanthos inermis `Skycole` TM	1	2.5" Cal. B&B	NATIVE CULTIVAR	N
GC2.5	True North™ Kentucky Coffeetree / Gymnocladus dioica 'UMNSynergy'	2	2.5" CAL. B&B	NATIVE CULTIVAR	N
QM	Prairie Stature® Oak / Quercus x bimundorum 'Midwest'	2	2.5" CAL. B&B		
	SUBTOTAL:	7			
	IAMENTAL TREE				
AL2	Spring Flurry Serviceberry / Amelanchier x laevis 'JFS-Arb'	2	2" CAL. B&B	NATIVE CULTIVAR	Y
CV2	Thornless Cockspur Hawthorn / Crataegus crus-galli inermis TM	2	2" CAL. B&B	NATIVE	Y Y
OV2	Ironwood / Ostrya virginiana	1	2" CAL. B&B	NATIVE	Y
	SUBTOTAL:	5			
<u>6` HT. I</u>	3&B				
PD	Black Hills Spruce / Picea glauca `Densata`	1	6` HT. B&B	NATIVE CULTIVAR	
	SUBTOTAL:	1			
CODE	COMMON / BOTANICAL NAME	QTY	SIZE	NATIVE PLANTS	POLLINATOR FRIENDL
SHRUE AB2	Low Scape Hedger Black Chokeberry / Aronia melanocarpa 'UCONNAM166' TM	15	#5 CONT	NATIVE CULTIVAR	Υ
CM	Muskingham Gray Dogwood / Cornus racemosa `Muskingham`	7	#5 CONT	NATIVE CULTIVAR	Y
	Kodiak® Orange Diervilla / Diervilla x 'G2X88544'	8	#5 CONT	NATIVE CULTIVAR	Y
	Kalm St. Johnswort / Hypericum kalmianum	6	#5 CONT	NATIVE COLITIVAN	Y
บาว	Cobalt and Gold Kalm St. Johnswort / Hypericum kalmianum 'PIIHYP-I'	3	#2 CONT	NATIVE CULTIVAR	Y
					<u> </u>
		120			
	SUBTOTAL:	39			
HJ3	SUBTOTAL:	39			
HJ3 GRASS	SUBTOTAL:	39	#1 CONT	NATIVE CULTIVAR	Y
HJ2 HJ3 GRASS PN3 SH3	SUBTOTAL:	.I	#1 CONT #1 CONT	NATIVE CULTIVAR	Y Y Y



- LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

- DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.

- 9. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
- 10. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
- 11. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
- BEYOND PAVEMENT.
- CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
- 15. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS
- 16. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.

- VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
- FLOW CONTROL ON AUTOMATIC VALVE. 21. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
- 22. USE SCREENS ON ALL HEADS.

- 24. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
- SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.

LANDSCAPE PLANTING NOTES:

- SEE PLANTING SEASON SCHEDULE FOR PLANT INSTALLATION DATES. IF PLANT MATERIAL ARE INSTALLED OUTSIDE OF THOSE TIME PERIODS, CONTRACTOR MUST PROVIDE AND ADDITIONAL SPRING SEASON OF WARRANTY BEYOND THE STANDARD 1 YEAR MATERIAL & INSTALLATION WARRANTY SPECIFIED BY CONTRACT
- PLANT MATERIAL SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED HEIGHT. ORNAMENTAL TREES SHALL HAVE NO 'V' CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3' FEET ABOVE THE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACE.
- 3. STAKE PROPOSED PLANTING LOCATIONS PER PLAN FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALL
- 4. COORDINATE INSTALLATION OF PLANT MATERIAL WITH GENERAL
- 5. SEE PLANTING DETAILS FOR INSTALLATION OF PLANT MATERIAL
- 6. SUBSTITUTION REQUESTS FOR PLANT MATERIAL TYPE & SIZE SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR CONSIDERATION PRIOR TO INSTALLATION.
- 7. MINOR, ON-SITE ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. MORE SUBSTANTIAL ADJUSTMENTS MUST BE REVIEWED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 8. FERTILIZE PLANT MATERIAL UPON INSTALLATION WITH MNDOT 3881-B4 TYPE 4 FERTILIZER MIXED IN WITH THE PLANTING SOIL (PER THE MANUFACTURER'S INSTRUCTIONS) OR TREAT FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 10-0-5 OF 12 OZ. PER 2.5" CALIPER TREE AND 6 OZ. PER SHRUB WITH AN ADDITIONAL APPLICATION OF 10-0-10 THE FOLLOWING SPRING IN THE TREE
- INSTALL 12" DEPTH OF PLANTING SOIL IN AREAS RECEIVING GROUND COVER, PERENNIALS, AND ANNUALS. PLANTING SOIL SHALL CONSIST OF MNDOT 3877-B MODIFIED TO CONTAIN A MAXIMUM OF 30% SAND, A PH OF 7.1 MAX, OR AS OTHERWISE SPECIFIED IN THE PROJECT SPECIFICATIONS MANUAL. AMEND THE TOPSOIL WITH 4 INCHES OF MNDOT 3890 - B GRADE 2 COMPOST.
- 10. PROVIDE TREE TRUNK DAMAGE PROTECTION FOR SMOOTH-BARKED DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO DECEMBER 1. REMOVE WRAPPING AFTER MAY THE NEXT SPRING. WRAPPING MATERIAL SHALL BE TWO-WALLED PLASTIC SHEETING APPLIED FROM TRUNK FLARE TO FIRST BRANCH.

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. THE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE

2. PROVIDE SITE WIDE IRRIGATION SYSTEM DESIGN AND INSTALLATION. SYSTEM SHALL BE FULLY PROGRAMMABLE AND CAPABLE OF ALTERNATE DATE WATERING. THE SYSTEM SHALL PROVIDE HEAD TO HEAD OR DRIP COVERAGE AND BE CAPABLE OF DELIVERING ONE INCH OF PRECIPITATION PER WEEK. SYSTEM SHALL EXTEND INTO THE PUBLIC RIGHT-OF-WAY TO THE EDGE OF PAVEMENT/BACK OF CURB.

3. CONTRACTOR SHALL SECURE APPROVAL OF PROPOSED IRRIGATION SYSTEM INLCUDING PRICING FROM OWNER, PRIOR TO INSTALLATION. 4. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.

CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING

6. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.

7. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.

8. IRRIGATION WATER LINE CONNECTION SIZE IS 1-1/2" AT BUILDING. VERIFY WITH MECHANICAL PLANS.

12. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT. EXTEND SLEEVES TO 2'-0"

13. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE

14. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT

17. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.

18. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTATIVE.

19. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST

20. AVOID OVER SPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND

23. A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION

25. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL

26. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

11. PRIOR TO PLANTING, APPLY PRE-EMERGENT HERBICIDE (PREEN OR APPROVED EQUAL) IN ANNUAL, PERENNIAL, AND SHRUB BEDS FOLLOWED BY MULCH AS SPECIFIED.

- 12. WHERE SHOWN, SHRUB & PERENNIAL BEDS SHALL BE MULCHED PER SCHEDULE(S)
- 13. ALL TREES SHALL BE MULCHED WITH MNDOT 3882 E TYPE 6 MULCH TO OUTER EDGE OF SAUCER OR TO EDGE OF PLANTING BED, IF APPLICABLE. ALL MULCH SHALL BE KEPT WITHIN A MINIMUM OF 4" FROM TREE TRUNK. SEE MULCH SCHEDULE.
- 14. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMPNESS OF PLANT MATERIAL FOR DURATION OF ACCEPTANCE PERIOD.
- 15. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
- 16. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR ONE (1) FULL GROWING SEASONS FROM SUBSTANTIAL COMPLETION DATE.
- 17. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE MIN. 6" LAYER MNDOT 3877-A COMMON TOPSOIL BORROW. IF NOT SPECIFICED ON PLAN, INCLUDE SOD OR SEED (TO MATCH SURROUNDING AND/OR ADJACENT GROUND COVERING).
- 18. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 19. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.
- 20. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
- 21. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.

S \geq ဟ 4 \leq С ഗ \mathbf{O} S С X M N S S I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIREC SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA DATE 8/05/24 LICENSE NO. 25821 ISSUE/SUBMITTAL SUMMARY DATE DESCRIPTION CITY SUBMITTAL ECT MANAGER DAVE KNAEE NTACT NUMBER 612-615-0060 AWN BY DK, WMB **REVISION SUMMARY**

GROU

5000 Glenwood Avenue

Golden Valley, MN 55422

612-615-00

Civil Engineering · Surveying · Landscape A

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DESCRIPTION DATE

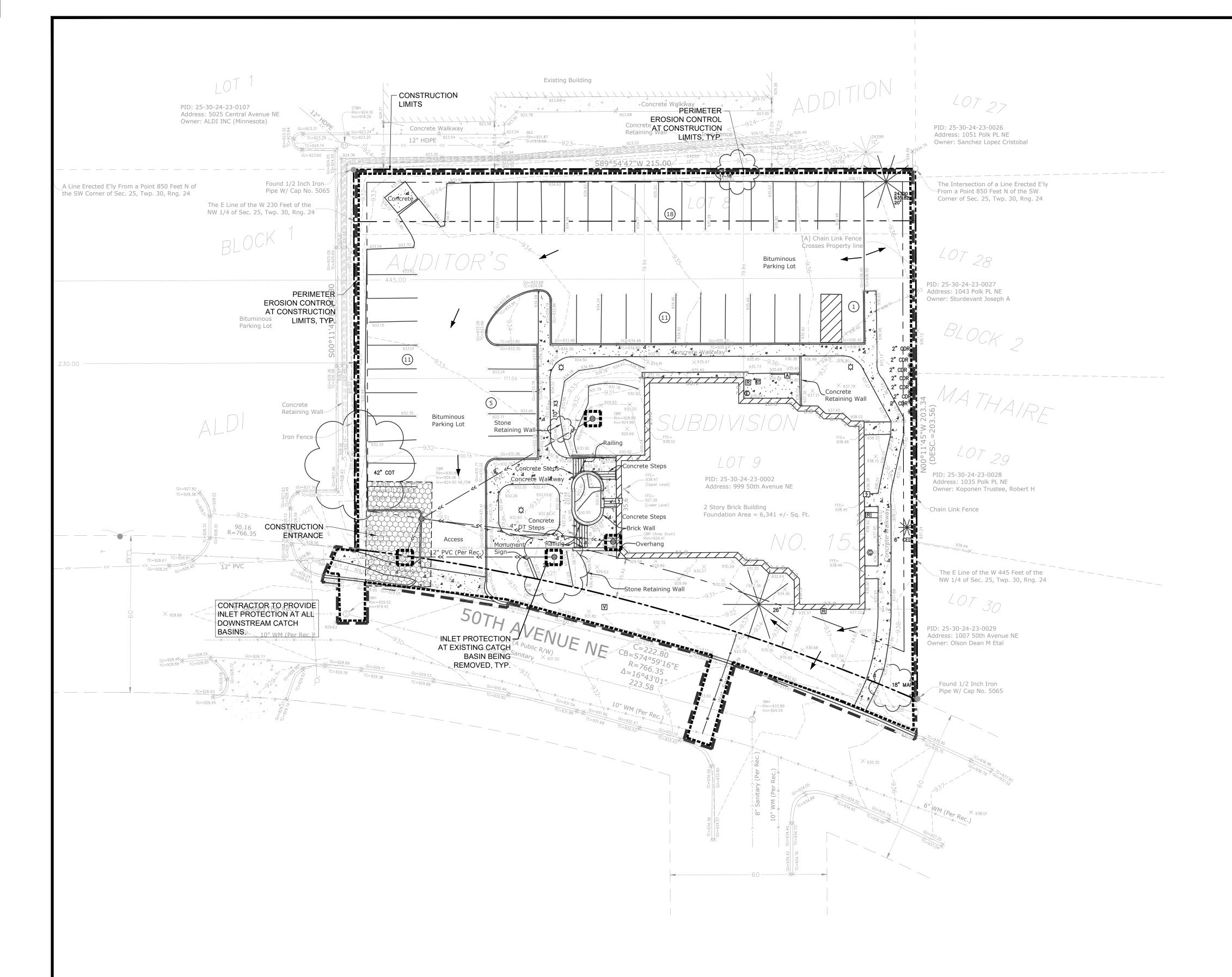
LANDSCAPE PLAN NOTES & DETAILS

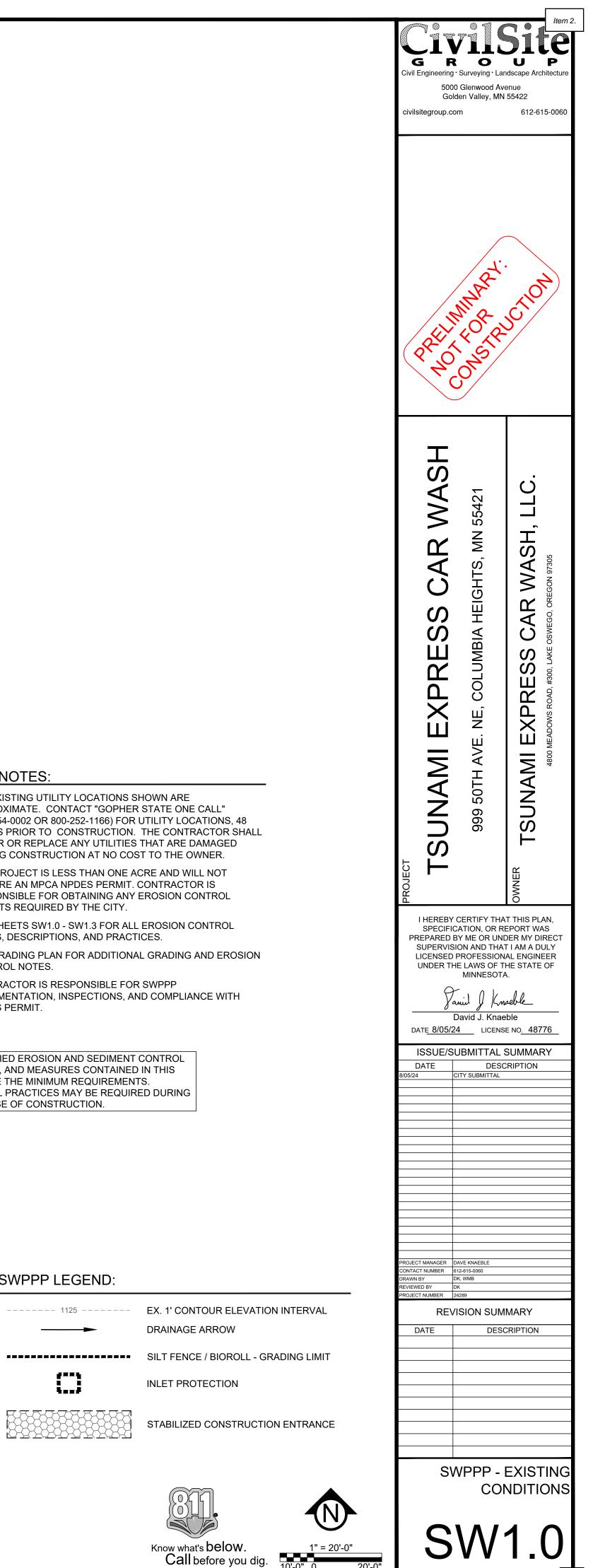
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SEE SHEET L1.0 FOR GENERAL LANDSCAPE NOTES & LEGEND



Know what's **below**. Call before you dig.





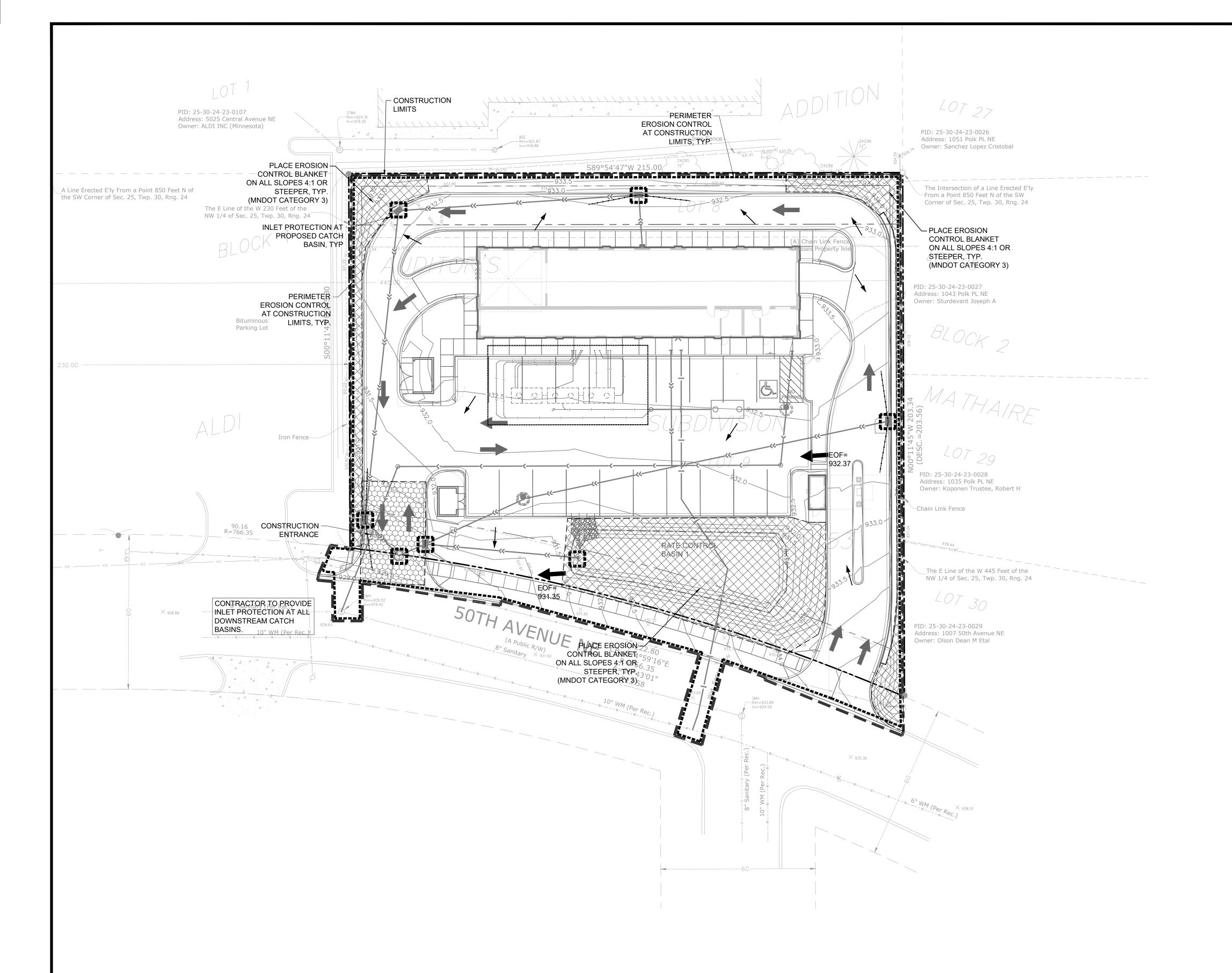
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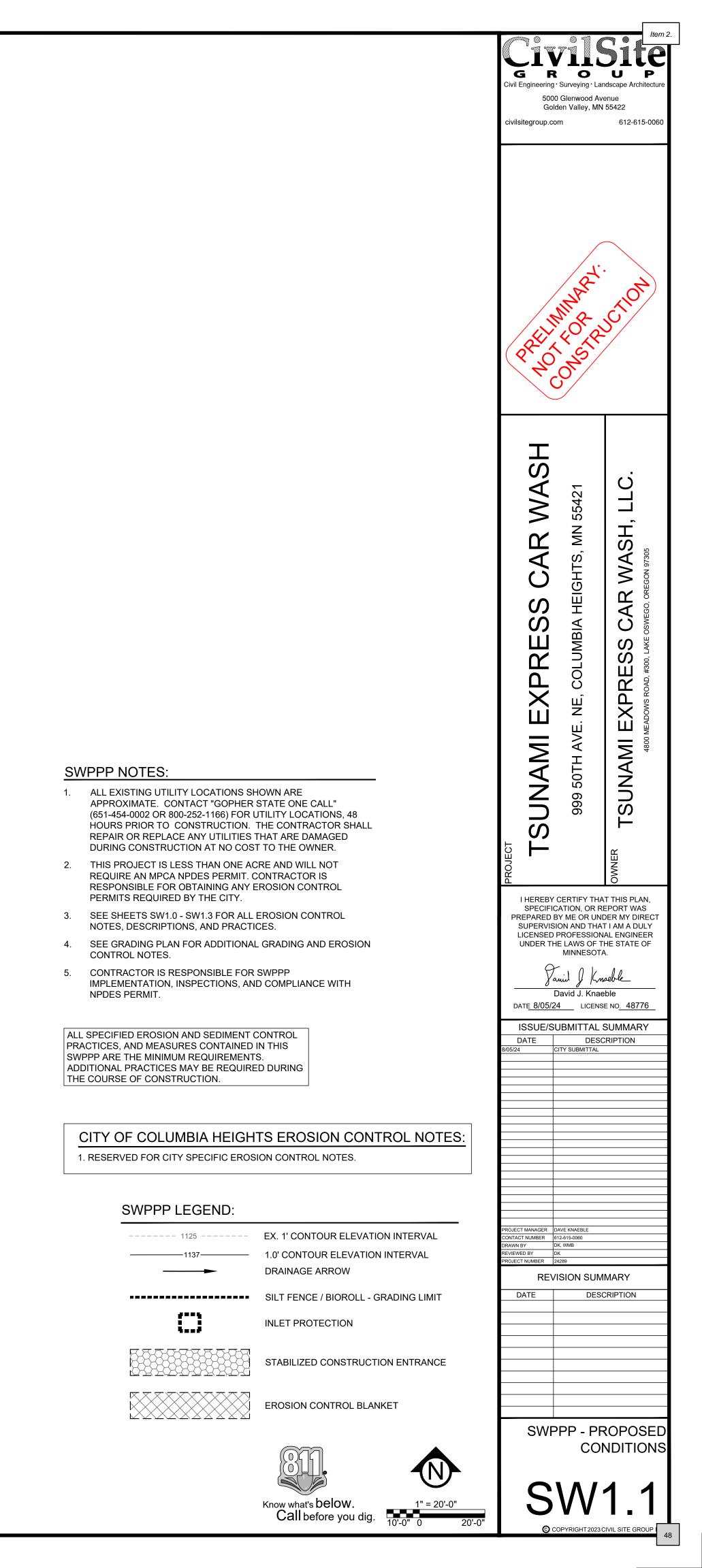
SWPPP NOTES:

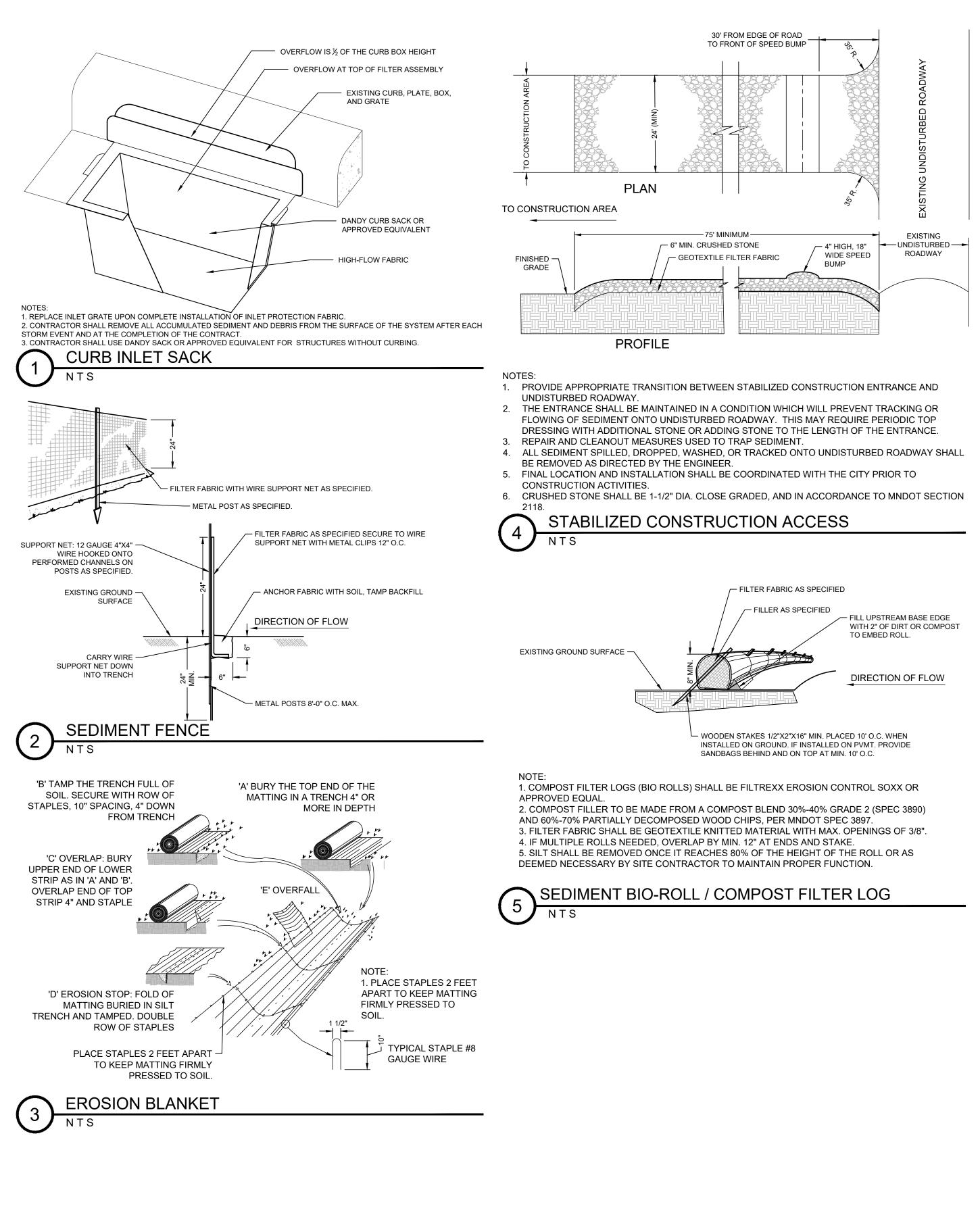
- 1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- 2. THIS PROJECT IS LESS THAN ONE ACRE AND WILL NOT REQUIRE AN MPCA NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY EROSION CONTROL PERMITS REQUIRED BY THE CITY.
- 3. SEE SHEETS SW1.0 SW1.3 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.
- 4. SEE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.
- 5. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

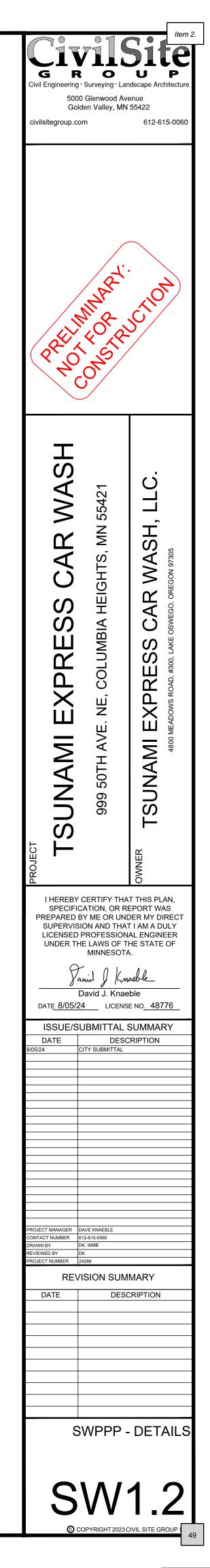
ALL SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES, AND MEASURES CONTAINED IN THIS SWPPP ARE THE MINIMUM REQUIREMENTS. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.

SWPPP LEGEND:









THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED WITH A CONSTRUCTION ACTIVITY THAT DISTURBS SITE SOIL OR WHO IMPLEMENT A POLLUTANT CONTROL MEASURE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (DATED AUGUST 1, 2018 # MNR100001) AND ANY LOCAL GOVERNING AGENCY HAVING JURISDICTION CONCERNING EROSION AND SEDIMENTATION CONTROL

STORMWATER DISCHARGE DESIGN REQUIREMENTS

SWPPP

THE NATURE OF THIS PROJECT WILL BE CONSISTENT WITH WHAT IS REPRESENTED IN THIS SET OF CONSTRUCTION PLANS AND SPECIFICATIONS. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR ADDITIONAL SITE SPECIFIC SWPPP INFORMATION. THE PLANS SHOW LOCATIONS AND TYPES OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. STANDARD DETAILS ARE ATTACHED TO THIS SWPPP DOCUMENT.

- THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
- 1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE 2. INSTALLATION OF SILT FENCE AROUND SITE
- 3. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS
- 4. INSTALL INLET PROTECTION AT ALL ADJACENT AND DOWNSTREAM CATCH BASINS 5. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN / POND INSTALL
- 6. CONSTRUCT TEMPORARY SEDIMENT BASIN / POND (SECTION 14)
- 7. CLEAR AND GRUB REMAINDER OF SITE 8. STRIP AND STOCKPILE TOPSOIL
- 9. ROUGH GRADING OF SITE 10. STABILIZE DENUDED AREAS AND STOCKPILES
- 11. INSTALL SANITARY SEWER, WATER MAIN STORM SEWER AND SERVICES
- 12. INSTALL SILT FENCE / INLET PROTECTION AROUND CB'S 13. INSTALL STREET SECTION
- 14. INSTALL CURB AND GUTTER
- 15. BITUMINOUS ON STREETS
- 16. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH 17. REMOVE ACCUMULATED SEDIMENT FROM BASIN / POND
- 18. FINAL GRADE POND / INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.) 19. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

RECORDS RETENTION:

THE SWPPP (ORIGINAL OR COPIES) INCLUDING, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.

ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOT AS OUTLINED IN SECTION 4. THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.

- 1. THE FINAL SWPPF
- 2. ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT: 3. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION (SEE SECTION 11, INSPECTIONS AND MAINTENANCE)
- 4. ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL
- MAINTENANCE: AND 5. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

SWPPP IMPLEMENTATION RESPONSIBILITIES:

- 1. THE OWNER AND CONTRACTOR ARE PERMITTEE(S) AS IDENTIFIED BY THE NPDES PERMIT.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP, INCLUDING THE ACTIVITIES OF ALL OF THE CONTRACTOR'S SUBCONTRACTORS.
- 3. CONTRACTOR SHALL PROVIDE A PERSON(S) KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP
- 4. CONTRACTOR SHALL PROVIDE PERSON(S) MEETING THE TRAINING REQUIREMENTS OF THE NPDES PERMIT TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT. ONE OF THESE INDIVIDUAL(S) MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY MPCA. CONTRACTOR SHALL PROVIDE TRAINING DOCUMENTATION FOR THESE INDIVIDUAL(S) AS REQUIRED BY THE NPDES PERMIT. THIS TRAINING DOCUMENTATION SHALL BE RECORDED IN OR WITH THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. DOCUMENTATION SHALL INCLUDE: 4.1. NAMES OF THE PERSONNEL ASSOCIATED WITH THE PROJECT THAT ARE REQUIRED TO BE TRAINED PER
- SECTION 21 OF THE PERMIT. 4.2. DATES OF TRAINING AND NAME OF INSTRUCTOR AND ENTITY PROVIDING TRAINING. 4.3. CONTENT OF TRAINING COURSE OR WORKSHOP INCLUDING THE NUMBER OF HOURS OF TRAINING.
- 5. FOLLOWING FINAL STABILIZATION AND THE TERMINATION OF COVERAGE FOR THE NPDES PERMIT, THE OWNER IS EXPECTED TO FURNISH LONG TERM OPERATION AND MAINTENANCE (O & M) OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

CONSTRUCTION ACTIVITY REQUIREMENTS

SWPPP AMENDMENTS (SECTION 6):

- 1. ONE OF THE INDIVIDUALS DESCRIBED IN ITEM 21.2.A OR ITEM 21.2.B OR ANOTHER QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A
- JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS. 2. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN,
- CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. 3. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G. NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP. 2) OR THE SWPPP IS NOT CONSISTENT WITH

BMP SELECTION AND INSTALLATION (SECTION 7):

THE OBJECTIVES OF A USEPA APPROVED TMDL.

1. PERMITTEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPS IDENTIFIED IN THE SWPPP AND IN THIS PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES.

EROSION PREVENTION (SECTION 8):

- 1. BEFORE WORK BEGINS, PERMITTEES MUST DELINEATE THE LOCATION OF AREAS NOT TO BE DISTURBED. 2. PERMITTEES MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING
- AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES (E.G., SLOPE DRAINING AND TERRACING). 3. PERMITTEES MUST STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY HAS CEASED. STABILIZATION IS NOT REQUIRED ON CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES. STABILIZATION IS NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) BUT PERMITTEES MUST
- PROVIDE SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE. 4. FOR PUBLIC WATERS THAT THE MINNESOTA DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES, PERMITTEES MUST COMPLETE STABILIZATION OF ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF THE WATER'S EDGE, AND THAT DRAIN TO THESE WATERS, WITHIN 24 HOURS
- DURING THE RESTRICTION PERIOD. 5. PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 LINEAR FEET OF TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN
- THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES. 6. TEMPORARY OR PERMANENT DITCHES OR SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION (WITH PROPERLY DESIGNED ROCK-DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. PERMITTEES MUST STABILIZE THESE AREAS WITHIN 24 HOURS AFTER THEIR USE AS A SEDIMENT CONTAINMENT SYSTEM CEASES
- 7. PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR
- PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT 8. PERMITTEES MUST PROVIDE TEMPORARY OR PERMANENT ENERGY DISSIPATION AT ALL PIPE OUTLETS WITHIN
- 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR PERMANENT STORMWATER TREATMENT SYSTEM.

9. PERMITTEES MUST NOT DISTURB MORE LAND (I.E., PHASING) THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11

SEDIMENT CONTROL (SECTION 9):

- 1. PERMITTEES MUST ESTABLISH SEDIMENT CONTROL BMPS ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND DOWNGRADIENT AREAS OF THE SITE THAT DRAIN TO ANY SURFACE WATER, INCLUDING CURB AND GUTTER SYSTEMS. PERMITTEES MUST LOCATE SEDIMENT CONTROL PRACTICES UPGRADIENT OF ANY BUFFER ZONES. PERMITTEES MUST INSTALL SEDIMENT CONTROL PRACTICES BEFORE ANY UPGRADIENT LAND-DISTURBING ACTIVITIES BEGIN AND MUST KEEP THE SEDIMENT CONTROL PRACTICES IN PLACE UNTIL THEY ESTABLISH PERMANENT COVER.
- 2. IF DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED, BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENTS, PERMITTEES MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN ITEM 6.3. 3. TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT
- CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS. 4. A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY (E.G., INSTALLATION OF RIP RAP ALONG THE SHORELINE) IN THAT AREA IS
- DRAIN TO A SURFACE WATER. 5. PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES ADJUSTED OR REMOVED TO
- ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES, IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY IS COMPLETED. PERMITTEES MUST RE-INSTALL SEDIMENT CONTROL PRACTICES BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.
- 6. PERMITTEES MUST PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPS DURING CONSTRUCTION UNTIL THEY ESTABLISH PERMANENT COVER ON ALL AREAS WITH POTENTIAL FOR DISCHARGING TO THE INLET. 7. PERMITTEES MAY REMOVE INLET PROTECTION FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (E.G. STREET FLOODING/FREEZING) IS IDENTIFIED BY THE PERMITTEES OR THE JURISDICTIONAL AUTHORITY (E.G., CITY/COUNTY/TOWNSHIP/MINNESOTA DEPARTMENT OF TRANSPORTATION ENGINEER). PERMITTEES MUST DOCUMENT THE NEED FOR REMOVAL IN THE SWPPP.
- 8. PERMITTEES MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AT THE BASE OF STOCKPILES ON THE DOWNGRADIENT PERIMETER
- STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER
- 10. PERMITTEES MUST INSTALL A VEHICLE TRACKING BMP TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM THE CONSTRUCTION SITE OR ONTO PAVED ROADS WITHIN THE SITE. 11. PERMITTEES MUST USE STREET SWEEPING IF VEHICLE TRACKING BMPS ARE NOT ADEQUATE TO PREVENT
- SEDIMENT TRACKING ONTO THE STREET. 12. PERMITTEES MUST INSTALL TEMPORARY SEDIMENT BASINS AS REQUIRED IN SECTION 14. 13. IN ANY AREAS OF THE SITE WHERE FINAL VEGETATIVE STABILIZATION WILL OCCUR. PERMITTEES MUST RESTRICT VEHICLE AND FOUIPMENT USE TO MINIMIZE SOIL COMPACTION
- 14. PERMITTEES MUST PRESERVE TOPSOIL ON THE SITE, UNLESS INFEASIBLE. 15. PERMITTEES MUST DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS UNLESS INFEASIBLE 16. PERMITTEES MUST PRESERVE A 50 FOOT NATURAL BUFFER OR. IF A BUFFER IS INFEASIBLE ON THE SITE PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER PERMITTEES MUST INSTALL PERIMETER SEDIMENT CONTROLS AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE. NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES JUDICIAL DITCHES, COUNTY DITCHES, STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS, AND SEDIMENT BASINS. IF PRESERVING THE BUFFER IS INFEASIBLE, PERMITTEES MUST DOCUMENT THE REASONS IN THE SWPPP. SHEET PILING IS A REDUNDANT PERIMETER CONTROL IF INSTALLED IN A MANNER THAT RETAINS
- ALL STORMWATER. 17. PERMITTEES MUST USE POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, DOSING SPECIFICATIONS AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER OR SUPPLIER. THE PERMITTEES MUST USE CONVENTIONAL EROSION AND SEDIMENT CONTROLS PRIOR TO CHEMICAL ADDITION AND MUST DIRECT TREATED STORMWATER TO A SEDIMENT CONTROL SYSTEM FOR FILTRATION OR SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE.

DEWATERING AND BASIN DRAINING (SECTION 10):

- 1. PERMITTEES MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENT BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. PERMITTEES MAY DEWATER TO SURFACE WATERS IF THEY VISUALLY CHECK TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF PERMITTEES CANNOT DISCHARGE THE WATER TO A SEDIMENTATION BASIN PRIOR TO ENTERING A SURFACE WATER, PERMITTEES MUST TREAT IT WITH APPROPRIATE BMPS SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE SURFACE WATER OR DOWNSTREAM PROPERTIES. 2. IF PERMITTEES MUST DISCHARGE WATER CONTAINING OIL OR GREASE, THEY MUST USE AN OIL-WATER
- DISCHARGE
- INUNDATION OF WETLANDS IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS THAT CAUSES SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.
- 4. IF PERMITTEES USE FILTERS WITH BACKWASH WATER. THEY MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION.

INSPECTIONS AND MAINTENANCE (SECTION 11):

- 1. PERMITTEES MUST ENSURE A TRAINED PERSON, AS IDENTIFIED IN ITEM 21.2.B, WILL INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 1/2 INCH IN 24 HOURS.
- 2. PERMITTEES MUST INSPECT AND MAINTAIN ALL PERMANENT STORMWATER TREATMENT BMPS. 3. PERMITTEES MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED IN ITEM 11.5 OR 11.6. PERMITTEES MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.
- 4. DURING EACH INSPECTION, PERMITTEES MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. PERMITTEES MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. PERMITTEES MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL. REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. PERMITTEES MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND
- FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS 5. PERMITTEES MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. PERMITTEES MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.
- 6. PERMITTEES MUST REPAIR. REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE. 7. PERMITTEES MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. 8. PERMITTEES MUST ENSURE THAT AT LEAST ONE INDIVIDUAL PRESENT ON THE SITE (OR AVAILABLE TO THE
- PROJECT SITE IN THREE (3) CALENDAR DAYS) IS TRAINED IN THE JOB DUTIES DESCRIBED IN ITEM 21.2.B. 9. PERMITTEES MAY ADJUST THE INSPECTION SCHEDULE DESCRIBED IN ITEM 11.2 AS FOLLOWS:
- CONSTRUCTION ACTIVITY CONTINUES ON OTHER PORTIONS OF THE SITE; OR b. WHERE SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES. THE MPCA MAY REQUIRE INSPECTIONS TO RESUME IF CONDITIONS WARRANT; OR
- c. WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTIONS MAY BE SUSPENDED. INSPECTIONS MUST RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING, OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST. 10. PERMITTEES MUST RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES WITHIN 24 HOURS OF BEING
- CONDUCTED AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. THESE RECORDS MUST INCLUDE: a. DATE AND TIME OF INSPECTIONS; AND
- b. NAME OF PERSONS CONDUCTING INSPECTIONS; AND c. ACCURATE FINDINGS OF INSPECTIONS, INCLUDING THE SPECIFIC LOCATION WHERE CORRECTIVE ACTIONS ARE NEEDED; AND
- d. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE
- ACTIVITIES); AND e. DATE OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCHES IN 24 HOURS, AND THE AMOUNT OF RAINFALL FOR EACH EVENT. PERMITTEES MUST OBTAIN RAINFALL AMOUNTS BY EITHER A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ONSITE. A WEATHER STATION THAT IS WITHIN ONE (1) MILE OF YOUR LOCATION. OR A WEATHER REPORTING SYSTEM THAT PROVIDES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES; AND

- COMPLETE, PERMITTEES MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL
- 9. PERMITTEES MUST LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS, INCLUDING

- SEPARATOR OR SUITABLE FILTRATION DEVICE (E.G., CARTRIDGE FILTERS, ABSORBENTS PADS) PRIOR TO
- 3. PERMITTEES MUST DISCHARGE ALL WATER FROM DEWATERING OR BASIN-DRAINING ACTIVITIES IN A MANNER THAT DOES NOT CAUSE EROSION OR SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS OR

a. INSPECTIONS OF AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE PER MONTH, EVEN IF

- f. IF PERMITTEES OBSERVE A DISCHARGE DURING THE INSPECTION, THEY MUST RECORD AND SHOULD PHOTOGRAPH AND DESCRIBE THE LOCATION OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS); AND g. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS
- REQUIRED IN SECTION 6 WITHIN SEVEN (7) CALENDAR DAYS. POLLUTION PREVENTION MANAGEMENT (SECTION 12):
- 1. PERMITTEES MUST PLACE BUILDING PRODUCTS AND LANDSCAPE MATERIALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER, PERMITTEES ARE NOT REQUIRED TO COVER OR PROTECT PRODUCTS WHICH ARE EITHER NOT A SOURCE OF CONTAMINATION TO STORMWATER OR ARE DESIGNED TO BE EXPOSED TO STORMWATER.
- 2. PERMITTEES MUST PLACE PESTICIDES. FERTILIZERS AND TREATMENT CHEMICALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
- 3. PERMITTEES MUST STORE HAZARDOUS MATERIALS AND TOXIC WASTE, (INCLUDING OIL, DIESEL FUEL GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE. 4. PERMITTEES MUST PROPERLY STORE, COLLECT AND DISPOSE SOLID WASTE IN COMPLIANCE WITH MINN. R. CH.
- 5. PERMITTEES MUST POSITION PORTABLE TOILETS SO THEY ARE SECURE AND WILL NOT TIP OR BE KNOCKED
- OVER. PERMITTEES MUST PROPERLY DISPOSE SANITARY WASTE IN ACCORDANCE WITH MINN. R. CH. 7041. 6. PERMITTEES MUST TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE, PERMITTEES MUST ENSURE ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. PERMITTEES MUST REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINN. STAT. 115.061, USING DRY CLEAN UP MEASURES WHERE POSSIBLE.
- 7. PERMITTEES MUST LIMIT VEHICLE EXTERIOR WASHING AND EQUIPMENT TO A DEFINED AREA OF THE SITE. PERMITTEES MUST CONTAIN RUNOFF FROM THE WASHING AREA IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND MUST DISPOSE WASTE FROM THE WASHING ACTIVITY PROPERLY. PERMITTEES MUST PROPERLY USE AND STORE SOAPS, DETERGENTS, OR SOLVENTS.
- 8. PERMITTEES MUST PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS (E.G., CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS) RELATED TO THE CONSTRUCTION ACTIVITY. PERMITTEES MUST PREVENT LIQUID AND SOLID WASHOUT WASTES FROM CONTACTING THE GROUND AND MUST DESIGN THE CONTAINMENT SO IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. PERMITTEES MUST PROPERLY DISPOSE LIQUID AND SOLID WASTES IN COMPLIANCE WITH MPCA RULES. PERMITTEES MUST INSTALL A SIGN INDICATING THE LOCATION OF THE WASHOUT FACILITY.

PERMIT TERMINATION (SECTION 4 AND SECTION 13):

- 1. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ALL TERMINATION CONDITIONS LISTED IN SECTION 13 ARE COMPLETE. 2. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING
- THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT.
- 3. PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOT. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER.
- 4. PERMITTEES MUST CLEAN THE PERMANENT STORMWATER TREATMENT SYSTEM OF ANY ACCUMULATED SEDIMENT AND MUST ENSURE THE SYSTEM MEETS ALL APPLICABLE REQUIREMENTS IN SECTION 15 THROUGH 19 AND IS OPERATING AS DESIGNED.
- 5. PERMITTEES MUST REMOVE ALL SEDIMENT FROM CONVEYANCE SYSTEMS PRIOR TO SUBMITTING THE NOT. 6. PERMITTEES MUST REMOVE ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS PRIOR TO SUBMITTING THE NOT. PERMITTEES MAY LEAVE BMPS DESIGNED TO DECOMPOSE ON-SITE IN PLACE
- 7. FOR RESIDENTIAL CONSTRUCTION ONLY, PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE STRUCTURES ARE FINISHED AND TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS COMPLETE, THE RESIDENCE SELLS TO THE HOMEOWNER, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.
- 8. FOR CONSTRUCTION PROJECTS ON AGRICULTURAL LAND (E.G., PIPELINES ACROSS CROPLAND), PERMITTEES MUST RETURN THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE PRIOR TO SUBMITTING THE NOT

SEED NOTES:

ALL SEED MIXES AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MNDOT SEEDING MANUAL.

GENERAL RECOMMENDATIONS

THE CONTRACTOR IS RESPONSIBLE TO SALVAGE AND PRESERVE EXISTING TOPSOIL NECESSARY FOR FINAL STABILIZATION AND TO ALSO MINIMIZE COMPACTION IN ALL LANDSCAPE AREAS. IMMEDIATELY BEFORE SEEDING THE SOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 3 INCHES.

TEMPORARY EROSION CONTROL SEEDING, MULCHING & BLANKET.

SFFD

 TEMPORARY SEED SHALL BE MNDOT SEED MIX 21-112 (WINTER WHEAT COVER CROP) FOR WINTER AND 21-111 (OATS COVER CROP) FOR SPRING/SUMMER APPLICATIONS. BOTH SEED MIXES SHALL BE APPLIED AT A SEEDING RATE OF 100 LBS/ACRE.

MULCH

 IMMEDIATELY AFTER SEEDING, WITHIN 24 HOURS, MNDOT TYPE 1 MULCH SHOULD BE APPLIED TO PROTECT AND ENHANCE SEED GERMINATION. MULCH SHALL BE APPLIED AT 90% COVERAGE (2 TONS PER ACRE OF STRAW MULCH)

SLOPES 3:1 (HORIZ/VERT.) OR FLATTER MUCH SHALL BE COVERED WITH MULCH

 SLOPES STEEPER THAN 3:1 OR DITCH BOTTOMS SHALL BE COVERED WITH EROSION CONTROL BLANKET. SEE PLAN FOR MORE DETAILED DITCH AND STEEP SLOPE EROSION CONTROL TREATMENTS.

TRAINING SECTION 21

AREAS AND QUANTITIES:

SITE AREA CA **MPERVIOUS**

> BUILDING PAVEMEN

PERVIOUS SU

DIFFERENCE DISTURBED A

EROSION CO DISTURBED A SILT FENCE/B **EROSION CO** INLET PROTE

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION.

CONTRACTOR:

SWPPP ATTACHMENTS (ONLY APPLICABLE IF SITE IS 1 ACRE OR GREATER): NA

SUBMITTED TO THE MPCA.

NA

PERMANENT SEED MIX FOR THIS PROJECT ALL AREAS THAT ARE NOT TO BE SODDED OR LANDSCAPED SHALL RECEIVE A NATIVE PERMANENT SEED MIX. •• AREAS IN BUFFERS AND ADJACENT TO OR IN WET AREAS MNDOT SEED MIX 33-261 (STORMWATER SOUTH AND WEST) AT 35 LBS PER ACRE. DRY AREAS MNDOT SEED MIX 35-221 (DRY PRAIRIE GENERAL) AT 40 LBS PER ACRE. MAINTENANCE SHALL BE IN ACCORDANCE TO THE MNDOT SEEDING MANUAL

DESIGN ENGINEER: DAVID J. KNAEBLE P.E. TRAINING COURSE: DESIGN OF SWPPP TRAINING ENTITY: UNIVERSITY OF MINNESOTA INSTRUCTOR: JOHN CHAPMAN DATES OF TRAINING COURSE: 8/22/2012- 8/23/2012 TOTAL TRAINING HOURS: 12 DATE OF RECERTIFICATION: 4/22/22 EXPIRATION: 5/31/2025

OWNER INFORMATION

TSUNAMI EXPRESS CAR WASH, LLC. 4800 MEADOWS ROAD, SUITE 300 LAKE OSWEGO, OR 97305 CHRIS SCHULDT 920-744-9882 CHRIS@TSUNAMIEXPRESS.COM

ALCULATION	S						
		EXISTING CON	DITION		PROPOSED CC	NDITION	
S SURFACES							
GCOVERAGE		6,344 SF	17.5%		4,383 SF	12.1%	
NT		18,417 SF	50.8%		21,308 SF	58.8%	
	TOTAL	24,761 SF	68.3%	0.6 AC	25,691 SF	70.8%	0.6 AC
URFACES							0
	TOTAL	11,507 SF	31.7%	0.3 AC	10,577 SF	29.2%	0.2 AC
TOTAL SIT	E AREA	36,268 SF	100.0%	0.8 AC	36,268 SF	100.0%	0.8 AC
E (EX. VS PRO	P.)	930 SF	2.6%				
AREA	2.50	39,500 SF	0.9	AC			
ONTROL QUA	NTITIES						
AREA		39,500 SF					
BIO-ROLL		±950 LF					
ONTROL BLAN	KET	6,200 SF					
ECTION DEVI	CES	±12 EA					

SWPPP CONTACT PERSON

SWPPP INSPECTOR TRAINING: ALL SWPPP INSPECTIONS MUST BE PERFORMED BY A PERSON THAT MEETS THE TRAINING REQUIREMENTS OF THE NPDES CONSTRUCTION SITE PERMIT. TRAINING CREDENTIALS SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON SITE WITH THE SWPPP

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT IS NOT REQUIRED AS PART OF THIS PROJECT TO MEET NPDES PERMIT REQUIREMENTS.

SUPPLEMENTARY SITE SPECIFIC EROSION CONTROL NOTES: THESE NOTES SUPERCEDE ANY GENERAL SWPPP NOTES.

THIS PROJECT IS LESS THAN 1.0 ACRES SO AN NPDES PERMIT IS NOT REQUIRED AND DOES NOT NEED TO BE

PROJECT NARRATIVE:

PROJECT IS A REDEVELOPMENT OF AN EXISTING MULTI-STORY OFFICE BUILDING INTO AN AUTOMATED CAR WASH. SITE, GRADING, UTILITY AND LANDSCAPE IMPROVEMENTS WILL OCCUR.

NATIVE BUFFER NARRATIVE:

PRESERVING A 50 FOOT NATURAL BUFFER AROUND WATER BODIES IS NOT REQUIRED OF THIS PROJECT BECAUSE WATER BODIES ARE NOT LOCATED ON SITE.

INFILTRATION NARRATIVE:

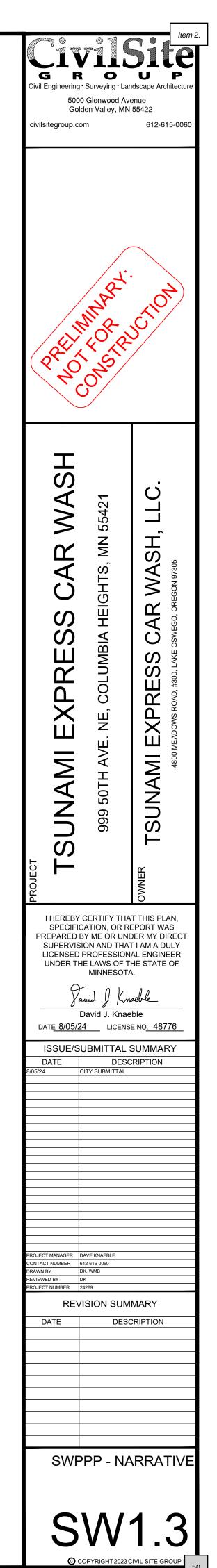
INFILTRATION IS NOT PROVIDED AS PART OF THE PROJECTS PERMANENT STORM WATER MANAGEMENT SYSTEM.

SOIL CONTAMINATION NARRATIVE:

SOILS ONSITE HAVE NOT BEEN IDENTIFIED AS CONTAMINATED.

SPECIAL TMDL BMP REQUIREMENTS SITE SPECIFIC (IF REQUIRED)

PERMANENT STABILIZATION NOTES SITE SPECIFIC:





Tsunami Express Car Wash

Cover Sheet





Exterior Elevations

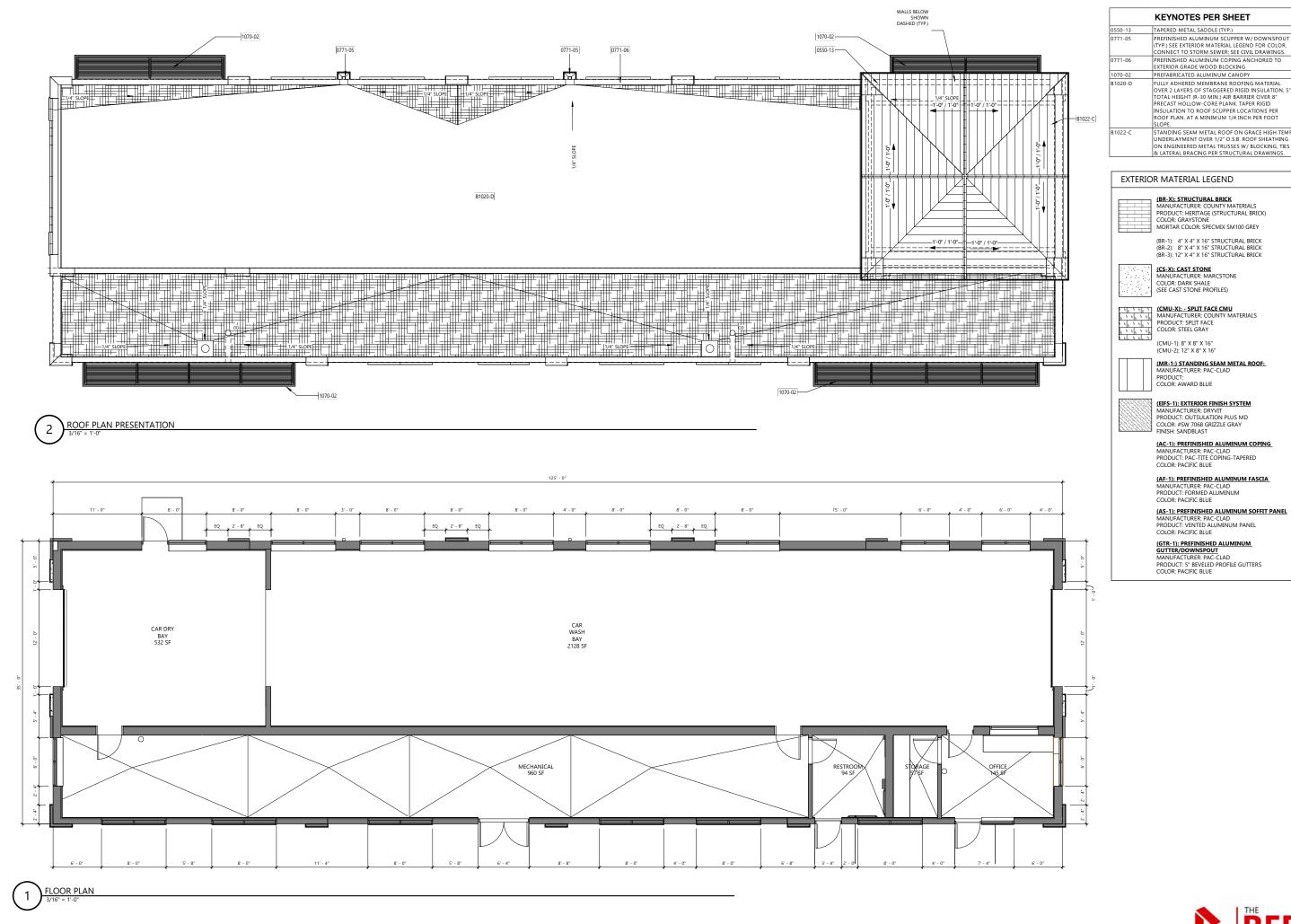
ltem 2.

	KEYNOTES PER SHEET
0420-14	BRICK SOLDIER COURSE
0473-07	CAST STONE DECORATIVE ELEMENT
0724-01	EIFS (SEE EXTERIOR MATERIAL SCHEDULE)
0771-05	PREFINISHED ALUMINUM SCUPPER W/ DOWNSPOUT (TYP.) SEE EXTERIOR MATERIAL LEGEND FOR COLOR.
	CONNECT TO STORM SEWER; SEE CIVIL DRAWINGS.
0833-02	OVERHEAD DOOR, SEE DOOR SCHED.
0841-01	THERMALLY BROKEN ALUMINUM STOREFRONT SYSTEM - CENTER GLAZED - STANDARD 2" X 4-1/2" MULLIONS, TYPICAL.
0841-06	ALUMINUM FRAMED ENTRANCE DOOR (SEE DOOR SCHEDULE).
1044-04	KNOX BOX. VERIFY LOCATION WITH AUTHORITY HAVING JURISDICTION (AHJ) PRIOR TO INSTALLATION.
1070-02	PREFABRICATED ALUMINUM CANOPY
2214-07	OVERFLOW DRAIN WITH LAMB'S TONGUE APPROXIMATELY 18" A.F.F. (SEE PLUMBING DRAWINGS)
2656-03	EXTERIOR WALL-MOUNTED LIGHT FIXTURE (SEE ELECTRICAL DRAWINGS)
AC-1	PREFINISHED ALUMINUM COPING. SEE EXTERIOR MATERIAL LEGEND.
AF-1	PREFINISHED ALUMINUM FASCIA ON EXTERIOR GRADE 2X12 RAKE BOARD AND 1X6 TRIM BOARD. SEE EXTERIOR MATERIAL LEGEND.
BR-1	4" X 4" X 16" STRUCTURAL BRICK. SEE EXTERIOR MATERIAL LEGEND.
BR-2	8" X 4" X 16" STRUCTURAL BRICK. SEE EXTERIOR MATERIAL LEGEND.
BR-3	12" X 4" X 16" STRUCTURAL BRICK. SEE EXTERIOR MATERIAL LEGEND.
BR-4	4" X 4" X 16" STRUCTURAL BRICK SOLDIER COURSE. SEE EXTERIOR MATERIAL LEGEND
CMU-1	8" X 8" X 16" SPLIT FACE CMU. SEE EXTERIOR MATERIAL LEGEND.
CMU-2	12" X 8" X 16" SPLIT FACE CMU. SEE EXTERIOR MATERIAL LEGEND.
CS-1	CAST STONE SILL. SEE CAST STONE PROFILES.
CS-2	CAST STONE SILL. SEE CAST STONE PROFILES.
CS-3	CAST STONE BASE. SEE CAST STONE PROFILES.
CS-4	CAST STONE SILL. SEE CAST STONE PROFILES.
CS-5	CAST STONE HEAD. SEE CAST STONE PROFILES.
CS-6	CAST STONE PIER. SEE CAST STONE PROFILES.
MR-1	STANDING SEAM METAL ROOF. SEE EXTERIOR MATERIAL LEGEND.

EXTERIO	R MATERIAL LEGEND
	(BR-X): STRUCTURAL BRICK MANUFACTURER: COUNTY MATERIALS PRODUCT: HERITAGE (STRUCTURAL BRICK) COLOR: GRAVSTONE MORTAR COLOR: SPECMIX SM100 GREY
	(BR-1): 4" X 4" X 16" STRUCTURAL BRICK (BR-2): 8" X 4" X 16" STRUCTURAL BRICK (BR-3): 12" X 4" X 16" STRUCTURAL BRICK
	(CS-X): CAST STONE MANUFACTURER: MARCSTONE COLOR: DARK SHALE (SEE CAST STONE PROFILES)
	(CMU-X): - SPLIT FACE CMU MANUFACTURER: COUNTY MATERIALS PRODUCT: SPLIT FACE COLOR: STEEL GRAY
	(CMU-1): 8" X 8" X 16" (CMU-2): 12" X 8" X 16"
	(MR-1:) STANDING SEAM METAL ROOF: MANUFACTURER: PAC-CLAD PRODUCT: COLOR: AWARD BLUE
	(EIFS-1): EXTERIOR FINISH SYSTEM MANUFACTURER: DRYVIT PRODUCT: OUTSULATION PLUS MD COLOR: #SY 7068 GRIZZLE GRAY FINISH: SANDBLAST
	(AC-1): PREFINISHED ALUMINUM COPING MANUFACTURER: PAC-CLAD
	PRODUCT: PAC-TITE COPING-TAPERED COLOR: PACIFIC BLUE
	(AF-1): PREFINISHED ALUMINUM FASCIA MANUFACTURER: PAC-CLAD PRODUCT: FORMED ALUMINUM COLOR: PACIFIC BLUE
	(AS-1): PREFINISHED ALUMINUM SOFFIT PANEL MANUFACTURER: PAC-CLAD PRODUCT: VENTED ALUMINUM PANEL COLOR: PACIFIC BLUE
	(GTR-1): PREFINISHED ALUMINUM GUTTER/DOWNSPOUT MANUFACTURER: PAC-CLAD PRODUCT: 5" BEVELED PROFILE GUTTERS COLOR: PACIFIC BLUE



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Tsunami Express Car Wash

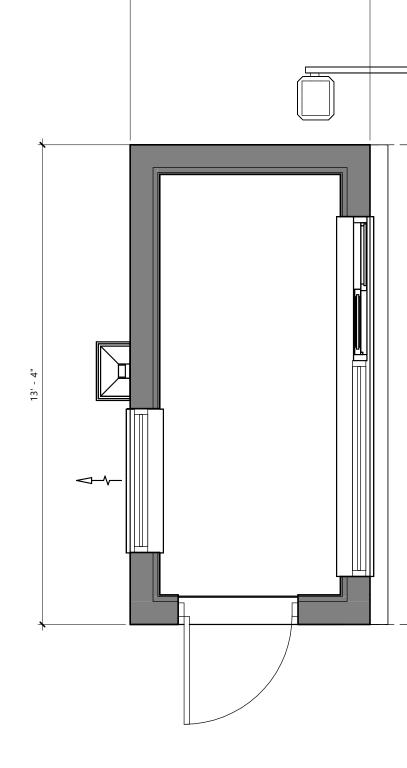
Floor Plan & Roof Plan





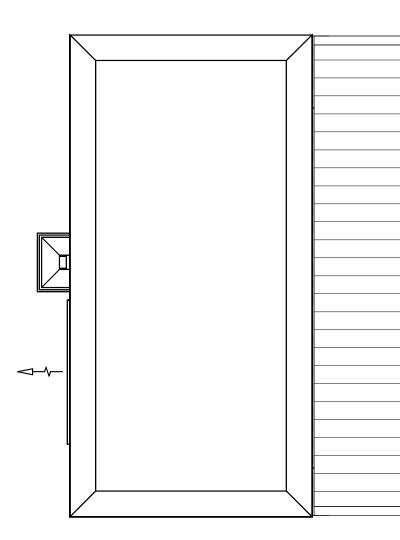
DE_Sales Booth - 2 Lane_Presentation

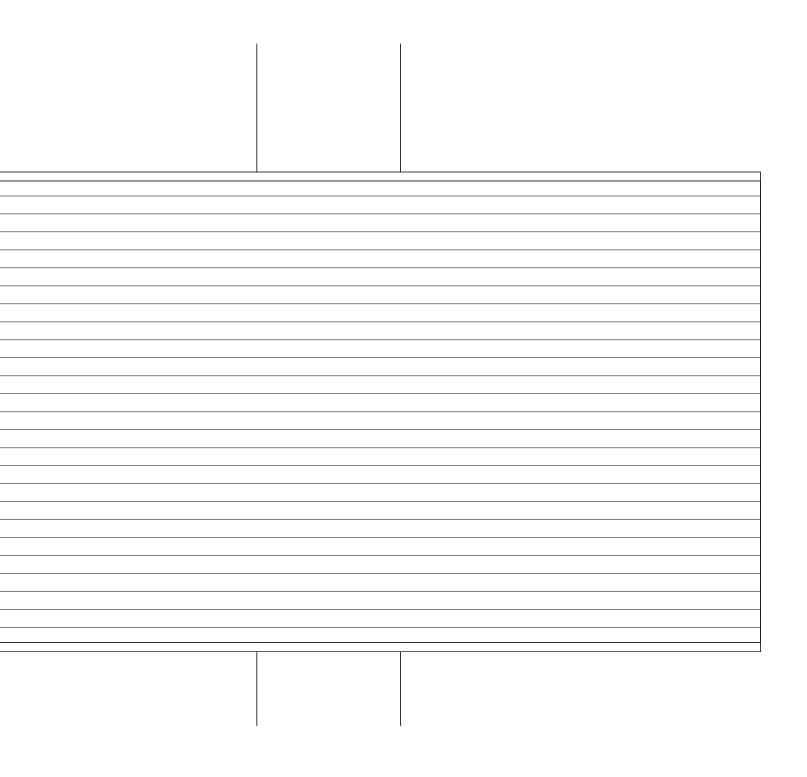


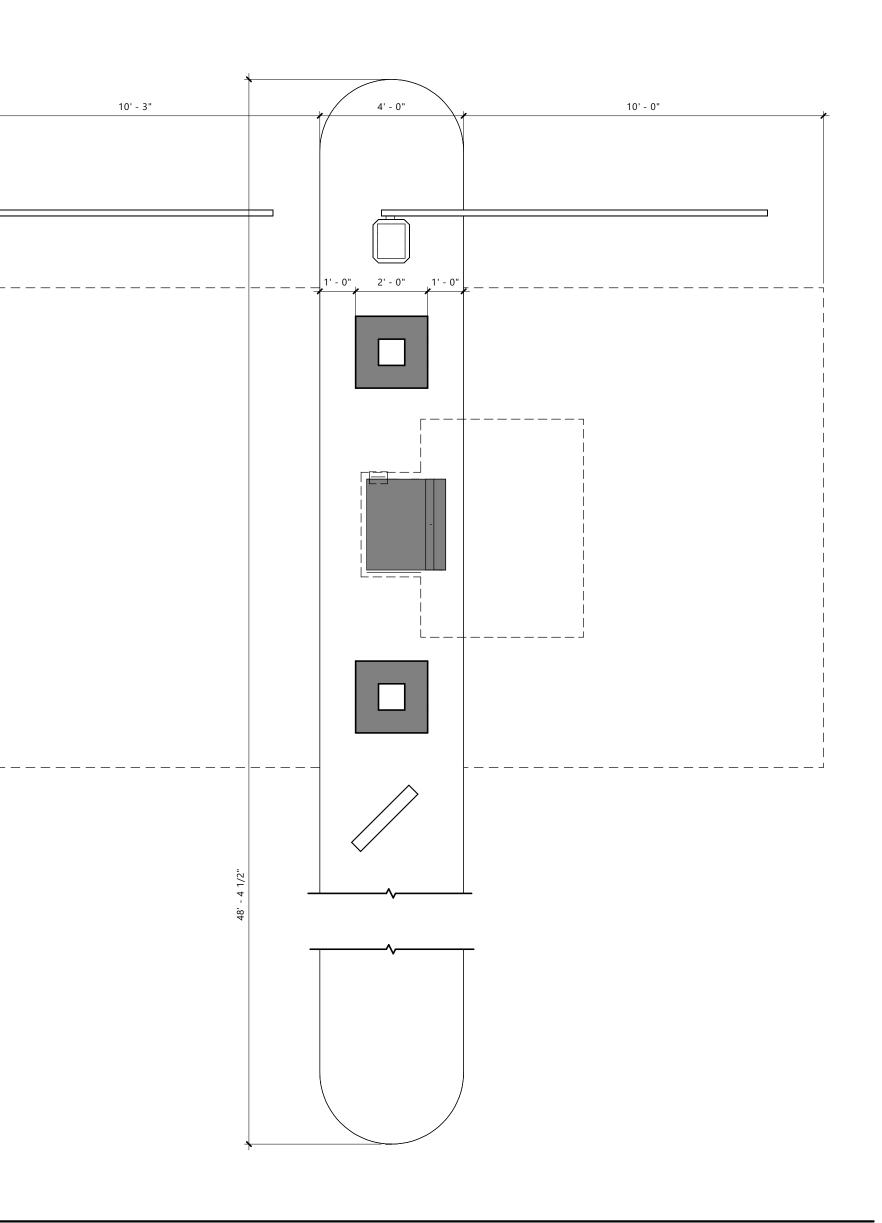




6' - 8"

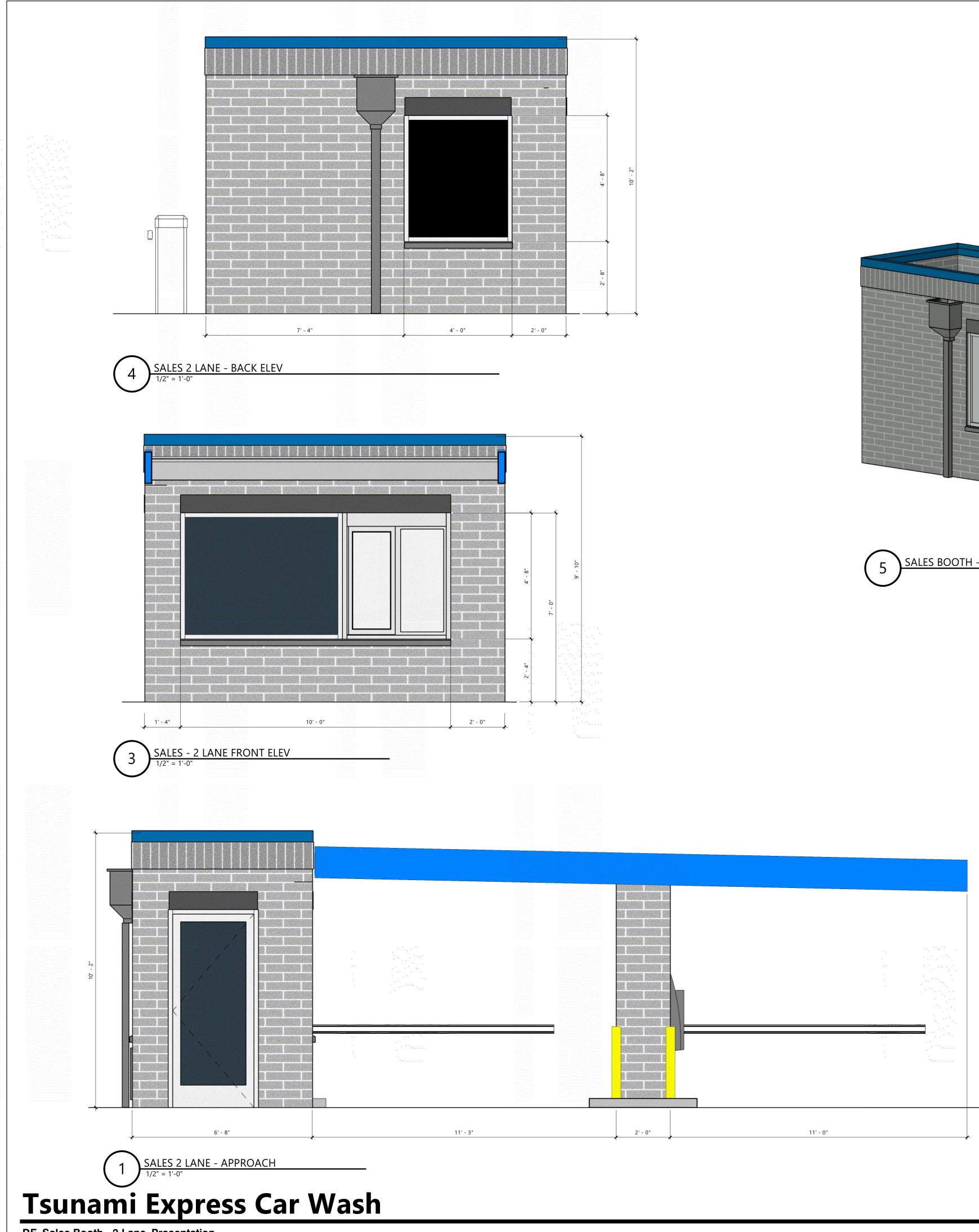




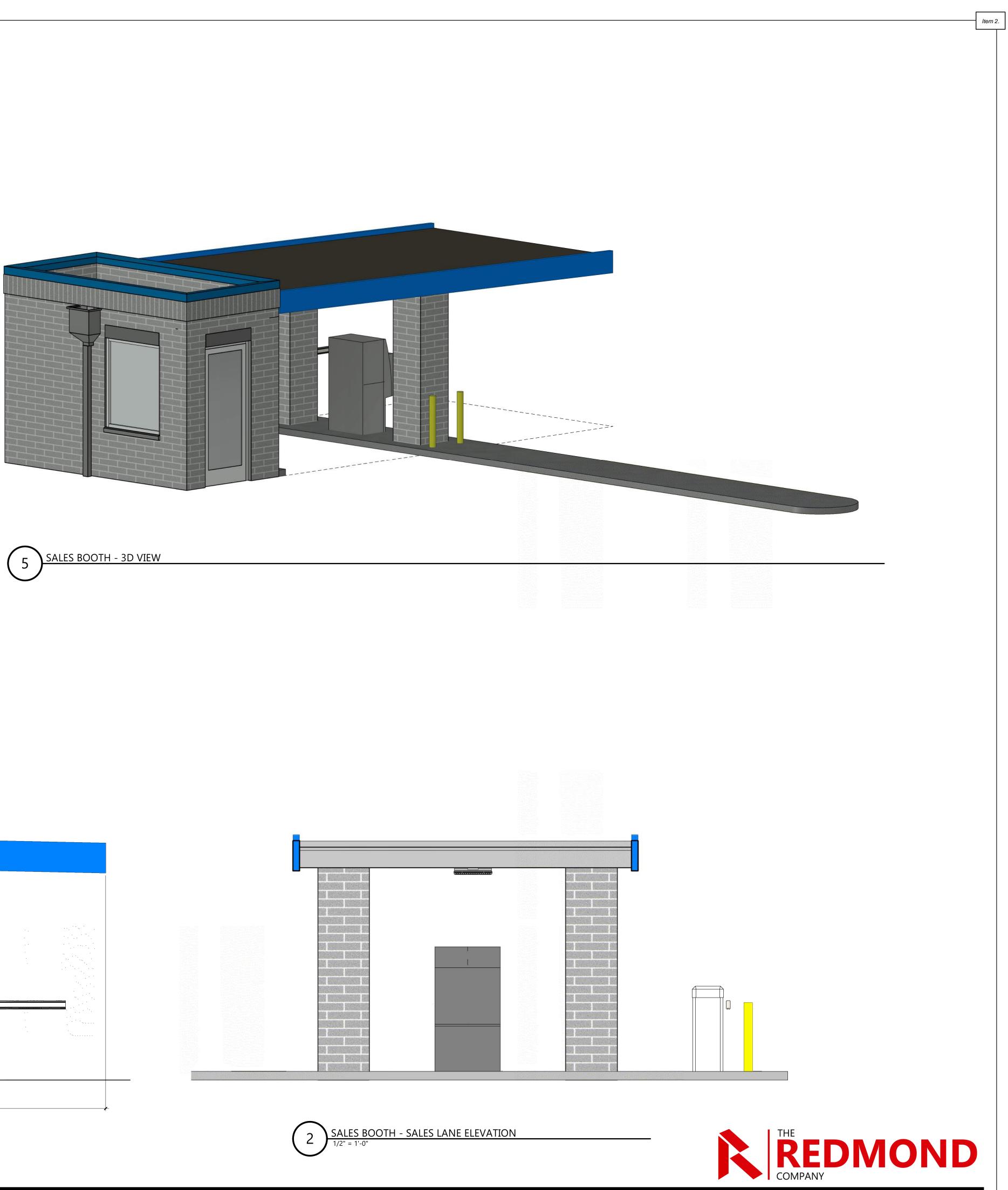




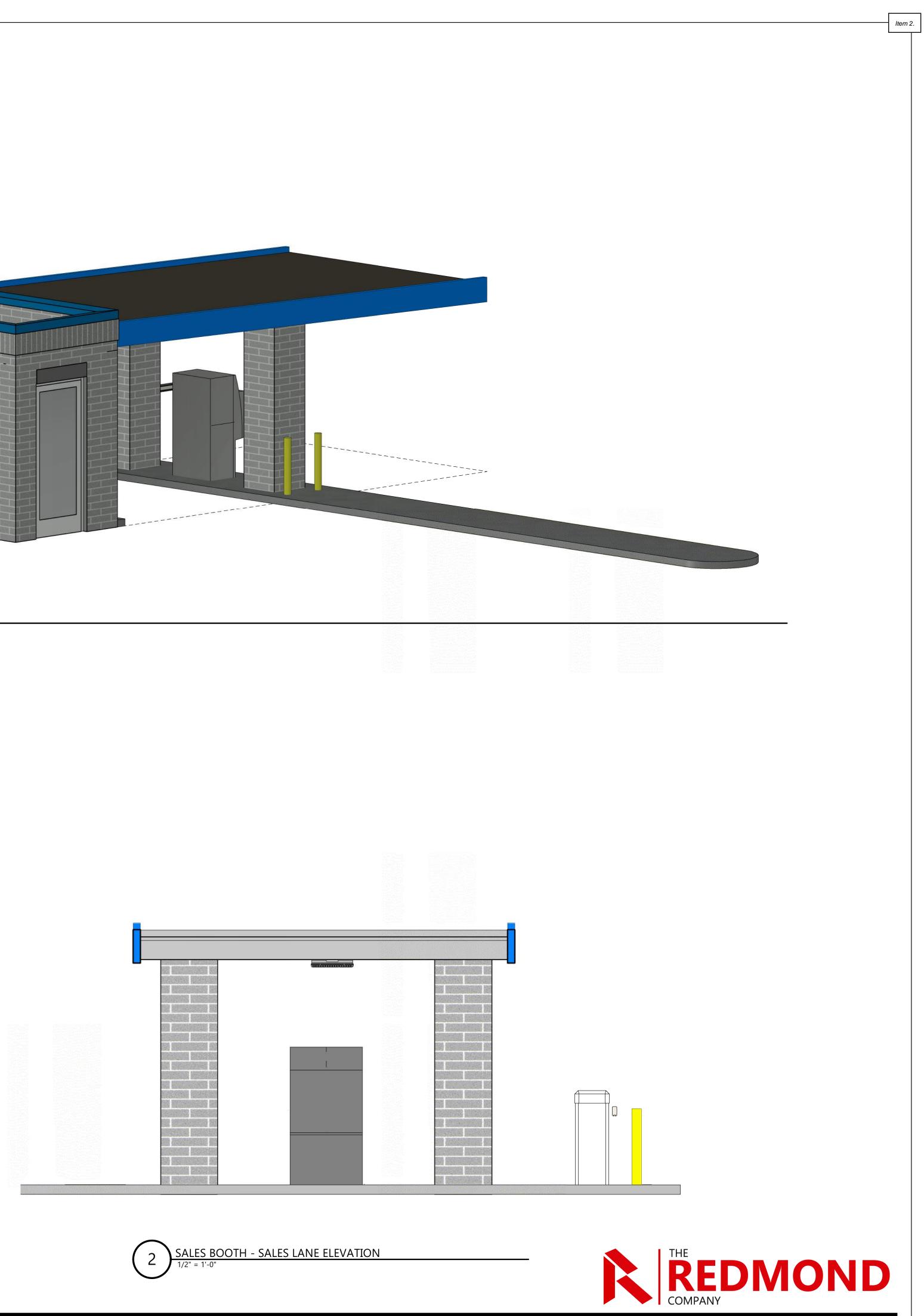
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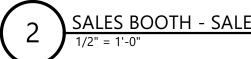


DE_Sales Booth - 2 Lane_Presentation

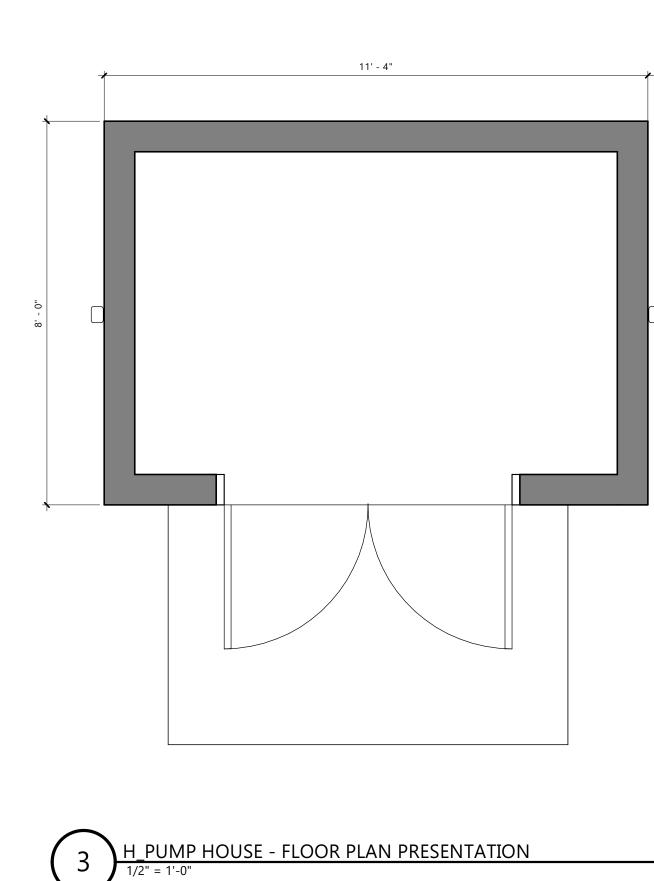


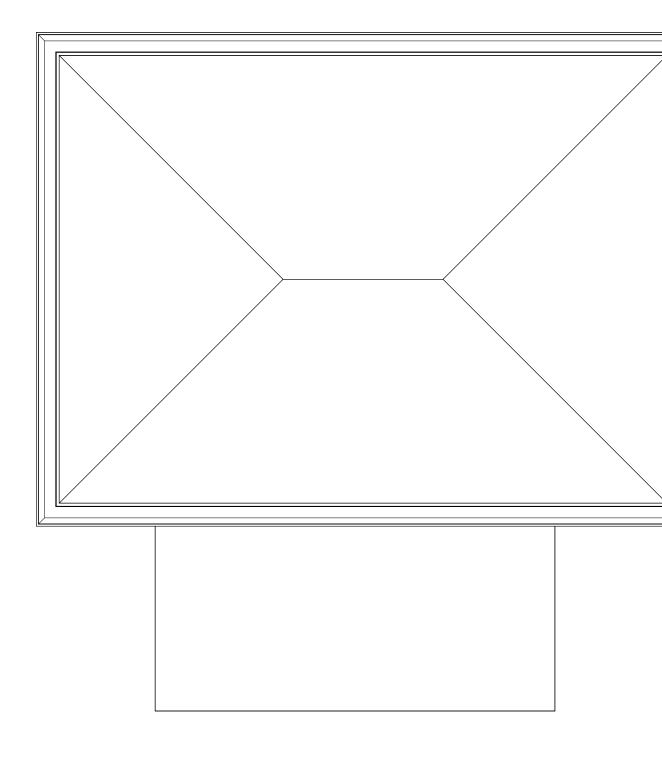






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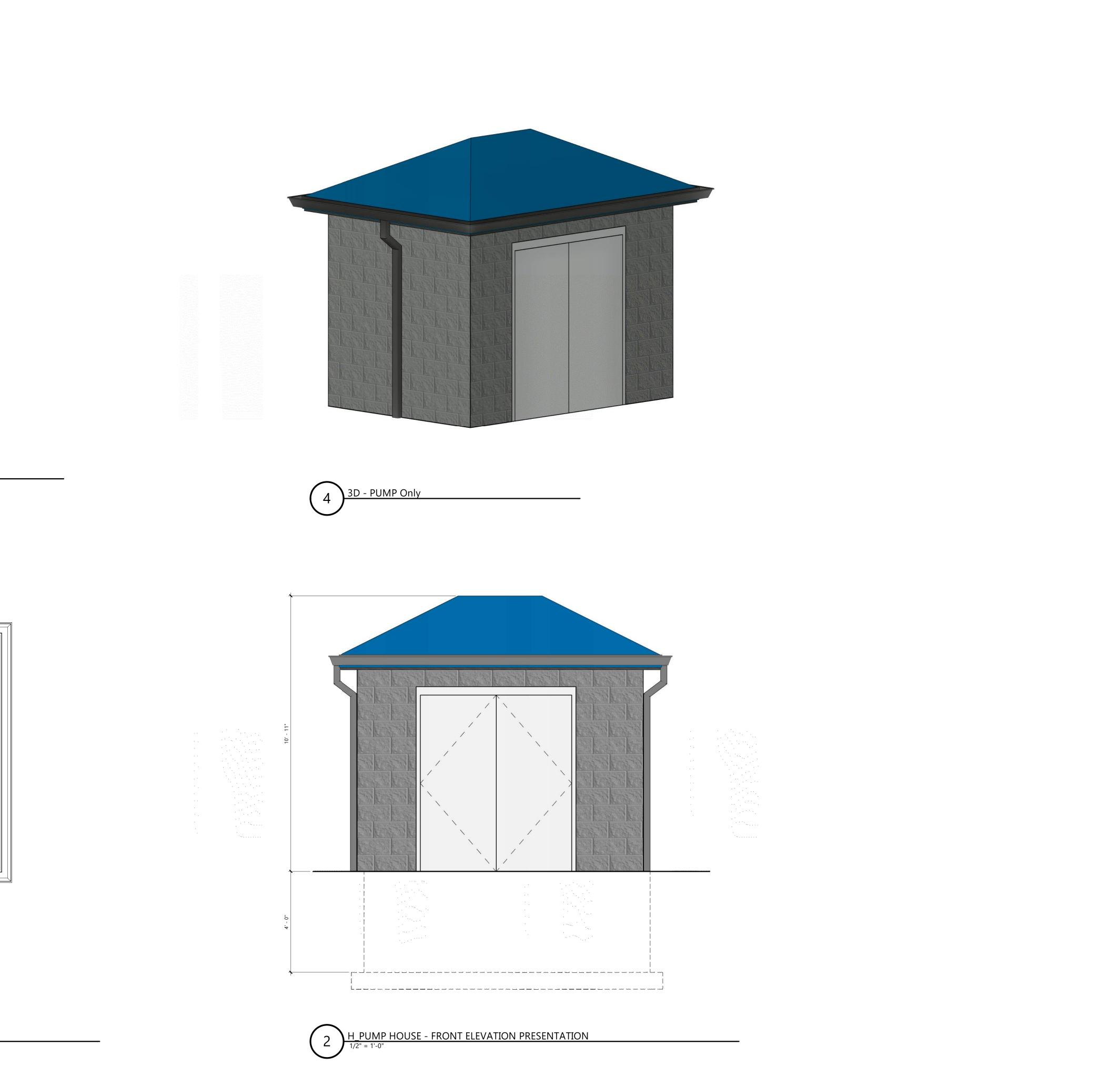




1 <u>H_PUMP HOUSE - ROOF PLAN PRESENTATION</u>

Tsunami Express Car Wash

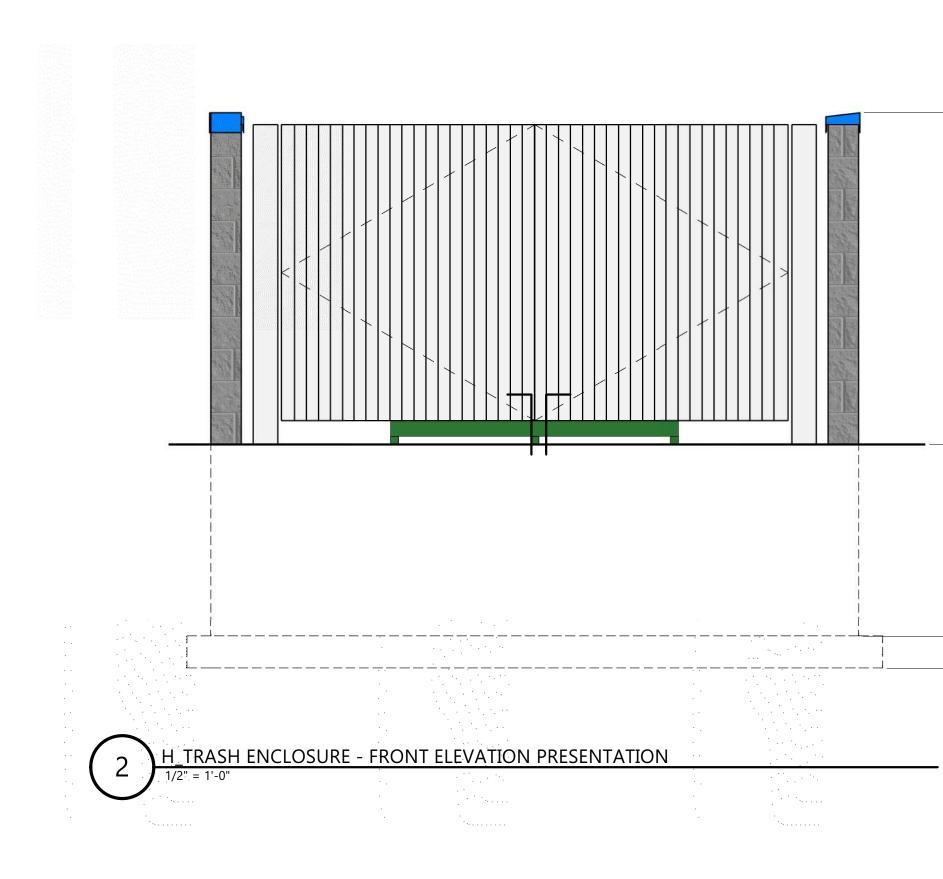
SEP_Pump Bldg_Presentation

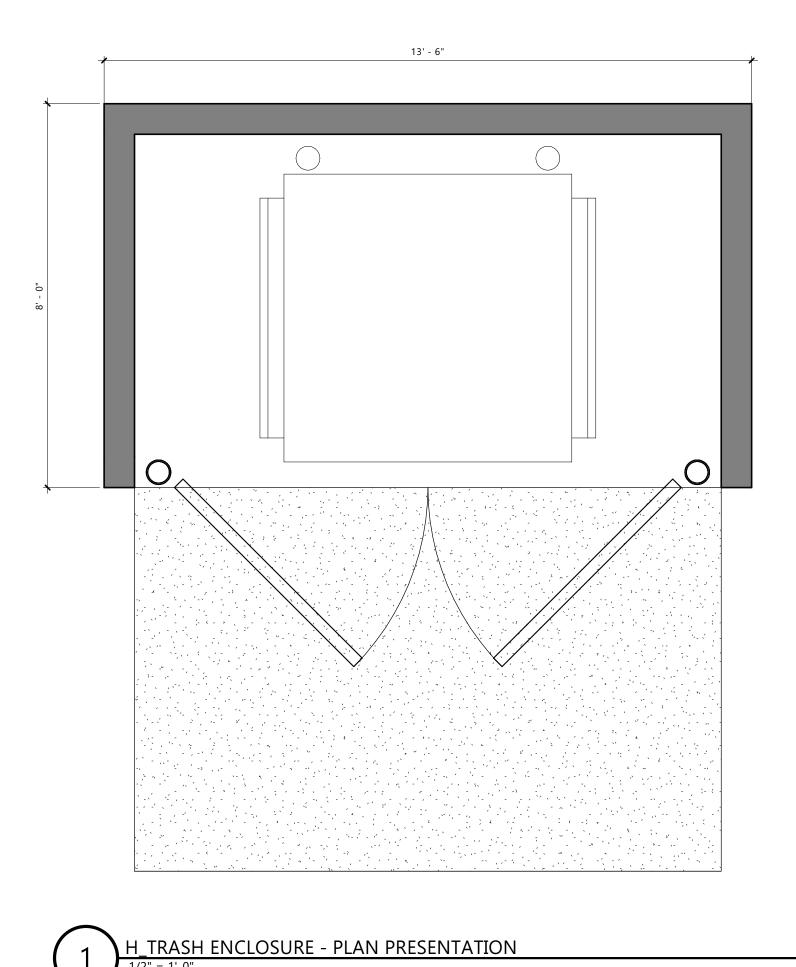




06.07.2024

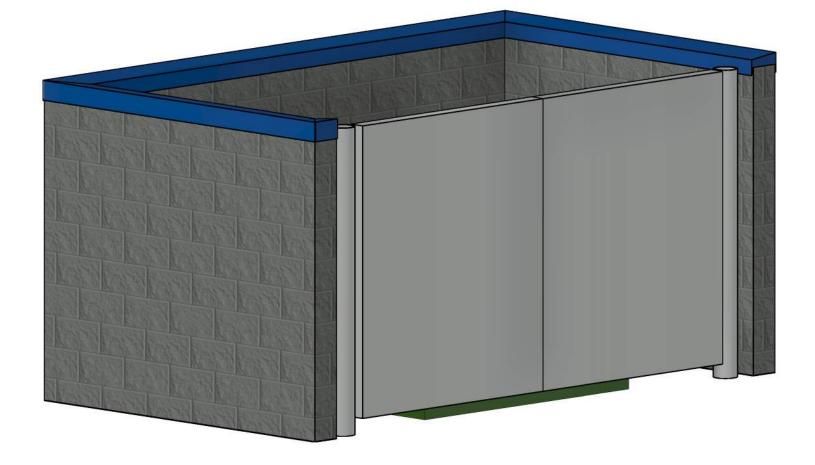
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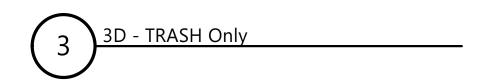




Tsunami Express Car Wash

SEP_Trash Bldg_Presentation







06.07.2024

Item 2.

TYPOGRAF	PHY, ARROW	/S, FINISHES	& VINYLS

LOGOS	ARI
TSUAMI EXPRESS CAR WASH	
TSUAMI EXPRESS (HORIZONTAL VERSION)	
CAR WASH (VERTICAL VERSION)	

ARROWS



TYPOGRAPHY



Aa

UNIVA PRO BLACK

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 1234567890!@#\$%&*()?/"':;,.



Aa

MONTSERRAT REGULAR

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z 1234567890! @ #\$%&*()?/"':;,.



V-01 - 3M 7725-12 BLACK

V-02 - 3M 7725-10 WHITE

V-03 - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 2382 C (BLUE)

> - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 915 U (LT. BLUE)

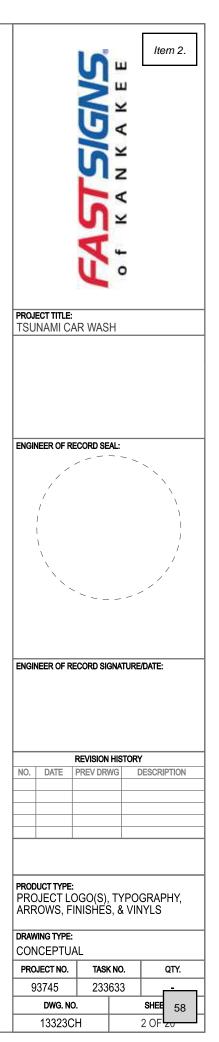
> - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 7548 XGC (YELLOW)

> - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 2420 C (GREEN)

(V-07) - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH 33% OF PMS 915 U (LT. BLUE)

> - DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH 10% OF PMS 915 U (LT. BLUE)

- DIGITALLY PRINTED ON 3M 3635-210 PERFORATED WHITE VINYL

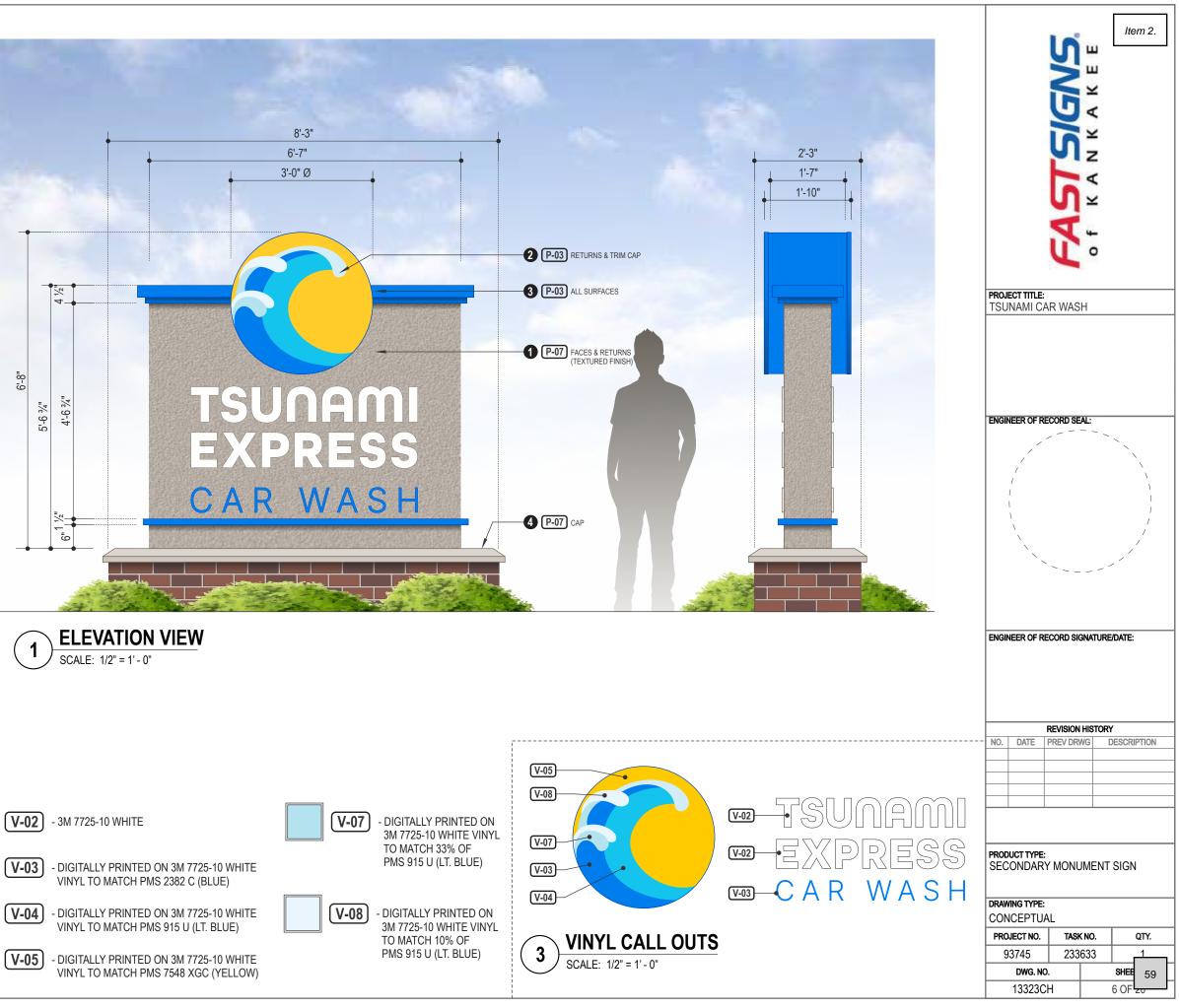


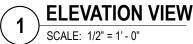
GENERAL NOTES:

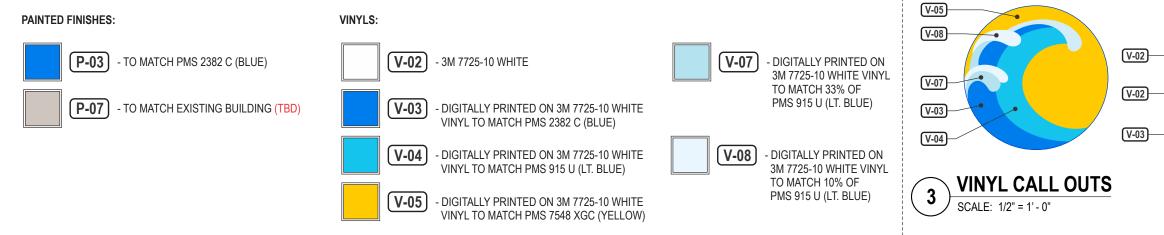
ILLUMINATED: YES S/F OR D/F: D/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED WITH E.C. AND TO BE PROVIDED BY THE E.C.

NOTES:

- **(1)** CABINET: D/F INTERNALLY ILLUMINATED CABINET. 1'-0" DEEP. ALUMINUM FACES & RETURNS OVER ALUMINUM ANGLE FRAME. FACES & OUTER RETURN TO HAVE A PAINTED TEXTURED FINISH FACES TO HAVE ROUTED OUT W/ PUSHED THRU ACRYLIC COPY GRAPHICS. PUSHED THRU ACRYLIC TO BE CLEAR W/ APPLIED TRANS. VINYL OVERLAID ONTO THE FACES. INTERNAL ILLUMINATION TO BE WHITE LED'S. CABINET MOUNTED TO INSIDE OF BRICK COLUMN & BOTTOM CABINET VIA INTERNAL MAIN STEEL SUPPORT.
- **2** LOGO CABINETS: (2) S/F INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL CABINET. RETURNS & BACKS TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACES TO BE TRANS. WHITE ACRYLIC WITH APPLIED VINYL GRAPHICS. FACES ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. MOUNTED TO TOP CABINET.
- 3 ACCENT MOLDING: ALUMINUM TUBE DIMENSIONAL MOLDING. MOLDING TO HAVE A PAINTED FINISH. MOLDING MOUNTED TO CABINET FACE & OUTER RETURNS.
- BRICK BASE: FAB'D STEEL FRAME WITH CEMENT BOARD CLADDING & BRICK VENEER W/ MORTAR. MOUNTED TO CONCRETE SLAB. BRICK VENEER TO MATCH BRICK ON EXISTING BUILDING. CAP TO BE FAB'D ALUMINUM WITH A PAINTED FINISH.
- **5** BRICK COLUMN: FAB'D STEEL FRAME WITH CEMENT BOARD CLADDING & BRICK VENEER W/ MORTAR. MOUNTED TO TOP OF BRICK BASE. INTERIOR OF COLUMN TO HAVE A STEEL TUBE SUPPORT. BRICK VENEER TO MATCH BRICK ON EXISTING BUILDING.







BUILDING ID - CAR WASH ENTRANCE IDX-1

GENERAL NOTES:

ILLUMINATED: YES S/F OR D/F: S/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED WITH E.C. AND TO BE PROVIDED BY THE E.C.

NOTES:

- **1** LOGO CABINET: S/F INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL CABINET. RETURNS & BACK TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACE TO BE TRANS. WHITE ACRYLIC w/ APPLIED VINYL GRAPHICS. FACE ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO EXISTING BRICK BUILDING.
- **2** CHANNEL LETTERS: INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL LETTERS. RETURNS & BACKS TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACES TO BE TRANS. WHITE ACRYLIC. FACES ARE ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO EXISTING BRICK BUILDING.
- **3** CAR WASH CABINET: S/F INTERNALLY ILLUMINATED 5" DEEP FAB'D CABINET. RETURNS & BACK TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACE TO BE ALUMINUM - FAB'D ALUMINUM "SHOE BOX" STYLE w/ 1 1/2" WELDED ALUMINUM RETURNS. FACE AND WELDED RETURNS TO HAVE A PAINTED FINISH. COPY TO BE ROUTED OUT OF ALUMINUM FACE. THE ROUTED OPENINGS TO BE BACKED w/ TRANS. WHITE ACRYLIC. FACE ATTACHED TO CABINET RETURNS VIA 1 1/2" WELDED ALUMINUM RETURNS. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO EXISTING BRICK BUILDING.

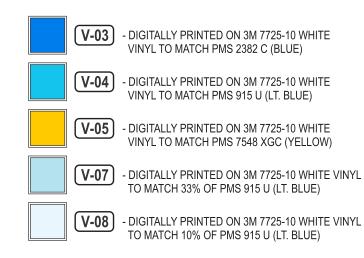


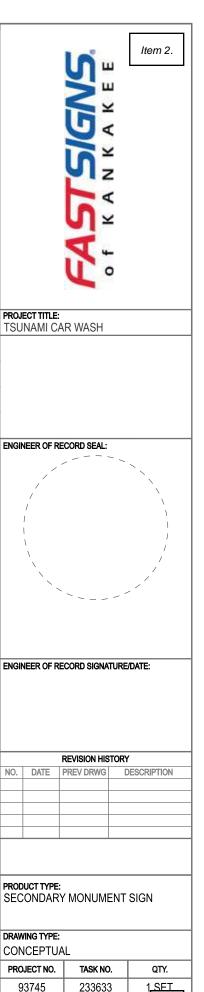




P-03 - TO MATCH PMS 2382 C (BLUE)

VINYLS:





DWG. NO.

13323CH

SHEE 60

7 OF 20

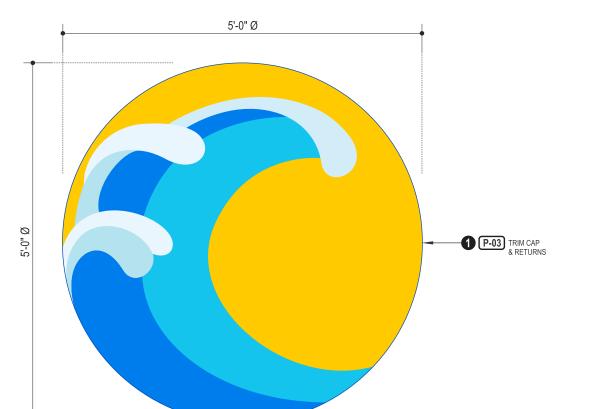
IDX-2 BUILDING ID - TOWER SIDES

GENERAL NOTES:

ILLUMINATED: YES S/F OR D/F: S/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED WITH E.C. AND TO BE PROVIDED BY THE E.C.

NOTES:

1 LOGO CABINET: S/F INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL CABINET. RETURNS & BACK TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACE TO BE TRANS. WHITE ACRYLIC WITH APPLIED VINYL GRAPHICS FACE ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO EXISTING BRICK BUILDING.

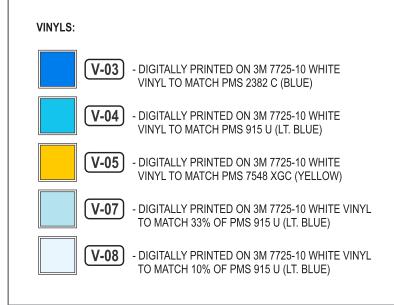


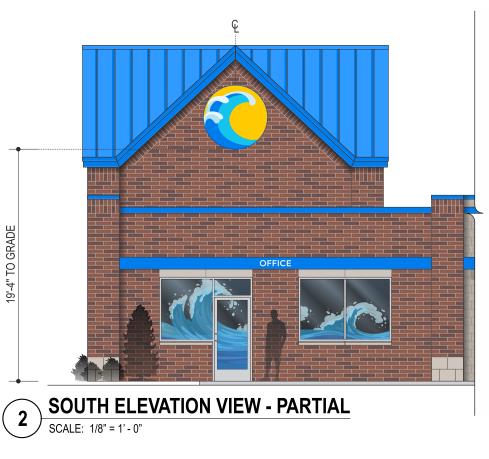


PAINTED FINISHES:

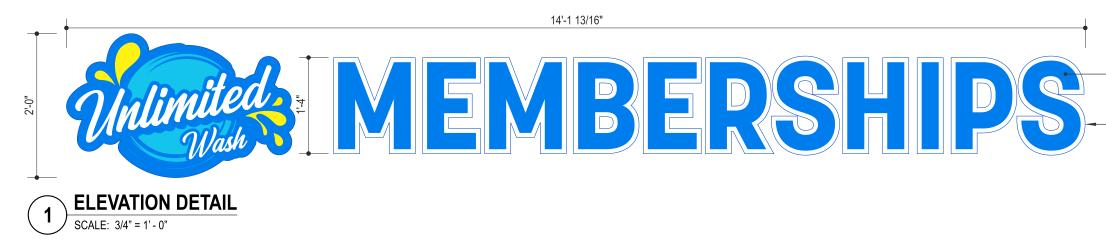


- TO MATCH PMS 2382 C (BLUE)











ILLUMINATED: YES S/F OR D/F: S/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED WITH E.C. AND TO BE PROVIDED BY THE E.C.

NOTES:

 CHANNEL LETTERS: INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL LETTERS. RETURNS & BACKS TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACES TO BE TRANS. WHITE ACRYLIC W/ APPLIED VINYL INLAYS. FACES ARE ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO CMU BLOCK OF EXISTING BUILDING.

PAINTED FINISHES:

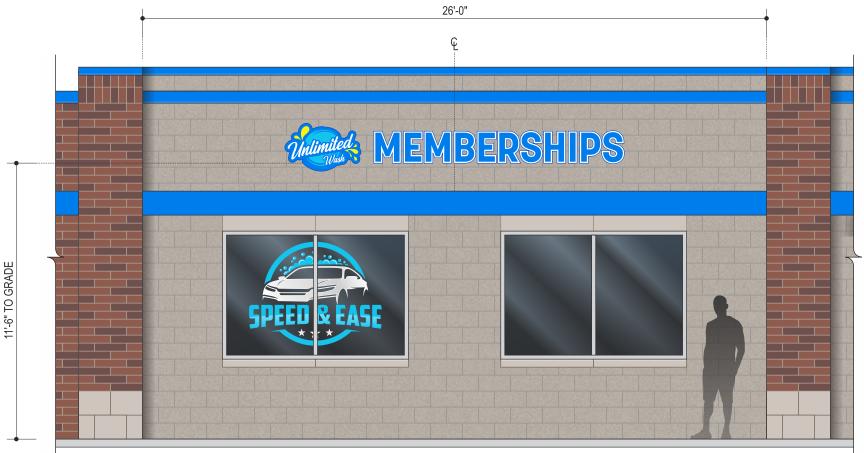


P-03 - TO MATCH PMS 2382 C (BLUE)

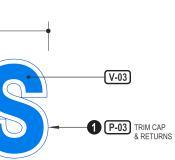
VINYLS:

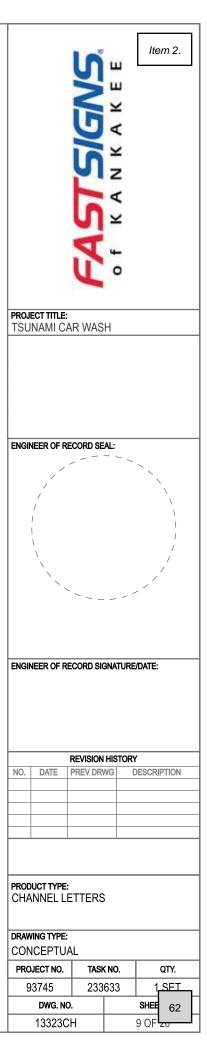


- DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 2382 C (BLUE)









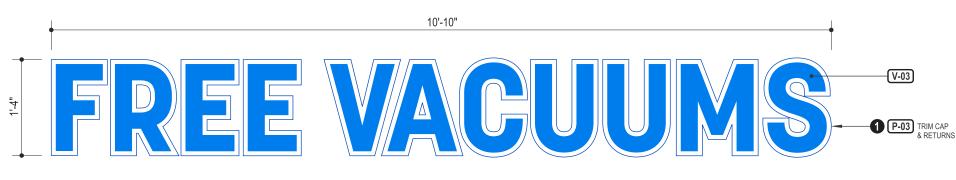
GENERAL NOTES:

ILLUMINATED: YES

S/F OR D/F: S/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED WITH E.C. AND TO BE PROVIDED BY THE E.C.

NOTES:

 CHANNEL LETTERS: INTERNALLY ILLUMINATED 5" DEEP FAB'D CHANNEL LETTERS. RETURNS & BACKS TO BE ALUMINUM & TO HAVE A PAINTED FINISH. FACES TO BE TRANS. WHITE ACRYLIC W/ APPLIED VINYL INLAYS. FACES ARE ATTACHED TO RETURNS VIA 1" PLASTIC TRIM CAP. TRIM CAP FINISH TO MATCH RETURNS FINISH. INTERNALLY ILLUMINATED VIA WHITE LED'S. FLUSH MOUNTED TO CMU BLOCK OF EXISTING BUILDING.

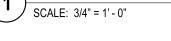


1 ELEVATION DETAIL

SOUTH ELEVATION VIEW - PARTIAL

2

SCALE: 1/4" = 1' - 0"





PAINTED FINISHES:

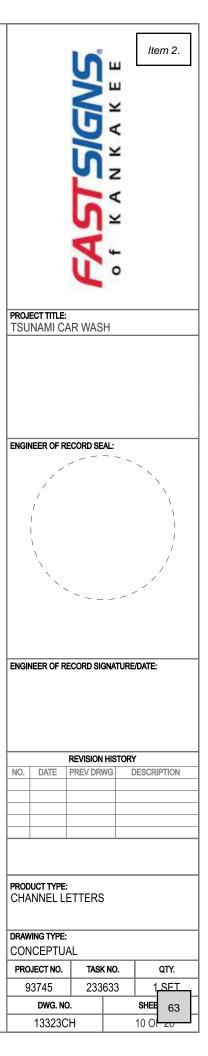


P-03 - TO MATCH PMS 2382 C (BLUE)

VINYLS:



- DIGITALLY PRINTED ON 3M 7725-10 WHITE VINYL TO MATCH PMS 2382 C (BLUE)



26'-0" **GENERAL NOTES: ILLUMINATED: YES** 1'-0" OFFICE S/F OR D/F: S/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C. ELECTRIC TO INSTALL LOCATION TO BE COORDINATED **ELEVATION DETAIL** WITH E.C. AND TO BE PROVIDED BY THE E.C. 1 1 P-02 INTERIOR OF CABINET BACKS & FRAME SCALE: 3/8" = 1' - 0" NOTES: P-03 EXPOSED FRAME & TOP QTY: 1 ALUMINUM CLADDING **<u>LIGHT BAND:</u>** INTERNALLY ILLUMINATED 6" DEEP FAB'D 26'-0" ALUMINUM TUBE FRAME. TOPS & BACKS TO HAVE ALUMINUM CLADDING. CLADDING TO HAVE A PAINTED FINISH. FACE TO BE #5025 REFLEX BLUE COOLEY BRITE®. COPY ON THE TWO 1-0" OUTER LIGHT BANDS TO BE ERADICATED FROM COOLEY MATERIAL. BOTTOM OF LIGHT BAND CABINET TO HAVE TRANS. _ WHITE ACRYLIC LENS. INTERNALLY ILLUMINATED VIA WHITE ELEVATION DETAIL LED'S. FLUSH MOUNTED TO CMU BLOCK OF EXISTING BUILDING. P-02 INTERIOR OF CABINET BACKS & FRAME P-03 EXPOSED FRAME & TOP 2 SCALE: 3/8" = 1' - 0" QTY: 4 ALUMINUM CLADDING

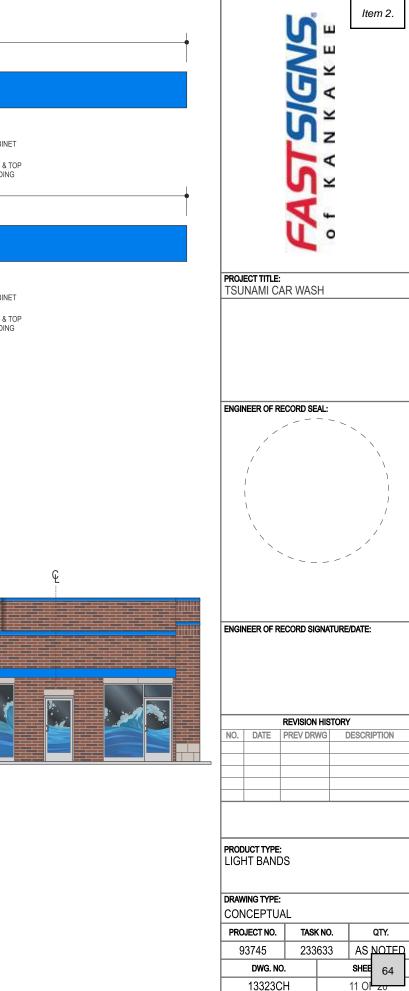


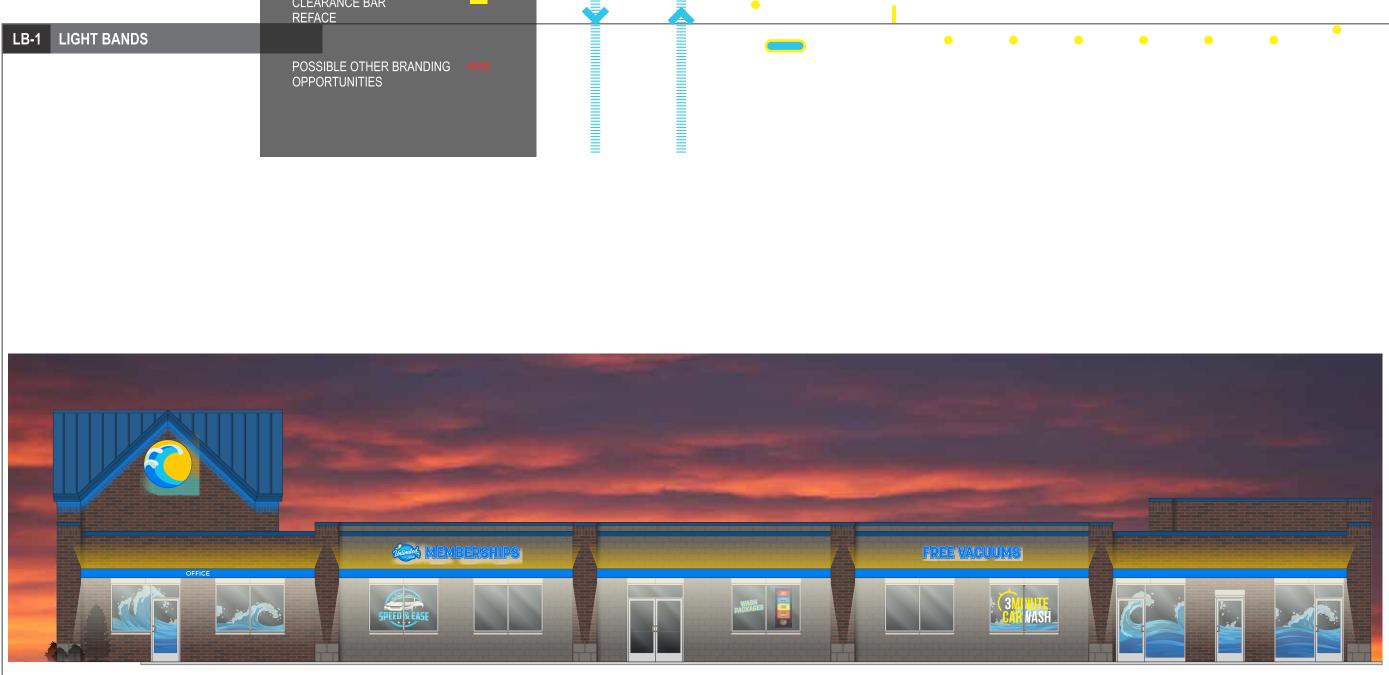
3) SOUTH ELEVATION VIEW SCALE: 3/32" = 1' - 0"

PAINTED FINISHES:

P-02 - WHITE, SATIN FINISH

P-03 - TO MATCH PMS 2382 C (BLUE)

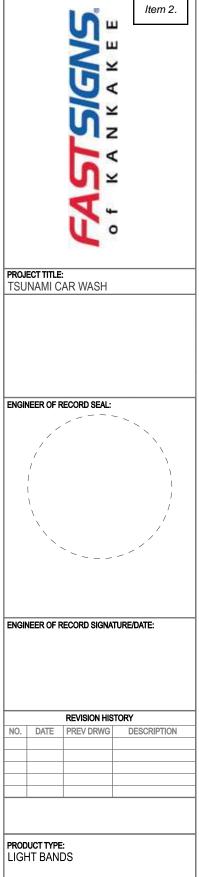




SOUTH ELEVATION VIEW - EVENING VIEW

SCALE: 3/32" = 1' - 0"

1



DRAWING TYPE:

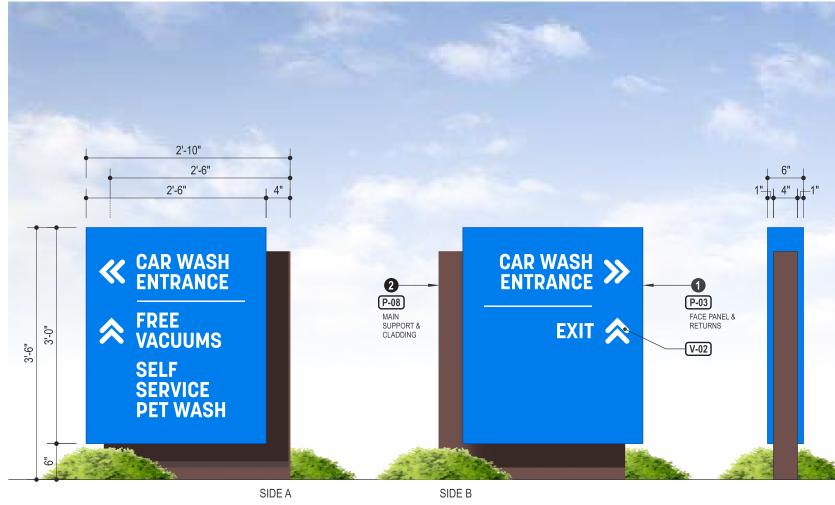
CONCEPTUA	L				
PROJECT NO.	TAS	(NO.		QTY.	
93745	233	633	AS	NOTED	
DWG. NO.			SHEE	65	
13323CI	4		12 OI	20	

GENERAL NOTES:

ILLUMINATED: NO S/F OR D/F: D/F EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C.

NOTES:

- **FACE PANEL:** D/F 6" DEEP FAB'D ALUMINUM PANEL. PANEL TO HAVE A PAINTED FINISH. WHITE VINYL GRAPHICS APPLIED TO FACE. FLAG MOUNTED TO MAIN SUPPORT.
- MAIN SUPPORT: (1) ALUMINUM TUBE SUPPORT W/ ALUMINUM CLADDING TO WRAP UNDER FACE PANEL TO GRADE. CLADDING TO HAVE A PAINTED FINISH. MAIN SUPPORT TO BE MOUNTED TO GROUND VIA CONCRETE FOOTER. MAIN SUPPORT TO BE DIRECTLY BURIED INTO CONCRETE FOOTER.



2



PAINTED FINISHES:



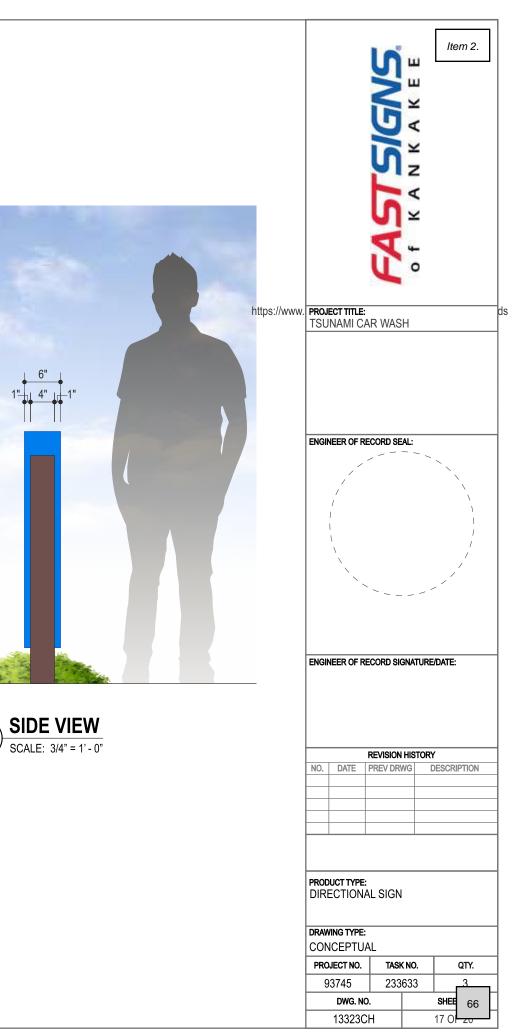
13 - TO MATCH PMS 2382 C (BLUE)

P-08

B) - TO MATCH PMS 4715 C (DK BRICK RED)

VINYLS:

V-02 - 3M 7725-10 WHITE



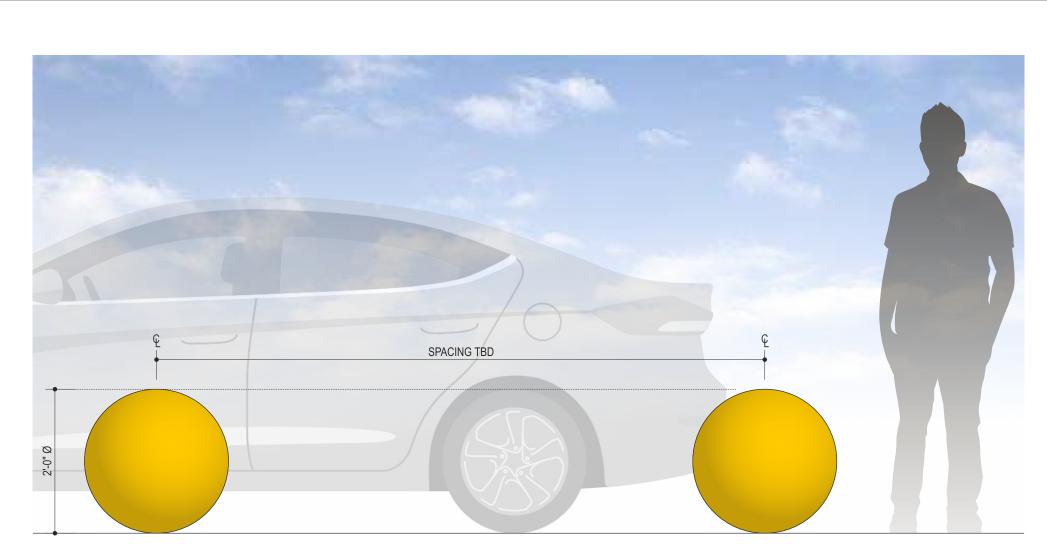
BOL-1 CONCRETE SPHERE BOLLARDS

GENERAL NOTES:

ILLUMINATED: NO S/F OR D/F: N/A EXACT INSTALL LOCATION TO BE COORDINATED WITH G.C.

NOTES:

1 <u>CONCRETE BOLLARDS:</u> 2'-0"Ø PRE-CAST CONCRETE SPHERES. BOLLARDS TO HAVE A STAINED FINISH. BOLLARDS ARE PLACED ON OUTSIDE PERIMETER OF PATH TO THE CAR WASH IN THE GRASS AREA.



1 TYPICAL ELEVATION VIEW

1 SCALE: 3/4" = 1' - 0"

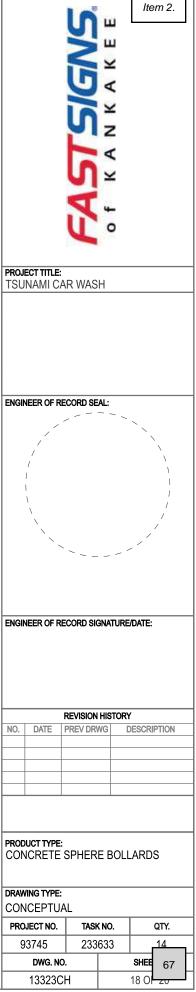


PAINTED FINISHES:





EXAMPLES OF CONCRETE SPHERE BOLLARDS

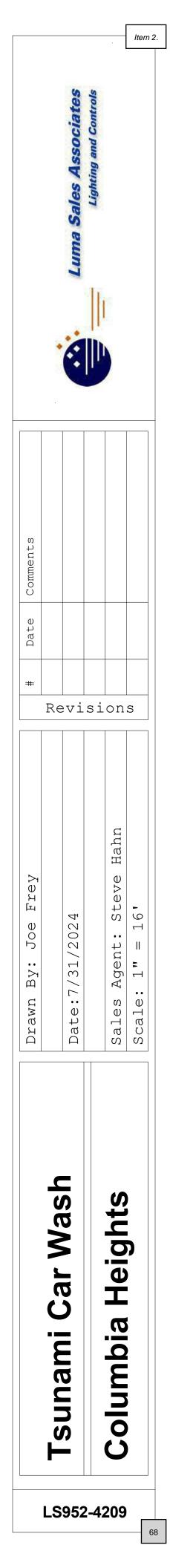


Symbol	Qty	Label	Arrangement	Lum. Lumens	LLF	Description	Lum. Watts	Total Watts	Tag
+	2	SCM	Single	7983	0.900	SCM-LED-08L-SC-40	55.4	110.8	MH = 12ft
Ð	5	WP8A	Single	4053	0.900	WPSLS-04L-40	37.05	185.25	MH = 8ft
Ð	7	WP8B	Single	1286	0.900	WPSLS-01L-40	12.34	86.38	MH = 8ft
 	2	WP12	Single	6957	0.900	WPSLL-06L-40	58.14	116.28	MH = 12ft
	8	R	Single	976	0.900	LAD6R LCD6-LED-14L-40-WF-TR6RL-HAZ	14	112	MH = 10ft

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Illuminance	Fc	2.18	35.3	0.0	N.A.	N.A.

Scale: 1 inch= 16 Ft.

1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	•0.1	0.1	0 .0
)	• 1 .2	0 .8	1 .3	0 .6	• 0.8	• 1 .6	• 1 .9	• 1 .6	• 1.1	• 0.7	1 .3	0.8	• 1 .3	• 1 .0	0.5	0.2	0.0
2	-7.6 WP8E	1.4	- 8.5 WP8	- <u>1</u> .0-	2.4	• 7.0 WP8B	•9.0 WP	5.3	4.0 WP8B	•1.4	-8.4 WP8E	1.3	-8.5 WP	•3.7	•1.4	•0.3	0.1
.6	MH =		MH			MH = 8			MH = 8ft		MH =		-MH		• 3.1	0 .6	0.1
	WP12 MH = 1	2ft												⁵¹² 10 ^t .4	• 3 .0	• 0.6	0.1
1				WP8A MH = 8	Rft					P8A I = 8ft				• 2 .3	1.3	• 0.3	0.1
BA =	33.2	2 •12.8	1 3.2	30.7		• 3 .1	29.0	[•] 2.1	• <u>2.6</u>		5 1 2.6	• <u>1</u> 3.6	35.13	^{BA} 3.8	•0.6	• 0.2	0.1
5	•5.7	мн = 2.9	• 10ft 3.7	MH = 101 5.5	ft 1.5	• 1 .9	• 4 .9	• 1 .6	1 .8	• 5.7	1H = 10ft 3.3	MH =	10ft 5.8	• 2 .1	0.4	∕_ €.1	0.1
3		H = 10ft 0.4	MH = ² 0.4	10ft		•0.2	• 0.3	• 0.2	0.3	•0.4	0.4	0.4	MH = 1 0.5	0ft IG 0.4	• 0 .3	∐ ●0.2	0.1
1		⊐ • 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.1	• 0.2	• 0.3	0 .5	• 0.6	• 0.6	0.4
	-	>• <u>0.0</u>															
)	• 0.0	•0.0	• 0.0	0 .0	0 .0	•0.0	• 0.0	0 .0	0 .0	• 0.1	• 0.1	0.3	1.4	5.8	•11.8	3 1 1.7	5.2
	•0.0	•0.0	•0.0	• 0.0	0 .0	•0.0	• 0.0	0.0	0 .0	• 0.0	• 0.1	0 .4	• 1.7	• 9 .0			8,0
															• 6 .1	• 6 .0	3.1
															• 1 .3	• 1 .3	0.8
															0.3	0 .3	0.2
															• 0.1	• 0.1	0.1
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These drawings are for conceptual use only and are not intended for construction. Fixture runs and quantities should be verified prior to order. Values represented are an approximation generated from manufacturers photometric inhouse or independent lab tests with data supplied by lamp manufacturers.



Stormwater Management Memo

Developer:

Tsunami Express Car Wash 4800 Meadows Road, Suite #300 Lake Oswego, OR 97035

Project:

Tsunami Express Car Wash - Mankato 999 50th Avenue NE Columbia Heights, MN 55421

Engineer's Certification:

All plans and supporting Documentation contained in this report have been reviewed by me and it is hereby certified that to the best of my knowledge the plans comply with the requirements of the ordinance.

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Jamid J Knaeble

David J. Knaeble P.E.

Registration Number: 48776

Date: 8/5/2024



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- 1.0 Cover Sheet, Engineer's Certification
- 2.0 Summary Analysis / Narrative
 - 2.1 Introduction
 - 2.2 Existing Site Conditions
 - 2.3 Proposed Site Conditions
 - 2.4 Stormwater Requirements City
 - 2.5 Stormwater Requirements Watershed District
 - 2.6 Stormwater Requirements MPCA / NPDES
 - Stormwater Calculations
 - 3.1 Proposed Stormwater Management Strategy & Facilities Description
 - 3.2 Rate Control
 - 3.3 Volume Control
 - 3.4 Water Quality
- 4.0 Conclusions

Figures:

3.0

- Figure 1 Drainage Calculations Summary Table
- Figure 2 Existing Conditions Drainage Area Map
- Figure 3 Proposed Conditions Drainage Area Map

Appendices:

- HydroCAD Existing Conditions HydroCAD Modeling Proposed Conditions HydroCAD Modeling
- Storm Sewer Sizing [TO BE PROVIDED AT A FUTURE DATE]
 - o Storm Sewer Sizing Map
 - Storm Sewer Sizing Spreadsheet
- Geotechnical Report (On File at the Office of the Engineer)



2.0 Summary Analysis / Narrative:

2.1 Introduction:

This stormwater management report accompanies the Civil Engineering Plans prepared by Civil Site Group for the subject project dated 8/5/24. This report includes a summary of the existing and proposed site conditions, the stormwater requirements of relevant regulatory agencies, and proposed design calculations and data to meet the requirements.

2.2 Existing Site Conditions :

Site Description:

The existing site is an office building and parking lot. Below is the existing surface area tabulation.

Existing Conditions

Drainage Area	Impervic	us Area	Perviou	us Area	Total	Area
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
EX1	24929	98	11339	61	36268	86

Existing Soils:

A geotechnical evaluation report has not been completed yet for this project. Based on the soils report from the neighboring ALDI site directly west of the project site, soils in this region are typically silts sands (SM) hydrologic soil group "B" designation.

Groundwater:

Groundwater has not been analyzed yet for this site and information will be provided once a geotechnical report has been completed.

2.3 Proposed Site Conditions:

Site Description:

The proposed site is a commercial car wash building with associated parking, landscaping and utility improvements. Below is the proposed surface area tabulation.

The proposed site surface coverage areas are shown in the table below:

Proposed Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
PR1A	15948	98	6368	61	22316	87
PR1B	9743	98	4208	61	13951	87

2.4 Stormwater Requirements City (Columbia Heights):

Requirement threshold - Projects that either create or disturb 1 acre or greater of new impervious will require the submittal of a Stormwater Management Plan. Projects that disturb less than 1 acre and down to 10,000 SF are only required to develop an erosion control plan.

Rate Control – Limit peak runoff flow rates to existing conditions for 2-YR, 10-YR, and 100-YR frequency storms (utilize Atlas 14 rainfall data).

Water Quality – The water quality control standard shall be considered satisfied if the volume control standard has been satisfied.



Volume Control – A proposed development shall capture and retain on site 1.0 inches of runoff from the net new impervious surfaces in post-construction conditions and at a minimum as per the requirements of the NPDES Construction General Permit.

This project will not be disturbing over 1.0 acre, so permanent stormwater management is not required per the City Requirements. Per discussions with the City of Columbia Heights Engineering Staff, rate control will still be required.

2.5 Stormwater Requirements Watershed District – (Mississippi Water Management Organization):

Requirement threshold – Any project creating greater than one acre of land disturbance.

Rate Control – Limit peak runoff flow rates to existing conditions for 2-YR, 10-YR, and 100-YR frequency storms (utilize Atlas 14 rainfall data).

Water Quality – The water quality control standard shall be considered satisfied if the volume control standard has been satisfied.

Volume Control – For projects without limitations that disturb one or more acre of land, 1.1 inches of runoff from the new and fully reconstructed impervious surfaces shall be captured and retained on site. For projects on sites with limitations, the MWMO Design Sequence Flow Chart shall be used.

This project will not be disturbing over 1.0 acre, so permanent stormwater management is not required per the MWMO.

2.6 Stormwater Requirements - Minnesota Pollution Control Agency – NPPDES permit (MPCA):

Requirement threshold - A permit is required for projects with a disturbed area over 1 acre in size, Stormwater management is required for a project adding 1-acre of more of NEW impervious surface (reconstructed impervious is not included).

Rate Control – No specific regulation, may not degrade downstream facilities.

Water Quality – Stormwater water quality treatment volume must be provided equal to 1.0" over all new impervious surfaces (includes all newly constructed impervious surfaces only, re-constructed impervious surfaces are not included).

Volume Control – Must consider volume reduction if feasible and not prohibited on site. The required infiltration volume is equal to the water quality volume described above.

This project will not be increasing the impervious surface area by over 1.0 acre, so permanent stormwater management is not required per the MPCA.

3.0 Stormwater Calculations:

3.1 Proposed Stormwater Management Strategy & Facilities Description

This project is disturbing approximately 0.9 acres of land. The project will be constructing approximately 0.6 acres of new/reconstructed impervious surfaces. This land disturbance and creation of impervious surfaces will not trigger stormwater management requirements from the City of Columbia Heights, the MWMP and for the MPCA NPDES Permit.

Per discussions with the City of Columbia Heights Engineering Staff, rate control will still be required.

This project is proposing to use an aboveground detention basin to meet the rate control requirements.

3.2 Rate Control

Limit peak runoff flow rates to existing conditions for 2-YR, 10-YR, and 100-YR frequency storms (utilize Atlas 14 rainfall data).



Rate control is provided by live storage within the proposed aboveground detention basin. This information was derived using HydroCAD stormwater modeling software. The existing and proposed runoff rates are shown in the summary table below.

Stormwater Rate Summary						
Drainage Area		Existing Rate (cfs)				
-	2-YR [2.84"]	10-YR [4.26"]	100-YR [7.38"]			
EX1	2.47	4.00	7.60			
TOTAL	2.47	4.00	7.60			
Ducing and Augo		nanad Canditiana Data (- f - \			
Drainage Area		posed Conditions Rate (,			
	2-YR [2.84"]	10-YR [4.26"]	100-YR [7.38"]			
PR1A	1.58	2.55	4.84			
1P (PR1B)	0.74	1.01	1.47			
TOTAL	2.32	3.56	6.31			
Overall Stormwater Rate S	ummary					
	Existing Conditions Rate (cfs)	Proposed Conditions Rate (cfs)				
2-Year Event	2.47	2.32				
10-Year Event	4.00	3.56				
100-Year Event	7.60	6.31				

The existing project site discharges to 50th Avenue NE. The overall discharge rates from the proposed site will be less than the existing discharge rates in all events.

The overall proposed runoff rates are less than the existing peak runoff rates. - REQUIREMENT SATISFIED

3.3 Volume Control

Since this project is not disturbing over 1.0 acres of land, volume control is not required.

3.4 Water Quality

Since this project is not disturbing over 1.0 acres of land, water quality control is not required.

4.0 Conclusions:

To the best of our knowledge, this project meets all State, City and Watershed District stormwater management requirements.

Tsunami Express Car Wash - Columbia Heights Civil Site Group - Stormwater Calculations

Existing Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
EX1	24929	98	11339	61	36268	86

Proposed Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
PR1A	15948	98	6368	61	22316	87
PR1B	9743	98	4208	61	13951	87

Site Area Summary

	Impervious [SF]	Impervious [AC]	Pervious [SF]	Pervious [AC]	Total [SF]	Total [AC]
Existing Site	24929	0.57	11339	0.26	36268	0.83
Proposed Site	25691	0.59	10576	0.24	36267	0.83

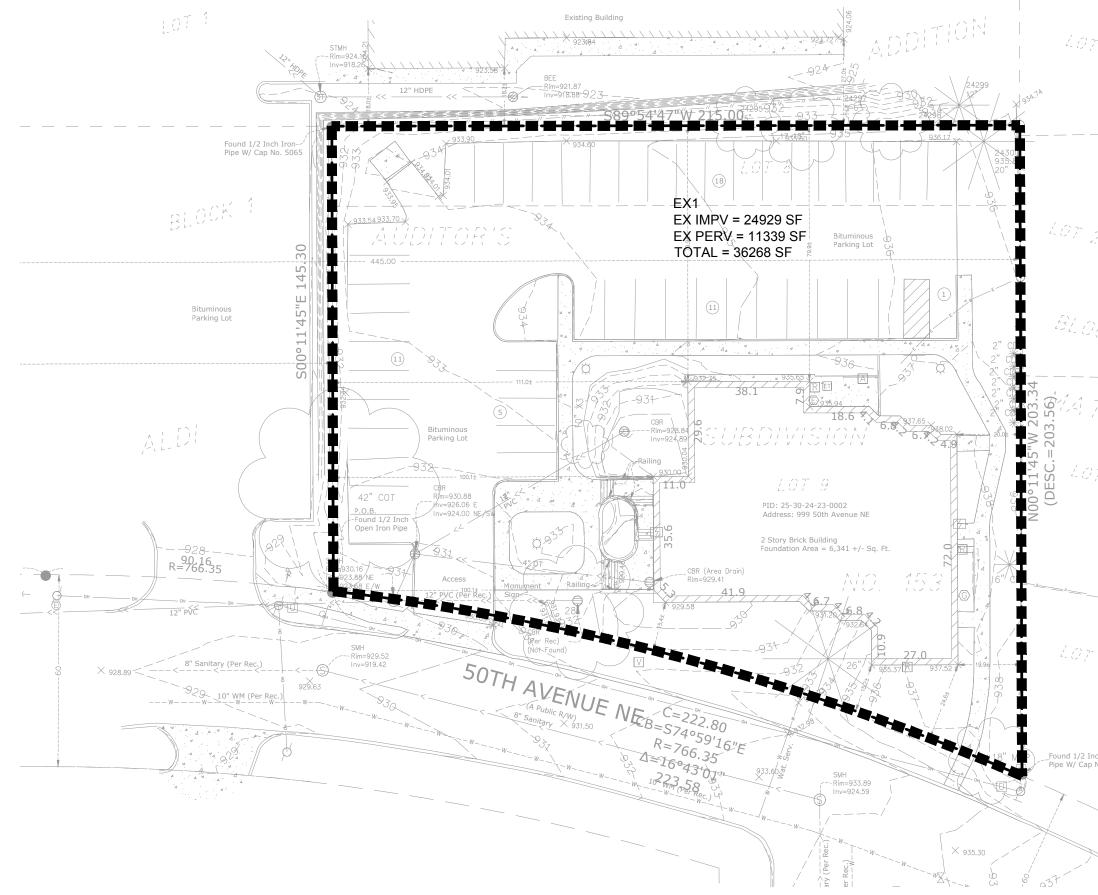
Stormwater Rate Summary

Drainage Area	Existing Rate (cfs)		
	2-YR [2.84"]	10-YR [4.26"]	100-YR [7.38"]
EX1	2.47	4.00	7.60
TOTAL	2.47	4.00	7.60

Drainage Area	Proposed Conditions Rate (cfs)		
	2-YR [2.84"]	10-YR [4.26"]	100-YR [7.38"]
PR1A	1.58	2.55	4.84
1P (PR1B)	0.74	1.01	1.47
TOTAL	2.32	3.56	6.31

Overall Stormwater Rate Summary

	Existing Conditions Rate (cfs)	Proposed Conditions Rate (cfs)
2-Year Event	2.47	2.32
10-Year Event	4.00	3.56
100-Year Event	7.60	6.31



TSUNAMI EXPRESS CAR WASH - COLUMBIA HEIGHTS



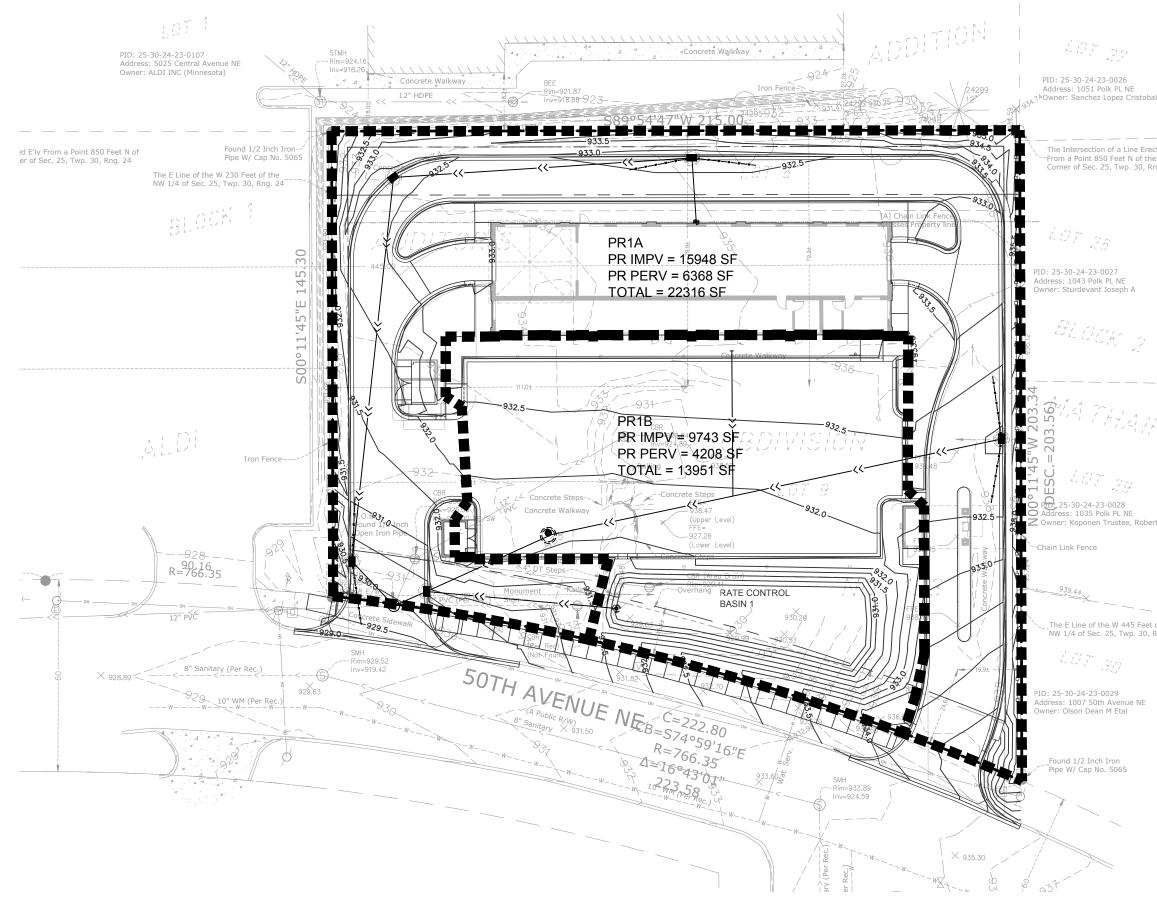
5000 Glenwood Avenue Golden Valley, MN 55422 612-615-0060 www.CivilSiteGroup.com

EXISTING DRAINAGE MAP

Project N Issue Da 100

Item 2.

28			
7-29			
<. <u>(</u> 1			
30			
ich Iron No. 5065			
			1" = 30'-0"
	999 50	TH AVENUF	15'-0" 0 30'-0" BIA HEIGHTS, MN 55421
t Number:	24289	Revision Number:	
Date:	7/29/24	Revision Date:	



TSUNAMI EXPRESS CAR WASH - COLUMBIA HEIGHTS



5000 Glenwood Avenue Golden Valley, MN 55422 612-615-0060 www.CivilSiteGroup.com

PROPOSED DRAINAGE MAP

Project Number Issue Date:

Item 2.

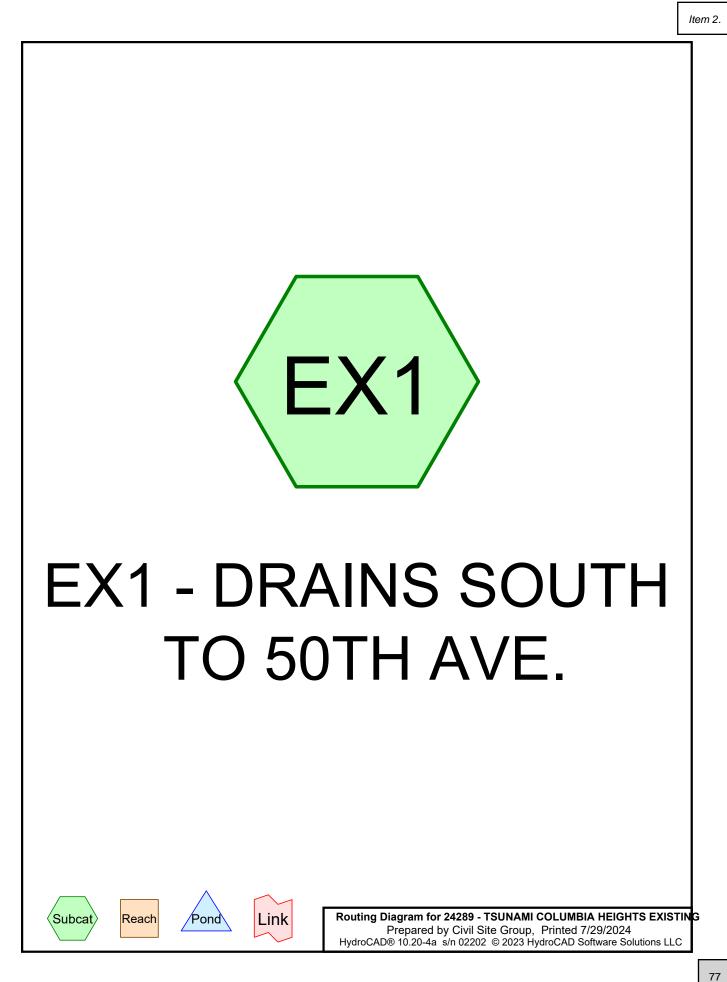
The Intersection of a Line Erected E'ly -From a Point 850 Feet N of the SW Corner of Sec. 25, Twp. 30, Rng. 24

Owner: Koponen Trustee, Robert H

The E Line of the W 445 Feet of the NW 1/4 of Sec. 25, Twp. 30, Rng. 24



				<u>1</u> " = 30)'-0"	
			15'-0"	0		30'-0"
	999 50	OTH AVENUE NE, COLUM	BIA HE	IGHTS,	MN 5	5421
er:	24289	Revision Number:				_
	7/29/24	Revision Date:			DA	
						76



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Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	2.84	2
2	10y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	4.26	2
3	100y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	7.38	2

Rainfall Events Listing

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Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
0.234	61	>75% Grass cover, Good, HSG B (EX1)
0.572	98	Paved parking, HSG B (EX1)
0.806	87	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.806	HSG B	EX1
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.806		TOTAL AREA

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Ground Covers (all nodes)

HSG-A	HSG-B	HSG-C	HSG-D	Other	Total	Ground	Subcatchment
 (acres)	(acres)	(acres)	(acres)	(acres)	(acres)	Cover	Numbers
0.000	0.234	0.000	0.000	0.000	0.234	>75% Grass cover, Good	EX1
0.000	0.572	0.000	0.000	0.000	0.572	Paved parking	EX1
0.000	0.806	0.000	0.000	0.000	0.806	TOTAL AREA	

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIN@SE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 6

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentEX1: EX1 - DRAINS SOUTH Runoff Area=35,104 sf 71.01% Impervious Runoff Depth=1.94" Tc=6.0 min CN=WQ Runoff=2.47 cfs 0.130 af

> Total Runoff Area = 0.806 ac Runoff Volume = 0.130 af Average Runoff Depth = 1.94" 28.99% Pervious = 0.234 ac 71.01% Impervious = 0.572 ac

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIN©/SE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 7

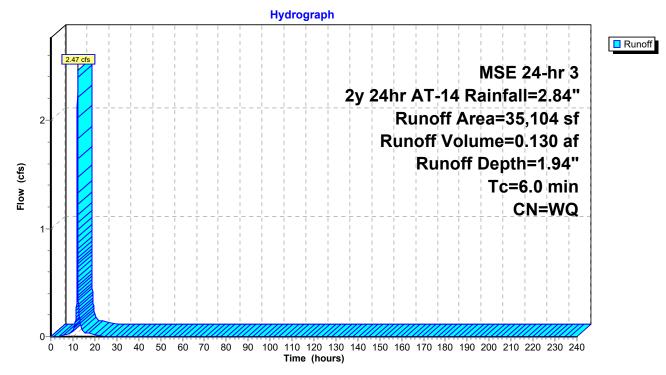
Summary for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Runoff = 2.47 cfs @ 12.13 hrs, Volume= Routed to nonexistent node EX-DA 1 0.130 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"

Α	rea (sf)	CN	N Description					
	24,929	98	Paved park	ing, HSG B	3			
	10,175	61	>75% Ġras	s cover, Go	bod, HSG B			
	35,104		Weighted A	verage				
	10,175		28.99% Pei	rvious Area	l			
	24,929		71.01% Imp	pervious Ar	ea			
Tc	Length	Slope		Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
6.0					Direct Entry,			

Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.



Hydrograph for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.01
10.00	0.39	0.01	0.05
15.00	2.55	1.35	0.06
20.00	2.77	1.54	0.02
25.00	2.84	1.60	0.00
30.00	2.84	1.60	0.00
35.00	2.84	1.60	0.00
40.00	2.84	1.60	0.00
45.00	2.84	1.60	0.00
50.00	2.84	1.60	0.00
55.00	2.84	1.60	0.00
60.00	2.84	1.60	0.00
65.00	2.84	1.60	0.00
70.00	2.84	1.60	0.00
75.00	2.84	1.60	0.00
80.00 85.00	2.84 2.84	1.60	0.00
90.00	2.04 2.84	1.60 1.60	0.00 0.00
90.00 95.00	2.04 2.84	1.60	0.00
100.00	2.84	1.60	0.00
105.00	2.84	1.60	0.00
110.00	2.84	1.60	0.00
115.00	2.84	1.60	0.00
120.00	2.84	1.60	0.00
125.00	2.84	1.60	0.00
130.00	2.84	1.60	0.00
135.00	2.84	1.60	0.00
140.00	2.84	1.60	0.00
145.00	2.84	1.60	0.00
150.00	2.84	1.60	0.00
155.00	2.84	1.60	0.00
160.00	2.84	1.60	0.00
165.00	2.84	1.60	0.00
170.00	2.84	1.60	0.00
175.00	2.84	1.60	0.00
180.00	2.84	1.60	0.00
185.00	2.84	1.60	0.00
190.00	2.84	1.60	0.00
195.00	2.84	1.60	0.00
200.00	2.84	1.60	0.00
205.00	2.84	1.60	0.00
210.00	2.84	1.60	0.00
215.00	2.84	1.60	0.00
220.00	2.84	1.60	0.00
225.00	2.84	1.60	0.00
230.00	2.84	1.60	0.00
235.00	2.84	1.60	0.00
240.00	2.84	1.60	0.00

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIN/SE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 9

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentEX1: EX1 - DRAINS SOUTH Runoff Area=35,104 sf 71.01% Impervious Runoff Depth=3.13" Tc=6.0 min CN=WQ Runoff=4.00 cfs 0.210 af

> Total Runoff Area = 0.806 ac Runoff Volume = 0.210 af Average Runoff Depth = 3.13" 28.99% Pervious = 0.234 ac 71.01% Impervious = 0.572 ac

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIN/ISE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 10

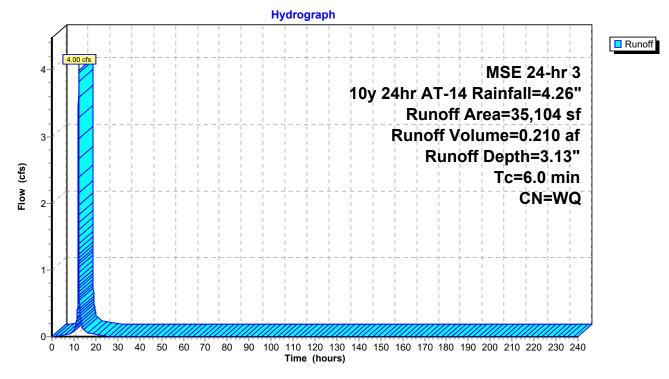
Summary for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Runoff = 4.00 cfs @ 12.13 hrs, Volume= Routed to nonexistent node EX-DA 1 0.210 af, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"

Area	a (sf)	CN [Description				
24	1,929	98 F	Paved park	ing, HSG B	3		
1(),175	61 >	•75% Ġras	s cover, Go	bod, HSG B		
35	5,104	١	Veighted A	verage			
10),175	2	28.99% Per	vious Area	1		
24	1,929	7	'1.01% Imp	pervious Ar	ea		
		-		- ··			
TC L	ength	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry,		
					-		

Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.



Hydrograph for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00 10.00	0.16	0.00	0.02
15.00	0.59 3.82	0.05 2.47	0.08 0.10
20.00	3.82 4.15	2.47 2.77	0.03
20.00	4.15	2.88	0.00
30.00	4.26	2.88	0.00
35.00	4.26	2.88	0.00
40.00	4.26	2.88	0.00
45.00	4.26	2.88	0.00
50.00	4.26	2.88	0.00
55.00	4.26	2.88	0.00
60.00	4.26	2.88	0.00
65.00	4.26	2.88	0.00
70.00	4.26	2.88	0.00
75.00	4.26	2.88	0.00
80.00	4.26	2.88	0.00
85.00	4.26	2.88	0.00
90.00	4.26	2.88	0.00
95.00	4.26	2.88	0.00
100.00	4.26 4.26	2.88	0.00
105.00 110.00	4.26	2.88 2.88	0.00 0.00
115.00	4.20	2.88	0.00
120.00	4.26	2.88	0.00
125.00	4.26	2.88	0.00
130.00	4.26	2.88	0.00
135.00	4.26	2.88	0.00
140.00	4.26	2.88	0.00
145.00	4.26	2.88	0.00
150.00	4.26	2.88	0.00
155.00	4.26	2.88	0.00
160.00	4.26	2.88	0.00
165.00	4.26	2.88	0.00
170.00	4.26	2.88	0.00
175.00	4.26	2.88	0.00
180.00 185.00	4.26 4.26	2.88	0.00 0.00
190.00	4.26	2.88 2.88	0.00
190.00	4.20	2.88	0.00
200.00	4.26	2.88	0.00
205.00	4.26	2.88	0.00
210.00	4.26	2.88	0.00
215.00	4.26	2.88	0.00
220.00	4.26	2.88	0.00
225.00	4.26	2.88	0.00
230.00	4.26	2.88	0.00
235.00	4.26	2.88	0.00
240.00	4.26	2.88	0.00

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIMSE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 12

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentEX1: EX1 - DRAINS SOUTH Runoff Area=35,104 sf 71.01% Impervious Runoff Depth=5.93" Tc=6.0 min CN=WQ Runoff=7.60 cfs 0.399 af

> Total Runoff Area = 0.806 ac Runoff Volume = 0.399 af Average Runoff Depth = 5.93" 28.99% Pervious = 0.234 ac 71.01% Impervious = 0.572 ac

24289 - TSUNAMI COLUMBIA HEIGHTS EXISTIMSE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 13

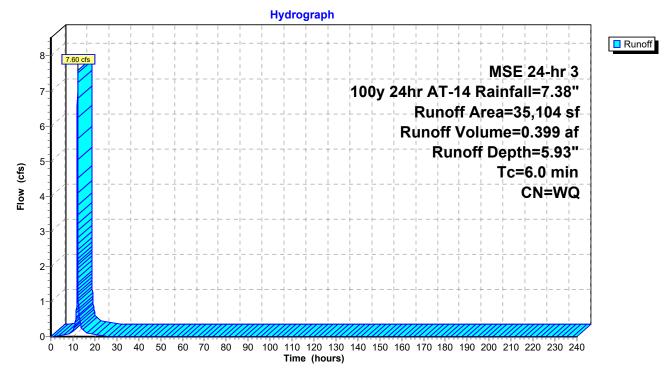
Summary for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Runoff = 7.60 cfs @ 12.13 hrs, Volume= Routed to nonexistent node EX-DA 1 0.399 af, Depth= 5.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"

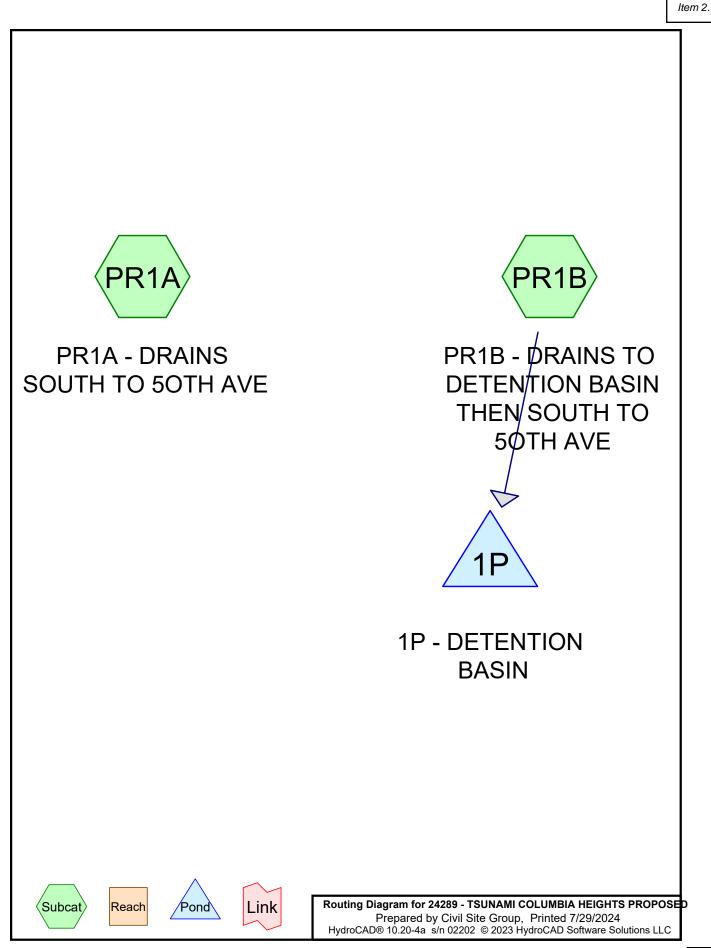
A	rea (sf)	CN	Description				
	24,929	98	Paved park	ing, HSG B	3		
	10,175	61	>75% Ġras	s cover, Go	bod, HSG B		
	35,104		Weighted A	verage			
	10,175		28.99% Pei	rvious Area			
	24,929		71.01% Imp	pervious Ar	ea		
Tc	Length	Slope		Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry,		

Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.



Hydrograph for Subcatchment EX1: EX1 - DRAINS SOUTH TO 50TH AVE.

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.28	0.00	0.04
10.00	1.01	0.23	0.15
15.00 20.00	6.62 7.19	5.11 5.66	0.18 0.06
20.00	7.19	5.85	0.00
30.00	7.38	5.85	0.00
35.00	7.38	5.85	0.00
40.00	7.38	5.85	0.00
45.00	7.38	5.85	0.00
50.00	7.38	5.85	0.00
55.00	7.38	5.85	0.00
60.00	7.38	5.85	0.00
65.00	7.38	5.85	0.00
70.00	7.38	5.85	0.00
75.00	7.38	5.85	0.00
80.00	7.38 7.38	5.85	0.00
85.00	7.38	5.85	0.00
90.00	7.38	5.85	0.00
95.00	7.38	5.85	0.00
100.00	7.38	5.85	0.00
105.00	7.38	5.85	0.00
110.00	7.38	5.85	0.00
115.00	7.38	5.85	0.00
120.00	7.38	5.85	0.00
125.00	7.38	5.85	0.00
130.00	7.38	5.85	0.00
135.00 140.00	7.38 7.38	5.85 5.85	0.00 0.00
140.00	7.38	5.85	0.00
150.00	7.38	5.85	0.00
155.00	7.38	5.85	0.00
160.00	7.38	5.85	0.00
165.00	7.38	5.85	0.00
170.00	7.38	5.85	0.00
175.00	7.38	5.85	0.00
180.00	7.38	5.85	0.00
185.00	7.38	5.85	0.00
190.00	7.38	5.85	0.00
195.00	7.38	5.85	0.00
200.00	7.38	5.85	0.00
205.00	7.38	5.85	0.00
210.00	7.38	5.85	0.00
215.00	7.38	5.85	0.00
220.00	7.38	5.85	0.00
225.00	7.38	5.85	0.00
230.00	7.38	5.85	0.00
235.00	7.38	5.85	0.00
240.00	7.38	5.85	0.00



Event#

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AMC

Rainfall Events Listing Storm Type Curve Mode Duration B/B Event Depth (hours) (inches)

	Name				(hours)		(inches)		_
1	2y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	2.84	2	_
2	10y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	4.26	2	
3	100y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	7.38	2	

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Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
0.243	61	>75% Grass cover, Good, HSG B (PR1A, PR1B)
0.590	98	Paved parking, HSG B (PR1A, PR1B)
0.833	87	TOTAL AREA

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Soil Listing (all nodes)

Soil	Subcatchment
Group	Numbers
HSG A	
HSG B	PR1A, PR1B
HSG C	
HSG D	
Other	
	TOTAL AREA
	Group HSG A HSG B HSG C HSG D

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Ground Covers (all nodes)

 HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.243	0.000	0.000	0.000	0.243	>75% Grass cover, Good	PR1A, PR1B
0.000	0.590	0.000	0.000	0.000	0.590	Paved parking	PR1A, PR1B
0.000	0.833	0.000	0.000	0.000	0.833	TOTAL AREA	

24289 - TSUNAMI COLUMBIA HEIGHTS PROPOSSee 24-hr 32y 24hr AT-14 Rainfall=2.84"Prepared by Civil Site GroupPrinted7/29/2024HydroCAD® 10.20-4as/n 02202© 2023 HydroCAD Software Solutions LLCPage 6

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentPR1A: PR1A - DRAINSRunoff Area=22,316 sf 71.46% Impervious Runoff Depth=1.95"
Tc=6.0 min CN=WQ Runoff=1.58 cfs 0.083 afSubcatchmentPR1B: PR1B - DRAINS TORunoff Area=13,951 sf 69.84% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=WQ Runoff=0.97 cfs 0.051 afPond 1P: 1P - DETENTION BASINPeak Elev=930.23' Storage=321 cf Inflow=0.97 cfs 0.051 af
Outflow=0.74 cfs 0.051 afTotal Runoff Area = 0.833 acRunoff Volume = 0.134 af
Average Runoff Depth = 1.94

Total Runoff Area = 0.833 ac Runoff Volume = 0.134 af Average Runoff Depth = 1.94" 29.16% Pervious = 0.243 ac 70.84% Impervious = 0.590 ac

 24289 - TSUNAMI COLUMBIA HEIGHTS PROPOS

 Prepared by Civil Site Group

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 Page 7

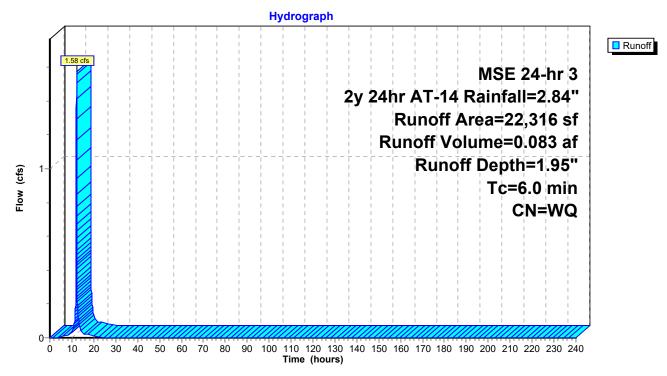
Summary for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Runoff = 1.58 cfs @ 12.13 hrs, Volume= 0.083 af, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"

Ar	ea (sf)	CN	I Description				
	15,948	98	Paved park	ing, HSG B	3		
	6,368	61	>75% Ġras	s cover, Go	bod, HSG B		
	22,316		Weighted A	verage			
	6,368		28.54% Pe	rvious Area	1		
	15,948		71.46% lmp	pervious Ar	ea		
Tc (min)	Length (feet)	Slope (ft/ft	,	Capacity (cfs)	Description		
6.0					Direct Entry,		

Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.01
10.00	0.39	0.01	0.03
15.00	2.55	1.35	0.04
20.00	2.77	1.54	0.01
25.00	2.84	1.60	0.00
30.00	2.84	1.60	0.00
35.00	2.84	1.60	0.00
40.00	2.84	1.60	0.00
45.00	2.84	1.60	0.00
50.00 55.00	2.84 2.84	1.60 1.60	0.00 0.00
60.00	2.04 2.84	1.60	0.00
65.00	2.84	1.60	0.00
70.00	2.84	1.60	0.00
75.00	2.84	1.60	0.00
80.00	2.84	1.60	0.00
85.00	2.84	1.60	0.00
90.00	2.84	1.60	0.00
95.00	2.84	1.60	0.00
100.00	2.84	1.60	0.00
105.00	2.84	1.60	0.00
110.00	2.84	1.60	0.00
115.00	2.84	1.60	0.00
120.00	2.84	1.60	0.00
125.00	2.84	1.60	0.00
130.00	2.84	1.60	0.00
135.00	2.84	1.60	0.00
140.00	2.84	1.60	0.00
145.00	2.84	1.60	0.00
150.00	2.84	1.60	0.00
155.00	2.84	1.60	0.00
160.00	2.84 2.84	1.60	0.00
165.00 170.00	2.04 2.84	1.60 1.60	0.00 0.00
175.00	2.84	1.60	0.00
180.00	2.84	1.60	0.00
185.00	2.84	1.60	0.00
190.00	2.84	1.60	0.00
195.00	2.84	1.60	0.00
200.00	2.84	1.60	0.00
205.00	2.84	1.60	0.00
210.00	2.84	1.60	0.00
215.00	2.84	1.60	0.00
220.00	2.84	1.60	0.00
225.00	2.84	1.60	0.00
230.00	2.84	1.60	0.00
235.00	2.84	1.60	0.00
240.00	2.84	1.60	0.00

24289 - TSUNAMI COLUMBIA HEIGHTS PROPOSMSE 24-hr 32y 24hr AT-14 Rainfall=2.84"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4as/n 02202© 2023 HydroCAD Software Solutions LLCPage 9

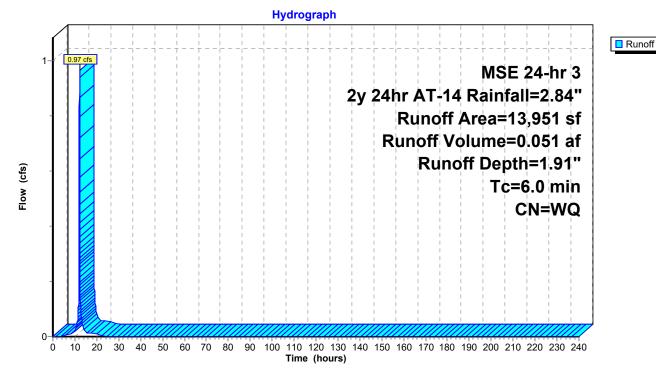
Summary for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AV

Runoff = 0.97 cfs @ 12.13 hrs, Volume= Routed to Pond 1P : 1P - DETENTION BASIN 0.051 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"

A	rea (sf)	CN	Description					
	9,743	98	Paved park	ing, HSG B	3			
	4,208	61	>75% Ġras	s cover, Go	ood, HSG B			
	13,951	,	Weighted A	verage				
	4,208	;	30.16% Pervious Area					
	9,743		69.84% Impervious Area					
Tc (min)	Length (feet)	Slope (ft/ft)		Capacity (cfs)	Description			
6.0					Direct Entry,			
6.0					Direct Entry,			

Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.39	0.01	0.02
15.00 20.00	2.55 2.77	1.35 1.54	0.02 0.01
25.00	2.77	1.54	0.01
30.00	2.84	1.60	0.00
35.00	2.84	1.60	0.00
40.00	2.84	1.60	0.00
45.00	2.84	1.60	0.00
50.00	2.84	1.60	0.00
55.00 60.00	2.84 2.84	1.60 1.60	0.00 0.00
65.00	2.84	1.60	0.00
70.00	2.84	1.60	0.00
75.00	2.84	1.60	0.00
80.00	2.84	1.60	0.00
85.00	2.84	1.60	0.00
90.00	2.84	1.60	0.00
95.00	2.84 2.84	1.60	0.00
100.00 105.00	2.84 2.84	1.60 1.60	0.00 0.00
110.00	2.84	1.60	0.00
115.00	2.84	1.60	0.00
120.00	2.84	1.60	0.00
125.00	2.84	1.60	0.00
130.00	2.84	1.60	0.00
135.00 140.00	2.84 2.84	1.60 1.60	0.00 0.00
140.00	2.84	1.60	0.00
150.00	2.84	1.60	0.00
155.00	2.84	1.60	0.00
160.00	2.84	1.60	0.00
165.00	2.84	1.60	0.00
170.00	2.84	1.60	0.00
175.00 180.00	2.84 2.84	1.60 1.60	0.00 0.00
185.00	2.84	1.60	0.00
190.00	2.84	1.60	0.00
195.00	2.84	1.60	0.00
200.00	2.84	1.60	0.00
205.00	2.84	1.60	0.00
210.00	2.84	1.60	0.00
215.00 220.00	2.84 2.84	1.60 1.60	0.00 0.00
225.00	2.84	1.60	0.00
230.00	2.84	1.60	0.00
235.00	2.84	1.60	0.00
240.00	2.84	1.60	0.00

 24289 - TSUNAMI COLUMBIA HEIGHTS PROPOS

 MSE 24-hr 3
 2y 24hr AT-14 Rainfall=2.84"

 Prepared by Civil Site Group
 Printed 7/29/2024

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Summary for Pond 1P: 1P - DETENTION BASIN

Inflow Area =	0.320 ac, 69.84% Impervious, Inflow D	epth = 1.91" for 2y 24hr AT-14 event
Inflow =	0.97 cfs @ 12.13 hrs, Volume=	0.051 af
Outflow =	0.74 cfs @ 12.18 hrs, Volume=	0.051 af, Atten= 23%, Lag= 2.8 min
Primary =	0.74 cfs $\overline{@}$ 12.18 hrs, Volume=	0.051 af

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs Peak Elev= 930.23' @ 12.18 hrs Surf.Area= 1,478 sf Storage= 321 cf

Plug-Flow detention time= 14.2 min calculated for 0.051 af (100% of inflow) Center-of-Mass det. time= 14.2 min (774.3 - 760.1)

Volume	Invert	Avail.Sto	rage	Storage [Description		
#1	930.00	3,9	50 cf	Custom	Stage Data	(Prismatio	c)Listed below (Recalc)
Elevation (feet)	S	urf.Area (sq-ft)		Store c-feet)	Cum.Sto (cubic-fee		
930.00		1,347		0		0	
930.50		1,634		745		45	
931.00		1,937		893	1,63	38	
931.50		2,323		1,065	2,70	03	
932.00		2,665		1,247	3,9	50	
	outing rimary	Invert 930.00'	-	et Devices Horiz. Or		C= 0.600	Limited to weir flow at low heads

Primary OutFlow Max=0.74 cfs @ 12.18 hrs HW=930.23' (Free Discharge) —1=Orifice/Grate (Weir Controls 0.74 cfs @ 1.56 fps) 24289 - TSUNAMI COLUMBIA HEIGHTS PROPOSMSE 24-hr 3 2y 24hr AT-14 Rainfall=2.84" Prepared by Civil Site Group Printed 7/29/2024 HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLC Page 12

Hydrograph Inflow Primary Inflow Area=0.320 ac Peak Elev=930.23' Storage=321 cf 0.74 Flow (cfs)

Pond 1P: 1P - DETENTION BASIN

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 Time (hours)

0

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24289 - TSUNAMI COLUMBIA HEIGHTS PROPOS^{MSE} 24-hr 3 2y 24hr AT-14 Rainfall=2.84" Prepared by Civil Site Group Printed 7/29/2024

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Hydrograph for Pond 1P: 1P - DETENTION BASIN

Time	Inflow	Storage	Elevation	Primary
(hours)	(cfs)	(cubic-feet)	(feet)	(cfs)
0.00	0.00	0	930.00	0.00
5.00	0.00	4	930.00	0.00
10.00	0.02	25	930.02	0.02
15.00	0.02	31	930.02	0.02
20.00	0.01	12	930.01	0.01
25.00	0.00	0	930.00	0.00
30.00	0.00	0	930.00 930.00	0.00 0.00
35.00 40.00	0.00 0.00	0 0	930.00 930.00	0.00
40.00 45.00	0.00	0	930.00 930.00	0.00
45.00 50.00	0.00	0	930.00 930.00	0.00
55.00	0.00	0	930.00	0.00
60.00	0.00	0	930.00	0.00
65.00	0.00	0	930.00	0.00
70.00	0.00	Ő	930.00	0.00
75.00	0.00	Ő	930.00	0.00
80.00	0.00	Ő	930.00	0.00
85.00	0.00	0 0	930.00	0.00
90.00	0.00	0	930.00	0.00
95.00	0.00	0	930.00	0.00
100.00	0.00	0	930.00	0.00
105.00	0.00	0	930.00	0.00
110.00	0.00	0	930.00	0.00
115.00	0.00	0	930.00	0.00
120.00	0.00	0	930.00	0.00
125.00	0.00	0	930.00	0.00
130.00	0.00	0	930.00	0.00
135.00	0.00	0	930.00	0.00
140.00	0.00	0	930.00	0.00
145.00	0.00	0	930.00	0.00
150.00	0.00	0	930.00	0.00
155.00	0.00	0 0	930.00	0.00 0.00
160.00 165.00	0.00 0.00	0	930.00 930.00	0.00
170.00	0.00	0	930.00	0.00
175.00	0.00	0	930.00	0.00
180.00	0.00	0	930.00	0.00
185.00	0.00	0	930.00	0.00
190.00	0.00	0 0	930.00	0.00
195.00	0.00	Ō	930.00	0.00
200.00	0.00	0	930.00	0.00
205.00	0.00	0	930.00	0.00
210.00	0.00	0	930.00	0.00
215.00	0.00	0	930.00	0.00
220.00	0.00	0	930.00	0.00
225.00	0.00	0	930.00	0.00
230.00	0.00	0	930.00	0.00
235.00	0.00	0	930.00	0.00
240.00	0.00	0	930.00	0.00

24289 - TSUNAMI COLUMBIA HEIGHTS PROPOSMSE 24-hr 3 2y 24hr AT-14 Rainfall=2.84"

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Printed 7/29/2024

Stage-Area-Storage for Pond 1P: 1P - DETENTION BASIN

Lievalion Sunage Sunage <thsunage< th=""> <thsunage< th=""> Sunage</thsunage<></thsunage<>	Elevation	Curfees	Changers		Curfees	Ctore re
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Elevation (feet)	Surface	Storage	Elevation (feet)	Surface	Storage
930.021.35827931.061.9831.756930.041.37054931.081.9991.795930.061.38182931.102.0141.836930.101.404138931.142.0051.876930.101.404138931.142.0051.977930.121.416166931.162.0611.958930.141.427194931.182.0761.999930.151.439223931.202.0912.041930.161.439223931.222.1072.083930.201.462281931.262.1382.168930.211.473310931.262.1382.211930.261.496370931.302.1692.254930.301.519430931.342.1992.341930.321.531460931.362.2152.385930.341.554522931.402.2462.475930.361.554522931.442.2772.565930.401.577585931.442.2772.565930.411.600648931.502.3232.703930.501.634745931.562.3642.844930.541.658811931.562.3642.844930.551.646778931.662.4323.032930.561.670844931.662.4323.033 <td></td> <td></td> <td><u></u></td> <td></td> <td></td> <td></td>			<u></u>			
930.041,37054931.081,9991,795930.061,38182931.102,0141,836930.081,393110931.122,0301,876930.101,404138931.142,0451,917930.121,416166931.162,0611,958930.141,427194931.182,0761,999930.151,450223931.202,0912,041930.181,450252931.222,1072,083930.201,462281931.242,1222,125930.221,473310931.282,1532,211930.241,485340931.322,1842,297930.301,519430931.342,1992,341930.321,531460931.362,2152,385930.341,542491931.382,2302,430930.361,565553931.422,2612,520930.421,588616931.462,2922,611930.441,600648931.482,3082,657930.451,658811831.502,3782,760930.501,634745931.562,3642,844930.521,646778931.562,3642,844930.541,658811931.622,4052,987930.641,719941.72931.742,4873,280						
930.061.38182931.102.0141.836930.081.393110931.122.0301.876930.101.404138931.142.0451.917930.121.416166931.162.0611.958930.141.427194931.182.0761.999930.161.439223931.202.0912.041930.201.462281931.242.1222.125930.201.462281931.262.1532.211930.241.445340931.222.1632.211930.261.496370931.302.1692.254930.301.519430931.342.1992.341930.321.531460931.362.2152.385930.341.542491931.382.2302.430930.361.554522931.402.2642.455930.381.565553931.422.2612.520930.401.577585931.442.2772.565930.421.688616931.462.3372.750930.501.634745931.562.3372.750930.511.654778931.562.3782.841930.541.658811931.562.3782.841930.551.646778931.562.3782.841930.541.658912931.662.4463.132 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
930.081.393110931.122.0301.876930.101.404138931.142.0451.917930.121.416166931.162.0611.958930.161.439223931.202.0912.041930.181.450252931.222.1072.083930.201.4622.81931.262.1382.168930.211.473310931.262.1382.168930.221.4473310931.322.1842.297930.301.519430931.332.1692.244930.281.508400931.322.1842.297930.301.519430931.342.1992.341930.321.531460931.382.2302.430930.341.542491931.382.2302.430930.361.554522931.422.2612.520930.401.577585931.442.2772.565930.421.588616931.522.3372.763930.501.634745931.542.3502.764930.511.646778931.522.3372.750930.521.646778931.622.4052.987930.601.695912931.622.4052.987930.611.777946931.622.4052.987930.621.707946931.622.4052.98						
930.101,404138931.142,0451,917930.121,416166931.162,0611,958930.141,427194931.182,0761,999930.161,439223931.202,0912,041930.181,450252931.222,1072,083930.201,462281931.242,1222,125930.221,473310931.262,1532,211930.261,496370931.302,1692,254930.281,508400931.322,1842,297930.301,519430931.342,1992,341930.321,531460931.362,2152,385930.341,542491931.382,2302,430930.361,554522931.402,2462,475930.301,517585931.442,2772,565930.401,577585931.442,2772,565930.421,588616931.502,3232,703930.461,611680931.502,3232,703930.501,634745931.542,3502,796930.521,646778931.562,3642,844930.561,670844931.622,4052,987930.601,7311,014931.722,4733,231930.611,7431,049931.722,4733,						
930.14 1.427 194931.18 2.076 1.999 930.16 1.439 223 931.20 2.091 2.041 930.18 1.450 252 931.22 2.107 2.083 930.20 1.462 2.81 931.24 2.122 2.125 930.22 1.473 310 931.26 2.138 2.168 930.24 1.485 340 931.32 2.164 2.254 930.26 1.496 370 931.30 2.164 2.254 930.30 1.519 430 931.34 2.199 2.341 930.32 1.531 460 931.36 2.215 2.385 930.34 1.542 491 931.38 2.230 2.430 930.36 1.554 522 931.40 2.246 2.475 930.38 1.565 553 931.42 2.261 2.520 930.40 1.577 585 931.44 2.292 2.611 930.41 1.600 648 931.50 2.323 2.703 930.42 1.588 616 931.50 2.323 2.703 930.43 1.654 778 931.54 2.360 2.796 930.50 1.634 774 931.56 2.344 2.844 930.52 1.646 778 931.56 2.378 2.891 930.53 1.658 8111 931.56 2.364 2.844 930.54 1.658 8111 931.76 2.446 <td>930.10</td> <td></td> <td></td> <td>931.14</td> <td></td> <td></td>	930.10			931.14		
930.161.439223931.202.0112.041930.181.450252931.222.1072.083930.201.462281931.242.1222.125930.221.473310931.262.1332.161930.261.496370931.302.1692.254930.261.496370931.312.1842.297930.301.519430931.342.1992.341930.321.531460931.362.2152.385930.341.542491931.382.2302.430930.351.554553931.422.2612.520930.401.577585931.442.2772.565930.411.588616931.462.2922.611930.421.588616931.462.2332.703930.501.634745931.562.3372.750930.501.634745931.562.3642.844930.521.646778931.562.3642.844930.541.658811931.582.3782.891930.601.695912931.642.4452.987930.611.670844931.662.4323.083930.621.707946931.662.4323.083930.641.719980931.642.4463.132930.651.682878931.722.4673.281<	930.12	1,416	166	931.16	2,061	1,958
930.181.450252931.222.1072.083930.201.462281931.242.1222.125930.221.473310931.262.1382.168930.241.485340931.322.1692.254930.281.508400931.322.1842.297930.301.519430931.342.1992.341930.321.531460931.362.2152.385930.341.542491931.382.2302.430930.361.554522931.422.2612.520930.401.577585931.422.2612.520930.421.588616931.462.2922.611930.441.600648931.482.3082.657930.451.634745931.502.3372.750930.501.634745931.542.3502.796930.521.646778931.522.3372.750930.541.658811931.522.3642.844930.551.646778931.622.4052.987930.601.995912931.622.4052.987930.611.779946931.662.4463.132930.621.707946931.662.4463.132930.641.719980931.682.4463.132930.651.682878931.622.4603.881<						
930.20 1.462 281931.24 2.122 2.125 930.22 1.473 310931.26 2.138 2.168 930.24 1.485 340931.28 2.153 2.211 930.26 1.496 370931.30 2.169 2.264 930.30 1.519 430931.34 2.199 2.341 930.30 1.551 460931.36 2.215 2.385 930.32 1.531 460931.36 2.246 2.475 930.36 1.554 522 931.40 2.246 2.475 930.38 1.565 553931.44 2.207 2.565 930.40 1.577 585931.44 2.2277 2.565 930.42 1.588 616931.46 2.292 2.611 930.50 1.634 745931.50 2.337 2.750 930.44 1.600 648931.50 2.323 2.703 930.50 1.634 745931.52 2.337 2.750 930.50 1.634 745931.56 2.364 2.844 930.51 1.668 811931.58 2.378 2.891 930.52 1.646 778931.66 2.432 3.083 930.54 1.652 878931.66 2.445 3.132 930.60 1.695 912931.66 2.446 3.132 930.66 1.731 1.044 931.77 2.460 3.181 930.66 1.731 1.044 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
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24289 - TSUNAMI COLUMBIA HEIGHTS PROPOMSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 15

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentPR1A: PR1A - DRAINSRunoff Area=22,316 sf 71.46% Impervious Runoff Depth=3.15"
Tc=6.0 min CN=WQ Runoff=2.55 cfs 0.134 afSubcatchmentPR1B: PR1B - DRAINS TORunoff Area=13,951 sf 69.84% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=WQ Runoff=1.57 cfs 0.083 afPond 1P: 1P - DETENTION BASINPeak Elev=930.36' Storage=522 cf Inflow=1.57 cfs 0.083 af
Outflow=1.01 cfs 0.083 af

Total Runoff Area = 0.833 ac Runoff Volume = 0.217 af Average Runoff Depth = 3.13" 29.16% Pervious = 0.243 ac 70.84% Impervious = 0.590 ac 24289 - TSUNAMI COLUMBIA HEIGHTS PROPOMSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 16

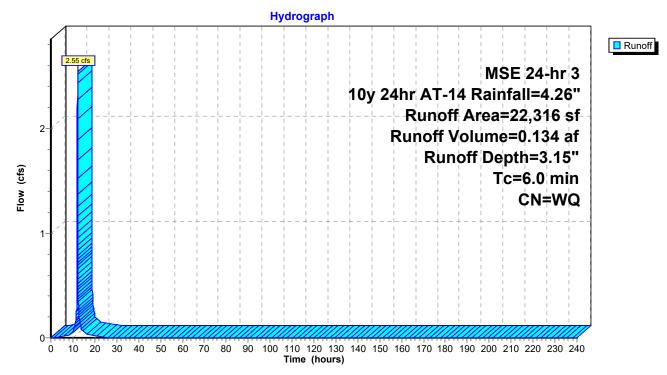
Summary for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Runoff = 2.55 cfs @ 12.13 hrs, Volume= 0.134 af, Depth= 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"

Α	rea (sf)	CN I	Description				
	15,948	98	Paved park	ing, HSG B	В		
	6,368	61 3	>75% Ġras	s cover, Go	Good, HSG B		
	22,316	1	Neighted A	verage			
	6,368		28.54% Pervious Area				
	15,948	-	71.46% Impervious Area				
Тс	Length	Slope	,	Capacity			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0					Direct Entry,		
					-		

Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.16	0.00	0.01
10.00	0.59	0.05	0.05
15.00	3.82	2.47	0.06
20.00	4.15	2.77	0.02
25.00	4.26	2.88	0.00
30.00	4.26	2.88	0.00
35.00 40.00	4.26 4.26	2.88 2.88	0.00 0.00
40.00	4.20	2.88	0.00
50.00	4.20	2.88	0.00
55.00	4.26	2.88	0.00
60.00	4.26	2.88	0.00
65.00	4.26	2.88	0.00
70.00	4.26	2.88	0.00
75.00	4.26	2.88	0.00
80.00	4.26	2.88	0.00
85.00	4.26	2.88	0.00
90.00	4.26	2.88	0.00
95.00	4.26	2.88	0.00
100.00	4.26	2.88	0.00
105.00	4.26	2.88	0.00
110.00	4.26	2.88	0.00
115.00	4.26	2.88	0.00
120.00	4.26	2.88	0.00
125.00	4.26	2.88	0.00
130.00 135.00	4.26 4.26	2.88 2.88	0.00 0.00
140.00	4.20	2.00	0.00
145.00	4.26	2.88	0.00
150.00	4.26	2.88	0.00
155.00	4.26	2.88	0.00
160.00	4.26	2.88	0.00
165.00	4.26	2.88	0.00
170.00	4.26	2.88	0.00
175.00	4.26	2.88	0.00
180.00	4.26	2.88	0.00
185.00	4.26	2.88	0.00
190.00	4.26	2.88	0.00
195.00	4.26	2.88	0.00
200.00	4.26	2.88	0.00
205.00	4.26	2.88	0.00
210.00	4.26	2.88	0.00
215.00 220.00	4.26 4.26	2.88 2.88	0.00 0.00
220.00	4.26	2.00 2.88	0.00
230.00	4.20	2.88	0.00
235.00	4.26	2.88	0.00
240.00	4.26	2.88	0.00
			0.00

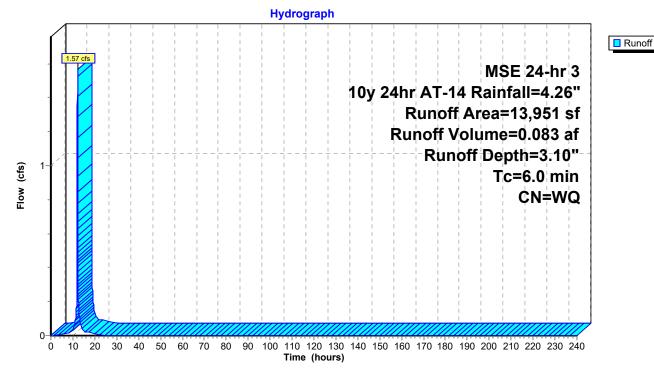
Summary for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AV

Runoff = 1.57 cfs @ 12.13 hrs, Volume= Routed to Pond 1P : 1P - DETENTION BASIN 0.083 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"

Α	rea (sf)	CN	Description					
	9,743	98	Paved park	ing, HSG B	В			
	4,208	61	>75% Ġras	s cover, Go	ood, HSG B			
	13,951		Weighted A	verage				
	4,208	;	30.16% Pervious Area					
	9,743		69.84% Impervious Area					
Tc (min)	Length (feet)	Slope (ft/ft)		Capacity (cfs)	Description			
6.0					Direct Entry,			

Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE

Time	Precip.	Excess	Runoff
(hours)	(inches)	(inches)	(cfs)
0.00	0.00	0.00	0.00
5.00	0.16	0.00	0.01
10.00	0.59	0.05	0.03
15.00	3.82 4.15	2.47 2.77	0.04 0.01
20.00 25.00	4.15	2.77	0.01
30.00	4.26	2.88	0.00
35.00	4.26	2.88	0.00
40.00	4.26	2.88	0.00
45.00	4.26	2.88	0.00
50.00	4.26	2.88	0.00
55.00 60.00	4.26 4.26	2.88 2.88	0.00 0.00
65.00	4.26	2.00 2.88	0.00
70.00	4.26	2.88	0.00
75.00	4.26	2.88	0.00
80.00	4.26	2.88	0.00
85.00	4.26	2.88	0.00
90.00	4.26	2.88	0.00
95.00	4.26	2.88	0.00
100.00 105.00	4.26 4.26	2.88 2.88	0.00 0.00
110.00	4.20	2.88	0.00
115.00	4.26	2.88	0.00
120.00	4.26	2.88	0.00
125.00	4.26	2.88	0.00
130.00	4.26	2.88	0.00
135.00	4.26	2.88	0.00
140.00 145.00	4.26 4.26	2.88 2.88	0.00 0.00
145.00	4.20	2.88	0.00
155.00	4.26	2.88	0.00
160.00	4.26	2.88	0.00
165.00	4.26	2.88	0.00
170.00	4.26	2.88	0.00
175.00	4.26	2.88	0.00
180.00 185.00	4.26 4.26	2.88 2.88	0.00 0.00
190.00	4.20	2.88	0.00
195.00	4.26	2.88	0.00
200.00	4.26	2.88	0.00
205.00	4.26	2.88	0.00
210.00	4.26	2.88	0.00
215.00	4.26	2.88	0.00
220.00 225.00	4.26 4.26	2.88 2.88	0.00 0.00
225.00	4.20	2.88	0.00
235.00	4.26	2.88	0.00
240.00	4.26	2.88	0.00

24289 - TSUNAMI COLUMBIA HEIGHTS PROPOMSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 20

Summary for Pond 1P: 1P - DETENTION BASIN

Inflow Area =	0.320 ac, 69.84% Impervious, Inflow Depth = 3.10" f	or 10y 24hr AT-14 event
Inflow =	1.57 cfs @ 12.13 hrs, Volume= 0.083 af	
Outflow =	1.01 cfs @ 12.19 hrs, Volume= 0.083 af, Atten	= 36%, Lag= 3.8 min
Primary =	1.01 cfs @ 12.19 hrs, Volume= 0.083 af	

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs Peak Elev= 930.36' @ 12.19 hrs Surf.Area= 1,553 sf Storage= 522 cf

Plug-Flow detention time= 13.1 min calculated for 0.083 af (100% of inflow) Center-of-Mass det. time= 13.1 min (769.6 - 756.5)

Volume	Inv	ert Avail	l.Storage	Storage	Description	
#1	930.	00'	3,950 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevation (feet)		Surf.Area (sq-ft)		:.Store c-feet)	Cum.Store (cubic-feet)	
930.00		1,347		0	0	
930.50		1,634		745	745	
931.00		1,937		893	1,638	
931.50		2,323		1,065	2,703	
932.00		2,665		1,247	3,950	
-	Routing			et Devices		
#1 F	Primary	930	.00' 8.0''	Horiz. Or	rifice/Grate C	= 0.600 Limited to weir flow at low heads

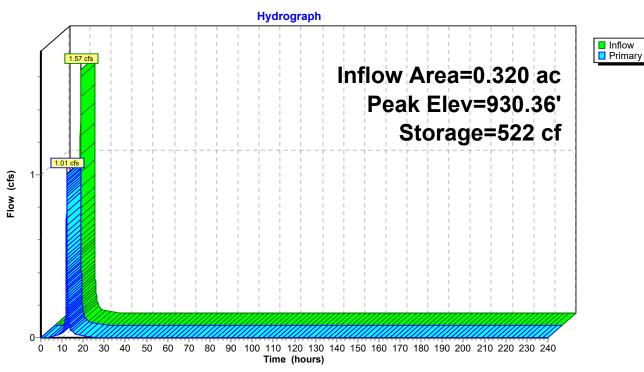
Primary OutFlow Max=1.01 cfs @ 12.19 hrs HW=930.36' (Free Discharge) **1=Orifice/Grate** (Orifice Controls 1.01 cfs @ 2.89 fps) 24289 - TSUNAMI COLUMBIA HEIGHTS PROPOMSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26"

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Pond 1P: 1P - DETENTION BASIN

24289 - TSUNAMI COLUMBIA HEIGHTS PROPOMSE 24-hr 3 10y 24hr AT-14 Rainfall=4.26" Printed 7/29/2024

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Hydrograph for Pond 1P: 1P - DETENTION BASIN

Time	Inflow	Storage	Elevation	Primary
(hours)	(cfs)	(cubic-feet)	(feet)	(cfs)
0.00	0.00	0	930.00	0.00
5.00	0.01	8	930.01	0.01
10.00	0.03	36	930.03	0.03
15.00	0.04	42	930.03	0.04
20.00	0.01	19	930.01	0.01
25.00	0.00	1	930.00	0.00
30.00	0.00	0	930.00	0.00
35.00	0.00	0	930.00	0.00
40.00	0.00	0	930.00	0.00
45.00	0.00	0	930.00	0.00
50.00	0.00	0	930.00	0.00
55.00	0.00	0	930.00	0.00
60.00	0.00	0	930.00	0.00
65.00	0.00	0	930.00	0.00
70.00	0.00	0	930.00	0.00
75.00	0.00	0	930.00	0.00
80.00	0.00	0	930.00	0.00
85.00	0.00	0	930.00	0.00
90.00	0.00	0	930.00	0.00
95.00	0.00	0	930.00	0.00
100.00	0.00	0	930.00	0.00
105.00	0.00	0	930.00	0.00
110.00 115.00	0.00	0 0	930.00 930.00	0.00
120.00	0.00 0.00	0	930.00 930.00	0.00 0.00
125.00	0.00	0	930.00	0.00
130.00	0.00	0	930.00	0.00
135.00	0.00	0	930.00	0.00
140.00	0.00	0	930.00	0.00
145.00	0.00	0	930.00	0.00
150.00	0.00	0	930.00	0.00
155.00	0.00	0	930.00	0.00
160.00	0.00	0 0	930.00	0.00
165.00	0.00	0	930.00	0.00
170.00	0.00	0	930.00	0.00
175.00	0.00	0	930.00	0.00
180.00	0.00	0	930.00	0.00
185.00	0.00	0	930.00	0.00
190.00	0.00	0	930.00	0.00
195.00	0.00	0	930.00	0.00
200.00	0.00	0	930.00	0.00
205.00	0.00	0	930.00	0.00
210.00	0.00	0	930.00	0.00
215.00	0.00	0	930.00	0.00
220.00	0.00	0	930.00	0.00
225.00	0.00	0	930.00	0.00
230.00	0.00	0	930.00	0.00
235.00	0.00	0	930.00	0.00
240.00	0.00	0	930.00	0.00

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Stage-Area-Storage for Pond 1P: 1P - DETENTION BASIN

		-	L		_
Elevation	Surface	Storage	Elevation	Surface	Storage
(feet)	(sq-ft)	(cubic-feet)	(feet)	(sq-ft)	(cubic-feet)
930.00	1,347	0	931.04	1,968	1,716
930.02	1,358	27	931.06	1,983	1,756
930.04	1,370	54	931.08	1,999	1,795
930.06	1,381	82	931.10	2,014	1,836
930.08	1,393	110	931.12	2,030	1,876
930.10	1,404	138	931.14	2,045	1,917
930.12	1,416	166	931.16	2,061	1,958
930.14	1,427	194	931.18	2,076	1,999
930.16	1,439	223	931.20	2,091	2,041
930.18	1,450	252	931.22	2,107	2,083
930.20	1,462	281	931.24	2,122	2,125
930.22	1,473	310	931.26	2,138	2,168
930.24	1,485	340	931.28	2,153	2,211
930.26	1,496	370	931.30	2,169	2,254
930.28	1,508	400	931.32	2,184	2,297
930.30	1,519	430	931.34	2,199	2,341
930.32	1,531	460	931.36	2,215	2,385
930.34	1,542	491	931.38	2,230	2,000
930.36	1,554	522	931.40	2,200	2,475
930.38	1,565	553	931.40	2,240	2,520
930.40	1,577	585	931.44	2,201	2,565
930.40	1,588	616	931.46	2,277	2,505 2,611
930.42	1,600	648	931.48	2,292	2,657
930.44	1,611	680	931.50	2,308	2,037
930.48	1,623	713	931.50	2,323	2,750
930.50	1,634	745	931.54	2,357	2,796
930.52	1,646	745	931.56	2,350	2,790
930.52	1,658	811	931.58	2,378	2,891
930.54 930.56	1,670	844	931.60	2,378	
					2,939
930.58	1,682	878	931.62	2,405	2,987
930.60	1,695	912	931.64	2,419	3,035
930.62	1,707	946	931.66	2,432	3,083
930.64	1,719	980	931.68	2,446	3,132
930.66	1,731	1,014	931.70	2,460	3,181
930.68	1,743	1,049	931.72	2,473	3,231
930.70	1,755	1,084	931.74	2,487	3,280
930.72	1,767	1,119	931.76	2,501	3,330
930.74	1,779	1,155	931.78	2,515	3,380
930.76	1,792	1,191	931.80	2,528	3,431
930.78	1,804	1,227	931.82	2,542	3,481
930.80	1,816	1,263	931.84	2,556	3,532
930.82	1,828	1,299	931.86	2,569	3,584
930.84	1,840	1,336	931.88	2,583	3,635
930.86	1,852	1,373	931.90	2,597	3,687
930.88	1,864	1,410	931.92	2,610	3,739
930.90	1,876	1,447	931.94	2,624	3,791
930.92	1,889	1,485	931.96	2,638	3,844
930.94	1,901	1,523	931.98	2,651	3,897
930.96	1,913	1,561	932.00	2,665	3,950
930.98	1,925	1,599			
931.00	1,937	1,638			
931.02	1,952	1,677			
			l		

24289 - TSUNAMI COLUMBIA HEIGHTS PROP@/SE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 24

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-Q Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

SubcatchmentPR1A: PR1A - DRAINS	Runoff Area=22,316 sf 71.46% Impervious Runoff Depth=5.95" Tc=6.0 min CN=WQ Runoff=4.84 cfs 0.254 af
SubcatchmentPR1B: PR1B - DRAINS TO	Runoff Area=13,951 sf 69.84% Impervious Runoff Depth=5.89" Tc=6.0 min CN=WQ Runoff=3.00 cfs 0.157 af
Pond 1P: 1P - DETENTION BASIN	Peak Elev=930.77' Storage=1,201 cf Inflow=3.00 cfs 0.157 af Outflow=1.47 cfs 0.157 af
	ac Runoff Volume = 0.411 af Average Runoff Depth = 5.93" 29.16% Pervious = 0.243 ac 70.84% Impervious = 0.590 ac

24289 - TSUNAMI COLUMBIA HEIGHTS PROP@/SE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"Prepared by Civil Site GroupPrinted 7/29/2024HydroCAD® 10.20-4a s/n 02202 © 2023 HydroCAD Software Solutions LLCPage 25

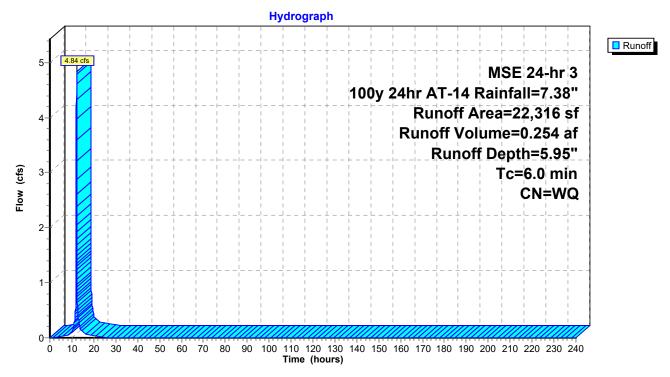
Summary for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Runoff = 4.84 cfs @ 12.13 hrs, Volume= 0.254 af, Depth= 5.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"

Are	ea (sf)	CN [Description					
1	5,948	98 F	Paved park	ing, HSG B				
	6,368	61 >	75% Ġras	s cover, Go	ood, HSG B			
2	2,316	١	Weighted Average					
	6,368	2	28.54% Pervious Area					
1	5,948	7	71.46% Impervious Area					
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0					Direct Entry,			

Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1A: PR1A - DRAINS SOUTH TO 50TH AVE

Time	Precip.	Excess	Runoff
(hours) 0.00	(inches) 0.00	(inches) 0.00	(cfs) 0.00
5.00	0.00	0.00	0.03
10.00	1.01	0.23	0.10
15.00	6.62	5.11	0.11
20.00	7.19	5.66	0.04
25.00	7.38	5.85	0.00
30.00	7.38	5.85	0.00
35.00	7.38 7.38	5.85	0.00
40.00 45.00	7.38	5.85 5.85	0.00 0.00
50.00	7.38	5.85	0.00
55.00	7.38	5.85	0.00
60.00	7.38	5.85	0.00
65.00	7.38	5.85	0.00
70.00	7.38	5.85	0.00
75.00	7.38	5.85	0.00
80.00	7.38	5.85	0.00 0.00
85.00 90.00	7.38 7.38	5.85 5.85	0.00
90.00 95.00	7.38	5.85	0.00
100.00	7.38	5.85	0.00
105.00	7.38	5.85	0.00
110.00	7.38	5.85	0.00
115.00	7.38	5.85	0.00
120.00	7.38	5.85	0.00
125.00 130.00	7.38 7.38	5.85	0.00 0.00
135.00	7.38	5.85 5.85	0.00
140.00	7.38	5.85	0.00
145.00	7.38	5.85	0.00
150.00	7.38	5.85	0.00
155.00	7.38	5.85	0.00
160.00	7.38	5.85	0.00
165.00	7.38	5.85	0.00
170.00 175.00	7.38	5.85	0.00 0.00
180.00	7.38 7.38	5.85 5.85	0.00
185.00	7.38	5.85	0.00
190.00	7.38	5.85	0.00
195.00	7.38	5.85	0.00
200.00	7.38	5.85	0.00
205.00	7.38	5.85	0.00
210.00	7.38	5.85	0.00
215.00 220.00	7.38 7.38	5.85 5.85	0.00 0.00
220.00	7.38	5.85	0.00
230.00	7.38	5.85	0.00
235.00	7.38	5.85	0.00
240.00	7.38	5.85	0.00

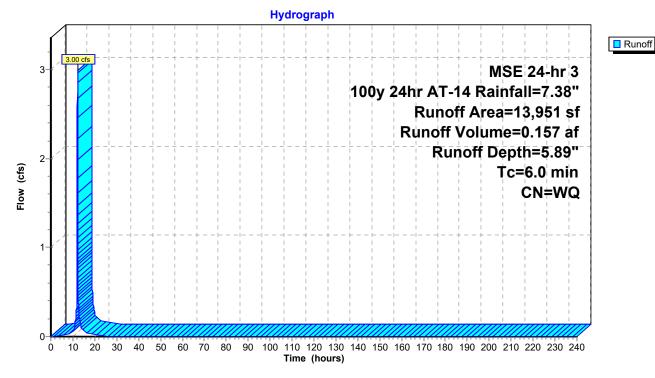
Summary for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AV

Runoff = 3.00 cfs @ 12.13 hrs, Volume= Routed to Pond 1P : 1P - DETENTION BASIN 0.157 af, Depth= 5.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"

A	rea (sf)	CN I	Description					
	9,743	98 I	[⊃] aved park	ing, HSG B	3			
	4,208	61 🗧	>75% Ġras	s cover, Go	ood, HSG B			
	13,951	١	Weighted Average					
	4,208		30.16% Pervious Area					
	9,743	(69.84% Impervious Area					
-		0		0				
TC	Length	Slope	,	Capacity	Description			
(min)	(feet)	(ft/ft)	ft/ft) (ft/sec) (cfs)					
6.0					Direct Entry,			

Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE



Hydrograph for Subcatchment PR1B: PR1B - DRAINS TO DETENTION BASIN THEN SOUTH TO 50TH AVE

TimePrecip.ExcessRunoff(hours)(inches)(inches)(cfs)0.000.000.000.005.000.280.000.0210.001.010.230.0615.006.625.110.0720.007.195.660.02
5.000.280.000.0210.001.010.23 0.06 15.006.625.11 0.07
10.001.010.230.0615.006.625.110.07
15.00 6.62 5.11 0.07
25.00 7.38 5.85 0.00
30.00 7.38 5.85 0.00
35.00 7.38 5.85 0.00
40.007.385.850.0045.007.385.850.00
45.007.385.850.0050.007.385.850.00
55.00 7.38 5.85 0.00
60.00 7.38 5.85 0.00
65.00 7.38 5.85 0.00
70.00 7.38 5.85 0.00
75.007.385.850.0080.007.385.850.00
85.00 7.38 5.85 0.00
90.00 7.38 5.85 0.00
95.00 7.38 5.85 0.00
100.00 7.38 5.85 0.00
105.007.385.850.00110.007.385.850.00
110.007.385.850.00115.007.385.850.00
120.00 7.38 5.85 0.00
125.00 7.38 5.85 0.00
130.00 7.38 5.85 0.00
135.00 7.38 5.85 0.00
140.007.385.850.00145.007.385.850.00
150.00 7.38 5.85 0.00
155.00 7.38 5.85 0.00
160.00 7.38 5.85 0.00
165.00 7.38 5.85 0.00 120.00 7.38 5.85 0.00
170.007.385.850.00175.007.385.850.00
180.00 7.38 5.85 0.00
185.00 7.38 5.85 0.00
190.00 7.38 5.85 0.00
195.00 7.38 5.85 0.00
200.007.385.850.00205.007.385.850.00
210.00 7.38 5.85 0.00
215.00 7.38 5.85 0.00
220.00 7.38 5.85 0.00
225.00 7.38 5.85 0.00
230.007.385.850.00235.007.385.850.00
240.00 7.38 5.85 0.00

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Summary for Pond 1P: 1P - DETENTION BASIN

Inflow Area =	0.320 ac, 69.84% Impervious, Inflow [Depth = 5.89" for 100y 24hr AT-14 event
Inflow =	3.00 cfs @ 12.13 hrs, Volume=	0.157 af
Outflow =	1.47 cfs @ 12.22 hrs, Volume=	0.157 af, Atten= 51%, Lag= 5.4 min
Primary =	1.47 cfs @ 12.22 hrs, Volume=	0.157 af

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs Peak Elev= 930.77' @ 12.22 hrs Surf.Area= 1,795 sf Storage= 1,201 cf

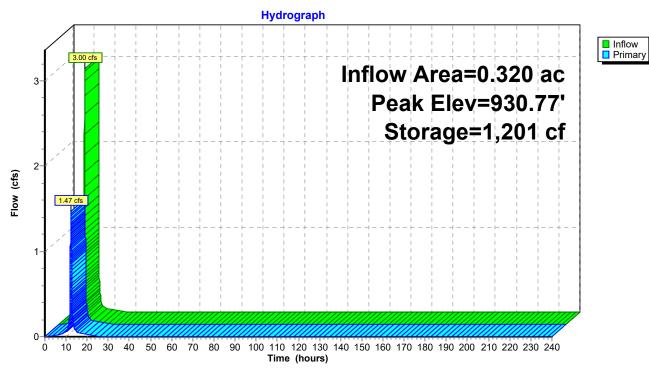
Plug-Flow detention time= 12.9 min calculated for 0.157 af (100% of inflow) Center-of-Mass det. time= 12.9 min (765.3 - 752.3)

Volume	Inve	ert Avail.	Storage	Storage	Description	
#1	930.0	00'	3,950 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatior (feet	-	Surf.Area (sq-ft)		.Store c-feet)	Cum.Store (cubic-feet)	
930.00)	1,347		0	0	
930.50)	1,634		745	745	
931.00)	1,937		893	1,638	
931.50)	2,323		1,065	2,703	
932.00)	2,665		1,247	3,950	
Device	Routing	Inv	ert Outl	et Devices	6	
#1	Primary	930.0	00' 8.0"	Horiz. Or	rifice/Grate C	= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.47 cfs @ 12.22 hrs HW=930.77' (Free Discharge) —1=Orifice/Grate (Orifice Controls 1.47 cfs @ 4.21 fps) 24289 - TSUNAMI COLUMBIA HEIGHTS PROPO/ISE 24-hr 3 100y 24hr AT-14 Rainfall=7.38" Prepared by Civil Site Group Printed 7/29/2024

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Pond 1P: 1P - DETENTION BASIN

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Hydrograph for Pond 1P: 1P - DETENTION BASIN

Time	Inflow	Storage	Elevation	Primary
(hours)	(cfs)	(cubic-feet)	(feet)	(cfs)
0.00	0.00	0	930.00	0.00
5.00	0.02	20	930.01	0.01
10.00	0.06	55	930.04	0.06
15.00	0.07	65	930.05	0.07
20.00 25.00	0.02 0.00	31 1	930.02 930.00	0.02 0.00
30.00	0.00	0	930.00 930.00	0.00
35.00	0.00	0	930.00	0.00
40.00	0.00	0 0	930.00	0.00
45.00	0.00	0	930.00	0.00
50.00	0.00	0	930.00	0.00
55.00	0.00	0	930.00	0.00
60.00	0.00	0	930.00	0.00
65.00	0.00	0	930.00	0.00
70.00	0.00	0	930.00	0.00
75.00	0.00	0	930.00	0.00
80.00	0.00	0	930.00	0.00
85.00	0.00	0	930.00	0.00
90.00	0.00	0 0	930.00	0.00 0.00
95.00 100.00	0.00 0.00	0	930.00 930.00	0.00
105.00	0.00	0	930.00 930.00	0.00
110.00	0.00	0	930.00	0.00
115.00	0.00	0	930.00	0.00
120.00	0.00	Ő	930.00	0.00
125.00	0.00	0	930.00	0.00
130.00	0.00	0	930.00	0.00
135.00	0.00	0	930.00	0.00
140.00	0.00	0	930.00	0.00
145.00	0.00	0	930.00	0.00
150.00	0.00	0	930.00	0.00
155.00	0.00	0	930.00	0.00
160.00 165.00	0.00 0.00	0 0	930.00 930.00	0.00 0.00
170.00	0.00	0	930.00 930.00	0.00
175.00	0.00	0	930.00	0.00
180.00	0.00	0	930.00	0.00
185.00	0.00	Ő	930.00	0.00
190.00	0.00	0	930.00	0.00
195.00	0.00	0	930.00	0.00
200.00	0.00	0	930.00	0.00
205.00	0.00	0	930.00	0.00
210.00	0.00	0	930.00	0.00
215.00	0.00	0	930.00	0.00
220.00	0.00	0	930.00	0.00
225.00 230.00	0.00 0.00	0 0	930.00 930.00	0.00 0.00
230.00	0.00	0	930.00 930.00	0.00
240.00	0.00	0	930.00	0.00
	0.00	0		0.00

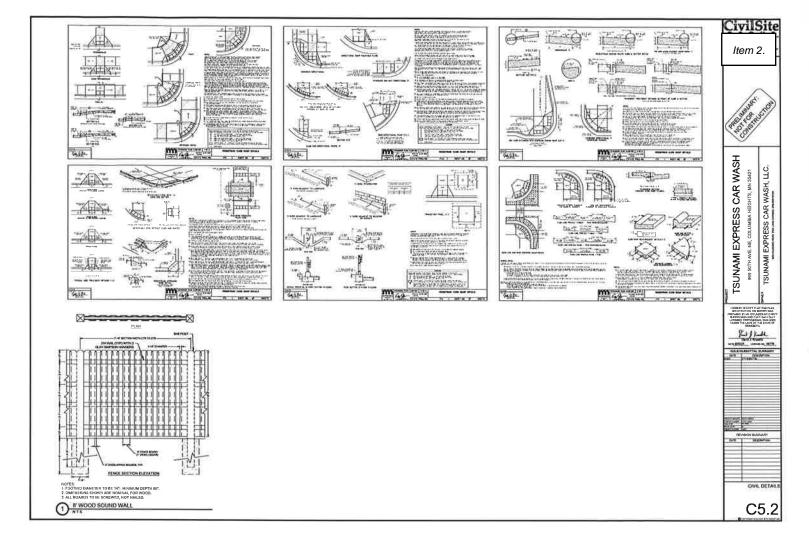
24289 - TSUNAMI COLUMBIA HEIGHTS PROPO/SE 24-hr 3 100y 24hr AT-14 Rainfall=7.38"

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Stage-Area-Storage for Pond 1P: 1P - DETENTION BASIN

Elevation Surface Storage (feet) (sq.ft) (cubic-feet) 930.00 1,347 0 930.02 1,358 27 930.06 1,381 82 930.06 1,383 82 930.06 1,383 82 930.06 1,383 82 930.01 1,404 138 930.12 1,416 1666 930.14 1,427 194 930.16 1,439 223 931.20 2,091 2,041 930.21 1,4162 281 930.22 1,473 310 931.22 2,107 2,083 930.22 1,473 310 931.32 2,184 2,297 930.30 1,519 430 931.32 2,184 2,297 930.32 1,531 460 931.32 2,184 2,297 930.36 1,554 522 931.44 2,261 2,385 930						_
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930.021,35827931.061,9831,756930.041,37054931.081,9991,795930.061,38182931.102,0141,836930.081,393110931.122,0301,876930.101,404138931.142,0451,917930.121,416166931.162,0611,958930.141,427194931.222,0912,041930.151,439223931.202,0912,041930.161,439223931.222,1072,083930.201,462281931.262,1382,168930.221,473310931.262,1382,211930.261,496370931.302,1692,254930.321,508400931.322,1642,297930.301,519430931.362,2152,385930.341,554522931.402,2462,475930.361,554522931.442,2772,565930.421,588616931.462,2922,611930.441,600648931.502,3232,703930.501,634745931.562,3642,844930.561,670844931.662,3912,939930.561,670844931.662,4223,632930.661,7311,014931.722,4733,231 </td <td>(feet)</td> <td>(sq-ft)</td> <td>(cubic-feet)</td> <td></td> <td></td> <td>(cubic-feet)</td>	(feet)	(sq-ft)	(cubic-feet)			(cubic-feet)
930.04 $1,370$ 54 931.08 1.999 1.795 930.06 $1,381$ 82 931.10 2.014 1.836 930.08 $1,393$ 110 931.12 2.030 1.876 930.10 1.404 138 931.14 2.045 1.917 930.12 1.416 166 931.16 2.061 1.958 930.14 1.427 194 931.18 2.076 1.999 930.16 1.439 223 931.20 2.091 2.041 930.20 1.462 281 931.24 2.122 2.107 2.083 930.20 1.466 370 931.32 2.168 930.24 1.485 340 931.28 2.153 2.211 930.26 1.508 400 931.32 2.164 2.297 930.30 1.519 430 931.34 2.199 2.341 930.34 1.542 491 931.38 2.230 2.430 930.34 1.554 522 931.44 2.277 2.565 930.42 1.588 616 931.46 2.292 2.611 930.44 1.600 648 931.56 2.364 2.844 930.52 1.646 778 931.56 2.364 2.844 930.54 1.658 811 931.56 2.378 2.891 930.54 1.658 811 931.56 2.364 2.844 930.54 1.668 87	930.00	1,347	0	931.04	1,968	1,716
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930.081.393110931.122.0301.876930.101.404138931.142.0451.917930.121.416166931.162.0611.958930.161.427194931.182.0761.999930.161.439223931.202.0912.041930.181.450252931.222.1072.083930.221.473310931.262.1382.168930.241.485340931.282.1532.211930.261.496370931.302.1692.254930.281.508400931.322.1842.297930.301.519430931.342.1992.341930.321.551460931.382.2302.430930.361.554522931.422.2612.520930.411.542491931.382.2302.430930.361.555553931.422.2612.520930.411.565553931.422.2612.520930.421.588616931.502.3372.763930.501.634745931.522.3372.763930.511.646778931.522.3372.750930.521.646778931.622.4052.987930.641.717946931.622.4052.987930.651.662912931.642.4193.035<	930.06	1,381	82	931.10	2,014	1,836
930.101,404138931.142,0451,917930.121,416166931.162,0611,958930.141,427194931.182,0761,999930.161,439223931.202,0912,041930.181,450252931.222,1072,083930.201,462281931.242,1222,125930.221,473310931.262,1532,211930.261,496370931.302,1692,254930.281,508400931.322,1842,297930.301,519430931.342,1992,341930.321,531460931.362,2152,385930.341,542491931.382,2302,430930.361,554522931.402,2462,475930.381,565553931.422,2612,520930.401,577585931.442,2772,565930.421,588616931.502,3232,703930.461,611680931.502,3232,703930.501,634745931.542,3502,796930.521,646778931.562,3642,844930.541,658811931.562,4622,475930.601,7311,014931.722,4733,231930.611,7431,049931.722,4733,	930.08	1,393	110		2,030	1,876
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930.881,8641,410931.922,6103,739930.901,8761,447931.942,6243,791930.921,8891,485931.962,6383,844930.941,9011,523931.982,6513,897930.961,9131,561932.002,6653,950930.981,9251,5991,63833	930.86	1,852	1,373	931.90	2,597	3,687
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Noise Impact Analysis for Proposed Tsunami Car Wash, Columbia Heights, Minnesota

Prepared By:

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23 August 2024

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Executive Summary

The proposed Tsunami Car in Columbia Heights, Minnesota is planned to operate from 7:00 am and 8:00 pm daily. The Minnesota noise ordinance defines the daytime (7:00 am to 10:00 pm) noise limit for Residential zones at 60 dBA at the property lines. Our calculations indicate that the carwash-related noise levels with the planned layout will not exceed the residential limits with the addition of an 8' sound barrier along the east and north property lines on top of the planned retaining wall (with the combined height extending 2' above the top of the car wash entry doors).

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List of Abbreviated Terms

dB	Decibel
dBA	A-weighted Decibels
Leq	Equivalent Sound Level

1.0 Introduction

Soundscape Engineering has completed a sound study for a proposed Tsunami Express Carwash to be located at 999 50th Avenue NE, Columbia Heights, Minnesota. The proposed building will be a 5,000 SF car wash with 18 vacuums, a sales booth, and vacuum pump house. It is our understanding that the car wash will be open 7 days per week from 7:00 am to 8:00 pm.

We have collected sound data from past projects with Tsunami, specifically the Tsunami Car Wash in Waukesha, Wisconsin. The loudest noise sources are the blowers inside the car wash and the vacuums/pump house in the parking lot area. We assume that this location will use the same blowers as the Waukesha location.

The design is complete and you provided us with a copy of the city submitted design dated 08-05-2024. The Columbia Heights Tsunami Car Wash is bordered by an Aldi Grocery Store and single-family residences. The project plans to lower the grade of the building site. A new retaining wall will be installed on the east side of the site with a 6-foot fence on top of the wall.

According to the Waukesha car wash operation manager, a busy hour by industry standards would be 100+ cars per hour.

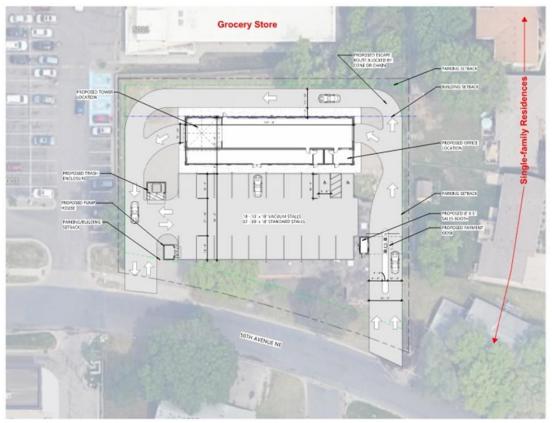


Figure 1: Proposed Tsunami Express Car Wash, Columbia Heights, Minnesota

For your reference, there is a brief glossary of pertinent acoustics terminology in Appendix A.

2.0 Measurements

The following describes the ambient measurements at the proposed Columbia Heights location and the existing equipment measurements at the Tsunami Car Wash in Waukesha, Wisconsin.

2.1 Instrumentation

An NTi Audio model XL2-TA acoustic analyzer with model MC230 microphone and model MA220 preamp was used for all measurements reported here. This system is Class 1 Type Approved, meeting the requirements of IEC 61672 and ANSI S1.4.

Instrument - Location	Make	Model No.	Serial No.	Cal Date
Sound Level Meter (SLM) - Position 1	NTi	XL2-TA	А2А-11159-Е0	8/10/2023
SLM Microphone	NTi	MC230	9538	8/10/2023
SLM Preamp	NTi	MA220 (M2230)	2923	8/10/2023
Sound Level Calibrator	Larsen Davis	CAL200	10152	03/23/2023

Table 1: Sound Measurement Equipment

2.2 Ambient Measurements

Soundscape visited the proposed Tsunami Car Wash in Columbia Heights, Minnesota on Sunday, August 11^{th} , 2024. A series of 15-minute spot measurements were taken around the proposed Columbia Heights property. Measurements were taken between 4:00 - 5:30 pm. The overall levels at each measurement location are shown in Figure 2. Photos of the onsite measurements are shown in Figure 3.

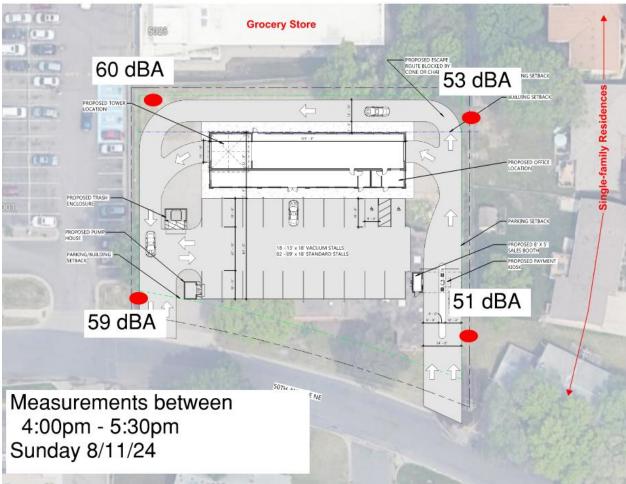


Figure 2: Ambient Sound Levels (dBA) Measured at Proposed Car Wash Site



Figure 3: Photos of Sound Level Meter at Two of the Measurement Locations On-Site

Soundscape Engineering 3711 N. Ravenswood Ave., Ste. 104 • Chicago, IL 60613 • (312) 436-0032 729 W. Ann Arbor Trl., Ste. 150 • Plymouth, MI 48170 • (734) 418-8663 www.SoundscapeEngineering.com

2.3 Equipment Measurements

To determine the equipment sound levels, we measured the sound level produced by equipment at the existing Tsunami Car Wash located at 300 W. Sunset Drive in Waukesha, Wisconsin. We understand that the Columbia Heights location will install the same blower system as the Waukesha location. The measured octave band sound levels at the car wash entry and exit are shown in Table 2.

		Sound Pressure Levels (dB at a 20-foot distance ¹) per Octave Band Center Frequency, Hz								Overall Level
	31.5	63	125	250	500	1000	2000	4000	8000	(dBA)
Wash Exit, Blowers On, Doors Open	78	80	80	81	89	88	86	82	74	93
Wash Exit, Blowers On, Doors Closed	74	79	77	77	79	73	69	63	53	79
Wash Entrance, Doors Open	73	74	72	69	71	72	71	66	56	76

Table 2: Sound levels Measured at	a Waukesha	Tsunami (Carwash ((dB)
Table 2. Sound levels measured at	a mauncona	1 Sunann v	Car masn (uD)

1) These measurements were made directly in front of the entrance or exit, at a distance of 20 feet.



Figure 4: Waukesha Tsunami Car Wash Exit



Figure 5: Waukesha Tsunami Car Wash Layout

Measurements were also taken outside the vacuum pump house and near a car being vacuumed (Figure 6). The pump house is constructed of masonry block and has steel doors with perimeter seals. This construction is advantageous for noise control. We are not aware if the existing vacuum system has a muffler. These measured levels are presented in Table 3.

Table 3: Measured Vacuum Related Sound Levels at Waukesha Location
--

				und Press ve Band		· · ·	*			Overall level
	31.5	63	125	250	500	1000	2000	4000	8000	(dBA)
Vacuum Pump House at 3' Distance	71	75	67	64	60	59	58	55	51	65
Car Vacuuming at Approx. 6' Distance	70	72	70	66	64	64	68	69	62	74



Figure 6: Vacuum Pump House

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3.0 Ordinance and Criteria

The project is required to meet the State of Minnesota's Administrative Rules Section 7030.0040 Noise Standards, which we understand to be the City of Columbia Heights' ordinance:

Subpart 1. Scope. These standards de nowledge for the preservation of public he nnoyance, and hearing conservation requi toise area classification (NAC) system esta dentify the limiting levels of impulsive no ubpart 2 apply to all sources.	ealth and welfare. Th rements for receiver ablished in part <u>7030</u>	nese standards are co s within areas group <u>.0050</u> . However, the	onsistent with speech ed according to land ese standards do not	n, sleep, l activities by the , by themselves,	
Subp. 2. Noise standards.					
Noise Area Classification	Day	time	Nighttime		
	L ₅₀	L ₁₀	L ₅₀	L ₁₀	
1	60	65	50	55	
2	65	70	65	70	
2 3	75	80	75	80	
Statutory Authority: MSs 116.07					
History: 11 SR 43; 18 SR 614					

Figure 7: Minnesota Noise Ordinance

Residential properties fit into "Noise Area Classification 1" and commercial properties fall into the "Noise Area Classification 2". The L_{50} represents the level exceeded 50% of the time, or the median sound level. During peak business hours, the car wash is expected to be in nearly continuous operation, so the L_{50} is equivalent to the average sound level, or Leq. This means that the car wash measurement levels in Table 2 were used as source levels for Columbia Heights without applying a reduction for related to duration of use. Similarly, the L_{10} refers to the sound level during the loudest 10% of the time. Since the levels are nearly continuous, the L_{10} and the L_{50} are expected to be almost equal. Therefore, the L_{50} criterion is the most stringent for this project, and will be referred to in this assessment.

4.0 Computer Model Calculation of Sound Levels Around Carwash

We modeled the Columbia Heights site and surrounding area in the commercial environmental noise modeling software, SoundPLAN. Site topography, existing and proposed buildings, sound sources, and receiver locations were inputted as elements into the computer model. A 3D view of the propagation model is shown in Figure 8. The red-shaded areas represent sound area sources. We have modeled the worst-case scenario with all vacuum stations in use and the carwash entry door open. We understand that the car wash doors are planned to be open when cars are in the tunnel, which could be nearly continuous during the busiest hours of the week. Vacuum stations are indicated by the red asterisks below. Sources included in the model are based on measurements made at the Waukesha Tsunami and are as follows:

- Carwash Entry Door Open
- Carwash Exit Door Open and Closed Blowers On
- Vacuum pump house with Sealed metal doors
- Car Vacuum Stations (red asterisks)

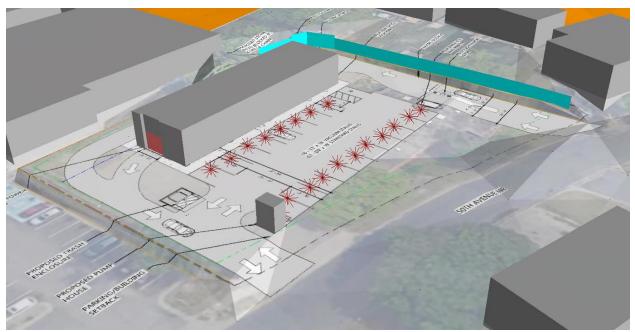


Figure 8: 3D Model View

Figure 9 presents the predicted radiated sound levels due to the Tsunami Car Wash. The darkest green shaded area represents areas where the sound levels are below the residential 60 dBA L50 noise ordinance limit.

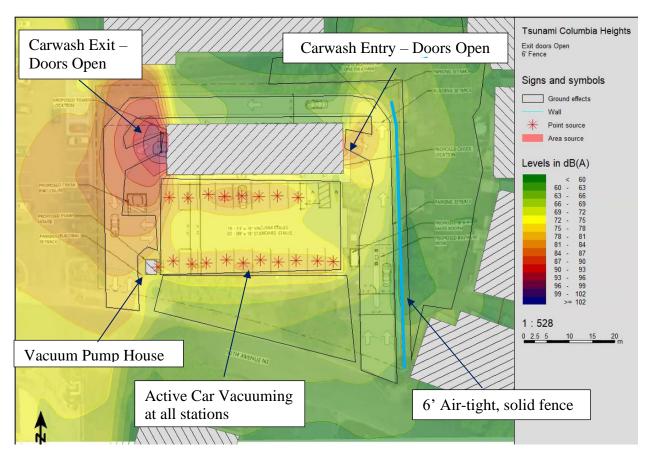


Figure 9: Sound Contour Map Predicted Sound Level Propagation - Current Design

5.0 Recommendations

To prevent the sound level from exceeding the 60 dBA noise ordinance at the residential property line, extend and increase the sound barrier fence height to an 8' sound barrier along the east border (approximately 2' above the top of the car wash entry door opening). The wall must extend around the northeast corner toward Aldi. Refer to Figure 10 and Figure 11 for barrier extent and predicted sound levels. Refer to Figure 11 for the modeled elevation height for the base of the sound barrier.

There are minimum acoustical requirements for the sound barrier wall. It must be constructed from a material with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot. An example of a suitable material would be overlapping, 1" (nominal thickness) cedar or pine planks, assembled such that the total, actual thickness of the wall is at least 1-½" along the entire length of the wall. They would need to be screwed together rather than nailed so that the natural warping of the planks over time does not cause them to pull apart and create gaps between them. Because this is a "sound barrier wall" rather than a "fence," there must not be any gaps and it must be constructed tight to the ground.

In addition to the sound barrier, the acoustic analysis for this project depends upon the following design elements:

- a. The central vacuum will be located in a masonry building with sealed steel doors. If a vacuum pump exhaust muffler was used at the Waukesha location then the vacuum pump at this location should also be fit with a muffler.
- b. The blowers must be set to turn <u>off</u> when the exit doors open. The entrance door is controlled by a separate set of photo-eye sensors placed at the tunnel entrance. Our analysis relies on the exit door being closed while the blowers are operating. We have assumed that the entry doors may be open while the blowers are operating. The sound level in the Aldi parking lot with the exit door closed will result in a sound level of approximately 71 dBA. We understand Tsunami does not want a wall that would block street view.

We must note that the sound level at the residential property to the south would exceed the 60 dBA residential limit when all vacuums are simultaneously active. We understand this situation to be a rare occurrence and typical use will not result in levels above the measured ambient (59 dBA SW corner).

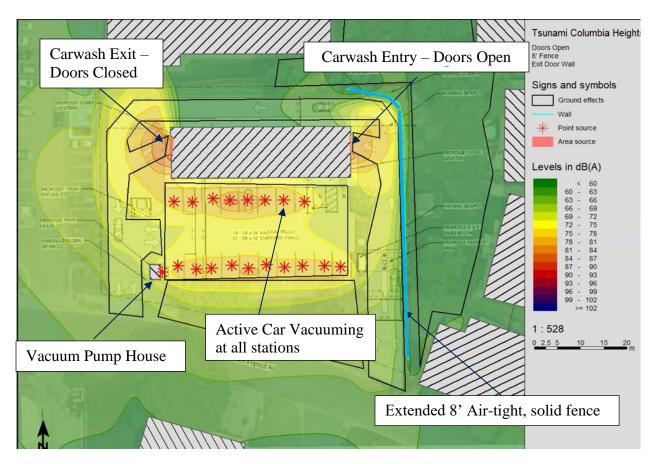


Figure 10: Sound Contour Map – Tsunami Car Wash Exit Doors Closed with 8-ft Property Line Barrier

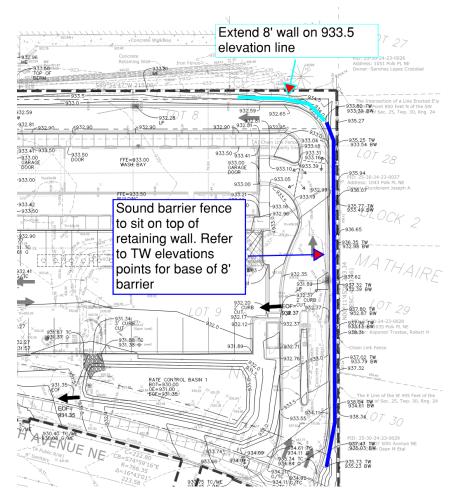


Figure 11: Sound Barrier Fence Location

6.0 Conclusion

The proposed carwash design includes several elements that are beneficial in terms of noise transmission to the residential neighborhood. The carwash is oriented so that the loudest part of the building (the exit) is pointed away from residences. Airlift doors will be installed and the exit door will be kept closed while the blowers are operating. The central vacuums will be located within a masonry building with sealed steel doors. Finally, the addition of a solid, 8' tall, air-tight fence (2' above the top of the car wash entry door) will serve as a sound barrier along the eastern border on top of the planned retaining wall, allowing the carwash-related sound levels at the residential property lines to meet the Minnesota noise ordinance's residential threshold of 60 dBA.

This concludes our assessment and recommendations. We will be happy to elaborate on anything contained within this report.

Appendix A: Acoustical Terminology

Sound level is measured in units called decibels (abbreviated dB). Decibels are logarithmic rather than linear quantities and thus a doubling of the sound level does not translate to a doubling of decibels. Also, the human ear does not interpret a doubling of sound energy as a doubling of loudness. For these reasons, the following approximate relationships should be kept in mind when reading this report.

The logarithmic nature of dB and the human subjective perception of relative sound levels result in the following approximate rules for judging increases in noise. A 3 dB sound level increase (or decrease) typically cannot be heard or is barely perceptible. A 5 dB sound level increase is perceptible and is often considered significant. A sound level which increases by 10 dB will be perceived as twice as loud. These perceived changes in the noise level are mostly independent of the absolute noise level. That is, a 35 dB noise will be perceived as twice as loud as a 25 dB noise, and a 60 dB noise will be perceived as twice as loud as a 50 dB noise.

Audible sound occurs over a wide frequency range, from low-pitched sounds at approximately 20 Hertz (Hz) to high-pitched sounds at 20,000 Hz. These frequencies are commonly grouped into octave bands or 1/3 octave bands. Building mechanical systems generally produce noise in the 63 Hz to 1000 Hz octave bands, with the lower frequency noise generated by large fans. Human speech is predominantly contained in the 250 Hz to 2000 Hz octave bands.

Humans do not hear equally well at all frequencies. We are especially poor at hearing low frequency sound and are best at hearing sound in the frequency range of human speech. A microphone does not have these same characteristics. Therefore, when sound is being measured to determine how well people will be able to hear it, a "weighting" is applied to the sound level measured using a microphone. The most common weighting is the "A-weighting" and the resulting sound level is expressed in A-weighted decibels (dBA). This weighting reduces the low frequency sound, slightly increases the sound at the dominant frequencies of human speech, and slightly lowers the sound level at high frequencies.

The ambient noise level is the existing level of noise in a space or at a specific location in the environment.

Direct Sound Level or Direct Noise Level is the result of sound that travels directly from the sound source to the listener's ears, without reflecting off of any surfaces.

Equivalent Sound Level (L_{eq}) is the average sound level in an environment where the sound level changes. However, the L_{eq} is not a simple arithmetic average of the sound level over time, but is a logarithmic average. L_{eq} is the "energy" average noise level over a period of time. L_{eq} can be measured for any time period, but is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour or 24-hours.

Sound Power and Sound Pressure Levels - Sound pressure can be directly measured by a microphone. Outdoor sound pressure levels are influenced by the distance and orientation of the receiver, obstructions and ground absorption between the source and receiver, the temperature, and wind gradients. Sound power is a physical property of the source alone and is not influenced by the external environment. It is an important parameter which is used for rating and comparing sound sources. The sound power is calculated by taking sound pressure or sound intensity measurements according to strict standards and calculation procedures. Conversely, the Sound Pressure Level at a particular location can be calculated

from the Sound Power Level for a given source and the environmental factors affecting the sound propagation path between the source and receiver.

The statistical sound levels, as they are most often called, quantify the sound level exceeded during a period of time. For example, the L_{90} sound level is the sound level exceeded during 90% of the measurement period. If the measurement period is 60 minutes long, then the L_{90} is the sound level exceeded during 54 minutes. The L_{90} is generally considered to be the "background" sound level, the baseline level that is present most of the time. Another commonly used statistical level is the L_{10} . The L_{10} is the sound level exceeded during only 10% of the measurement period. If the measurement period is 60 minutes long, then L_{10} is the sound level exceeded during only 10% of the measurement period. If the measurement period is 60 minutes long, then L_{10} is the sound level exceeded during only 6 minutes of the measurement period. L_{10} can be used to quantify the fluctuating sound levels in an environment. L_1 and L_5 are also sometimes used for this purpose.

REPORT



То:	Miranda Seals, Architect The Redmond Company
From:	Matt Pacyna, PE, Principal Transportation Collaborative & Consultants, LLC
Date:	September 26, 2024
Subject:	Tsunami Express Car Wash Traffic Review

INTRODUCTION

TC2 completed a traffic review of the proposed Tsunami Express Car Wash Development in the City of Columbia Heights. The subject site, as shown, is generally east of Central Avenue (Highway 65) and north of 50th Avenue. The main objectives of the study are to quantify existing traffic operations within the study area, evaluate potential impacts associated with the proposed development, and recommend

improvements, if necessary, to ensure safe and efficient operations for all users. A review of internal site circulation, access, and operations is included as part of this review. The following study assumptions, methodology, and findings are offered for consideration.

EXISTING CONDITIONS

Existing conditions were reviewed within the study area to quantify current operations to help determine impacts associated with the proposed development. The evaluation of existing conditions included collecting traffic volumes, observing transportation characteristics, and analyzing intersection capacity, which are described in the following sections.

Traffic Volumes

Vehicular intersection turning movement and pedestrian / bicyclist counts were collected along 50th Avenue at Tyler Street and Polk Place on Tuesday, September 17, 2024. Historical traffic data at the Central Avenue (Highway 65) and 50th Avenue intersection was provided by MnDOT.



The counts included a combination of a.m. / p.m. peak period (i.e., 7 to 9 a.m. and 4 to 6 p.m.) and 13-hour (i.e., 6 a.m. to 7 p.m.) data. The a.m. and p.m. peak hours within the study area generally represent 7:30 to 8:30 a.m. and 4:45 to 5:45 p.m.; there is an additional afternoon p.m. peak period that occurs shortly after the nearby Columbia Heights High School lets out for the day around 3 p.m. Average daily traffic (ADT) volumes were provided by MnDOT or estimated based on the data collected.

Transportation Characteristics

Observations were conducted within the study area to identify various transportation characteristics such as roadway geometry, traffic controls, speed limits, and multimodal facilities. Within the study area, Central Avenue is a 4-lane divided minor arterial roadway with left- and right-lanes; there is a sidewalk along both sides of the roadway and the posted speed limit is 40-mph.

50th Avenue, Tyler Street, and Polk Place are local 2-lane roadways. These roadways do not have multimodal facilities within the study area, except for the north side of 50th Avenue between Central Avenue (Highway 65) and the subject site. The Central Avenue (Highway 65) / 50th Avenue intersection is signalized, while the other study intersections were assumed to operate similar to side-street stop control since the Tyler Street approach is uncontrolled and the Polk Place approach has yield control. Existing geometrics, traffic controls, and volumes within the study area are shown in Figure 2.

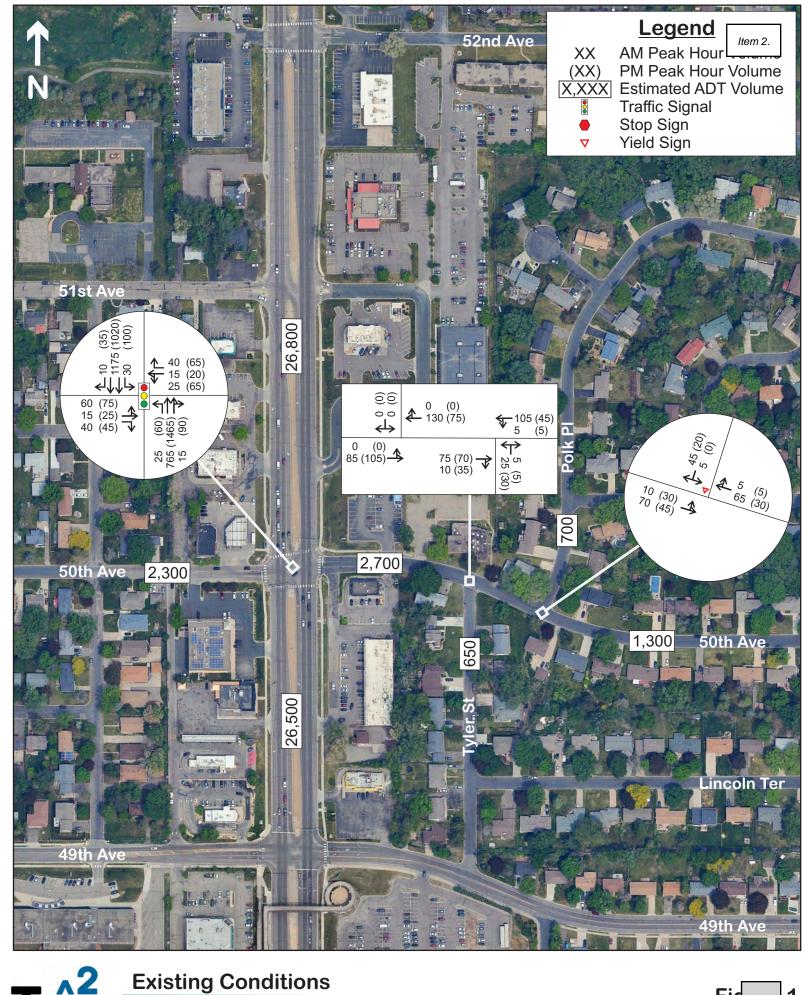
Intersection Capacity

Intersection capacity was evaluated using Synchro / SimTraffic Software (version 11), which uses methods outlined in the *Highway Capacity Manual, 6th Edition*. The software is used to develop calibrated models that simulate observed traffic operations, account for peaking characteristics, and identify key metrics such as intersection Level of Service (LOS) and queues. These models incorporate collected traffic, pedestrian, and bicyclist volumes, traffic controls, heavy commercial vehicle activity (i.e., buses and trucks), and driver behavior factors. Existing signal timing was obtained from MnDOT.

Level of Service (LOS) quantifies how an intersection is operating. Intersections are graded from LOS A to LOS F, which corresponds to the average delay per vehicle values shown. An overall intersection LOS A though LOS D is generally considered acceptable in the study area. LOS A indicates the best traffic operation, while LOS F indicates an intersection where demand exceeds capacity.

Level of Average D		ay / Vehicles
Service	Stop, Yield, and Roundabout	Signalized Intersections
А	< 10 seconds	< 10 seconds
В	10 to 15 seconds	10 to 20 seconds
С	15 to 25 seconds	20 to 35 seconds
D	25 to 35 seconds	35 to 55 seconds
E	35 to 50 seconds	55 to 80 seconds
F	> 50 seconds	> 80 seconds

For side-street stop-controlled intersections, special emphasis is given to providing an estimate for the level of service of the side-street approach. Traffic operations at an unsignalized intersection with sidestreet stop control can be described in two ways. First, consideration is given to the overall intersection level of service, which takes into account the total number of vehicles entering the intersection and the capability of the intersection to support the volumes. Second, it is important to consider the delay on the minor approach. Since the mainline does not have to stop, most delay is attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high-levels of delay (i.e., poor levels of service) on the side-street approaches, but an acceptable overall intersection level of service during peak hour conditions.



Existing Conditions

C

Tsunami Express Car Wash Traffic Review



The existing intersection capacity analysis results, summarized in Table 1, indicate that all study intersections operate at an acceptable overall LOS C or better and all approaches operate near the LOS D / LOS E threshold or better during the typical weekday a.m. and p.m. peak hours. Existing 95th percentile queues are generally maintained within the current turn lanes, however, westbound queues along 50th Avenue from Central Avenue (Highway 65) occasionally extend to the existing Aldi / Jimmy John's driveway during the p.m. peak hour. Peak queues at the 50th Avenue intersections with Tyler Street and Polk Place are approximately one (1) vehicle. Thus, there are no significant existing operational issues from an intersection capacity perspective.

Study Intersection	Traffic	Level of Service (Delay)		
Study Intersection	Control	AM Peak Hour	PM Peak Hour	
50 th Avenue and Central Avenue (Hwy 65)	Signal	B (14)	C (28)	
50 th Avenue and Tyler Street	Yield / SSS	A / B (10)	A / B (10)	
50 th Avenue and Polk Place	Yield / SSS	A / A (9)	A / A (9)	

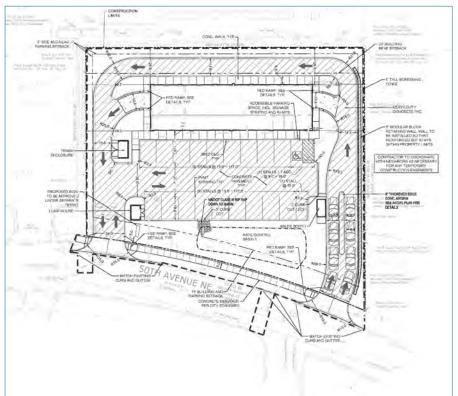
SSS - Side-Street-Stop

PROPOSED DEVELOPMENT

The proposed development is generally east of Central Avenue (Highway 65) and north of 50th Avenue. As proposed, the Tsunami Express Car Wash is a single-tunnel automated drive-thru car wash that is approximately 4,500 square feet. The development would replace the existing 12,500 square foot professional office building that is currently vacant. About 20-parking spaces are proposed, as well as

the extension of the existing sidewalk along the north side of 50th Avenue to the eastern site driveway. For study purposes, the proposed development was assumed to be fully operational by the year 2027.

Access to the site is planned at two locations; the existing office driveway would remain in its general location and provide two-way operations, while a new two-lane entrance-only access is proposed along 50th Avenue across from Tyler Street. The two-lane entrance provides accommodations for eight (8) vehicles to queue at the sales booth before proceeding to the car wash tunnel.



TRAFFIC FORECASTS

Traffic forecasts were developed for year 2027 build conditions. The traffic forecasts account for general background growth and trip generation from the proposed development. A year 2027 no build condition was not reviewed given the limited area growth between existing and year 2027 conditions. The following information summarizes the traffic forecast development process.

Background Growth

To account for general background growth in the study area, an annual growth rate of one (1) percent was applied to the existing traffic volumes to develop year 2027 background traffic forecasts. This growth rate is higher than historical ADT volumes in the study area over the past 20-years and represents a conservative approach. This rate accounts for growth outside the study area and is not related to the proposed development.

Proposed Development Trip Generation

A trip generation estimate for the proposed development was created using a combination of the *ITE Trip Generation Manual, 11th Edition,* historical data from the project team, and site observations at other similar car washes. The trip generation estimate includes trips for weekday a.m. and p.m. peak hours, as well as a daily basis. A trip generation estimate for the former professional office land use was also developed for comparison purposes. As shown in Table 2, the proposed car wash is estimated to generate approximately 30 a.m. peak hour, 60 p.m. peak hour, and 300 daily trips during its busiest days. When compared to the former office use, the site would generate a similar amount of a.m. peak hour trips, but more p.m. peak hour and daily trips. Note that the trip generation estimate for the proposed car wash represents an active day as opposed to a rainy day, for example.

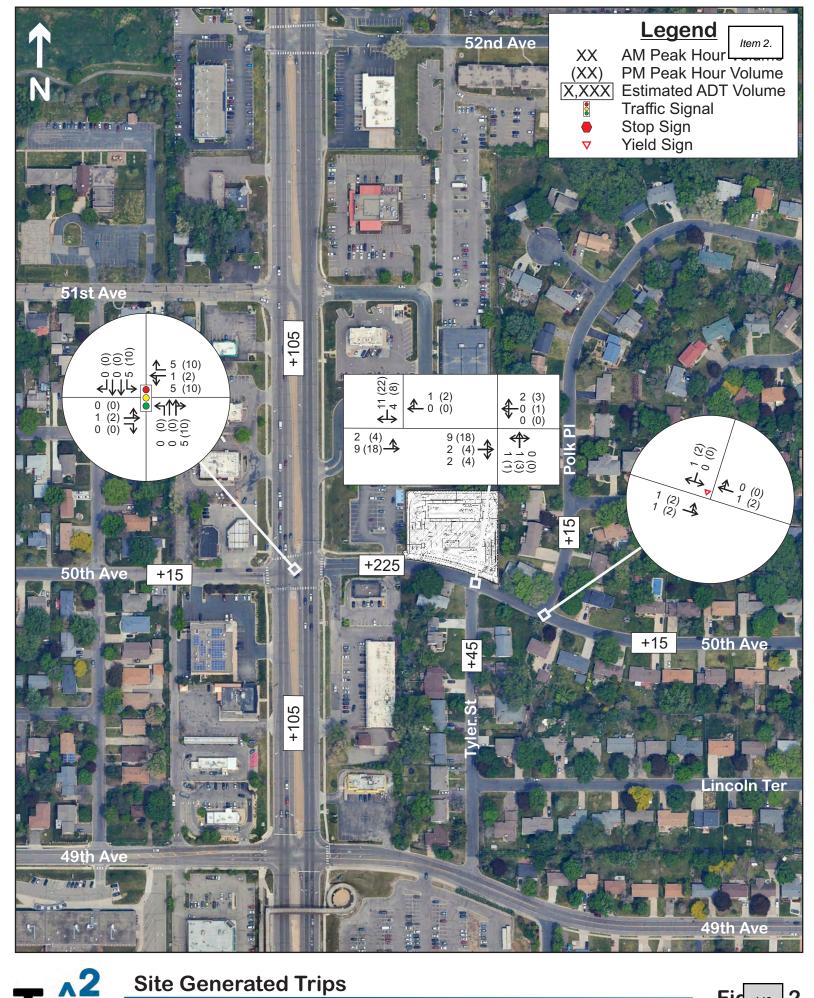
Land Line Turne (ITE Codee)	Size	AM Peak Hour		PM Peak Hour		Deibr
Land Use Type (ITE Codes)	In		Out	In	Out	Daily
Proposed Development						
Automated Car Wash (947-949)	1-Tunnel / 4,500 SF	15	15	30	30	300
Former Land Use						
Office (710)	12,500 SF	25	3	3	25	190
Overall Site Change (+ / -)		-10	+12	+27	+5	+110

Table 2 Trip Generation Summary

Trips from the proposed development were routed to the adjacent roadway network using the following distribution, which is based on existing area travel patterns and engineering judgement.

- Central Avenue (Highway 65) North and South: 35% each
- Tyler Street: 15%
- 50th Avenue West, 50th Avenue East, and Polk Place: 5% each

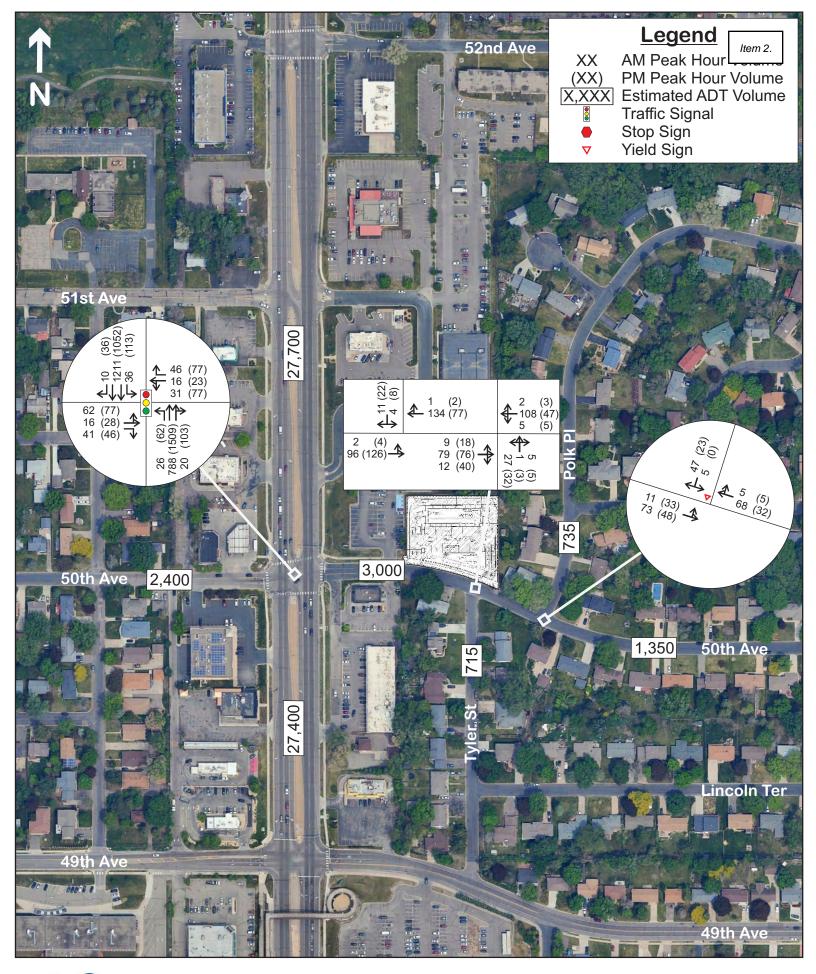
A summary of the site generated trips is shown in Figure 2. The resultant year 2027 build conditions, which accounts for the general background growth and the proposed development is illustrated in Figure 3.



Site Generated Trips Tsunami Express Car Wash Traffic Review

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2 Year 2027 Build Conditions Tsunami Express Car Wash Traffic Review

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YEAR 2027 CONDITIONS

To understand impacts associated with the proposed development, a future intersection capacity analysis was completed for year 2027 build conditions. Table 3 provides a summary of the year 2027 intersection capacity analysis, as well as a comparison to existing conditions. Results of the future analysis indicate that all study intersections will continue to operate at an acceptable overall LOS C or better and all approaches will continue to operate near the LOS D / LOS E threshold or better during the typical weekday a.m. and p.m. peak hours. Minimal changes in queuing are expected and no impacts to the proposed development driveways are expected. The daily traffic volume changes along Polk Place, 50th Avenue, and Tyler Street are minimal and within a typical daily variation of most roadways. Thus, there are no significant impacts expected because of the proposed development from an intersection capacity perspective.

	Traffic Control	Level of Service (Delay)			
Study Intersection		AM Peak Hour		PM Peak Hour	
		Existing	Build	Existing	Build
50 th Avenue and Central Avenue (Hwy 65)	Signal	B (14)	B (15)	C (28)	C (30)
50 th Avenue and West Site Access	SSS		A / B (10)		A / A (9)
50 th Avenue and Tyler Street / East Site Access	SSS	A / B (10)	A / B (11)	A / B (10)	A / B (11)
50 th Avenue and Polk Place	SSS	A / A (9)	A / A (9)	A / A (9)	A / A (9)

Table 3 Year 2027 Intersection Capacity Summary

SSS - Side-Street-Stop

SITE PLAN REVIEW / CONSIDERATIONS

The proposed driveway for the car wash tunnel provides for eight (8) vehicles to queue within two-lanes before any impacts to 50th Avenue would occur. This driveway includes a member lane for quicker access. Typical service times once a vehicle enters the car wash is approximately two (2) minutes. Therefore, based on the level of trip generation and expected service rates of the sales booth and car wash tunnel, the provided vehicle stacking distance is adequate and no impacts to 50th Avenue are expected.

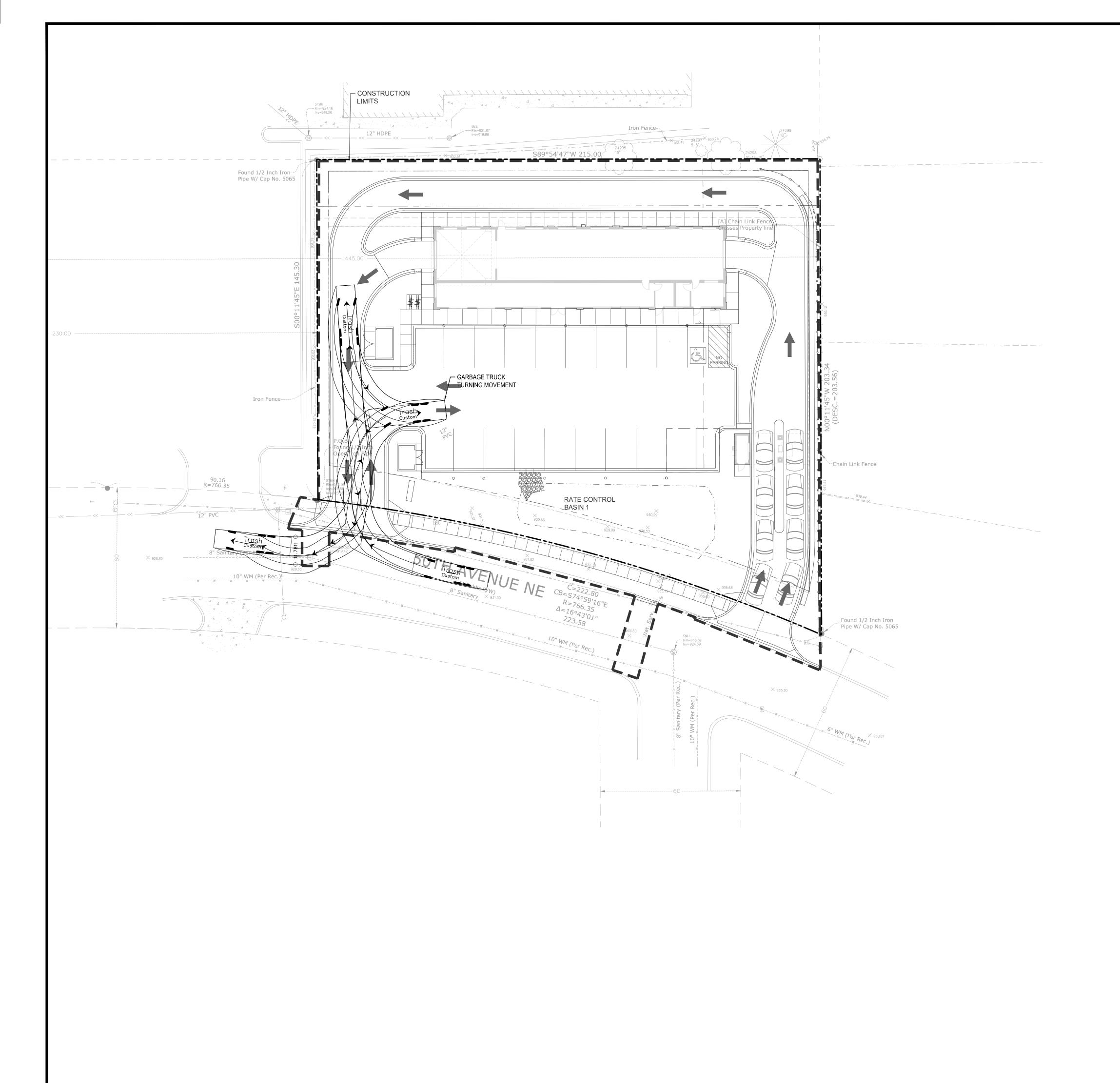
A review of the proposed site plan does not indicate any major issues. However, the following items are offered for further consideration and / or discussion between the City and / or project team.

- Locate signage and landscaping to avoid creating any sight distance issues.
- Review truck maneuverability to limit potential internal circulation conflicts.
- Add a stop or yield sign along Tyler Street at 50th Avenue to better define the right-of-way for motorists and reduce potential conflicts.
- Shift the east driveway to the west to better align with Tyler Street, if possible.

CONCLUSIONS

Based on the findings of the study, the following conclusions are offered for consideration.

- 1) All study intersections currently operate at an acceptable overall LOS C or better and all approaches operate near the LOS D / LOS E threshold or better during typical weekday a.m. / p.m. peak hours.
- 2) The development is a single-tunnel automated drive-thru car wash that is approximately 4,500 square feet and would replace an existing 12,500 square foot professional office building.
 - a. The proposed car wash is estimated to generate approximately 30 a.m. peak hour, 60 p.m. peak hour, and 300 daily trips during its busiest days.
- 3) Traffic forecasts were developed for year 2027 build conditions, which included a one (1) percent annual background growth and trip generation from the proposed development.
- 4) Results of the year 2027 build analysis indicates that all study intersections will continue to operate at an acceptable overall LOS C or better and all approaches will continue to operate near the LOS D / LOS E threshold or better during the typical weekday a.m. and p.m. peak hours.
 - a. Minimal changes in queuing and no impacts to the proposed development driveways are expected; the daily traffic volume changes along Polk Place, 50th Avenue, and Tyler Street are minimal and within a typical daily variation of most roadways.
 - b. No significant impacts expected because of the proposed development from an intersection capacity perspective.
- 5) Based on the level of trip generation and expected service rates of the sales booth and car wash tunnel, the provided vehicle stacking distance is adequate and no impacts to 50th Avenue are expected.
- 6) The following items are offered for further consideration and / or discussion between the City and / or project team.
 - a. Locate signage and landscaping to avoid creating any sight distance issues.
 - b. Review truck maneuverability to limit potential internal circulation conflicts.
 - c. Add a stop or yield sign along Tyler Street at 50th Avenue to better define the right-of-way for motorists and reduce potential conflicts.
 - d. Shift the east driveway to the west to better align with Tyler Street, if possible.



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CITY OF COLUMBIA HEIGHTS PLANNING COMMISSION

NOTICE OF PUBLIC HEARING

Notice is hereby given that the Planning Commission of the City of Columbia Heights will conduct a public hearing in the City Council Chambers of City Hall at 3989 Central Avenue NE on Tuesday, October 1, 2024, at 6:00 p.m. The order of business is as follows:

A request for a Site Plan Review (under one acre) was made proposing demolition of the existing office building in preparation for a new construction car wash and a Conditional Use Permit for an over-height sound barrier at 999 50th Avenue NE. Section 9.104 (N) of the Zoning Ordinance requires the Planning Commission to hold a public hearing on the Site Plan Review and make findings before approving or denying the application. The Planning Commission will provide a recommendation on the Conditional Use Permit for the over-height sound barrier to the City Council for consideration at the October 14, 2024 Council meeting.

Notice is hereby given that all persons having an interest will be given an opportunity to be heard. For questions and a full description of the proposals, please contact Andrew Boucher, City Planner, at (763) 706-3673.



City of Columbia Heights | Community Development Department 3989 Central Avenue NE, Columbia Heights, MN 55421 • Ph: 763-706-3670 • Fax: 763-706-3671 • www.columbiaheightsmn.gov

NOTICE OF PUBLIC HEARING – OCTOBER 1, 2024

2015-3 IH2 BORROWER LP 1717 MAIN ST STE 2000 DALLAS, TX 75201

Date of Hearing: October 1, 2024

- Subject: Public Hearing Notice Site Plan Review proposing demolition of an existing vacant building in preparation for a new construction car wash; Conditional Use Permit for an over-height sound barrier.
- Subject Property: 999 50th Avenue NE Columbia Heights, MN 55421

Dear Resident/Affected Property Owner:

The City of Columbia Heights has received an application for a Site Plan Review proposing demolition of the existing office building at 999 50th Avenue NE in preparation for a new construction car wash and a Conditional Use Permit for an over-height sound barrier. Section 9.104 of the Zoning Ordinance requires the Planning Commission to hold a public hearing to approve the Site Plan Review for the car wash and provide a recommendation to the City Council on the Conditional Use Permit for the over-height sound barrier.

You are receiving this notice because the property that you own (Affected Property), and/or reside in, is located within 350 feet of the Subject Property. The Planning Commission of the City of Columbia Heights will hold a Public Hearing on this matter on <u>Tuesday</u>, <u>October 1</u>, <u>2024 at 6:00 p.m.</u> in the City Council Chambers of Columbia Heights City Hall, located at 3989 Central Avenue NE. A map of the Subject Property is attached. A full copy of the application is on file at City Hall and is available for review upon request.

You are welcomed and encouraged to participate in the Public Hearing for this matter by attending the October 1, 2024 Planning Commission meeting. If you cannot attend the meeting, but would like to provide input, you can submit correspondence via email to aboucher@columbiaheightsmn.gov or by mail at:

City of Columbia Heights Attn: Community Development 3989 Central Avenue NE Columbia Heights, MN 55421

You can participate in the meeting live and online by using Microsoft Teams at the login link below or call-in:

Join Microsoft Teams Meeting Online

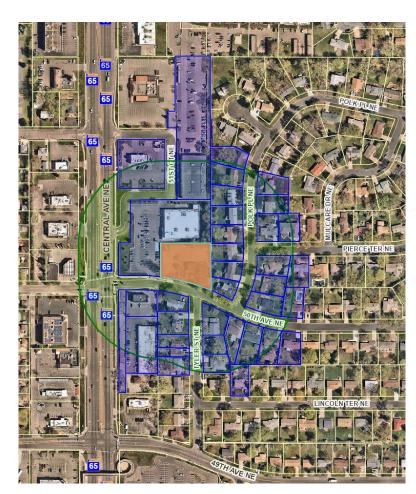
Meeting ID: 252 58 988 371 Passcode: ugquG3

Dial-in for Microsoft Teams Meeting +1-312-626-6799 If you have any questions about this proposal, please do not hesitate to contact the City of Columbia Heights Community Development Division at (763) 706-3673.

Sincerely,

Andrew Boucher Community Development Planner, City of Columbia Heights

**** Landowners (Commercial and Residential):** If you do not reside on the Affected Property, located 350 feet from the Subject Property, it is your responsibility to share this notice with your tenants. This notice should be posted in a public place on your property or mailed directly to the tenants residing or leasing space on the Affected Property.



-SUBJECT PROPERTY LOCATION-

(Highlighted in orange)

Name

2015-3 IH2 BORROWER LP A AND A PROPERTIES LLP ALDI INC (MINNESOTA) **ALEXON DANA A & SHARI** ALI, FADUMO MOHAMOUD ALVARADO, JAIME R BERG PAULA ELIZABETH CANTOS MARCO A ROJAS COLOMBO TRUSTEE MARK R CORNELIUS, CHRISTOPHER S DAHL STREET PROPERTIES LP HOLKESTAD PAIGE LORELLE JAY'S PROPERTIES LLC **KEHRWALD TRUSTEE THOMAS L** KNUDTSON MARLENE S KOPONEN TRUSTEE, ROBERT H LEMA, MARIA ELVIA LHAMO, SANGYAL OLSON DEAN M ETAL P&L REAL ESTATE 3 LLC PATEL, ANITA M PETERSON R M & PODANY S R PRECISION PROPERTIES LLC **RIFAI, SAMIHA ROGERS LINDA R** SANCHEZ LOPEZ CRISTOBAL SANCHEZ QUEVEDO LORENA SIGCHA AYORA SANDRO NESTORIO STOVER, MARY LOUISE STURDEVANT JOSEPH A THIRD STREET INDUSTRIES LLC **TOBASI PROPERTIES LLC** VANGSGARD, JOEL M VUE MIHOKO KUATUKNUE WHITE CASTLE SYSTEM INC WHITNEY, TYLER J

Address 1717 MAIN ST STE 2000 527 PARK PL PO BOX 460049 DEPT 501 **1035 LINCOLN TER NE** 4920 TYLER ST NE 1100 50TH AVE NE **1100 PIERCE TER NE** 700 N MORGAN AVE 1105 50TH AVE NE 7890 QUEENSLAND LN N 526 HAWTHORNE WOOD DR 1060 POLK PL 16600 86TH AVE N 1060 50TH AVE NE 1070 POLK PL NE 1035 POLK PL NE 4924 TYLER ST NE 1020 50TH AVE NE 1775 15TH AVE NW 3312 HIGHLAND DR 1101 PIERCE TER NE **1120 PIERCE TER NE** 3800 N WASHINGTON AVE 608 37TH AVE NE 1057 POLK PL NE 1051 POLK PL NE 4918 TYLER ST NE 1085 50TH AVE NE 1040 50TH AVE NE 6182 HEATHER CIR NE 3429 EDWARD ST NE **10869 BENTWATER LN** 1061 POLK PL NE **1085 PIERCE TER NE** PO BOX 1498 4922 Tyler Street NE

City DALLAS, TX 75201

VADNAIS HEIGHTS, MN 55127 HOUSTON, TX 77056 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 MINNEAPOLIS, MN 55411 COLUMBIA HEIGHTS, MN 55421 MAPLE GROVE, MN 55311 EAGAN, MN 55123 COLUMBIA HEIGHTS, MN 55421 MAPLE GROVE, MN 55311 MINNEAPOLIS, MN 55421 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HGTS, MN 55421 NEW BRIGHTON, MN 55112 BURNSVILLE, MN 55337 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 MINNEAPOLIS, MN 55412 MINNEAPOLIS, MN 55421 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HGTS, MN 55421 FRIDLEY, MN 55432 ST ANTHONY, MN 55418 WOODBURY, MN 55129 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBUS, OH 43216 COLUMBIA HEIGHTS, MN 55421 We are Bob and Sue Koponen – we live at 1035 Polk Place; our property is directly behind the proposed car wash.

We visited the Roseville Tsunami car wash and gathered this information:

We talked to a neighbour that lived in the nearby condo, which is approximately 650 feet from the car wash. She shared that the noise from the car wash dryer & vacuums can be heard inside her residence **with the windows and doors shut**. We live directly behind the proposed car and are very concerned about the noise of this business. Will we be able to sit on our deck or use the backyard without hearing the 13 hours a day of noise from the dryer & vacuums? **We are very concerned about the sound pollution!**

The Roseville facility washes approximately 300 cars a day or about 23 cars per hour. We were told that the dryer shuts off after 6 minutes of non-use. That being stated, we are concerned that the noise from the dryer & vacuums be a constant source of sound pollution. **We are very concerned about the sound pollution!**

Regarding the over-height sound barrier, what will prevent the noise from just going up and above the sound barrier wall? Our property sits higher than current grade on the existing proposed property. **We are very concerned about the sound pollution!**

Traffic:

The intersection at 50th Ave. & Central is busy and congested with most of the businesses entrances and exits happening at that location. How can it possibly handle another 150-300 cars a day safely? Fiftieth avenue is a main entrance into many of the surrounding neighborhoods! It is very busy with traffic from home residences, school buses, service businesses for the home residences and bicycles. There aren't any sidewalks for citizens that walk this street which include many children walking to and from school. **We are very concerned about the traffic!**

Light:

We have a problem with the existing lighting on the current building. The lights on the back of the that building adjoins to our property and are so bright that it illuminates our backyard/deck also, as far away as the house across the street. We are very concerned about the lighting!

As long time Columbia Heights residents, we ask the you please take our concerns into consideration and address the noise, traffic and light concerns, prior to approving this business.

Thank you and please reach out with questions. Bob Koponen @ 612-709-2700.

From:	Carrie Gille <carriegille@icloud.com></carriegille@icloud.com>
Sent:	Thursday, August 22, 2024 3:51 PM
То:	Andrew Boucher
Subject:	Car wash next to ALDIs
Subject:	

Hi Andrew,

There's a post on the Heights neighborhood Facebook site about a potential car wash going in between ALDIs and Jimmy John's on 50th and central. Your name was mentioned for feedback.

In short, so far there are over 40 comments on the post and none are positive. Concerns about noise, pollution, traffic, safety for school children using that road, light pollution, noise pollution. Also, lots of "do we really need another car wash?!". I mean—there are SO many car focused businesses on central and we already have traffic issues on that road. This is not a Facebook group prone to hysterics—it's a group that generally has thoughtful and community focused concerns. Also, with hopefully safely improvements coming to Central, adding yet another car-centric business seems premature.

Carrie Gille Heights resident

From: Sent: To: Cc: Subject: dana.alexon@q.com Saturday, September 21, 2024 12:17 PM Andrew Boucher Sulmaan Khan RE: Comments re Proposed 999 50th Car Wash

Thank you for sharing the full plans submitted by Tsunami!

I have reviewed the plans submitted by the Tsunami car wash and have the following comments:

1. The project is 'shoehorned' onto the property, with very little free space. While property lines in Columbia Heights are often smaller, this means that the facilities that can be built must be smaller to fit the available space. I believe a business that fills the available space fully from the beginning leaves no room for expansion in the future. Assuming this business becomes highly successful, what options would exist for expansion on this site?

2. There does not appear to be any space for employee parking, yet the proposal states that employees would be staffing the site during all open hours. In my visits to the 'Mister' facility on Central Avenue, it is common to see at least 4 employees on site there and they often park on Tyler Place near the rear of their facility since there is no on-site employee parking available. I believe a new facility should be self-sufficient and that employees should not need to park off-site. Parking on the street in the area would exacerbate the anticipated traffic issues. At the proposed Tsunami facility, where will these employees park?

3. The design drawing for the property shows space for 8 vehicles in line within the property. As a customer at Mister, I have frequently seen twice this many cars in 2 lanes waiting for washes on nice days, especially in the winter, with cars waiting to enter the facility backing up on northbound Central Avenue. Where would the overflow vehicles wait for their turn to enter the facility and what provisions for managing traffic on 50th Avenue would the Tsunami staff have during these overflow events?

4. Once a car has entered the east entrance and another pulls in behind it, there is no provision for escape in the event the driver decides not to get a wash, except for waiting until they are first in line then driving all the way around the facility. There should be a more convenient 'out' for drivers that change their minds, but the property doesn't allow the space for it.

5. Proximity of the east entrance to the intersection of 50th Avenue and Tyler Street seems problematic. Cars waiting to turn into the entrance potentially from 3 directions could easily cause a traffic jam on streets that are not designed for such events. The path around such traffic jams does not exist.

6. Plans do not show the driveway exit from 1002 50th Avenue. This is a duplex home, and it is common for the residents of this property to park 2 cars in tandem on this driveway. When this happens, the rear car extends to within about a foot of the curb cut causing a dangerous lack of visibility for drivers on northbound Tyler Street wishing to turn either direction onto 50th Avenue; these drivers often cannot see

beyond the parked vehicle in this driveway. I have had more than one close call at this intersection a result of this situation, despite using extreme caution. The added traffic for the car wash would likely make this situation even more dangerous.

7. The 2-way traffic at the west entrance to the facility seems like it will cause additional traffic problems. I understand the desire to allow use of the vacuums without having to be a wash customer, but the current design of the property does not seem conducive to that without causing traffic issues. The number of stalls for vacuums does seem adequate, and I like the 13-foot width which allows for movement around the vehicle on both sides.

8. I would be concerned with how much noise escapes this property during operational hours. Typically the noise from the vacuums is most significant and this noise will be directed to the south, into the residential neighborhood across 50th Avenue and along the north end of the 4900 block of Tyler Street. It does appear there is a wall proposed on the east side of the Tsunami property, but that will not mitigate the sound coming to the south. I certainly would not want that sound all day every day if I lived closer to this proposed facility.

9. The color scheme and overall branding of the facility seems reasonable and having a working and active business in place of an empty office building would be a positive development.

Unrelated to this proposed facility, I recently noticed a competitor building a new full-service car wash facility near the corner of 85th Avenue and Springbrook Drive in Coon Rapids. I can't compare the site size, but two key differences stood out immediately to me as I drove past the Coon Rapids facility: the surrounding roads are designed for commercial traffic volume and the surrounding properties are all commercial. I think these are key components to success of such a new development.

I remain skeptical that the proposed facility will be a positive addition to the surrounding residential neighborhood and am therefore not in favor of continuing with this development.

On Thu, 22 Aug, 2024 at 8:52 AM, Andrew Boucher <ABoucher@columbiaheightsmn.gov> wrote:

To: dana.alexon@q.com

Cc: SKhan@columbiaheightsmn.gov

Dana,

Thank you for reaching out and providing initial comments. I've attached their full application containing:

- Applicant narrative (pgs. 4-5),
- Existing conditions (pg. 7)
- Demolition and tree preservation plan (pgs. 8-10)
- Proposed site plan on (pg. 11)
- Civil plan set showing grading, stormwater design and SWPPP plans, civil details, and landscaping plan (pgs. 11-22)
- Elevations and signage (pgs. 23-39)
- Photometric plan (pg. 40)
- The remaining pages (pgs. 41-94) are stormwater calculations.

Item 2.

I appreciate the comments you've made in regards to the existing traffic and safety issues surrounding your neighborhood with the existing commercial activity. Staff shares these concerns as well and have been working to address some of these components with the applicant and MNDOT about the traffic and safety issues at that location if I can share some of those actions with you.

1/2. The proposed project does not meet the scale of intensity to trigger a traffic impact study, which is going to be required for both of the redevelopment sites at 44th and Central as well as the former Medtronic site as these are containing multiple commercial properties and high density residential. However, I've discussed the issue of vehicle stacking and queueing with our Public Works/Engineering Department because there is concern with the applicant anticipating between 200-400 customers per day (approximately 30 per hour) that their proposed site plan can accommodate the amount of traffic without the stacking spilling into the street and impeding levels of service, especially with the concerns you're raising with the hills and sight lines. As a condition of approval and part of the development review, the City is requiring the applicant to provide a queue length analysis to project how many vehicles are expected to queue at the entrance during peak times and whether this could cause backups into the street. This analysis will be helpful in determining when they anticipate those peak demands so the City can better understand if the peak demands are occurring the same time as other businesses in the immediate area.

3/4. Staff has had conversations internally about the traffic lights in that area in particular and the practical difficulties in trying to make legal left turns from the location you described. This seems like it consistently comes up as a problem location and the City is working with MNDOT to address the traffic light signal at 50th Avenue and Central because it does seem to be one of the direct causes of those traffic backups/chokepoints.

As far as traffic goes, I think from staff's perspective, the most immediate traffic concerns are going to be from the vehicle stacking at the entrance primarily with the exit being largely controlled and limited to the one vehicle leaving the car wash bay as well as any individuals using the vacuums independent of the car wash. Once we receive the queue length analysis, that will quantify the extent of the impact this proposal would have on the existing streets. I am also waiting for the Fire Department to provide their review comments to determine whether they have any concerns regarding emergency vehicle access to the site.

In the context of the larger transportation, traffic, and safety issues in the City, I would strongly recommend that you make these comments on <u>Columbia Heights Transportation Safety Action Plan (arcgis.com</u>). These are all valid and significant concerns that fit a general trend that I have been hearing about this area as residents have been commenting on this project, so I think you should definitely look at the study and timeline as well as leave your comments on those specific intersections/streets, especially considering the future redevelopment of Central Avenue.

Please let me know if you have any other questions or would like to discuss the project further after you've reviewed the site plan.

Thanks, Andrew



Andrew Boucher, AICP | City Planner (he/him)

<u>City of Columbia Heights</u> | Community Development Department 3989 Central Avenue NE | Columbia Heights, MN 55421 <u>aboucher@columbiaheightsmn.gov</u> Direct: 763-706-3673 | Main: 763-706-3670

From: dana.alexon@q.com <dana.alexon@q.com>

Sent: Wednesday, August 21, 2024 4:15 PM

To: Andrew Boucher <<u>ABoucher@columbiaheightsmn.gov</u>>

Subject: Comments re Proposed 999 50th Car Wash

I am not in overall opposition to the concept of a high-quality, full-service car wash in Columbia Heights however I would like to make the following comments regarding traffic and access in our neighborhood. Unfortunately, I have a work commitment at the same time as the public hearing, so I am submitting my thoughts ahead of time without being able to view the site plan or hear the proposal. 1. Hills in the area make sight lines shorter than would otherwise be expected. Traffic on Tyler Street between 49th and 50th Avenue is frequent and often at speeds higher than prudent. The multi-family homes on this street mean many parked cars on the street, making it often a single travel lane. The hill that peaks at the intersection of Lincoln Terrace definitely affects the distance that drivers on Tyler Street can see. Conditions on this street are often near the capacity of what it can handle safely. There are several children living in this block of Tyler Street and often they play in or near the street, whether they should or not.

2. Traffic on 50th Avenue is very heavy east of Central Avenue, primarily because of the success being enjoyed by Aldi. Most eastbound traffic comes off Central Avenue and turns left into the Aldi lot, but certain times of the day there is a fair amount of traffic that continues east on 50th, either straight up the hill or turning right onto Tyler Street. Westbound traffic converges into the intersection of 50th and Central which is not fit to handle as much traffic as it does. The convergence of westbound traffic from Aldi, the Jimmy John's east exit, and the service road west of Jimmy John's often backs up into each of those lots, with a few residential cars coming down 50th or north on Tyler turning to 50th adding on.
3. The traffic lights at Central Avenue are heavily timed to keep Central Avenue moving, and the traffic light allowing 50th Avenue traffic often does not clear the intersection, meaning that drivers become impatient and take chances.

4. The traffic lane arrangement on 50th Avenue east of Central is not well marked. There is a sign to westbound traffic indicating the right lane is a turn lane but often motorists wait in that lane to cross Central Avenue, meaning that drivers wanting to make the legal right turn on red must wait the full traffic light cycle This backs up westbound traffic further than it otherwise would need to. The peak of this backup tends to be late afternoon and early evening when Aldi, Jimmy John's and several businesses in the strip mall south of 50th are all at their peaks. The worst tends to be on school days when traffic coming from the high school comes down 50th Avenue or uses Tyler Street to avoid backups on 49th Avenue.

The success of all the current local businesses is wonderful, and I hope it continues! However adding another high traffic business that, by its very nature, is car-centric clearly means a major reconfiguration of traffic in this area is of critical importance if this project is approved. For example, I am a customer of Mister Car Wash in the 4400 block of Central and that business is an example of how a busy day can cause a major traffic problem in a business of this type.

I am very concerned that providing proper access to a business such as that proposed in an area that is already backed up during several hours of the day is not possible.

If possible, can you share an electronic version of the proposed site plan as a .pdf file? Respectfully,

Dana Alexon 1035 Lincoln Terrace 763-807-6565

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Item 2.

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Respectfully,

Dana Alexon 1035 Lincoln Terrace 763-807-6565

From:	Garedew A Ergette <garedew.ergette@cummins.com></garedew.ergette@cummins.com>
Sent:	Thursday, August 22, 2024 3:22 PM
То:	Andrew Boucher
Cc:	Garedew Ergette; Leeha Allison
Subject:	Against proposed car wash on 50th/central

Hello Andrew,

I hope all Is well and I do not believe we have met. My name is Garedew, and I reside in Columbia Heights. I am writing to express my concerns about the proposed car wash at the intersection of *Central* and *50th Street*. This area is already quite busy, primarily due to the presence of ALDI and other small businesses in the vicinity.

As someone who works from home, I regularly observe the traffic flow on Fillmore and 50th Street, and I believe there are several important factors to consider:

- Heavy Traffic: The intersection is already congested, with multiple businesses in the area, including ALDI, Heights Bakery, and Jimmy John's.
- Safety Concerns: Children from nearby schools, whether walking, biking, or being driven, could be at risk of accidents. The lack of sidewalks only exacerbates this danger, potentially making students late to class or, worse, causing injuries.
- **Seasonal Congestion:** During peak seasons, the traffic congestion could worsen significantly, similar to what is observed at the car wash on Central and 44th.
- **Competition:** The proposed car wash may struggle to succeed due to existing competition from other car washes nearby.
- **Traffic Backup:** The flow of traffic on Central Avenue may be further obstructed by vehicles turning into the ALDI, the car wash, and other businesses.
- **Impact on Property Values:** The increased traffic and noise could lead to a decrease in property values, potentially forcing neighbors to relocate.
- Environmental Concerns: The proposed car wash could raise noise and emission levels in our neighborhood, impacting our quality of life.

I can provide additional reasons why I am opposed to this development, but I wanted to start by sharing these concerns with you. I look forward to hearing your thoughts and will be attending the upcoming hearing on this matter.

Thank you for your time and consideration.



Sincerely, Garedew

Garedew A Ergette

Supplier Recovery Manager

garedew.ergette@cummins.com

Cummins Inc. 3850 Victoria Street North Shoreview, Minnesota 55126 United States

From: Sent: To: Subject: info Thursday, August 22, 2024 3:54 PM Andrew Boucher FW: Opposing car wash by Aldi for the city planner

-----Original Message-----From: Gerri <gerri.moeller@gmail.com> Sent: Thursday, August 22, 2024 10:26 AM To: info <Columbia.HeightsInfo@ci.columbia-heights.mn.us> Subject: Opposing car wash by Aldi for the city planner

I just heard on Facebook that an application for a car wash to replace the dental office behind Aldi is being considered. Please do not approve! While I don't live in the neighborhood, that neighborhood and intersection do not need the additional traffic a car wash would entail. It is already a dangerous traffic area. Additionally, CH does not need more car washes.

-Gerri Moeller 5000 Johnson St NE

P.S. If this is a rumor, please disregard and my apologies. :)

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From:	Jennifer DeWester <jenniferdewester@yahoo.com></jenniferdewester@yahoo.com>
Sent:	Friday, August 23, 2024 1:13 PM
То:	Andrew Boucher
Subject:	Re: Planned Car Wash on 50th Ave

If I understand the stacking and queuing the concern is cars backing up into road and blocking traffic as they attempt to access the business. I also have concerns about vehicles exiting business assuming they dump onto 50th. Vehicles seem to fight each other and block traffic trying to make left onto Central coming from Aldi and going right on Central coming from bakery road. I think any increase in traffic volume would make this problem even worse. That intersection is just not built as is to handle that volume of traffic especially considering long waits for green light onto Central. Also I think people turn left from Aldi to avoid intersection. I think that path would be blocked by traffic backed up waiting at light with addition of car wash. Thanks,

Jennifer DeWester

On Aug 23, 2024, at 12:33 PM, Andrew Boucher <ABoucher@columbiaheightsmn.gov> wrote:

Jennifer and Dirk,

Thank you for reaching out to discuss the proposed project at 999 50th Avenue NE, I am aware of the Facebook group and had a fairly in-depth conversation in-person with the person who posted it and they shared similar concerns to yours. I appreciate that you're taking the time to put your comments and concerns in writing as this allows me to maximize the leverage in my position when negotiating with applicants and developers by setting specific metrics for them to reach, which includes several of the components you've raised in your comments, but I also want to address what the existing zoning allows and how the Site Plan Review process works.

The car wash use is currently a permitted use in the district, so the City is legally obligated to consider their proposal. The proposal must adhere to all applicable zoning standards, and if so, it is approved by right. If the City wanted to consider limiting car wash uses in the district in the future, a code amendment would be required. In the case of the car wash being proposed, the only land-use action needed is a site plan approval. According to City Code, site plan approvals stop at the Planning Commission level and are not reviewed by City Council. The public hearing on this matter is scheduled to take place at the September 4th Planning Commission meeting.

Staff shares the same concerns that have been consistent with the feedback and comments we are receiving from residents, like yourself, and they are related to what we expected, predominantly, noise, safety, and traffic. To address these concerns, staff are requiring the completion of a 3rd party sound study to ensure compliance with required sound levels designated by the Minnesota Pollution Control Agency, and a 3rd party traffic/queuing analysis to ensure that there is adequate on-site vehicle stacking to accommodate peak demands. The City cannot approve any proposal or project that causes a decrease in the levels of service for public infrastructure, specifically streets. As far as the vehicle stacking goes, here is the City Code section identifying stacking requirements for uses that typically experience stacking:

<image001.png>

Just to put this review into context for how the City reviewed a similar use in the same area. Earlier this summer, the City processed, reviewed, and approved a minor subdivision and site plan review for a Chase Bank location on a portion of La Casita's parking lot that was subdivided in preparation for new construction of a banking facility. The bank was able to meet the City Code stacking requirements and the use, even with a drive-through component, because the anticipated business traffic and vehicle stacking did not rise to the level where there was concern regarding whether this proposed project would diminish levels of service for the streets servicing that property. The car wash is similar in the case that the vehicle stacking meets City Code and provides 8 stacking spaces for the one service bay, but staff shares the concerns that the public, including yourself, have expressed. With the level of business the car wash is anticipating, the applicant needs to show through an independent 3rd party what the peak demand hours of the business operation are, how many vehicles they would expect to be queued at the greatest peak demand, and that the vehicle stacking will not spill over into the street because that would be considered to diminish the levels of service for that street.

The City is taking the position that the sound study and vehicle queue length analysis need to be provided prior to the public meeting on September 4, 2024. If those items are still pending by next Thursday, then I have consulted with the City Manager and staff would recommend tabling the item and/or continuing the public meeting until the October 1, 2024 Planning Commission meeting.

I wanted to provide the full application package to discuss this further in case you had other concerns, but will also share the sound study and vehicle queue analysis with you as soon as I receive them because I think those are two critical components that will actually quantify what the potential noise/sound and traffic/safety impacts are in a way that would significantly impact whether the project meets City Code requirements.

Please let me know if you have any questions or would like to discuss this further,

Thanks, Andrew

Andrew Boucher, AICP | City Planner (he/him)

City of Columbia Heights | Community Development Department
<image002.png> 3989 Central Avenue NE | Columbia Heights, MN 55421
<u>aboucher@columbiaheightsmn.gov</u>
Direct: 763-706-3673 | Main: 763-706-3670

-----Original Message-----

From: Jennifer DeWester <jenniferdewester@yahoo.com> Sent: Thursday, August 22, 2024 8:26 PM To: Andrew Boucher <ABoucher@columbiaheightsmn.gov> Subject: Planned Car Wash on 50th Ave

Hello,

I saw the Facebook post regarding the planned car wash. We are strongly against building a car wash at this location. We have lived at 1200 50th Ave NE for the last 30 years (top of hill up from 50th). We

I also would mention we hear the noise from the speedway gas station very clearly at our house. The noise seems to run right up the hill. I think the noise from a car wash would adversely impact a large number of houses in the neighborhood.

Please do not authorize the construction of a car wash at this location! Thanks,

Jennifer and Dirk DeWester

Feel free to contact me if you have any questions.

763-233-9217

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<24289 - TSUNAMI EXPRESS CAR WASH - COLUMBIA HEIGHTS - CITY SUBMITTAL - 8-5-24 (1).pdf>

Item 2.

From:	jpagliolo@comcast.net
Sent:	Wednesday, September 4, 2024 6:13 PM
То:	Andrew Boucher
Subject:	proposed car wash at 50th and Central

We are home owners on 50th Ave NE up the hill from Central Ave.

The traffic congestion at this intersection is already a problem (heights strip mall, jimmy johns, and ALDI). Adding a car wash, if it's even practical, would make the situation much worse. Please don't approve the car wash!

Joe Pagliolo, Margaret Hare 1180 50th Ave NE Columbia Heights, MN 55421

From:	Linda Rogers <roger009@umn.edu></roger009@umn.edu>
Sent:	Monday, August 19, 2024 8:14 AM
То:	Andrew Boucher
Subject:	car wash public hearing

I am unable to attend the hearing because I will be in Duluth. I am opposed to having a car wash in this location. The traffic has significantly increased with Aldi and at many times is already backed up turning on to 50th from Central. Adding more vehicles entering and exiting a car wash would be a nightmare. Car washes are also quite loud. Adding more noise to the already noisy Central is also not ideal. Thirdly, we don't need car washes on every other block. There is already a car wash at the Holiday station and another one 2 blocks further between 44th and 45th. I reside at 1057 Polk Place and therefore received a letter about this hearing. Let me know if you need anything further from me. Thank you for your time.

--

Linda Rogers

Manager, Minnesota Statewide Testing Program (MSTP)

Phone: 612-626-1803 Website: mstp.umn.edu Address: 103 University Stores South 879 29th Avenue S.E. Minneapolis, MN 55414 Campus Delivery Code: 5703

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From:	Mark Colombo <markcolombo55421@gmail.com></markcolombo55421@gmail.com>	
Sent:	Saturday, August 24, 2024 8:42 AM	
То:	Andrew Boucher	
Subject:	site plan,Tsunami Express	

Sir,I reside at 1105 50th Ave NE, My concern concerning the proposed car wash at 999 50th Av NE is primarily about the effect on an already congested intersection . Not only is the turn lane very narrow, with Aldi,, Jimmy Johns ,and a strip mall at the intersection. But when school starts ,50th Av is a main route to the High School. Living here for 30 years ,I have seen many potential accidents almost happen with people pulling in and out of these busienesses.

also, there is many a time that traffic entering and leaving the intersection is backed up. please voice my concerns at the hearing , since I will not be able to attend.

Thank you, Mark Colombo

From:	Samantha Koshiol <samkosho@gmail.com></samkosho@gmail.com>
Sent:	Friday, August 23, 2024 10:01 AM
То:	Andrew Boucher
Subject:	50th and Central Development

Hello!

I'm writing you as a neighbor of this area (we live on Lincoln Terrace) and witness numerous close call accidents at the 50th and Central intersection already.

With the strip mall on the south end, and Aldi on the north end, that intersection can not currently support the vehicle traffic there.

Not to mention, during the school year, there's an even bigger increase in those close calls. I don't believe adding a business that will add that much vehicle traffic is a smart idea. I believe it will decrease property value, add unnecessary noise to the neighborhood and most importantly, lead to many traffic accidents.

Personally, I'd like to see a business that isn't based on cars in that space. With it being so close to Central, it does not have to be a "destination". It's so accessible and this idea actually decreases accessibility of the neighborhood.

Thanks for considering my thoughts.

From:	Steven Ess <steveess1958@gmail.com></steveess1958@gmail.com>
Sent:	Wednesday, August 28, 2024 1:01 AM
То:	Andrew Boucher
Subject:	50th and Central Carwash

Dear Andrew,

My family has lived at 5030 Mulcare Drive for over 30 years.

Every day we currently deal with heavy traffic trying to get onto Central Ave and 50th Street. Traffic coming in and out of Aldi's is super crazy. Plus all the traffic from Jimmy Johns, and the rest of the strip mall on the east side.

A car wash at this intersection is just asking for more trouble.

Otherwise, I'm very happy with the city of Columbia Heights.

Please contact me if you have any questions.

Sincerely,

Steve and Janine Ess

Item 2.

Proposed Tsunami Express Car Wash

Public hearing: 6:00 pm Wednesday, Sept 4, 2024 – Site Plan Review

Available online via Microsoft Teams Meeting:

Meeting ID 252 58 988 371 Passcode ugquG3 dial-in +1-312-626-6799

You can submit your own comments to CH City Planner, Andrew Boucher <u>aboucher@columbiaheightsmn.gov</u>

Introduction. I am Tom Kehrwald. My wife, Cathy, and I bought our house on 50th Ave NE in July of 1975. During the time since then we have seen many changes in the area and we have stayed, not least because of our wonderful neighbors. About a week ago we learned of plans to tear down the brick building at 999 50th Ave NE and build a car wash there. This note collects some of our thoughts on the issue.

Besides 49 years of experience on 50th, Cathy and I frequently deal with the intersection of 50th Ave NE and Central Ave as motorists, as pedestrians and myself as a bike rider. We have a lot of first-hand experience.

This note is divided into two sections: comments on the site plan for the proposed Tsunami Car Wash and comments on how the proposed car wash will affect (mainly worsen) existing problems with the stretch of 50th Ave NE between Central and Polk Place NE.

The Proposed Site Plan: The existing building at 999 will be torn down and the site leveled and prepared. Tsunami proposes to build on the site an express car wash and 10 vacuums serving 18 parking stalls. Regular business hours are 7 am to 8 pm daily. "Tsunami expects to service 200-400 customers per day." "Vacuums are available for free regardless of whether they go through the car wash."

The express car wash building would be built toward the back of the lot, roughly parallel to 50th, so cars enter on the east and exit the tunnel at the west side. A parking lot between the building and the street would contain 18 parking stalls with 10 vacuums, each vacuum serving 2 cars.

Two curb cuts would handle entry and exit to/from 50th Ave. The curb cuts would be close to the edges of the lot, especially on the east. Cars would enter from 50th through the east curb cut where two cars could come in side by side. After the pay station there is room for 8 cars (2 columns of 4 cars each) before entrance to the tunnel. All cars exit to 50th via the west curb cut. In addition, the west curb cut allows entrance to cars only using the vacuums.

A sidewalk would extend the existing walk from Aldi's lot, up to the east edge of the lot.

Comments on the site plan. (These comments are based on a copy of the official site plan) The comments in both sections here are grouped into four sections: Safety, Traffic, Noise Pollution and Light Pollution.

Safety:

- An increasing number of pedestrians walk 50th (to go to school, to ride buses, to shop at Aldi, etc). The site plan includes a partial sidewalk but it is not adequate to protect walkers, and does not provide access for wheelchairs or mobility devices.
 - The sidewalk ends at the beginning of the east entrance. At an absolute minimum there needs to be a space to get safely out of the way of cars BEFORE and AFTER walking past the driveways.
 - Does a sidewalk that ends mid-block require ADA access? My reading of the guidance says yes, since otherwise one must step up on a curb. See section F of <u>https://archive.ada.gov/pcatoolkit/chap6toolkit.htm</u>
 - The sidewalk really needs to go to the corner at Polk Place, but this is covered in the next set of comments.
 - It goes without saying that the sidewalk must be kept clear of snow, ice and debris at all times. Since cars drip water in winter, special care is needed then. Why not bury heating cables for winter use?

Traffic:

- It is reasonable to expect that most cars will approach the car wash from Central Ave, just as the majority of cars enter Aldi from there. But unlike Aldi, there is no alternative entrance. Such cars will have to make left turns to enter the car wash by Tsunami's numbers 150 to 300 cars per day, assuming 3 of 4 come via Central.
- If my visualization is correct, the left turns will occur right where Tyler enters 50th. Trying to make a left turn from Tyler will be like trying to make a left turn exiting from Jimmy John.
- Presumably parking on 50th in front of 1000 50th will have to be prohibited?
- If Tsunami is a successful business, customers, frustrated by congestion at 50th and Central, will look for ways to approach it easier. The only two that exist are then via Tyler or via 50th down the hill.

Sound Pollution:

- Sound pollution from car washes is an industry issue. When a car wash is sited with people's homes on two sides the potential problems become worse. The two major sources of noise are the dryers and the vacuums. For a good overview see this industry article: <u>https://www.carwash.com/reducing-carwashnoise/</u>
- Tsunami's proposal twice claims it is presenting a "state-of-the-art facility". Information, like the article above, point to the best available sound containment. Tsunami must present details on exactly which equipment they will use for dryers and vacuums and what additional construction for sound muffling they will include (e.g. sound-deadening spray on walls).
- Tsunami offers "free vacuums". Perhaps they view that as a marketing advantage. But for nearby residents that will only make a noise problem worse!

- "A sound study is planned [to] be conducted for this site specifically to show the car wash's noise impact on the adjacent properties." The quote is from the site plan. This kind of sound study is important and must show conformance to regulations. But it is at best a projection of what might happen. Residents need sound readings to be taken after a car wash is in operation to record what really happens and to enforce sound containment where it is merited.
- An excellent reference for residents is A Guide to Noise Control in Minnesota, <u>https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf</u> Some key points which might pertain to this case:
 - MN Pollution Control Agency has set state-wide standards and requires local enforcement.
 - Local jurisdictions may have additional or more restrictive standards.
 - "They [Local Agencies] are also responsible for not allowing land uses that would immediately violate the state noise standard."
 - Noise limits are set for levels as heard in "noise area classification", (NAC), not by limits recorded at the noise source. Residential NAC is 1, the lowest allowed noise.
 - "For residential locations (NAC 1), the limits are L10 = 65 dBA and L50 = 60 dBA during the daytime (7:00 a.m. 10:00 p.m.) and L10 = 55 dBA and L50 = 50 dBA during the nighttime (10:00 p.m. 7:00 a.m.) (Minn. R. 7030.0040). This means that during a one-hour period of monitoring, daytime noise levels cannot exceed 65 dBA for more than 10 percent of the time (six minutes) and cannot exceed 60 dBA more than 50 percent of the time (30 minutes)."
 - dBA levels are not linear. 70 dBA is twice as loud as 60 dBA; +/- 10 is double (half) the sound.
 - P8 has a chart showing 60-65 dBA as normal speech volume at 1 meter, whereas a vacuum cleaner at 3 meters (10 feet) is 70 dBA.
 - If one vacuum at the car wash produces 70 dBA, then 10 operating together produce 79+ dBA. Doubling the number of noise producers of the same type produces 3 dBA more sound.

Light Pollutions:

- The site plan creates a large open asphalt ground. The site plan identifies in detail horizontal lighting and wall mounted lighting. It also talks about downward facing pole lighting. That seems appropriate, although I cannot see what is intended as "general pole lighting".
- There is a huge hole in the site plan. "A full signage package complying with all code standards will be submitted for approval." Surely we can see this before the site plan might be approved?

Comments on existing problems worsened by the 999 site plan:

Safety:

- All 4 crosswalks at 50th and Central are dangerous for pedestrians and bikes now. This is already recognized by MN Dot and by the City of CH. <u>Adding traffic, especially turning vehicles, will only make a bad scene worse.</u>
 - In our opinion the white poles and street markings help pedestrians by making them more visible to drivers.
 - Nevertheless, right turners on red concentrate on looking over their left shoulders for oncoming cars, and do not notice that the pedestrian walk signal has come on.
 - Right turners who approach the intersection showing a green light do not look hard enough to spot pedestrians partway across.
 - Left turners try to beat the pedestrian by driving in front of them or behind them while the pedestrian is in the crosswalk.
 - Left turners are so glad to finally get a green light that they fail to look for pedestrians.
 - We have experienced ALL of these and more.
- There is only one sidewalk along the congested part of 50th. It needs to be extended to Polk Place to give minimum safety to pedestrians and others who need it. This must include a safe ADA access.

Traffic:

- I don't have numbers but my feeling is that most drivers on 50th who approach the intersection want to turn right or left. The exception is when parents are taking kids to school or bringing them home. Turning left is chaotic.
- 50th is striped for three lanes, and barely wide enough for that.
- Cars in the center lane of 50th face each other head-on across Central. When they get a green light, left turners have to judge whether the car coming at them wants to go straight or turn left plus the car behind that one. This is accident-prone and time consuming.
- Green lights on 50th are short and far between during rush hours.
- It's harder to turn right from Central onto 50th going east with the white poles (but safer for walkers).
- There are cars coming from all directions in the first hundred yards of 50th now.
- ALL of the above will be more problematic with more traffic and 2 more driveways. Winters ice add to the chaos.
- Tsunami's range of 200-400 cars serviced per day is a way to specify a "normal" range. On a rainy day or when it's too cold, the number may be zero. A peak day may be 600 or more.
- There is no obvious way to add separate left and right turn lanes without total re-design of the intersection. Will the car volume of the 999 plan force the city into major collateral costs?

Noise Pollution:

• While studying the 999 site plan, my wife and I were made aware of a lot of discontent over noise in residential areas near the other CH car wash. What methods do residents have to obtain sound measurement data for their own property case? This data can then document when noise pollution violations occur and substantiate corrective action. Section 3.1 of A Guide to Noise Control in Minnesota, contains standards for gathering such data. The equipment required is only moderately costly. Is there a city employee who already does this service? It is needed.

From:	Tom Kehrwald <t.kehrwald@live.com></t.kehrwald@live.com>
Sent:	Monday, August 26, 2024 1:03 PM
То:	Aaron Chirpich; Andrew Boucher; Mitchell Forney
Cc:	Cathy Kehrwald; 'Tom Kehrwald'
Subject:	Comments on site plan proposed for 999 50th Ave NE
Attachments:	Comments on 999 50th site plan.pdf

To: Aaron Chirpich, City Manager

8/26/2024

Mitchell Forney, Community Development Director

Andrew Boucher, City Planner

Here are my comments on the proposed Tsunami site plan at 999 50th Ave NE. Neither my wife nor I believe the plan's conclusion. Rather, we feel strongly that it will NOT be a valuable addition to the Columbia Heights community if built at that location.

Our thinking about the site proposal made us realize that some of the issues of our street are broader than just the site proposal. So the attachment has a site-specific section and a section on problems it would worsen.

SAFETY has the highest priority, but NOISE is likely to be the most aggravating issue long term for residents.

Next to safety, my key input for the site review is this: An ounce of prevention is worth a pound of cure.

- Noise Producer. Tsunami's site proposal is based on the fact that 999 50th is zoned for general business and that includes car washes. Car washes make noise from dryers [think giant leaf blowers], pumps, vacuums and general machinery. They are allowed to make this noise up to Minnesota Pollution Control Agency (MPCA) limits.
- Noise Receivers. Residential zoning begins across the fence (east) and across the street (south). By my guesses from the site plan, that is 45 feet from 2 vacuums (east) and as little as 57 feet from the first row of vacuums (south). At the borders of residential land, MPCA residential noise pollution limits apply.
- Officials in charge of the proposed site review have a legal obligation, (Minn. R. 7030.0030), "to take reasonable measures to prevent the approval of land use activities that will violate the state noise standard immediately upon establishment of the land use." I believe that a sound study by a professional 3rd party is necessary for the site review, but remains only an educated guess, unless supplemented by actual readings and experiences. Tsunami has two car washes in operation in the Twin Cities and there is experience from the other car wash on Central.

If the site plan were to be approved, it raises questions about monitoring, enforcement and balance of power.

1. What burden of time, cost and disturbance of peace is being laid upon residents? For example, someone who likes to sleep in on Sunday might be surprised to learn that even a sound as loud as that of TV in the other room or a dog barking down the block could be allowed after 7 a.m,

- 2. Who monitors the business/residential sound border? Is this responsibility dumped on residents? Would it be a requirement on Tsunami? Does the city do this?
- 3. PCA clearly defines methods for collecting data and reporting monitoring sessions.
- 4. Local law enforcement agencies are empowered to enforce Minnesota state rules and laws relating to the prevention and control of pollution (Minn. Stat. 115.071).
- 5. If noise pollution is detected at the residential border, what is the legal remedy?

The attachment contains details and is intended also for neighbors; ignore what is clearly just background for them.

Thank you for your attention.

Tom Kehrwald 1060 50th Ave NE 763-572-040

From: Sent: To: Cc: Subject: Cathy Kehrwald <cathy.kehrwald@gmail.com> Monday, August 26, 2024 10:39 AM Andrew Boucher Amáda Márquez Simula; Aaron Chirpich Here are my two primary concerns with a car wash being built on 999...

Here are my two primary concerns with a car wash being built on 999 50th Ave. N.E. : Safety and Noise.

Safety

As a resident who lives in close proximity to the proposed car wash on 50th Ave. N.E. I have daily experience with the existing traffic/pedestrian/biking congestion around the proposed site. I walk that stretch of 50th Ave. to shop at the strip mall, the liquor store and also Target. I take the southbound #10 bus several days a week. I confront the lack space for a pedestrian on the south side of 50th and am forced to walk in the Jimmy John drive-through lane. In spite of the barriers protecting pedestrians on the corners of 50th and Central , the crosswalk is hazardous. Drivers are looking for other cars, not for pedestrians, when they enter that intersection. (I wear bright clothes and wave an orange bag to get their attention when I cross.) Tsunami would be adding several hundred more cars to the mix. To make a profit, it would try to attract as many as 500/day. In addition, I would think the congestion entering and exiting the car wash would be a deterrent for Tsunami to choose this site.

<u>Noise</u>

The car wash would border residential homes which would be affected by noise from increased traffic and and noise from the pump house, dryer, the machinery and the vacuums. I know Tsunami has to respect the amount of noise permitted by the city but for any resident within 350 feet, the accumulative noises even in those guidelines would be intolerable and detrimental to physical and emotional health. I would hope the car wash will find a more suitable site. The other two Tsunami sites in the Twin Cities are not in as invasive a spot as this one would be.

Thank you Andrew for listening attentively to my husband and I for nearly an hour last week and for clearly explaining the issues. We will be at the public hearing and I have and will continue to alert residents about this proposal. Hopefully you have heard from some of them.

Cathy Kehrwald 1060 50th Ave NE 763 572 0407

From:	Tyler Whitney <mrtylerwhitney@gmail.com></mrtylerwhitney@gmail.com>
Sent:	Friday, September 13, 2024 4:00 PM
To:	Andrew Boucher
Cc:	Aaron Chirpich; Mitchell Forney
Subject:	Concerns about Car Wash on 50th
Follow Up Flag:	Follow up
Flag Status:	Flagged

Andrew Boucher, I live at 4922 Tyler St NE and I have several questions/concerns about the proposed car wash that may be built on 50th Ave.

1. Our main concern is the additional traffic that will be generated. Living on Tyler St NE, our residential street seems to be a major "shortcut" for many people driving to Aldi's, Jimmy Johns, Savers, the schools, etc. The through traffic on our street is concerning already, considering there are many families with young children living on our street (including my family). Building a car wash with the entrance very near to the intersection of Tyler St NE & 50th Ave will generate even more through traffic than already! I realize that building a new business is good for tax revenue, but would it be possible to change this section of Tyler St NE into an "exit only" type of street (blocking the entrance route on our street from 49th & 50th, and only allowing entrance from Lincoln Terrace)? This would help ensure the residential zoned neighborhood's traffic safety would not be burdened by the additional traffic generated by the adjacent commercially zoned properties.

2. I understand there is the possibility of a sound barrier wall being constructed on the east side of the proposed property, but all the residents on Tyler St NE are on the south side of the proposed car wash. Would there also be a sound barrier wall constructed on the south side of the carwash for our neighborhood also? We currently have a "sound barrier wall" on the west side of our property between the Jerusalem Market and it is simply a dilapidated wooden fence that does (almost) nothing to deter noise pollution. Additionally, there seems to be no requirement for the commercial property to provide any upkeep or maintenance of the "sound barrier" fence, as the wall is literally falling apart and is a major safety concern. What is the proposed construction method of the carwash sound barrier wall? Would the wall have any periodic inspections to ensure safety, effectiveness, and maintenance are upkept?

I look forward to your response, thanks,

Tyler Whitney 4922 Tyler St NE 316-227-9622

Ardell Schmidt <ardellschmidt@gmail.com></ardellschmidt@gmail.com>
Friday, September 27, 2024 8:49 AM
Andrew Boucher
Car Wash Proposal

I was informed that there is a proposal to demolish the office building next to Aldi's and construct a car wash. In my opinion, this does not make sense. In the Winter cars will be coming down the street dripping water which will turn into ice on the slope. Exiting from Central Avenue to 50th is awfully slow. That intersection is already VERY BUSY with our bakery, Jimmy Johns and Aldi's. We live on Polk Place. Coming off Central Avenue the traffic flow is most often at a standstill waiting for cars to enter or exit that intersection's busy businesses. I am a neighborhood walker and the cars coming down 50th are fast and do not watch who is at the side of the road. Will you be widening the street? 2. Make it more safe for walkers 2. Will you allow for a vehicle to have more room to occupy the sides of 50th? 3. Or, do you plan on having Aldi's MOVE their 'in and out' driveway elsewhere? 4. Why aren't the businesses informed of this proposal?

Please reconsider this business adventure. Wouldn't it be more realistic to have a car wash down central like on 40th?

I hope to see you at the meeting.

Ardell & Jon Schmidt 1105 Polk Place NE Columbia Heights, MN 55421 763-571-4224

From:	Nancy Sartor <nancy.sartor@gmail.com></nancy.sartor@gmail.com>
Sent:	Tuesday, October 1, 2024 3:46 PM
То:	Mitchell Forney; Andrew Boucher
Subject:	Proposed car wash on 50th & Central

Good afternoon,

I'm not sure if you are the right recipients for this email, but I wanted to share my thoughts on the car wash development being proposed at 50th and Central Ave NE, behind the Aldi supermarket.

My husband and I bought a house in the Malthaire neighborhood in 2009, and have loved living in Columbia Heights. We've watched the area come alive with young families, new leadership in the city council and school board, and diverse businesses that have added value to our community.

But when we heard about the possibility of a car wash at 50th & Central, our hearts sank and our ire swelled for what we believe will be a disaster for our neighborhood. Firstly, there are multiple car washes located nearby--including one just six blocks away at 44th & Central, one at Bobby & Steve's at 37th & Central, and others north along Central and University Aves. Do we really need another one? Like the over-abundance of car parts stores, a car wash seems like more of what is already part of our business community.

More importantly, the area behind Aldi is all residential, so adding a car wash on that parcel is a terrible idea! Not only will it increase what is already a highly congested traffic intersection, but it will decrease the safety of neighbors, pedestrians, bicyclists and motorists. At present, getting into Aldi, or worse, the strip mall across 50th, is a mess. A car wash would exponentially increase noise and exhaust pollution-from idling cars, the car wash itself, vacuums, etc; and will decrease property values at nearby residences.

I will attend the city council meeting tonight to learn more, but I hope this isn't a done deal. We love Columbia Heights and want to see it thrive.

Thank you for the work you do serving Columbia Heights.

Regards, Nancy



DEVELOPMENT STAFF REVIEW FORM

PROJECT TITLE:	Tsunami Car Wash
ADDRESS:	999 50 th Avenue NE, Columbia Heights, MN 55421
PROJECT DESCRIPTION:	Site Plan Review of 999 50 th Avenue NE, proposing demolition of an existing office building in preparation of a new construction car wash.
PUBLIC MEETING SCHEDULE	E:
EDA:	NA
P/Z:	September 4, 2024
Work Session:	NA
City Council:	
PROJECT MANAGER:	Andrew Boucher
	August 10, 2024

STAFF REVIEW FORM DUE: August 19, 2024

REVIEWER: Public Works – Engineering

RECOMMENDED FOR APPROVAL:

____Yes _x__Yes, with conditions ___No

COMMENTS/ CONDITIONS:

See attached plan review comments.

CITY OF COLUMBIA HEIGHTS Public Works Department

TO: ANDREW BOUCHER CITY PLANNER

FROM: SULMAAN KHAN ASSISTANT CITY ENGINEER

DATE: AUGUST 21st, 2024

SUBJECT: 999 50th Ave – Tsunami Car Wash - Site Plan Review

I have reviewed the <u>site/civil plan</u> submittal packet dated 8/5/2024 and have the following requirements/comments for final approval by PW/Engineering:

General / Plat

- The City shall require a pre-construction conference prior to any land alteration activities beginning.
- All stormwater best management practices (BMP's) shall have designated drainage and utility easements recorded with the Plat or as a separate document at Anoka County.

Grading

- The plan sets erosion control plan and SWPPP, meet the City and MWMO requirements.
- Prior to any site disturbance activities, please provide the city with a copy of Site NPDES Construction Permit.
- Perimeter and entrance erosion control measures **must be installed and inspected by the Engineering department prior to site grading activities beginning.** Coordinate erosion control measures with the Engineering department if building construction is initiated prior to general site grading.
- All slopes greater than 4:1 shall be provided erosion control blanket.
- Catch basin inlet protection, such as Wimco's or equivalent shall be provided on catch basins until restoration is completed. The low point CB's / structures at the BMP's shall also be protected.
- Tree protection must be fully assembled and approved by the City Forester prior to the beginning of demolition activities for all trees that will not be removed during the project. Tree protection must follow standards set forth in the tree protection detail in the landscaping plan, any changes must be approved in advance by the City Forester.

ROW / Utilities / Paving

- The City of Columbia Heights does not allow for sanitary sewer services to be placed directly into a manhole. The sanitary sewer service must be moved to come in off the main at least 3' outside of the manhole.
- Vehicle stacking needs to show dimensions accommodating 4 spaces per bay at entrance and 1 space per bay at exit at a minimum, pavement width of 12 feet, a length of 20 feet per vehicle, and exclusive of any other required parking spaces or drive aisles.

- To better understand traffic issues resulting from the new car wash site, a queue length analysis should be done to project how many vehicles are expected to queue at the entrance during peak times and whether this could cause backups into the street.
- The water service must be rerouted around the stormwater basin to maintain 7' of cover.
- Where utilities are crossing proper separation must be maintained. If proper cover is not maintained insulation must be installed between the utilities to prevent freezing from occurring. The insulation must go at least 2' beyond the crossing.
- The road surface must be restored in kind or improved condition if digging in the street must occur for utility installation.
- All utilities and storm water features serving the Development shall be privately owned and maintained. All utilities shall meet the City of Columbia Heights specifications for materials and installation.
- Site/Civil work shall be inspected by the City Engineering Department (connection to existing utility system). **24-hour advance notice of an inspection is required.**
- The City of Columbia Heights does not allow PVC as a material type in the ROW water main must be DIP.
- All stormwater best management practices (BMP's) shall have designated drainage and utility easements recorded with the Plat or as a separate document at Anoka County.
- Utility disconnects must be made at the main and inspected by the utility department.
- Location of tree installations (landscape plan) and utility locations should be coordinated to maintain 10' separation from all utilities.
- Provide a set of as-built drawings meeting City requirements at the completion of site/civil construction in both hardcopy and electronic format.

Please provide a set of <u>Revised Plans</u> to the Engineering department for final approval. If you have any questions or need further information, please contact me at (763) 706-3705.

C: Lauren Letsche, Storm Water Specialist Liam Genter, City Forester



PLANNING COMMISSION MEETING

Item 3.

AGENDA SECTION **PUBLIC HEARING MEETING DATE**

OCTOBER 1, 2024

ITEM:	EM: Conditional Use Permit for Over-Height Sound Barrier (Fence) at 999 50 th Avenue NE	
DEPARTMENT: Community Development		BY/DATE: Andrew Boucher, City Planner; 9/25/24

CASE NUMBER:	2024-0905
APPLICANT:	Civil Site Group on behalf of Tsunami Express Car Wash
DEVELOPMENT:	Conditional Use Permit for an Over-Height sound barrier (fence) at (999 50 th Avenue NE). 999 50 th Avenue NE
REQUEST:	Conditional Use Permit
PREPARED BY:	Andrew Boucher, City Planner

INTRODUCTION

The City of Columbia Heights has received an application for a Conditional Use Permit for the property located at 999 50th Avenue NE. The project site currently contains a vacant office building which has a Site Plan Review proposing to demolish the existing building and construct a new car wash. The applicant was required to provide a Noise Impact Study which recommended installing an eight (8) foot tall sound barrier fence to mitigate any noise from the car wash that would affect the adjacent residential properties. The proposed fencing on the northern and eastern property lines will be located on top of a planned retaining wall and composed of a material with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot, such as overlapping, 1" (nominal thickness) cedar or pine planks. The fence must be constructed in such a way that the total, actual thickness of the wall is at least 1-1/2" along the entire length of the wall and screwed together rather than nailed so that the natural warping of the planks over time does not cause them to pull apart and create gaps between them. Because this is a "sound barrier wall" rather than a "fence", there must not be any gaps and it must be constructed tight to the ground. The fence will be oriented so that it will be 2' above the top of the car wash entry door.

No fencing is proposed along the site's front property line.

ZONING ORDINANCE

The subject property is located in the General Business Zoning District. The surrounding adjacent properties to the immediate north, west, and south are all zoned for Commercial use through the General Business District. The property also abuts several residential neighborhoods to the north, east, and south containing multi-family, duplexes, and single-family residential zoning adjacent to Central Avenue.

Per City Code §9.106(E)(3)(a), fences exceeding seven feet in height shall be deemed structures and shall require a Conditional Use Permit. The Zoning Ordinance requires the Planning Commission to hold a public hearing on the applications for a Conditional Use Permit submit its recommendation to the City Council for final determination.

COMPREHENSIVE PLAN

The Comprehensive Plan guides this area for Commercial Use, which is consistent with its current zoning as General Business. The proposed sound barrier wall is compatible with the commercial use guided for this site by the Comprehensive Plan.

FINDINGS OF FACT

Section 9.104 (H) of the Zoning Code outlines nine conditions that must be met in order for the City to grant a Conditional Use Permit. They are as follows:

(a) The use is one of the conditional uses listed for the zoning district in which the property is located, or is a substantially similar use as determined by the Zoning Administrator.

City Code §9.106(E)(3) stipulates that commercial fences that exceed seven feet in height shall require a Conditional Use Permit. This application is consistent with the requirements of the Code.

(b) The use is in harmony with the general purpose and intent of the comprehensive plan.

The Comprehensive Plan guides this property for commercial use. Installing a sound barrier wall intends to separate the commercial use from the adjacent residential properties and is in harmony with the purpose and intent of the Comprehensive Plan.

(c) The use will not impose hazards or disturbing influences on neighboring properties. The proposed 8-foot height sound barrier wall should not cause hazards or disturbing influences on neighboring properties.

(*d*) **The use will not substantially diminish the use of property in the immediate vicinity.** *The proposed project should not diminish the use of the property in the immediate vicinity.*

(e) The use will be designed, constructed, operated and maintained in a manner that is compatible with the appearance of the existing or intended character of the surrounding area.

The proposed sound barrier detail contains high-quality wood material that is design to be air-tight and have no gaps, which will contribute to preserving the current appearance and character of the neighborhood.

(f) The use and property upon which the use is located are adequately served by essential public facilities and services.

This is correct.

(g) Adequate measures have been or will be taken to minimize traffic congestion on the public streets and to provide for appropriate on-site circulation of traffic.

This is correct. The fencing should not affect traffic congestion on public streets or on-site traffic circulation.

(*h*) The use will not cause a negative cumulative effect, when considered in conjunction with the cumulative effect of other uses in the immediate vicinity.

This is correct. The fencing should not cause a negative cumulative effect.

(*i*) The use complies with all other applicable regulations for the district in which it is located.

This is correct. The fence will be constructed of approved fencing materials per the Zoning Ordinance and State Building Code.

RECOMMENDATION

Staff recommends that the Planning Commission recommend approval of the proposed Conditional Use Permit for the property located at 999 50th Avenue NE, subject to certain conditions.

RECOMMENDED MOTION(S):

MOTION: Move to close the public hearing and waive the reading of Draft Resolution No. 2024-068, there being ample copies available to the public.

MOTION: Move to recommend City Council approve the Conditional Use Permit as presented, subject to the following conditions of approval:

- 1. The site plan included in this submittal shall become part of this approval.
- 2. The applicant shall submit a building permit application for review and approval prior to construction.
- Fences greater than seven feet in height shall be of an engineered design and capable of withstanding the applicable wind loads in the Minnesota State Building Code.
- 4. The sound barrier wall/fence shall be constructed in the manner specified in the Noise Impact Study recommendations dated August 23, 2024 including construction requirements that the barrier meet the minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot, the panels screwed together instead of nailed, and that there is an overlapping, 1" (nominal thickness) assembled so that the total actual thickness of the wall is at least 1-1/2" along the entire length of the wall.
- The applicant shall be responsible for conducting routine inspections to ensure that the sound barrier wall/fence is maintained and upkept.
- Post-construction sound testing is required to demonstrate compliance with the recommendations made in the Noise Impact Study.
- 7. All other applicable local, state, and federal requirements shall be met at all times.

ATTACHMENTS:

Draft Resolution Applications Site Plan Fence Specifications Noise Impact Study Notice of Public Hearing to Newspaper Notice of Public Hearing to Neighborhood Mailing List

RESOLUTION NO. 2024-068

A resolution of the Planning Commission for the City of Columbia Heights, Minnesota, recommending approval of a Conditional Use Permit for the property located at 999 50th Avenue NE (PID: 25-30-24-23-0002) in the City of Columbia Heights, MN;

Whereas, a proposal (Planning Case # 2024-0905) has been submitted by Civil Site Group on behalf of Tsunami Express Car Wash as the property owner to the Planning Commission requesting approval of a Conditional Use Permit at the following location:

ADDRESS: 999 50th Avenue NE (PID: 25-30-24-23-0002)

EXISTING LEGAL DESCRIPTION:

That part of Lots 8 and 9, Auditors Subdivision No. 153 LYG, Anoka County, Minnesota, lying Westerly of a line described as follows:

THAT PART OF LOTS 8 & 9 AUDITORS SUBDIVISION NO 153 LYG ELY & SLY OF ALDI ADDITION, WLY OF MATHAIRE ADDITION & NELY OF 50TH AVE NE

THE APPLICANT SEEKS THE FOLLOWING:

 Conditional Use Permit to allow an eight (8') foot tall over-height sound barrier along the eastern/northern property line of the lot at 999 50th Avenue NE in accordance with City Code Section 9.106 (E)(3)(a).

Whereas, the Planning Commission held a public hearing as required by the City Zoning Code on October 1, 2024;

Whereas, the Planning Commission has considered the advice and recommendations of the Planning Commission regarding the effect of the proposed Conditional Use Permit upon the health, safety, and welfare of the community and its Comprehensive Plan, as well as any concern related to traffic, property values, light, air, danger of fire, and risk to public safety, in the surrounding area;

Now, therefore, in accordance with the foregoing, and all ordinances and regulations of the City of Columbia Heights, the City of Columbia Heights Planning Commission makes the following:

FINDINGS OF FACT

- 1. The use is one of the conditional uses listed for the zoning district in which the property is located, or is a substantially similar use as determined by the Zoning Administrator.
- 2. The use is in harmony with the general purpose and intent of the comprehensive plan.

- 3. The use will not impose hazards or disturbing influences on neighboring properties.
- 4. The use will not substantially diminish the use of property in the immediate vicinity.
- The use will be designed, constructed, operated and maintained in a manner that is compatible with the appearance of the existing or intended character of the surrounding area.
- 6. The use and property upon which the use is located are adequately served by essential public facilities and services.
- 7. Adequate measures have been or will be taken to minimize traffic congestion on the public streets and to provide for appropriate on-site circulation of traffic.
- 8. The use will not cause a negative cumulative effect, when considered in conjunction with the cumulative effect of other uses in the immediate vicinity.
- 9. The use complies with all other applicable regulations for the district in which it is located.

CONDITIONS

- 1. The site plan included in this submittal shall become part of this approval.
- 2. The applicant shall submit a building permit application for review and approval prior to construction.
- 3. Fences greater than seven feet in height shall be of an engineered design and capable of withstanding the applicable wind loads in the Minnesota State Building Code.
- 4. The sound barrier wall/fence shall be constructed in the manner specified in the Noise Impact Study recommendations dated August 23, 2024 including construction requirements that the barrier meet the minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot, the panels screwed together instead of nailed, and that there is an overlapping, 1" (nominal thickness) assembled so that the total actual thickness of the wall is at least 1-1/2" along the entire length of the wall.
- 5. The applicant shall be responsible for conducting routine inspections to ensure that the sound barrier wall/fence is maintained and upkept.
- 6. Post-construction sound testing is required to demonstrate compliance with the recommendations made in the Noise Impact Study.
- 7. All other applicable local, state, and federal requirements shall be met at all times.

Passed this 1 st day of October, 2024	
Offered by:	
Seconded	
by:	
Roll Call:	
	Clara Wolfe, Chair
Attest:	
Andrew Boucher, City Planner	



Community Development Department 590 40th Ave. NE, Columbia Heights, MN 55421

NON-RESIDENTIAL - CONDITIONAL USE PERMIT APPLICATION ORDINANCE NO. 9.104 (H)

This application is subject to review and acceptance by the City. Applications will be processed only if all required items are submitted.

PROPERTY INFORMATION		
Project Address/Location: <u>999 50th Ave. NE., Columbia Heights, MN 55421</u>		
Legal Description of property: See attached word document.		
Present use of property: Office Building		
Proposed conditional use of property: Express Car Wash		
PROPERTY OWNER (As it appears on property title):		
Company/Individual (please print): <u>Tsunami Car Was Intermediate Holdco, LLC</u>		
Contact Person (please print): Blake Ketner		
Mailing Address: 4800 Meadows Road, Suite 300		
City: Lake Oswego State: OR Zip: 97305		
Daytime Phone: <u>920-744-9882</u> Cell Phone:		
E-mail Address: <u>blake@tsunamiexpress.com</u>		
Signature/Date: Blake Ketner 09/05/2024		
Signature/Date: Blake Ketner 09/05/2024		
APPLICANT:		
Company/Individual (please print): <u>Civil Site Group</u>		
Contact Person (please print): David Knaeble		
Mailing Address: 5000 Glenwood Ave		
City: <u>Golden Valley</u> State: <u>MN</u> Zip: <u>55422</u>		
Daytime Phone: 612-615-0060 Cell Phone:		
E-mail Address: <u>dknaeble@civilsitegroup.com</u>		
Signature/Date: DAVID KNAEBLE DAVID KNAEBLE DAVI		
Date: 2024.09.06 12:19:38-05:00		



REASON FOR REQUEST (please attach a written narrative describing the intended use of the property and justification for your request. Describe any modifications and/or limitations of the use that have been made to insure its compatibility with surrounding uses and with the purpose and intent of the Zoning Ordinance and the Comprehensive Plan.)

FOR OFFICE USE ONLY

CASE NO: ______ APPLICATION REC'D BY: _____ \$500 APPLICATION FEE REC'D: _____

DATE APPLICATION REC'D: ______ RECEIPT NUMBER: _____

Approved by Planning & Zoning Commission on _____

Approved by City Council on _____

Revised June 2017

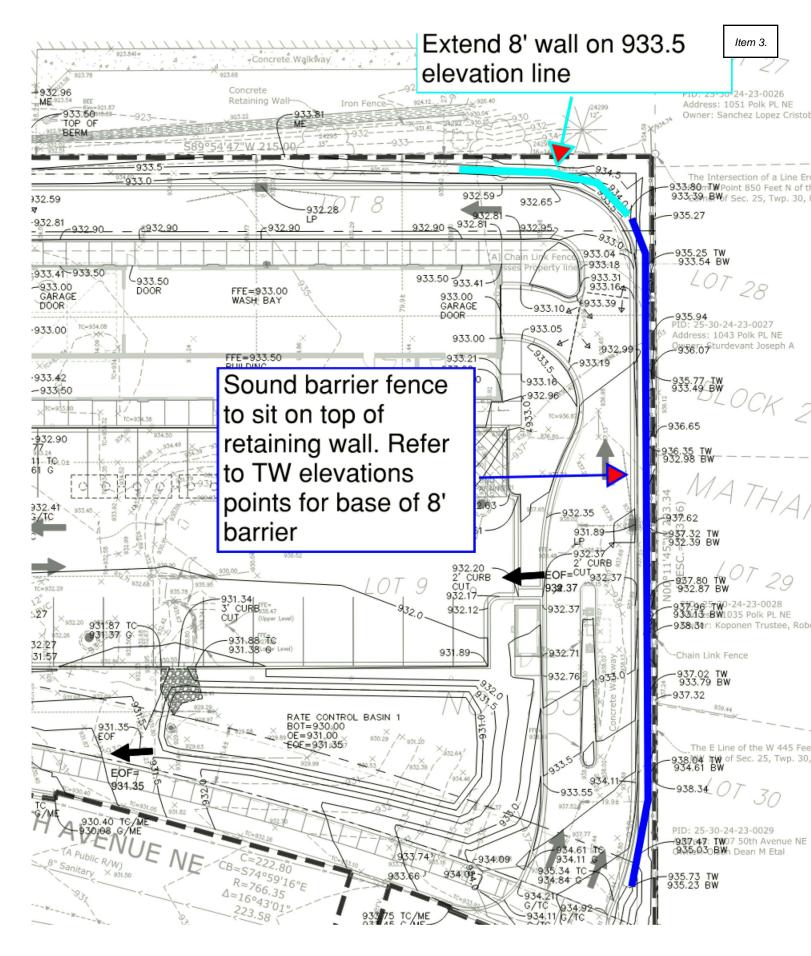
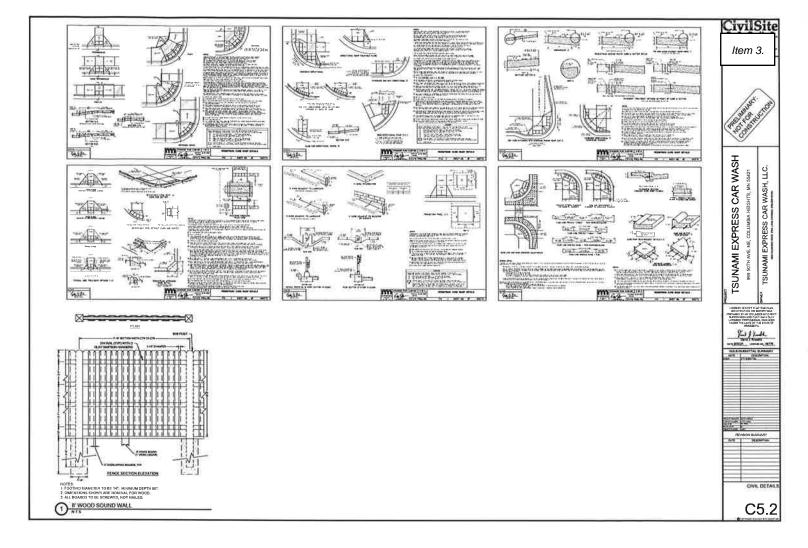


Figure 11: Sound Barrier Fence Location





Noise Impact Analysis for Proposed Tsunami Car Wash, Columbia Heights, Minnesota

Prepared By:

Nathan Sevener, Principal Consultant INCE Bd. Cert.

Aimee Lalime, Senior Consultant MSME, INCE

Anna Catton, Consultant MSAE

23 August 2024

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Executive Summary

The proposed Tsunami Car in Columbia Heights, Minnesota is planned to operate from 7:00 am and 8:00 pm daily. The Minnesota noise ordinance defines the daytime (7:00 am to 10:00 pm) noise limit for Residential zones at 60 dBA at the property lines. Our calculations indicate that the carwash-related noise levels with the planned layout will not exceed the residential limits with the addition of an 8' sound barrier along the east and north property lines on top of the planned retaining wall (with the combined height extending 2' above the top of the car wash entry doors).

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List of Abbreviated Terms

dB	Decibel
dBA	A-weighted Decibels
Leq	Equivalent Sound Level

1.0 Introduction

Soundscape Engineering has completed a sound study for a proposed Tsunami Express Carwash to be located at 999 50th Avenue NE, Columbia Heights, Minnesota. The proposed building will be a 5,000 SF car wash with 18 vacuums, a sales booth, and vacuum pump house. It is our understanding that the car wash will be open 7 days per week from 7:00 am to 8:00 pm.

We have collected sound data from past projects with Tsunami, specifically the Tsunami Car Wash in Waukesha, Wisconsin. The loudest noise sources are the blowers inside the car wash and the vacuums/pump house in the parking lot area. We assume that this location will use the same blowers as the Waukesha location.

The design is complete and you provided us with a copy of the city submitted design dated 08-05-2024. The Columbia Heights Tsunami Car Wash is bordered by an Aldi Grocery Store and single-family residences. The project plans to lower the grade of the building site. A new retaining wall will be installed on the east side of the site with a 6-foot fence on top of the wall.

According to the Waukesha car wash operation manager, a busy hour by industry standards would be 100+ cars per hour.

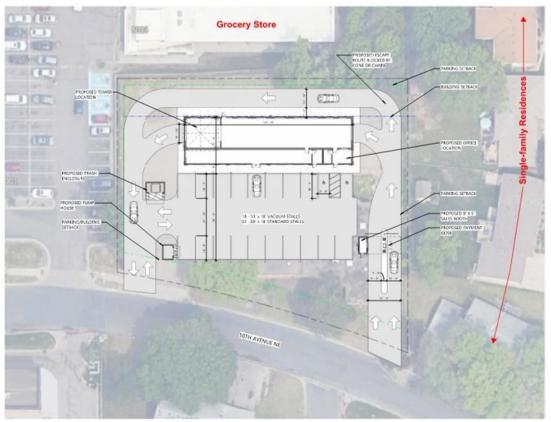


Figure 1: Proposed Tsunami Express Car Wash, Columbia Heights, Minnesota

For your reference, there is a brief glossary of pertinent acoustics terminology in Appendix A.

2.0 Measurements

The following describes the ambient measurements at the proposed Columbia Heights location and the existing equipment measurements at the Tsunami Car Wash in Waukesha, Wisconsin.

2.1 Instrumentation

An NTi Audio model XL2-TA acoustic analyzer with model MC230 microphone and model MA220 preamp was used for all measurements reported here. This system is Class 1 Type Approved, meeting the requirements of IEC 61672 and ANSI S1.4.

Instrument - Location	Make	Model No.	Serial No.	Cal Date
Sound Level Meter (SLM) - Position 1	NTi	XL2-TA	А2А-11159-Е0	8/10/2023
SLM Microphone	NTi	MC230	9538	8/10/2023
SLM Preamp	NTi	MA220 (M2230)	2923	8/10/2023
Sound Level Calibrator	Larsen Davis	CAL200	10152	03/23/2023

Table 1: Sound Measurement Equipment

2.2 Ambient Measurements

Soundscape visited the proposed Tsunami Car Wash in Columbia Heights, Minnesota on Sunday, August 11^{th} , 2024. A series of 15-minute spot measurements were taken around the proposed Columbia Heights property. Measurements were taken between 4:00 - 5:30 pm. The overall levels at each measurement location are shown in Figure 2. Photos of the onsite measurements are shown in Figure 3.

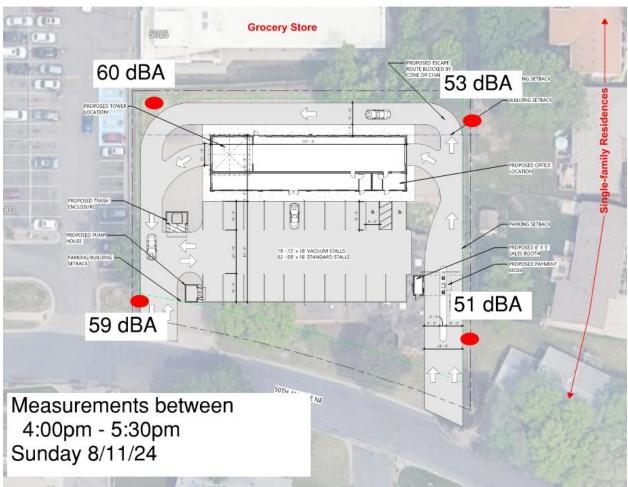


Figure 2: Ambient Sound Levels (dBA) Measured at Proposed Car Wash Site



Figure 3: Photos of Sound Level Meter at Two of the Measurement Locations On-Site

2.3 Equipment Measurements

To determine the equipment sound levels, we measured the sound level produced by equipment at the existing Tsunami Car Wash located at 300 W. Sunset Drive in Waukesha, Wisconsin. We understand that the Columbia Heights location will install the same blower system as the Waukesha location. The measured octave band sound levels at the car wash entry and exit are shown in Table 2.

		Sound Pressure Levels (dB at a 20-foot distance ¹) per Octave Band Center Frequency, Hz						Overall Level		
	31.5	63	125	250	500	1000	2000	4000	8000	(dBA)
Wash Exit, Blowers On, Doors Open	78	80	80	81	89	88	86	82	74	93
Wash Exit, Blowers On, Doors Closed	74	79	77	77	79	73	69	63	53	79
Wash Entrance, Doors Open	73	74	72	69	71	72	71	66	56	76

Table 2: Sound levels Measured at	a Waukesha	Tsunami	Carwash ((dB)
Table 2. Sound levels measured at	a mauncona	1 Sunann	Car wash	uD)

1) These measurements were made directly in front of the entrance or exit, at a distance of 20 feet.



Figure 4: Waukesha Tsunami Car Wash Exit

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Figure 5: Waukesha Tsunami Car Wash Layout

Measurements were also taken outside the vacuum pump house and near a car being vacuumed (Figure 6). The pump house is constructed of masonry block and has steel doors with perimeter seals. This construction is advantageous for noise control. We are not aware if the existing vacuum system has a muffler. These measured levels are presented in Table 3.

Table 3: Measured Vacuum Related Sound Levels at Waukesha Location	Table 3: Measured	Vacuum Related	Sound Levels at	Waukesha Location
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				und Press ve Band			•			Overall level
	31.5	63	125	250	500	1000	2000	4000	8000	(dBA)
Vacuum Pump House at 3' Distance	71	75	67	64	60	59	58	55	51	65
Car Vacuuming at Approx. 6' Distance	70	72	70	66	64	64	68	69	62	74



Figure 6: Vacuum Pump House

Soundscape Engineering 3711 N. Ravenswood Ave., Ste. 104 • Chicago, IL 60613 • (312) 436-0032 729 W. Ann Arbor Trl., Ste. 150 • Plymouth, MI 48170 • (734) 418-8663 www.SoundscapeEngineering.com

3.0 Ordinance and Criteria

The project is required to meet the State of Minnesota's Administrative Rules Section 7030.0040 Noise Standards, which we understand to be the City of Columbia Heights' ordinance:

Subpart 1. Scope. These standards de mowledge for the preservation of public humoyance, and hearing conservation requi- toise area classification (NAC) system esta dentify the limiting levels of impulsive no- ubpart 2 apply to all sources.	ealth and welfare. Th rements for receiver ablished in part <u>7030</u>	nese standards are co s within areas group <u>.0050</u> . However, the	onsistent with speec ed according to land ese standards do not	h, sleep, l activities by the , by themselves,	
Subp. 2. Noise standards.					
Noise Area Classification	Day	time	Nighttime		
	L ₅₀	L ₁₀	L ₅₀	L ₁₀	
1	60	65	50	55	
2	65	70	65	70	
2 3	75	80	75	80	
Statutory Authority: MSs 116.07					
History: 11 SR 43; 18 SR 614					

Figure 7: Minnesota Noise Ordinance

Residential properties fit into "Noise Area Classification 1" and commercial properties fall into the "Noise Area Classification 2". The L_{50} represents the level exceeded 50% of the time, or the median sound level. During peak business hours, the car wash is expected to be in nearly continuous operation, so the L_{50} is equivalent to the average sound level, or Leq. This means that the car wash measurement levels in Table 2 were used as source levels for Columbia Heights without applying a reduction for related to duration of use. Similarly, the L_{10} refers to the sound level during the loudest 10% of the time. Since the levels are nearly continuous, the L_{10} and the L_{50} are expected to be almost equal. Therefore, the L_{50} criterion is the most stringent for this project, and will be referred to in this assessment.

4.0 Computer Model Calculation of Sound Levels Around Carwash

We modeled the Columbia Heights site and surrounding area in the commercial environmental noise modeling software, SoundPLAN. Site topography, existing and proposed buildings, sound sources, and receiver locations were inputted as elements into the computer model. A 3D view of the propagation model is shown in Figure 8. The red-shaded areas represent sound area sources. We have modeled the worst-case scenario with all vacuum stations in use and the carwash entry door open. We understand that the car wash doors are planned to be open when cars are in the tunnel, which could be nearly continuous during the busiest hours of the week. Vacuum stations are indicated by the red asterisks below. Sources included in the model are based on measurements made at the Waukesha Tsunami and are as follows:

- Carwash Entry Door Open
- Carwash Exit Door Open and Closed Blowers On
- Vacuum pump house with Sealed metal doors
- Car Vacuum Stations (red asterisks)

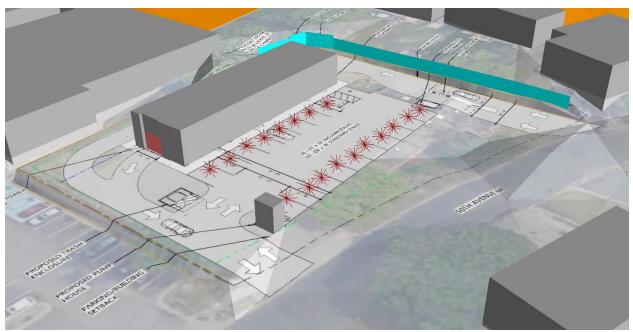


Figure 8: 3D Model View

Figure 9 presents the predicted radiated sound levels due to the Tsunami Car Wash. The darkest green shaded area represents areas where the sound levels are below the residential 60 dBA L50 noise ordinance limit.

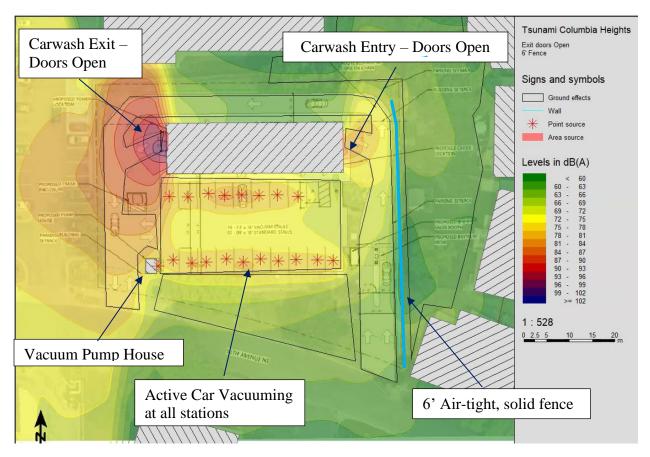


Figure 9: Sound Contour Map Predicted Sound Level Propagation – Current Design

5.0 Recommendations

To prevent the sound level from exceeding the 60 dBA noise ordinance at the residential property line, extend and increase the sound barrier fence height to an 8' sound barrier along the east border (approximately 2' above the top of the car wash entry door opening). The wall must extend around the northeast corner toward Aldi. Refer to Figure 10 and Figure 11 for barrier extent and predicted sound levels. Refer to Figure 11 for the modeled elevation height for the base of the sound barrier.

There are minimum acoustical requirements for the sound barrier wall. It must be constructed from a material with a minimum acoustical rating of STC 22 or a mass no less than 2 pounds per square foot. An example of a suitable material would be overlapping, 1" (nominal thickness) cedar or pine planks, assembled such that the total, actual thickness of the wall is at least $1-\frac{1}{2}$ " along the entire length of the wall. They would need to be screwed together rather than nailed so that the natural warping of the planks over time does not cause them to pull apart and create gaps between them. Because this is a "sound barrier wall" rather than a "fence," there must not be any gaps and it must be constructed tight to the ground.

In addition to the sound barrier, the acoustic analysis for this project depends upon the following design elements:

- a. The central vacuum will be located in a masonry building with sealed steel doors. If a vacuum pump exhaust muffler was used at the Waukesha location then the vacuum pump at this location should also be fit with a muffler.
- b. The blowers must be set to turn <u>off</u> when the exit doors open. The entrance door is controlled by a separate set of photo-eye sensors placed at the tunnel entrance. Our analysis relies on the exit door being closed while the blowers are operating. We have assumed that the entry doors may be open while the blowers are operating. The sound level in the Aldi parking lot with the exit door closed will result in a sound level of approximately 71 dBA. We understand Tsunami does not want a wall that would block street view.

We must note that the sound level at the residential property to the south would exceed the 60 dBA residential limit when all vacuums are simultaneously active. We understand this situation to be a rare occurrence and typical use will not result in levels above the measured ambient (59 dBA SW corner).

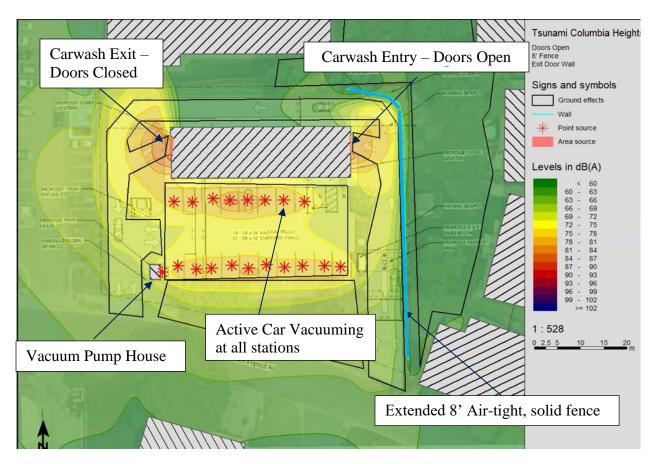


Figure 10: Sound Contour Map – Tsunami Car Wash Exit Doors Closed with 8-ft Property Line Barrier

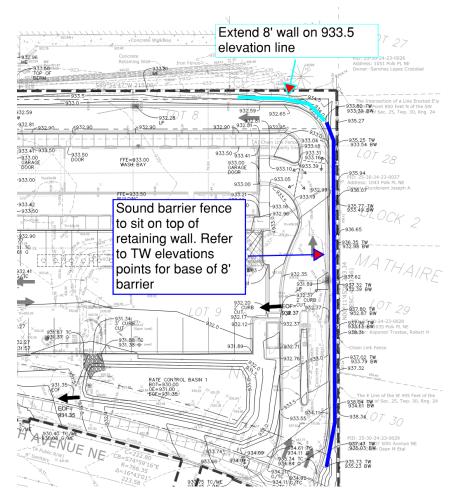


Figure 11: Sound Barrier Fence Location

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The proposed carwash design includes several elements that are beneficial in terms of noise transmission to the residential neighborhood. The carwash is oriented so that the loudest part of the building (the exit) is pointed away from residences. Airlift doors will be installed and the exit door will be kept closed while the blowers are operating. The central vacuums will be located within a masonry building with sealed steel doors. Finally, the addition of a solid, 8' tall, air-tight fence (2' above the top of the car wash entry door) will serve as a sound barrier along the eastern border on top of the planned retaining wall, allowing the carwash-related sound levels at the residential property lines to meet the Minnesota noise ordinance's residential threshold of 60 dBA.

This concludes our assessment and recommendations. We will be happy to elaborate on anything contained within this report.

Appendix A: Acoustical Terminology

Sound level is measured in units called decibels (abbreviated dB). Decibels are logarithmic rather than linear quantities and thus a doubling of the sound level does not translate to a doubling of decibels. Also, the human ear does not interpret a doubling of sound energy as a doubling of loudness. For these reasons, the following approximate relationships should be kept in mind when reading this report.

The logarithmic nature of dB and the human subjective perception of relative sound levels result in the following approximate rules for judging increases in noise. A 3 dB sound level increase (or decrease) typically cannot be heard or is barely perceptible. A 5 dB sound level increase is perceptible and is often considered significant. A sound level which increases by 10 dB will be perceived as twice as loud. These perceived changes in the noise level are mostly independent of the absolute noise level. That is, a 35 dB noise will be perceived as twice as loud as a 25 dB noise, and a 60 dB noise will be perceived as twice as loud as a 50 dB noise.

Audible sound occurs over a wide frequency range, from low-pitched sounds at approximately 20 Hertz (Hz) to high-pitched sounds at 20,000 Hz. These frequencies are commonly grouped into octave bands or 1/3 octave bands. Building mechanical systems generally produce noise in the 63 Hz to 1000 Hz octave bands, with the lower frequency noise generated by large fans. Human speech is predominantly contained in the 250 Hz to 2000 Hz octave bands.

Humans do not hear equally well at all frequencies. We are especially poor at hearing low frequency sound and are best at hearing sound in the frequency range of human speech. A microphone does not have these same characteristics. Therefore, when sound is being measured to determine how well people will be able to hear it, a "weighting" is applied to the sound level measured using a microphone. The most common weighting is the "A-weighting" and the resulting sound level is expressed in A-weighted decibels (dBA). This weighting reduces the low frequency sound, slightly increases the sound at the dominant frequencies of human speech, and slightly lowers the sound level at high frequencies.

The ambient noise level is the existing level of noise in a space or at a specific location in the environment.

Direct Sound Level or Direct Noise Level is the result of sound that travels directly from the sound source to the listener's ears, without reflecting off of any surfaces.

Equivalent Sound Level (L_{eq}) is the average sound level in an environment where the sound level changes. However, the L_{eq} is not a simple arithmetic average of the sound level over time, but is a logarithmic average. L_{eq} is the "energy" average noise level over a period of time. L_{eq} can be measured for any time period, but is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour or 24-hours.

Sound Power and Sound Pressure Levels - Sound pressure can be directly measured by a microphone. Outdoor sound pressure levels are influenced by the distance and orientation of the receiver, obstructions and ground absorption between the source and receiver, the temperature, and wind gradients. Sound power is a physical property of the source alone and is not influenced by the external environment. It is an important parameter which is used for rating and comparing sound sources. The sound power is calculated by taking sound pressure or sound intensity measurements according to strict standards and calculation procedures. Conversely, the Sound Pressure Level at a particular location can be calculated

from the Sound Power Level for a given source and the environmental factors affecting the sound propagation path between the source and receiver.

The statistical sound levels, as they are most often called, quantify the sound level exceeded during a period of time. For example, the L_{90} sound level is the sound level exceeded during 90% of the measurement period. If the measurement period is 60 minutes long, then the L_{90} is the sound level exceeded during 54 minutes. The L_{90} is generally considered to be the "background" sound level, the baseline level that is present most of the time. Another commonly used statistical level is the L_{10} . The L_{10} is the sound level exceeded during only 10% of the measurement period. If the measurement period is 60 minutes long, then L_{10} is the sound level exceeded during only 10% of the measurement period. If the measurement period is 60 minutes long, then L_{10} is the sound level exceeded during only 6 minutes of the measurement period. L_{10} can be used to quantify the fluctuating sound levels in an environment. L_1 and L_5 are also sometimes used for this purpose.

CITY OF COLUMBIA HEIGHTS PLANNING COMMISSION

NOTICE OF PUBLIC HEARING

Notice is hereby given that the Planning Commission of the City of Columbia Heights will conduct a public hearing in the City Council Chambers of City Hall at 3989 Central Avenue NE on Tuesday, October 1, 2024, at 6:00 p.m. The order of business is as follows:

A request for a Site Plan Review (under one acre) was made proposing demolition of the existing office building in preparation for a new construction car wash and a Conditional Use Permit for an over-height sound barrier at 999 50th Avenue NE. Section 9.104 (N) of the Zoning Ordinance requires the Planning Commission to hold a public hearing on the Site Plan Review and make findings before approving or denying the application. The Planning Commission will provide a recommendation on the Conditional Use Permit for the over-height sound barrier to the City Council for consideration at the October 14, 2024 Council meeting.

Notice is hereby given that all persons having an interest will be given an opportunity to be heard. For questions and a full description of the proposals, please contact Andrew Boucher, City Planner, at (763) 706-3673.



City of Columbia Heights | Community Development Department 3989 Central Avenue NE, Columbia Heights, MN 55421 • Ph: 763-706-3670 • Fax: 763-706-3671 • www.columbiaheightsmn.gov

NOTICE OF PUBLIC HEARING – OCTOBER 1, 2024

2015-3 IH2 BORROWER LP 1717 MAIN ST STE 2000 DALLAS, TX 75201

Date of Hearing: October 1, 2024

- Subject: Public Hearing Notice Site Plan Review proposing demolition of an existing vacant building in preparation for a new construction car wash; Conditional Use Permit for an over-height sound barrier.
- Subject Property: 999 50th Avenue NE Columbia Heights, MN 55421

Dear Resident/Affected Property Owner:

The City of Columbia Heights has received an application for a Site Plan Review proposing demolition of the existing office building at 999 50th Avenue NE in preparation for a new construction car wash and a Conditional Use Permit for an over-height sound barrier. Section 9.104 of the Zoning Ordinance requires the Planning Commission to hold a public hearing to approve the Site Plan Review for the car wash and provide a recommendation to the City Council on the Conditional Use Permit for the over-height sound barrier.

You are receiving this notice because the property that you own (Affected Property), and/or reside in, is located within 350 feet of the Subject Property. The Planning Commission of the City of Columbia Heights will hold a Public Hearing on this matter on <u>Tuesday, October 1, 2024 at 6:00 p.m.</u> in the City Council Chambers of Columbia Heights City Hall, located at 3989 Central Avenue NE. A map of the Subject Property is attached. A full copy of the application is on file at City Hall and is available for review upon request.

You are welcomed and encouraged to participate in the Public Hearing for this matter by attending the October 1, 2024 Planning Commission meeting. If you cannot attend the meeting, but would like to provide input, you can submit correspondence via email to aboucher@columbiaheightsmn.gov or by mail at:

City of Columbia Heights Attn: Community Development 3989 Central Avenue NE Columbia Heights, MN 55421

You can participate in the meeting live and online by using Microsoft Teams at the login link below or call-in:

Join Microsoft Teams Meeting Online

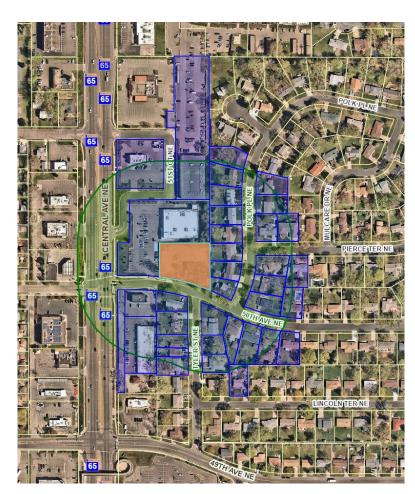
Meeting ID: 252 58 988 371 Passcode: ugquG3

Dial-in for Microsoft Teams Meeting +1-312-626-6799 If you have any questions about this proposal, please do not hesitate to contact the City of Columbia Heights Community Development Division at (763) 706-3673.

Sincerely,

Andrew Boucher Community Development Planner, City of Columbia Heights

**** Landowners (Commercial and Residential):** If you do not reside on the Affected Property, located 350 feet from the Subject Property, it is your responsibility to share this notice with your tenants. This notice should be posted in a public place on your property or mailed directly to the tenants residing or leasing space on the Affected Property.



-SUBJECT PROPERTY LOCATION-

(Highlighted in orange)

Name

2015-3 IH2 BORROWER LP A AND A PROPERTIES LLP ALDI INC (MINNESOTA) **ALEXON DANA A & SHARI** ALI, FADUMO MOHAMOUD ALVARADO, JAIME R BERG PAULA ELIZABETH CANTOS MARCO A ROJAS COLOMBO TRUSTEE MARK R CORNELIUS, CHRISTOPHER S DAHL STREET PROPERTIES LP HOLKESTAD PAIGE LORELLE JAY'S PROPERTIES LLC **KEHRWALD TRUSTEE THOMAS L** KNUDTSON MARLENE S KOPONEN TRUSTEE, ROBERT H LEMA, MARIA ELVIA LHAMO, SANGYAL OLSON DEAN M ETAL P&L REAL ESTATE 3 LLC PATEL, ANITA M PETERSON R M & PODANY S R PRECISION PROPERTIES LLC **RIFAI, SAMIHA ROGERS LINDA R** SANCHEZ LOPEZ CRISTOBAL SANCHEZ QUEVEDO LORENA SIGCHA AYORA SANDRO NESTORIO STOVER, MARY LOUISE STURDEVANT JOSEPH A THIRD STREET INDUSTRIES LLC **TOBASI PROPERTIES LLC** VANGSGARD, JOEL M VUE MIHOKO KUATUKNUE WHITE CASTLE SYSTEM INC WHITNEY, TYLER J

Address 1717 MAIN ST STE 2000 527 PARK PL PO BOX 460049 DEPT 501 **1035 LINCOLN TER NE** 4920 TYLER ST NE 1100 50TH AVE NE **1100 PIERCE TER NE** 700 N MORGAN AVE 1105 50TH AVE NE 7890 QUEENSLAND LN N 526 HAWTHORNE WOOD DR 1060 POLK PL 16600 86TH AVE N 1060 50TH AVE NE 1070 POLK PL NE 1035 POLK PL NE 4924 TYLER ST NE 1020 50TH AVE NE 1775 15TH AVE NW 3312 HIGHLAND DR 1101 PIERCE TER NE **1120 PIERCE TER NE** 3800 N WASHINGTON AVE 608 37TH AVE NE 1057 POLK PL NE 1051 POLK PL NE 4918 TYLER ST NE 1085 50TH AVE NE 1040 50TH AVE NE 6182 HEATHER CIR NE 3429 EDWARD ST NE **10869 BENTWATER LN** 1061 POLK PL NE **1085 PIERCE TER NE** PO BOX 1498 4922 Tyler Street NE

City DALLAS, TX 75201 VADNAIS HEIGHTS, MN 55127

HOUSTON, TX 77056 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 MINNEAPOLIS, MN 55411 COLUMBIA HEIGHTS, MN 55421 MAPLE GROVE, MN 55311 EAGAN, MN 55123 COLUMBIA HEIGHTS, MN 55421 MAPLE GROVE, MN 55311 MINNEAPOLIS, MN 55421 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HGTS, MN 55421 NEW BRIGHTON, MN 55112 BURNSVILLE, MN 55337 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 MINNEAPOLIS, MN 55412 MINNEAPOLIS, MN 55421 COLUMBIA HGTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HGTS, MN 55421 FRIDLEY, MN 55432 ST ANTHONY, MN 55418 WOODBURY, MN 55129 COLUMBIA HEIGHTS, MN 55421 COLUMBIA HEIGHTS, MN 55421 COLUMBUS, OH 43216 COLUMBIA HEIGHTS, MN 55421