CITY OF ST. HELENS PLANNING DEPARTMENT

LAND USE FILE BRIEF

TO:	**Planning Commission**
FROM:	**Jacob A. Graichen, AICP, City Planner**
	Jenny Dimsho, AICP, Associate Planner & Community Development Project Manager
FILE:	**Appeal, AP.1.23**
DATE:	**May 2, 2023**

This memo is not a substitute for the staff report or record of the file. It is a review aid.

This is an appeal of a Sensitive Lands permit for a tall (12' +/-) retaining wall. "Sensitive Lands" is based on manipulating a slope >25 grade. In this case with a wall.

The lot in question is the end of an attached single-family dwelling subdivision. This end is bordered by city-owned property, which is generally a slope down to wetlands that are significant to the city.

Owner of the adjacent property has appealed. There are several concerns expressed; please review those materials.

One important consideration is the original Sensitive Lands permit did not consider the wall being a "structure" for the purpose of applying basic yard (setback) rules. This is discussed more in the staff report of this appeal and reflected in the draft conditions. Remember, the general purpose of setbacks is to help preserve air, light and space.

CITY OF ST. HELENS PLANNING DEPARTMENT
STAFF REPORT
Appeal, AP.1.23

DATE: May 2, 2023
TO: Planning Commission
FROM: Jennifer Dimsho, AICP, Associate Planner
Jacob A. Graichen, AICP, City Planner

APPELLANT: Infinity Investments-Puget Sound, LLC
OWNER: LaGrande Townhomes, LLC

ZONING: General Residential (R5)
LOCATION: Lot 10 of Hanna Place Subdivision; 4N1W-4AC-6503
PROPOSAL: Appeal of Sensitive Lands Permit (SL.2.23) for the construction of a retaining wall of up to 12' in height

SITE INFORMATION / BACKGROUND

This is an appeal of a Sensitive Lands Permit (SL.2.23) which was administratively approved with conditions on March 27, 2023.

Lot 10 is an undeveloped lot of the Hanna Place Subdivision (SUB.1.17) located off N. 15th Street. To the north, there is a dedicated wetland Tract (Tract A) because it contains a portion of the upland protection zone of Wetland J-3. The City took ownership of Tract A. Lot 9 to the south of Lot 10 is another undeveloped lot of the Hanna Place Subdivision. There is a steep rock bluff which begins at the northwest corner of Lot 9 and bisects Lot 10.

PUBLIC HEARING & NOTICE

Public hearing before the Planning Commission: May 9 ,2023

Notice of this proposal was sent to surrounding property owners within 100' feet of the subject property(ies) on April 18, 2023, via first class mail. Notice was sent to agencies by mail or e-mail on the same date.

Notice was published on April 26, 2023, in The Chronicle newspaper.

APPLICATION COMPLETENESS

Based on the original submittal of SL.2.23 of March 6, 2023, the 120-day rule (ORS 227.178) for final action for this land use decision is **July 9, 2023**

AGENCY REFERRALS & COMMENTS

There are no relevant agency comments on this AP.1.23 staff report. There are City Engineering comments embodied in the original conditions of approval for the SL.2.23 approval.

APPLICABLE CRITERIA, ANALYSIS & FINDINGS

Important: This report is not a stand-alone document and is meant to be reviewed with the original Sensitive Lands decision (SL.2.23) and all other attachments.

SHMC 17.44.040 (1) (b) says that development with a SL approval will not result in adverse on-site and off-site effects to life or property. The appellant has concerns about adverse impacts to the property which abuts the proposed retaining wall. They reference required *setbacks* (also known as yards) for *structures* which are defined below.

SHMC 17.16.010 General and land use definitions

> "Structure" means something constructed or built and having a fixed base on, or fixed connection to, the ground or another structure, and platforms, walks, and driveways more than 30 inches above grade and not over any basement or story below. Tents used for carports and/or other storage in excess of 15 consecutive days or 30 accumulative days in a calendar year shall be considered structures for purposes of this code.
>
> "Yard" means an open space on a lot which is unobstructed from the ground upward, by buildings and structures for example, except as otherwise provided in this code. There are four types of yards: front, interior, rear, and side. When determining setback, "yard" does not include an access easement or street right-of-way.

Currently, there is 2' to 25' between the appellant's property line and the rock bluff. This is currently open space, unobstructed from the ground upward by a structure (i.e., setback from the natural rock bluff). The proposed retaining wall has a proposed 0' setback, bringing the structure into what is currently unobstructed open space. Therefore, this wall should be regulated as a "structure" subject to yard requirements established by the General Residential (R5) zoning district.

In the R5 zoning district, structures are required to have 10' rear yards and 5' side yards. It is recommended that a condition be added to require revisions to the plans that meet yard requirements. Alternatively, the applicant can receive a variance to the rear and side yard requirements.

Note that the original SL.2.23 condition 2a requires revisions to the plans to ensure the wall, outfall, and all related outfall infrastructure is located entirely on the subject property. This will require a minimum of 2' along the side and rear yard for required stormwater rip rap, depending on the final approved plans for the stormwater outfall location. Final stormwater plans must be designed to prevent runoff onto neighboring properties and approved by City Engineering.

CONCLUSION & RECOMMENDATION

The Commission may affirm, reverse, or modify the decision subject to appeal.

Based on the facts and findings herein, if the Planning Commission modifies the Sensitive Lands Permit, staff recommends al least the following condition in addition to all conditions of approval included in the SL.2.23 staff report (attached):

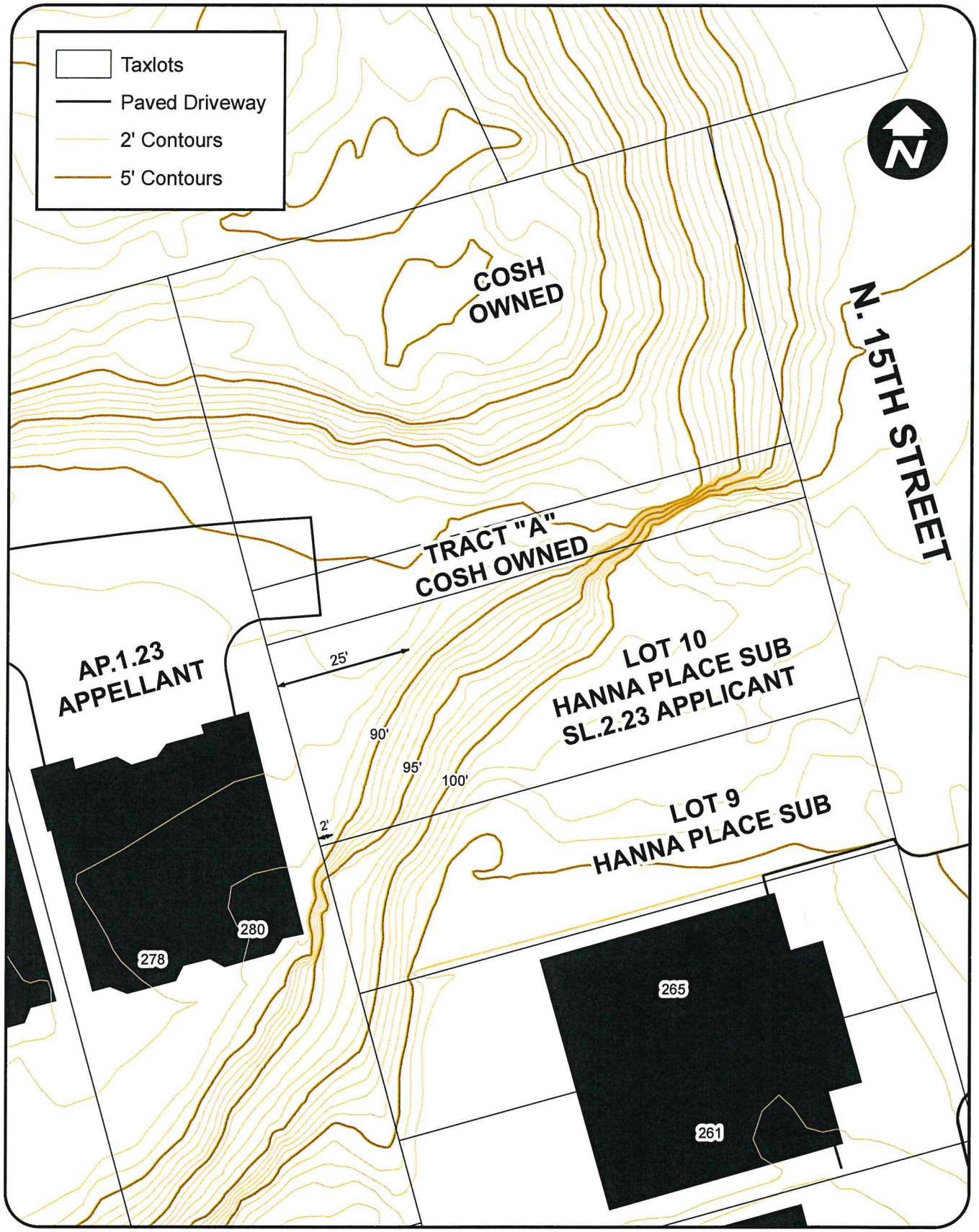
1. Condition 2.a shall be revised to also include relocation of the retaining wall so that it meets the required yard (setback) requirements for the R5 zoning district unless variance(s) is/are granted to allow less.

2. << Anything else from the Commission to be added? >>

   NOTE: Additional conditions must be related to the SHMC 17.44.040 Approval Standards included in the SL.2.23 staff report.

Attachments: Topography Map Exhibit
Sensitive Lands Permit (SL.2.23) Staff Report & Attachments
Appellant Application (6 pages)
Applicant's SL.2.23 Narrative (2 pages)

AP.1.23 (SL.2.23) Topography Map Exhibit



265 Strand Street
St. Helens, Oregon
97051

NOTICE OF ADMINISTRATOR'S LIMITED LAND USE DECISION
March 27, 2023

RE: Sensitive Lands Permit SL.2.23

You are receiving this notice of a decision by the City of St. Helens Planning Administrator because you are entitled to it by law. A&E Builders LLC submitted an application to build a retaining wall up to approximately 12' in height on property located at Lot 10 of the Hanna Place Subdivision (Vacant Lot on N. 15th Street north of 265 N. 15th Street). The site is also known as Columbia County Assessor Map No. 4N1W-4AC-6503. The City Planning Administrator is authorized by the City of St. Helens Development Code (SHMC Title 17) to review Sensitive Lands Permit applications and approve, deny or approve them with conditions.

Attached is a complete report of the proposal, which includes the criteria and evaluation to approve or deny the proposal, and the decision. Comments are invited and acceptable **no later than 14 days following the date of this notice**. Any issues which may provide the basis for an appeal must be raised prior to the expiration of the comment period. Issues must be raised with sufficient specificity to enable the decision-maker to respond to the issue. In order to be considered, comments pertaining to this decision should be directed to:

City of St. Helens Planning Department
265 Strand Street
St. Helens, OR 97051

If there are any agency or citizen comments that would affect the decision at the end of the comment period, the City will send another notice of the final decision to all that submitted evidence and/or comments. The final decision can be appealed or amended by those entitled to do so in accordance with SHMC 17.24.290. If no comments are received during the comment period or comments are received that don't warrant a revised decision, this decision will become final subject to an appeal period of **ten (10) calendar days from the date the comment period ends**. If no revised decision is made, there will not be any additional notice for the appeal period.

The application and details are on file at City Hall and are available for review during normal business hours. Copies are available for a nominal charge.

If you have any questions, please contact this office.

CITY OF ST. HELENS PLANNING DEPARTMENT
ADMINISTRATIVE STAFF REPORT

File Number: Sensitive Lands Permit, **SL.2.23**

Proposal: Sensitive lands are lands potentially unsuitable for development because of their location within area identified by SHMC 17.44.010. Sensitive land areas are designated as such to protect heath, safety, and welfare of the community.

This proposal includes construction of a retaining wall up to approximately 12' high and related stormwater infrastructure.

This impacts at least the following sensitive land types known to be on the subject property:

- Steep slopes of 25% of greater and unstable ground.
- Remediation of impacts to wetland protection zone

Location: Lot 10 of the Hanna Place Subdivision (N. 15th Street)
Map/Taxlot: 4N1W-4AC-6503
Applicant: A&E Builders, LLC
Owner: LaGrande Townhomes, LLC
Zoning: General Residential (R5)

* * * * *

CONCLUSION & DECISION

Based upon the facts and findings herein, the City Planning Administrator **APPROVES** this **Sensitive Lands Permit** with conditions as detailed in the next section of this report.

Jacob A. Graichen, AICP, City Planner

MARCH 27, 2023
Date

* * * * *

CONDITIONS OF APPROVAL

Please note that the requirements of other City of St. Helens departments (e.g., Building, Engineering, and Administration) and other agencies (local, state and/or federal) may apply to this proposal. This ***local land use approval*** decision does not exempt and is not a substitute for those requirements.

The following conditions apply to the *local land use approval* aspect of this proposal:

1. This **Sensitive Lands Permit** approval is valid for a limited time (to establish use or conduct activity) pursuant to SHMC 17.44.030. This Sensitive Lands Permit approval is valid for 1.5 years. A 1-year extension is possible but requires an application and fee. If the approval is not vested within the initial 1.5 year period or an extension (if approved), this is no longer valid and a new application would be required if the proposal is still desired. See SHMC 17.44.030.

2. **The following shall be required before any development or building permit issuance for the proposed wall or before any commence of wall construction:**

    a. Revised wall plans to ensure the wall, outfall, and all related outfall infrastructure is located entirely on Lot 10 (the subject property). Note that per condition 2c, the wall must be set back from property line to contain outlet protection rip rap.

b. Additional wall profile and edge conditions to detail how the wall will tie into the existing rock bluff to ensure all rock/fill will be contained on Lot 10 (the subject property).

c. Outfall and related infrastructure shall match the Outlet Protection Rip Rap & Rip Rap Details attached. In addition, stormwater infrastructure shall not be designed to encourage runoff onto existing pavement below which is along the west side of Lot 10's north lot line. The final outfall drainage plan shall be reviewed and approved by City Engineering.

d. Plans detailing how removal of rock and fill dumped onto City-owned property will be removed **and** how the wall and outfall will be installed without causing additional impact to the wetland and upland protection zone to be approved by City staff.

Applicant shall attest in writing that they understand further impacts to the upland protection zone will result in additional permitting and/or enforcement.

3. **The following shall be required before any development or building permit issuance to develop Lots 9 and 10 with dwellings:**

a. The proposed wall shall be completed and approved with all requirements met. This includes written confirmation from the registered professional engineer who designed the wall that they have personally and physically inspected it and acknowledge that it has been constructed per the final approved plans.

b. All previous unpermitted impacts to wetlands or wetland protection zones shall be abated.

c. Any new impacts to wetlands or wetland protection zones shall be resolved including any necessary permitting. This condition does not indicate this SL permit allows such. See condition 4.

d. Revegetation of all areas where natural vegetation has been removed due to grading on Lot 9 and Lot 10 of the Hanna Place Subdivision.

e. Plans for development shall specify revegetation of bare earth as a specific requirement of completion of the dwelling(s).

4. This SL permit does not allow any new impacts to wetlands or wetland protection zones. It does require previous unapproved impacts to be abated.

5. Owner/Developer shall be solely responsible for obtaining all approvals, permits, licenses, and authorizations from the responsible Federal, State and local authorities, or other entities, necessary to perform land clearing, construction and improvement of the subject property in the location and manner contemplated by Owner/Developer. City has no duty, responsibility or liability for requesting, obtaining, ensuring, or verifying Owner/Developer compliance with the applicable State and Federal agency permit or other approval requirements. This land use approval shall not be interpreted as a waiver, modification, or grant of any State or Federal agency or other permits or authorizations.

6. Owner/applicant is still responsible to comply with the City Development Code (SHMC Title 17).

* * * * *

APPLICABLE CRITERIA, ANALYSIS & FINDINGS

Permitting History: Lot 10 is an undeveloped lot of the Hanna Place Subdivision (SUB.1.17). To the north, there is a dedicated wetland Tract (Tract A) because it contains a portion of the upland protection zone of Wetland J-3. The City took ownership of Tract A. Lot 9 to the south of Lot 10 is another undeveloped lot of the Hanna Place Subdivision. There is a steep rock bluff which begins at the northwest corner of Lot 9 and bisects Lot 10.

In January 2023, an enforcement issue occurred on the site that resulted in the application of a grade/fill permit (Permit No. 749-23-000041-SD). The enforcement was to address rock and fill which was dumped onto the City's property (Tract A). See before/after photos below.

The applicant is proposing to build an engineered retaining wall of approximately 12' in height and related stormwater drainage infrastructure along the western and northern property lines of Lot 10 as part of the development of Lot 9 and Lot 10.

* * *

SHMC 17.44.015(4)(a) ¥ Sensitive Lands Permits issued by the Director

(4) Sensitive Lands Permits Issued by the Director.
(a) The director shall have the authority to issue a sensitive lands permit in the following areas:
(i) Drainageways;
(ii) Slopes that are 25 percent or greater or unstable ground; and
(iii) Wetland areas.
(b) Sensitive lands permits shall be required for the areas in subsection (4)(a) of this section when any of the following circumstances apply:
(i) Ground disturbance(s) or landform alterations;
(ii) Repair, reconstruction, or improvement of an existing structure or utility, the cost of which equals or exceeds 50 percent of the market value of the structure prior to the improvement or the damage requiring reconstruction;
(iii) Residential and nonresidential structures intended for human habitation; and
(iv) Accessory structures.

Findings: The proposal involves constructing a retaining wall up to approximately 12' in height in an area with a slope that is greater than 25 percent and unstable ground.

* * *

SHMC 17.44.040 ¥ Approval standards

(1) The appropriate approval authority shall approve or approve with conditions an application request for a sensitive lands permit on slopes of 25 percent or greater or unstable ground in SHMC 17.44.015(2) and (4) based upon findings that all of the following criteria have been satisfied:
(a) The extent and nature of the proposed landform alteration or development will not create site disturbances to an extent greater than that required for the use;
(b) The proposed landform alteration or development will not result in erosion, stream sedimentation, ground instability, or other adverse on-site and off-site effects or hazards to life or property;
(c) The structures are appropriately sited and designed to ensure structural stability and proper drainage of foundation and crawl space areas for development with any of the following soil conditions: wet/high-water table; high shrink-swell capability; compressible/organic; and shallow depth-to-bedrock; and
(d) Where natural vegetation has been removed due to landform alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in accordance with Chapter 17.72 SHMC.

Findings:

(a) One aspect of this proposal is an enforcement issue which created impacts on the city-owned wetland protection area, Tract A. The applicant must demonstrate how removal of rock and fill dumped onto city-owned property will be removed **and** how the wall and outfall will be installed without causing additional impact to the wetland and upland protection zone to be approved by city staff.

(b) There are two potential off-site impacts related to this proposal: erosion of fill onto adjacent properties and stormwater runoff. For erosion control, a condition requiring additional wall profile and edge conditions to detail how the wall will tie into the existing rock bluff to ensure all rock/fill will be contained on Lot 10 is needed. For stormwater runoff, the wall location must be revised to show that the stormwater outfall and related infrastructure are located entirely on Lot 10. This will require shifting the wall back from the property line to

accommodate the required outlet rip rap protection shown in the attached details. In addition, the location of where the outfall daylights cannot be designed to encourage runoff onto existing pavement below (located along the northwest side of the lot). The final outfall drainage plan to be reviewed and approved by City Engineering.

The proposal could impact the location and design of the private sanitary sewer lateral that will connect the development of the lot to the sanitary sewer main. As there is no building permit to develop Lot 9 and 10 yet, there is no approved lateral.

Note because the Hannah Place subdivision is an attached single-family development and there are only two lots that are undeveloped (with no abutting attached dwelling) they have to be developed in tandem. This is why some conditions apply to Lot 9.

(c) Final outfall drainage plan to be reviewed and approved by Engineering Department to ensure this is met.

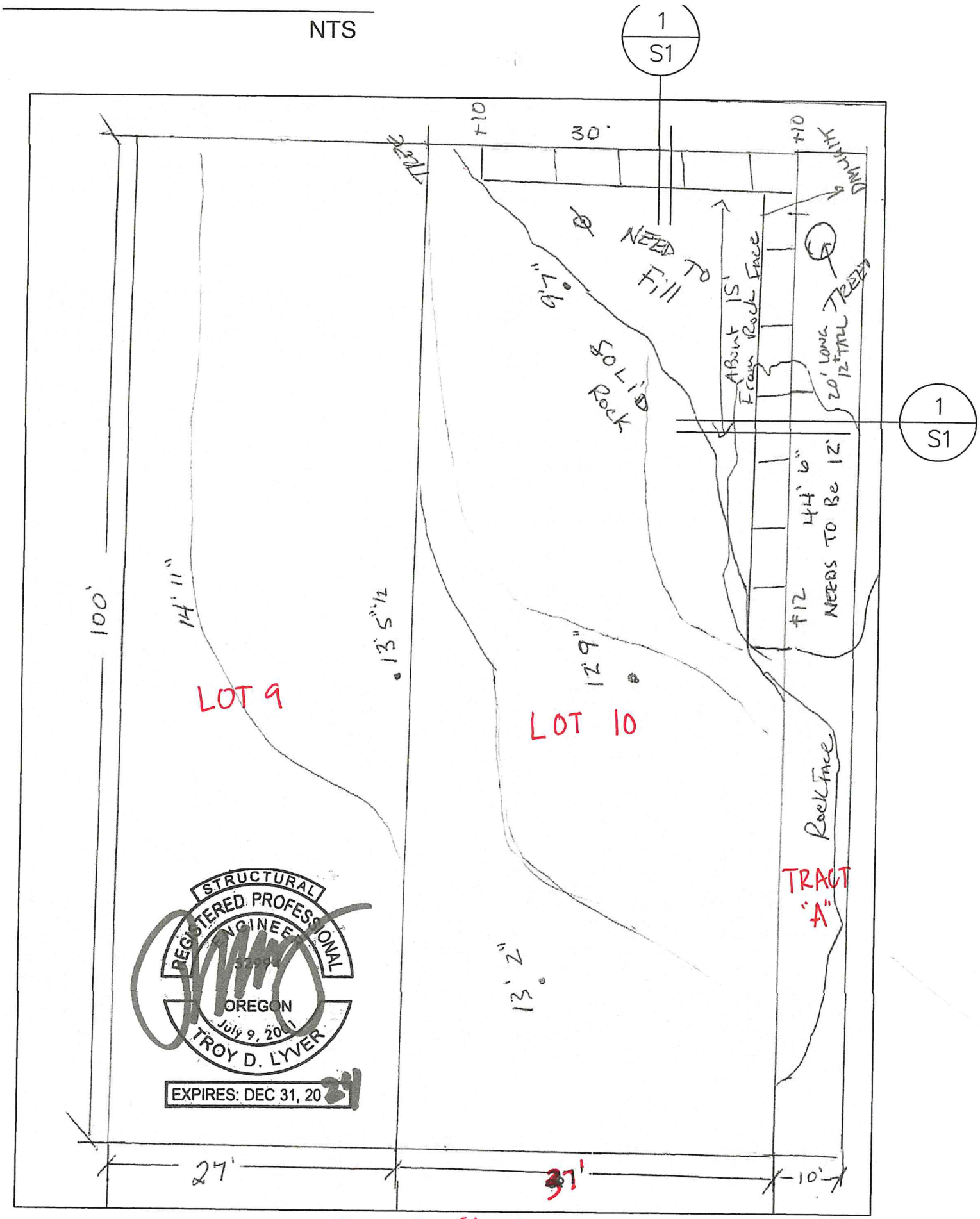
(d) Revegetation of all areas where natural vegetation has been removed due to grading on Lot 9 and Lot 10 of the Hanna Place Subdivision is required.

* * * * *

ATTACHMENTS

- Site Plan
- Outlet Protection Rip Rap
- Rip Rap Details
- "Ultra Block" Segmental Retaining Walls Engineering Plans

NTS



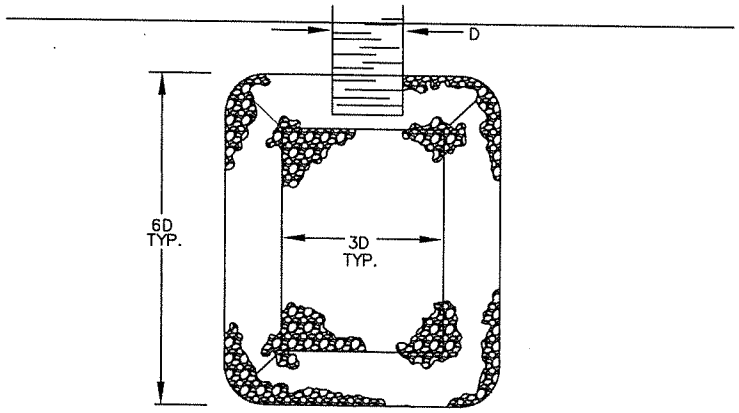
STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
OREGON
July 9, 2011
TROY D. LYVER
EXPIRES: DEC 31, 20

2 S1 OVERALL SITE PLAN

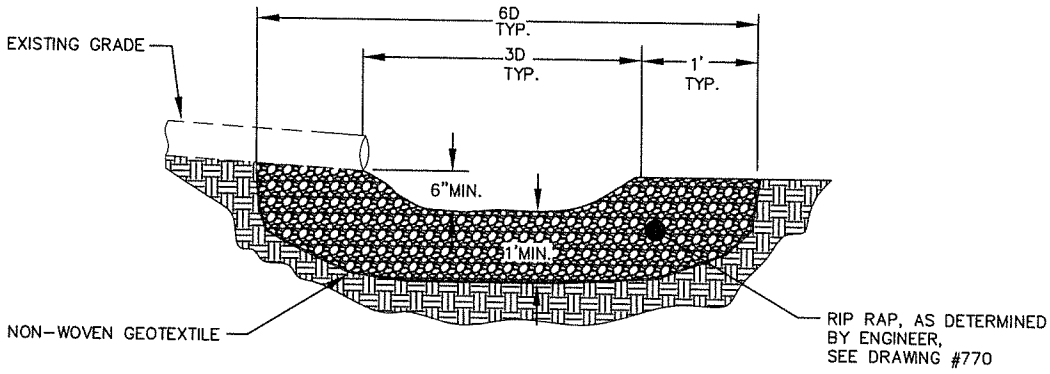
NTS

N

FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.



PLAN VIEW



PROFILE

NOTE:

1. ADDITIONAL BMP'S ARE REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.

OUTLET PROTECTION
RIP RAP

DRAWING NO. 820

REVISED 10-31-19

Clean Water Services

RIPRAP:

- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.
- ROUNDED ROCK WILL NOT BE ACCEPTED UNLESS APPROVED BY THE DISTRICT.

RIPRAP INSTALLATION:

- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

CLASS 50	CLASS 100	CLASS 200	CLASS 700	CLASS 2000	PERCENT (BY WEIGHT)
		WEIGHT OF ROCK (LBS)			
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10

RIP RAP DETAILS

DRAWING NO. 790

REVISED 10-31-19

Clean Water Services

LYVER ENGINEERING AND DESIGN
7950 SE 106th, Portland, Oregon 97266
Ph: 503.705.5283 Fax: 503.482.7449 TroyL@Lyver-EAD.com www.Lyver-EAD.com

Design for;

A&E Builders

"ULTRA BLOCK"
SEGMENTAL RETAINING WALLS
271 and 275 North 15th Street
St. Helens, Oregon

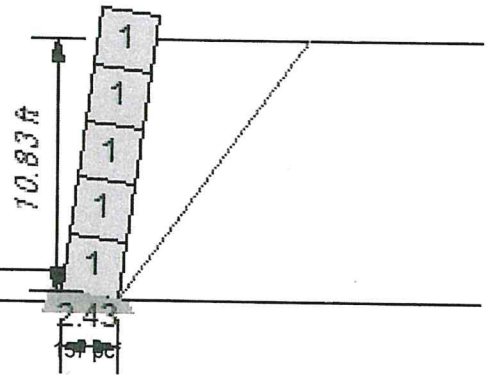
These calculations are for the design and detailing of a new ULTRA BLOCK segmental retaining walls at the project listed. All other information is by others and is outside the scope of these calculations. The soils values used are from the code minimums and review of on-site conditions without a provided geotechnical report.

The information contained is for the sole use of A&E Builders and their agents to construct the wall as described.

Job Number 22-155
August 12, 2022

UltraWall

Project:	271 and 275 North 11th Street
Location:	St. Helens, Oregon
Designer:	TDL
Date:	8/12/2022
Section:	Section 1
Design Method:	NCMA_09_3rd_Ed, Ignore Vert. Force
Design Unit:	UltraBlock



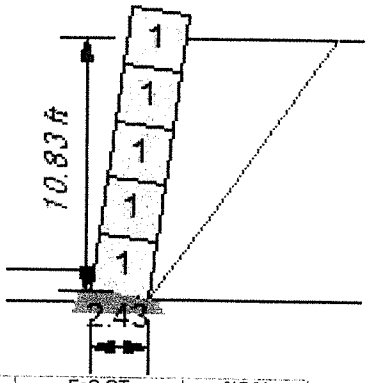
SOIL PARAMETERS	φ	coh	γ
Retained Soil:	30 deg	0 psf	120 pcf
Foundation Soil:	30 deg	0 psf	120 pcf
Leveling Pad: Crushed Stone	40 deg	0 psf	135 pcf

GEOMETRY

Design Height:	10.83 ft	Live Load:	0 psf
Wall Batter/Tilt:	0.00/ 8.00 deg	Live Load Offset:	0.00 ft
Embedment:	0.83 ft	Live Load Width:	0 ft
Leveling Pad Depth:	0.50 ft	Dead Load:	0 psf
Slope Angle:	0.0 deg	Dead Load Offset:	0.0 ft
Slope Length:	0.0 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0.0 ft	D.L. Embedment:	0 ft
Leveling Pad Width:	3.46 ft		
Vert δ on Single Dpth			

FACTORS OF SAFETY

Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		



RESULTS

FoS Sliding:	2.28 (lvlpd)	FoS Overturning:	1.56
Bearing:	1613.00	FoS Bearing:	3.68

Name	Elev.[dpth]	ka	Pa	PaT	FSsl	FoS OT	%D/H
1	9.71[1.12]	0.244	18	18	>100	--	220%
1	7.28[3.55]	0.244	185	185	27.72	31.16	69%
1	4.84[5.99]	0.244	524	524	11.18	4.33	41%
1	2.41[8.42]	0.244	1038	1038	6.40	2.38	29%
1	-0.02[10.85]	0.244	1725	1725	2.28	1.56	23%

Column Descriptions:

ka: active earth pressure coefficient
Pa: active earth pressure
Paq: live surcharge earth pressure
Paq2: live load 2 surcharge earth pressure
Paqd: dead surcharge earth pressure
(PaC): reduction in load due to cohesion
PaT: sum of all earth pressures
FSsl(lvl Pad): factor of safety for sliding at each layer. (FS sliding below the leveling pad)
FSot: factor of safety of overturning about the toe.

RETAINING WALL UNITS

STRUCTURAL PROPERTIES:

N is the normal force [or factored normal load] on the base unit
The default leveling pad to base unit shear is 0.8 tan(φ) [AASHTO 10.6.3.4] or
may be the manufacturer supplied data. φ is assumed to be 40 degrees for a stone leveling pad.

CALCULATION RESULTS

OVERVIEW

UltraWall calculates stability assuming the wall is a rigid body. Forces and moments are calculated about the base and the front toe of the wall. The base block width is used in the calculations. The concrete units and granular fill over the blocks are used as resisting forces.

EARTH PRESSURES

The method of analysis uses the Coulomb Earth Pressure equation (below) to calculate active earth pressures. Wall friction is assumed to act at the back of the wall face. The component of earth pressure is assumed to act perpendicular to the boundary surface. The effective δ angle is δ minus the wall batter at the back face. If the slope breaks within the failure zone, a trial wedge method of analysis is used.

EXTERNAL EARTH PRESSURES

Effective δ angle (2/3 retained phi)	δ =20.0 deg
Coefficient of active earth pressure	ka =0.244
External failure plane	ρ = 53 deg
Effective Angle from horizontal	θ =98.00 deg
Coefficient of passive earth pressure: kp = (1 + sin(φ)) / (1 - sin(φ))	kp =0.00

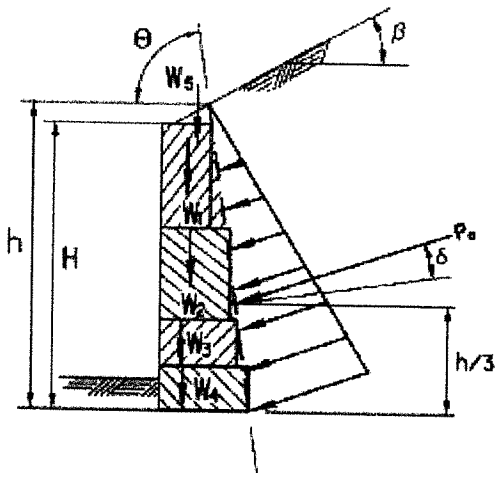
$$k_a = \frac{\sin^2(\theta + \phi')}{\Gamma[\sin^2 \sin(\Theta - \delta)]}$$

in which:

$$\Gamma = \left[1 + \sqrt{\frac{\sin(\phi' + \delta)\sin(\phi - \beta)}{\sin(\Theta - \delta)\sin(\Theta + \beta)}}\right]^2$$

where :

δ = friction angle between fill and wall (degrees)
β = angle of fill to the horizontal (degrees)
θ = angle of bck face of wall to the horizontal (degrees)
φ'f = effective angle of internal friction (degrees)



FORCE DETAILS

The details below shown how the forces are calculated for each force component. The values shown are not factored. All loads are based on a unit width (ppf / kNpm).

Layer	Block Wt	Soil Fill Wt	Soil Wt
1	846	0	
2	846	0	
3	846	0	
4	846	0	
5	846	0	

Block Weight (Force v (Block Wt + Infill Soil)) = 4230 ppf X-Arm = 2.07 ft
Soils Block Weight (Force v) = 0 ppf X-Arm = 0.00 ft

Active Earth Pressure Pa = 1725 ppf

Pa_h (Force H) = Pa cos(δ - batter) = 1725 x cos(20.0 - (8.0)) = 1687 ppf
Y-Arm = 3.73 ft

Pa_v (Force V) = Pa sin(δ - batter) = 1725 x sin(20.0 - (8.0)) = 359 ppf
X-Arm = 2.88 ft

FORCES AND MOMENTS

The program resolves all the geometry into simple geometric shapes to make checking easier. All x and y coordinates are referenced to a zero point at the middle of the base block for eccentricity calculations.

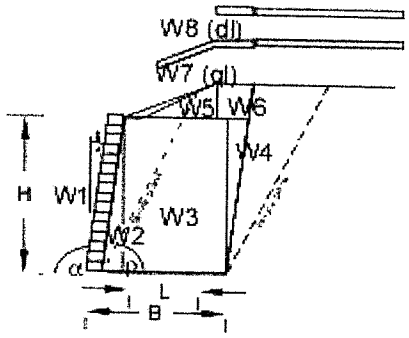
LOADS FOR OVERTURNING ABOUT THE TOE

Name	Force (V)	Force (H)	X-len	Y-len	Mo	Mr
Face Blocks(W1)	4230	--	2.07	--	--	8768
Pa_h	--	1687	--	3.73	6296	--
Pa_v	359	--	2.88	--	--	1034
Sum V / H	4589	1687		Sum Mom	6296	9802

W0: stone within units
W1: facing units
W2: soil wedge behind the face
X-Len: is measured from the center of the base (+) Driving, (-) Resisting.
Pa_h: horizontal earth pressure
Pa_v: vertical earth pressure
Pq_h: horizontal surcharge pressure
Pq_v: vertical surcharge pressure

BEARING LOADS: NCMA

Name	Force (V)	Force (H)	X-len	Y-len	Mo	Mr
Face Blocks(W1)	4230	--	-0.86	--	--	-6814
Pa_h	--	1687	--	3.73	6296	--
Pa_v	359	--	-1.67	--	--	-786
Sum V / H	4589	1687		Sum Mom	6296	-7600



BASE SLIDING

Sliding at the base is checked at the block to leveling pad interface between the base block and the leveling pad.

Forces Resisting sliding = W1 + Pav
4230 + 359

N =4589 ppf

Resisting force at pad = (N * 0.8 * tan(slope) + intercept x L)
4589 x0.8 x tan(40.0) + 0.0

Rf =3,851

Driving force is the horizontal component of
Pah
1687

Df =1,687

FSsl = Rf / Df

FSsl =2.28

OVERTURNING ABOUT THE TOE

Overturning at the base is checked by assuming rotation about the front toe by the block mass and the soil retained on the blocks. Allowable overturning can be defined by eccentricity (e/L). For concrete leveling pads eccentricity is checked at the base of the pad.

Moments Resisting Overturning = M1 + MPav
8768 + 1034

Mr =9802ft-lbs

Moments causing Overturning = MPah
6296

Mo =6296ft-lbs

FSot = Mr / Mo
FSot =9802 / 6296

FSot =1.56

ECCENTRICITY AND BEARING

Eccentricity is the calculation of the distance of the resultant away from the centroid of mass. In wall design the eccentricity is used to calculate an effective footing width.

Calculation of Eccentricity

SumV = + W1 + Pav

+ 4230 + 359

SumV = 4589

Moment Resisting

Mr = -7600

Moment Driving

Md = 6296

e = (SumMr + SumMd)/(SumV)

e = (-1304 /4588.98)

e =0.000 ft

BEARING

Bearing Capacity Factors [Foundation]
Nc = 30.14
Nq = 18.40
Ng = 22.40

Shape Factors [Foundation]
Sc = 1.06
Sq = 1.06
Sg = 0.96

Modified Bearing Capacity Factors [Foundation]
Ncm = Nc x Sc = 31.98
Nqm = Nq x Sq x df = 21.29
Ngm = Ng x Sg = 21.51

Depth Correction Factor
df = 1.09

Water Correction Factor
Cwq = 1.00
Cwg = 1.00

Base width at foundation, Bf
Bf = Wu + height of leveling pad
Bf' = Bf - 2e
2.96 - 2 x 0.00

B' = 2.96 ft

Calculation of Bearing Pressures on Foundation
qn = (c * Ncm + q * Nqm * Cwq + 0.5 * γ * B' * Ngm * df * Cwq)
[(0.00 x 31.98) + (100 x 21.29 x 1.00) + (0.5 x 120 x 2.96 x 21.51 x 1.09 x 1.00)]

qult =5938 psf

Nbrg = Bearing at Foundation Level

NBrg =4772 psf

Calculate Ultimate Bearing, qult
Bearing Pressures (σ)
Calculated Factor of safety for bearing

qult =5938 psf
Nbrg/Bf' =1613 psf
qult/σ =3.68

PROJECT STRUCTURAL NOTES

GENERAL INFORMATION

1. THE CONTROLLING DESIGN CODE IS THE 2019 OSSC.
2. THE PROJECT WAS DESIGNED FOR THE FOLLOWING LOADS.
   A. SOIL DESIGN VALUES: (CODE MINIMUMS AND ON SITE SOILS)
      EFP (LEVEL): 40 PCF
      FRICTION ANGLE: 32 DEGREES – NATIVE SOILS
      COHESION: 0 PSF
      UNIT WEIGHT: 110 PCF
   B. ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF PLUS 1/3 FOR WIND/EQ
   C. WIND LOAD: 120 MPH EXPOSURE B
   D. SEISMIC LOAD: SITE CLASSIFICATION "D"
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK.
4. ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS. SUBJECT TO REVIEW OF A.O.R. AND E.O.R.

SPECIAL INSPECTIONS

1. SPECIAL INSPECTION REQUIRED SHALL BE PROVIDED PER OSSC CHAPTER 17.

FOUNDATIONS

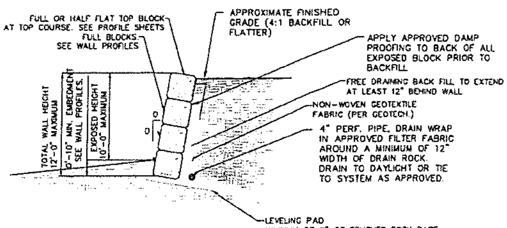
1. WALLS TO BE SUPPORTED ON CRUSHED ROCK BEARING PADS AS SHOWN AND AS REQUIRED BY MANUFACTURER.

CONCRETE BLOCKS:

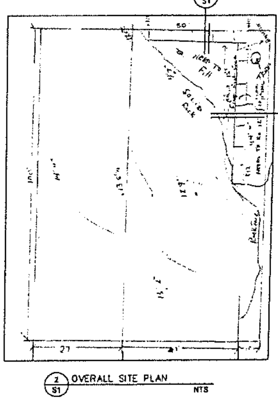
1. ALL CONCRETE BLOCKS TO FOR AS MANUFACTURED BY ULTRA BLOCK INC. ALL STRENGTHS AND DESIGN DIMENSIONS SHALL BE PER THE DETAILS AND THE MANUFACTURER'S SPECIFICATIONS. MINIMUM COMPRESSIVE STRENGTH OF THE BLOCK SHALL BE 2500 PSI.

CONCRETE

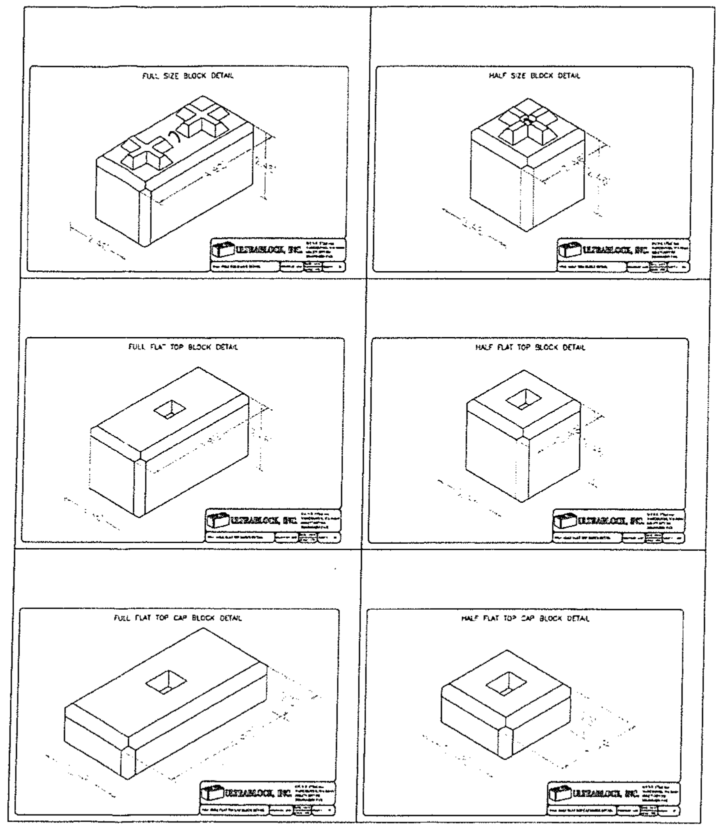
1. ALL CONCRETE SHALL DEVELOP A MINIMUM 28 DAY LAB CURED COMPRESSIVE STRENGTH OF 2000 PSI AS SPECIFIED BY ULTRA BLOCK INC.
2. ALL EXPOSED CONCRETE TO HAVE 5% +/- 1% AIR, BY VOLUME, CONFORMING TO ASTM C 260.



1/S1 TYPICAL SECTION AT ULTRA BLOCK GRAVITY WALL — NTS



2/S1 OVERALL SITE PLAN — NTS



Seal:

LYVER ENGINEERING AND DESIGN
7950 SE 105th, Portland, Oregon 97266

A&E BUILDERS
271&275 NORTH 15TH STREET
ULTRA BLOCK SITE RETAINING WALLS
ST. HELENS, OREGON

LEAD Job #: 22-165

Revisions:
△ -

Date: 08/12/2022
Drawn by: TDL
Checked by: TDL

ULTRA BLOCK WALL SECTION AND DIMENSIONS

Sheet No.
S1

City of St. Helens
Application for Appeal of Land Use Decision

Appellant Name(s): ALAN YORDY Infinity Investments-Puget Sound LLC	**File No. of Land Use Decision being Appealed:** SL.2.23 RECEIVED APR 10 2023 CITY OF ST. HELENS
A	
A	Appellant E-mail Address:

APPEAL INFORMATION

Subject Property Assessor's Map & Tax Lot No.: Lot 10 and 11, Hanna Subdivision	Subject Property Site Address: *Street name if # not assigned* 15th Street, St Helens, OR

Type of Land Use Decision being Appealed: Administrative Decision Regarding Retaining Wall Design/Construction

Statement as to how appellant qualifies to appeal (pursuant to Development Code):
Affected adjacent property owner (letter sent to owner by City of St. Helens, dated March 27, 2023.

Grounds for Appeal: *Include **specific** reference(s) to Development Code and/or Comprehensive Plan provisions which form the basis for the appeal.*

1. The City of St. Helens requires detailed construction documents, including detailed plan and elevation views, in order to permit a construction project. The submission circulated for public review does not meet this basic standard.
2. The minimum back yard requirement is 10 feet from the lot line. This wall is technically part of the improvement and proposed building construction. Using an administrative tool instead of a reinforced concrete wall construction method, this decision negates the back year set-back rule for adjacent properties and appears to place a retaining wall on the property line. This violates the intent of the set back policy and places and large, 12-foot tall structure to create a "tunnel" effect for adjacent properties. The intent of the rear-yard set-back policy is therefore nullified. Additionally, the City of St. Helens places a height limit on back yard fences. This 12-foot wall is at least four feet higher than the fencing requirement and creates a "permanent fence" on the property line that violates city policy.
3. The city code requires that buildings should be "Located to preserve existing trees, topography, and natural drainage in accordance with other sections of this code." This approval violated several of the provisions listed above. First, a mature tree on the edge of the property was cut without consultation or building permit. It provided shade and ground stabiilty near a designated wetland and was not in the path of any construction. Second, the proposed 12-foot wall does not preserve the existing topography. Third special drainage provisions appear to be required (although plans are not sufficiently detailed regarding this matter.
4. The city code requires that building and presumably the 12-foot barrier walls are "Located in areas not subject to ground slumping or sliding." This area continues to be subject to erosion and settling, therefore not in keeping with the code.
5. (see page 2)

Appellant(s) Signature

Managing Director

April 3, 2023

Date Signed

FOR OFFICE USE ONLY	
Pre-Application Conference Date: NA	**Fee Amount Paid:** $250
Date Received: 4/10/23	**Receipt No.:** 5027
Application Type: AP.1.23	**File No.:** AP.1.23

5. The City code requires that " Buffering shall be provided between different types of land uses (for example, between single-dwelling units and multi-dwelling units residential, and residential and commercial), and the following factors shall be considered in determining the adequacy of the type and extent of the buffer:

(i) The purpose of the buffer, for example to decrease noise levels, absorb air pollution, filter dust, or to provide a visual barrier." In this case the provisionally approved 12-foot wall decision makes no provision for buffering between the 15th street development and the multifamily development on 16th Street. At a minimum a landscape plan should be included in the decision to approve any structure of such significance that is placed on or close to the property line.

See the attached letter, which provides more information and examples of what was previously required for the 16th street property development.

Infinity Investments Puget Sound LLC

March 31, 2023

City of St. Helens
Planning Department
265 Strand Street
St. Helens, OR 97051

Attn: Jacob Graichen
Appeal Lot 10 of Hanna Place Subdivision

Dear Mr. Graichen:

This is a response to your letter dated March 27. 2023 and serves as a request for reconsideration of the administrative decision contained in that letter.

There are at least six issues that require additional information and requirements:

1. There are no complete, professionally drafted plan and elevation views attached to the order showing the exact location and height of the proposed retaining walls in context of lot lines and adjacent properties, including building setbacks. This should be the minimum requirement for further consideration. The hand-drawn plan provided insufficient detail to evaluate the proposed wall.
2. There does not appear to be a provision in the city code for construction of high walls in close proximity to an adjacent property. The proposed material for these walls appears to be concrete construction barriers. No other example of high walls using this material exists in this area of St. Helens. The design in previously approved for existing construction required use of such single construction barriers for safety with natural landscaped slopes. (see diagram) The buildings then used concrete, steel reinforced walls with natural slopes to address challenging topography. Therefore, the Planning Commission and City Council should address the type and appearance of material before this plan is approved. Not only is there a potential safety issue, but the current design fundamentally changes the natural surroundings and aesthetic of existing properties that were built under a code which made no provision for creating high-rise artificial walls, rather than using concrete retaining walls and natural grades and slope to accommodate construction in challenging typography. With the letter, I request that the Planning Commission consider a code revision and/or adoption so that there is a consistent design standard in challenging topographic areas of the city.
3. If a plan for high retaining walls is considered and approved by the City for Lots 9 and 10, the following issues should be addressed:
    a. The setback from the adjacent property behind Lot 9 and 10 is not specified in requirement 12.a. Such set back should be clearly specified in code and potential danger from settling of the extraordinarily high walls evaluated with an engineering study.

b. There is no provision for either City of property owner indemnification of adjacent property owners. This is a difficult site located adjacent to a wetland that has a history of settling. With the adjacent duplexes developed, the City required that concrete barriers be installed for safety. Those barriers have settled over the years and the walls subject to this code action could have the same issue. Some form of long-term protection for settling should be provided.
c. The Planning Commission as recently as 2021 has discussed the need to preserve large trees adjacent to wetland areas. A large, mature oak was recently cut by either the city or adjacent property owner without consultation with any adjacent owners and has never been cleaned up. The tree should never have been cut as it was not involved in close proximity to any of the proposed improvements to Lot 10, and was providing shade and ground stability in an area near the wetland. As part of this action, there should be a requirement to replace this tree with a large-as-possible tree or trees of similar species.
d. A landscape plan to provide a reasonable appearance from adjacent properties should be required.

Please provide additional information regarding the appeal process, and steps that will be taken to ensure no long-term impact to adjacent properties.

Sincerely,

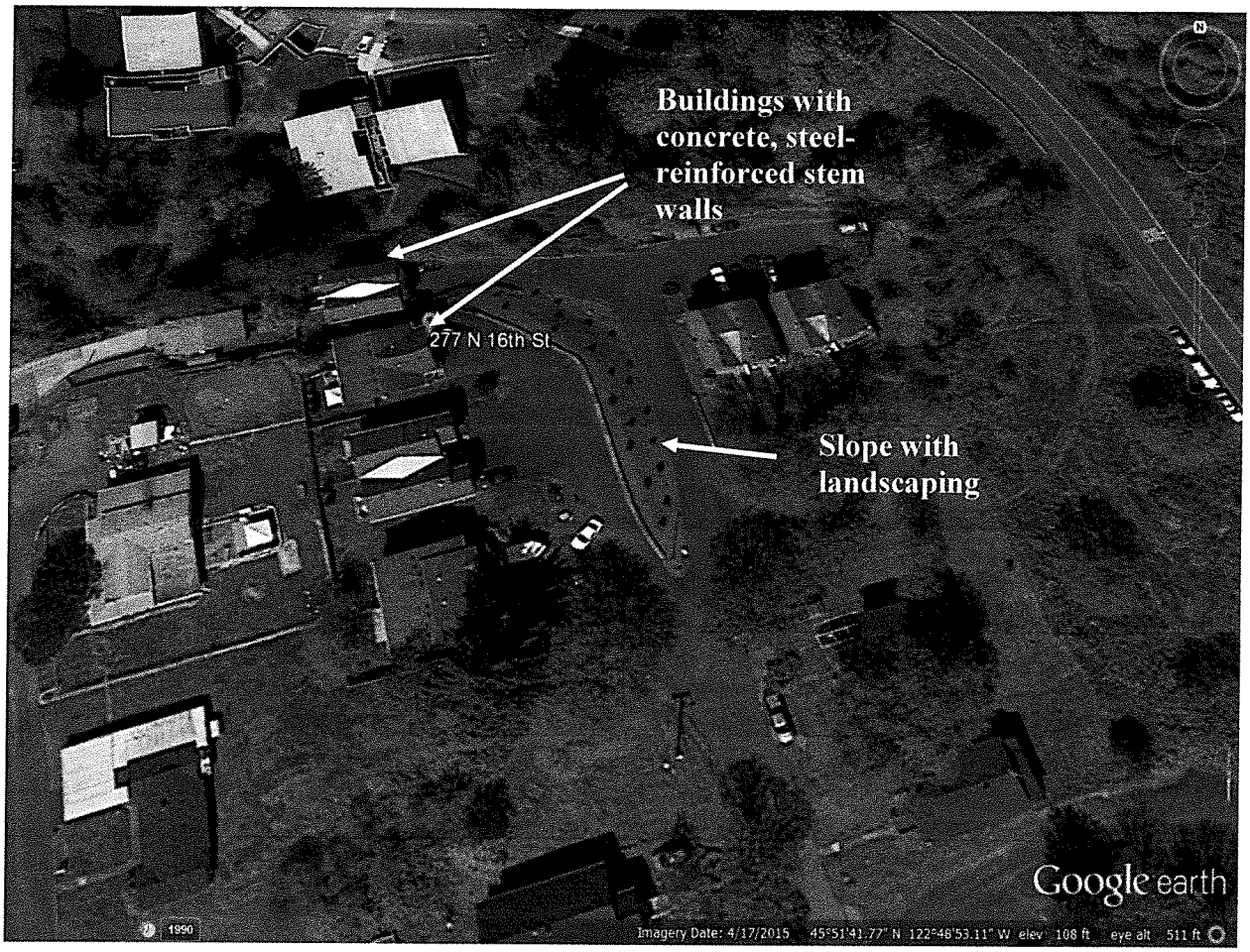
Alan R. Yordy
Managing Director

Enclosures

1. Planning Commission Meeting

loss of the **trees**, but the Commission can choose to charge a fine for **cutting** down healthy **trees** within ... APPROVED 10/10/17 Page 6 Commission Webster asked if the fine for **cutting** down the healthy **trees** should ... decision during a public hearing. Graichen discussed the District's mistake of removing of healthy **trees** ... proposed over that wetland to preserve it. Multiple large diameter **trees** recently **cut** on the east side of ... despite requirements for such. At least one large diameter **tree** was recently **cut** on the west side of ... occurred. **Trees** that are inventoried on the plans submitted that are at least within wetland J-3's upland ...

06/28/2021 - 2:29pm


Buildings with concrete, steel-reinforced stem walls
277 N 16th St
Slope with landscaping
Google earth
1990
Imagery Date: 4/17/2015 45°51'41.77" N 122°48'53.11" W elev 108 ft eye alt 511 ft

APPLICANT'S NARRATIVE

file SL.2.23

As to Code 17.44.040

Section (A) This wall is to maintain the ground from sliding or shifting onto other properties and eliminate any damage that could arise in the furture. This is a Ecology Block wall that is engineered.

Section (B) As to the design of ecology block wall by engineering,This wall has to be inbedded into the ground to keep it stable it will require a base rock of 3/4 minus rock 6" deep with compaction and 18"of block inbedment into the ground, there must also be a perferated pipe behind the wall for drainage this pipe will require 3/4 minus clean drain rock over the top of pipe with a frabic paper so as to keep all dirt from entering the pipe to prevent pluging the drain.

As per plan the drain pipe will discharge on the north side of wall toward the creek.(Note when home is placed on lot all water from roof and footing drain goes to the storm drain in

front of lot) this will help with ground water issues .

Section (C) As to the fill there should be enough native soil on site to us for back fill behind ecology block wall. (Note soils are mostly rock with little dirt) This will require lifts of no more 2 feet and compaction on each lift behind ecology block wall to enure stability.

Section (D) There will be a yard planted when home is built on lot .

Appeal of Site Development Recommendation: Lots 9 and 10, Hanna Subdivision

(Supplemental material for Land Use Appeal Application, filed April 3, 2023)

Submitted by:

Infinity Investments-Puget Sound LLC

(An Oregon limited liability company)

Background

- A letter to adjacent property owners was received on March 30, 2023, which provided details regarding the staff findings and proposed Site Development Plan.
- A letter was sent to city planning staff on March 31, 2023, indicating a number of issues with the determination and asking for an appeal to the determination.
- A formal appeal was filed on April 3, 2023.
- A communication to Mr. Jake Graichen requesting all information relating to this Site Development Application was sent via e-mail on April 13, 2023. Mr. Graichen responded that there "been no amendments to the plan or anything since the initial application," which was included in the initial mailing. Additionally, there is no filing from the applicant on the City website.
- The appeal hearing was scheduled for May 9, 2023
- NOTE: All *items in italics* are quoted from St Helens Municipal Code.

Basis for Appeal

1. The proposed plan is a Site Development Proposal in a Sensitive Land area. Therefore, it is subject to two Chapters of the SHMC – 17.44 and 17.96. The material provided does not meet the basic standards for submission of a Site Development contained in SHMC 17.96.120 attached as Exhibits A and B. Additionally, the submission is subject to SHMC 17.44.050 through 17.44.100 No detailed plans and elevations are provided to clearly describe the proposed site revisions and meet the criteria of SHMC listed above. Based on these deficiencies, staff should have rejected the application until such time that all required materials were submitted.
2. The plan appears to show a 12-foot wall constructed of prefabricated concrete barriers, which are inconsistent with SHMC 17.96.180 and SHMC 17.44.040 1.(a),(d) 2.(a),(d). The wall construction goes well beyond what is necessary for building construction. No landscape plan is included in the submittal. In fact, a tree conforming to requirements of this section and providing ground stability was cut without site plan approval, diminishing the views and aesthetic of the adjoining property.

Basis for Appeal

3. The proposed revision is in within 100 feet of a wetland/drainage stream, which has exhibited evidence of soil instability. SHMC 17.96.180 requires that buildings (and associated site development structures) be "Located in areas not subject to ground slumping or sliding…"
4. SHMC 17.96.180 (4) requires *"Buffering shall be provided between different types of land uses (for example, between single-dwelling units and multi-dwelling units residential, and residential and commercial), and the following factors shall be considered in determining the adequacy of the type and extent of the buffer:*

   (a) The purpose of the buffer, for example to decrease noise levels, absorb air pollution, filter dust, or to provide a ***visual barrier;***

   Additionally. 2 (a) iii requires that buildings (and structures) be:

   (iii) ***Located to provide adequate distance between adjoining buildings for adequate light, air circulation, and fire fighting;***

   No buffering plan or setback data are included in any documents that were provided to the appellant.

Basis for Appeal

5. This Site Development Application is in an active wildlife area. SHMC 17.44.040 4. (2) requires that approvals *create minimal site disturbance.* This Site Development Proposal creates a large and impassable barrier that fundamentally disturbs the existing landscape and topography and does not comply with this provision of SHMC.

Appeal #1

- SHMC Chapter 17.96 Requirement: The site development plan, data, and narrative shall include the following:
  - (a) ***An existing site conditions analysis, SHMC 17.96.11O;***
  - *(b) A site plan, SHMC 17.96.120;*
  - ***(c) A grading plan, SHMC 17.96.130****;*
  - ***(d) A landscape plan, SHMC 17.96.150;***
  - *(e)* ***Architectural elevations of all structures, SHMC 17.96.140;***
  - *(f) A sign plan, SHMC 17.96.160*; and*
  - *(g)* ***A copy of all existing and proposed restrictions or covenants.*** *(Ord. 2875 § 1.128.090, 2003)**

The **highlighted applicable requirements** are missing from the application.

*A driveway and shared parking easement was filed on January 14, 2021, which is not disclosed in the application.

Appeal #1

- SHMC 19.44.050 has similar requirements to 19.96. These include:

  (1) All applications for uses and activities identified in SHMC 17.44.015(2) through (5) shall be made on forms provided by the director and shall be accompanied by:

  (a) **Copies of the sensitive lands permit proposal and necessary data or narrative which explains how the proposal conforms to the standards (number to be determined at the preapplication conference) and:**

  (i) The scale for the site plan(s) shall be a standard engineering scale; and

  (ii) All drawings or structure elevations or floor plans shall be a standard architectural scale, being one-fourth-inch or one-eighth-inch to the foot.

  (b) The required fee.

  (2) The required information may be combined on one map.

  (3) The site plan(s), data and narrative shall include the following:

  (a**) An existing site conditions analysis, SHMC 17.44.070;**

  (b) A site plan, SHMC 17.44.080;

  (c) **A grading plan, SHMC 17.44.090;** and

  (d) **A landscaping plan, SHMC 17.44.100. (Ord. 3031 Att. A, 2007; Ord. 2875 § 1.092.050, 2003)**

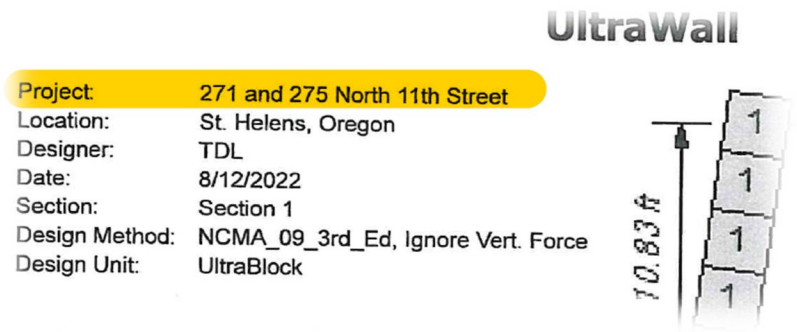
The **highlighted applicable requirements** were not included in the application packet.

Appeal #1 Issues

- Due to the incomplete data included in the application, it was necessary to interpret from the documentation and staff narrative basic terms of the applicant's proposal. At a minimum, the following issues created significant limitation in understanding the proposal:
  - The hand-drawn site plan is not to scale as required and does not provide clear setback information regarding lot lines and adjacent buildings as required by SHMC.
  - The hand-drawn site plan appears to be in conflict with the elevations provided. For instance, the site plan shows a vertical wall. The wall detail appears to show a tilting "UltraWall."
  - No detailed elevation drawings are provided for each of the lot affected by the proposal.
  - No building structures are shown on any detail.

Appeal Issues #1

- No wetland setbacks are shown to demonstrate that the subject development complies with state and federal law, and the 2021 St. Helens Stormwater Plan, sections 5 and 6.
- The “UltraWall” shown in the submission is for a different project (271-275 N. 11th), unrelated to the 15th Street Site Development Plan. The proposed wall for this project application should be shown. There is no evidence of any tilted walls in the vicinity of this project.



Appeal Issues #1

- Due to the lack of clarity in the applicant's submittal, this wall may be part of the building structure and part of the site development plan or it may be considered a "wall" under SHMC 17.72.90. Under this portion of the code 2. (a) Fences or *walls may not exceed four feet in height in a required front yard along local or collector streets or six feet in all other yards and, in all other cases, shall meet vision clearance area requirements (Chapter 17.76 SHMC)*

Appeal #1 Solution

1. The applicant's plan should have been rejected on procedural grounds that it was incomplete and did not comply with SHMC requirements. Before any further consideration, a complete plan that complies with St Helens Municipal Code should be submitted. This includes:
   a. Plans and elevations for the Site Development Plan for Lots 9-10, Hanna Subdivision (15th Street), showing setbacks from proposed and existing structures.
   b. Copies of the sensitive lands permit proposal and necessary data or narrative which explains how the proposal conforms to SHMC standards.
   c. An existing site conditions analysis, including a geotechnical study with soils analysis.
   d. A grading plan.
   e. A landscape plan.
   f. A buffering plan.
   g. Architectural elevations of all structures, including walls.

Appeal #2

- SHMC 17.96.180 (2)requires that:

Buildings (presumably related structures) shall be:

(i) ***Located to preserve existing trees, topography, and natural drainage in accordance with other sections of this code;***

(ii) Located in areas not subject to ground slumping or sliding;

(iii) Located to provide adequate distance between adjoining buildings for adequate light, air circulation, and fire fighting; and

(iv) Oriented with consideration for sun and wind; and

(b) ***Trees having a six-inch DBH (as defined by Chapter 17.132 SHMC) or greater shall be preserved or replaced by new plantings of equal character.***

Appeal #2 Issues

- Additionally, any approval of the proposed Site Development is subject to SHMC 17.44.040 1.(a),(d) 2.(a),(d). These sections require in areas of significant slope and potentially unstable ground to:
  - *(a) The extent and nature of the proposed landform alteration or development will not create site disturbances to an extent greater than that required for the use; and*
  - *(d) Where natural vegetation has been removed due to landform alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in accordance with Chapter 17.72 SHMC.*

The Site Development Plan as proposed does not comply with provision (a) above. It is not possible to tell if the applicant's proposal complies with (d) above because no landscape plan was included in the submittal.

Appeal #2 Issues

- SHMC 17.96.180 2.(b) states that: *Trees having a six-inch DBH (as defined by Chapter 17.132.030 SHMC) or greater shall be preserved or replaced by new plantings of equal character.* The approved wall structures do not maintain *"trees, natural topography and natural drainage."* A mature oak of more than 27" in diameter was cut without permit or notice. The natural topography is fundamentally changed in an area near a wetland. Additionally, this tree and other vegetation that were removed provided slope stability.

BEFORE CUTTING

AFTER CUTTING

Appeal #2 Solution

1. Require a landscape plan, which takes advantage of the existing topography and creates minimal impact as required by SHMC. Unfortunately, it is too late to preserve *“Trees having a six-inch* DBH (as defined by Chapter 17.132 SHMC) or greater” as required by code. Mitigation for this failure to follow city code should be required, including plantings for slope stabilization and replacing the illegally cut tree with new trees of similar type (Oak) at least 15-20 feet in height.
2. Under SHMC a civil penalty may be imposed for cutting this trees without a permit.

Appeal #3

- City code SHMC 17.96.180 requires that the:

  2) “Relationship to the Natural and Physical Environment” be considered

  (a) *Buildings (presumably associate structures) shall be:*

  (i) Located to preserve existing trees, topography, and natural drainage in accordance with other sections of this code;

  (ii) ***Located in areas not subject to ground slumping or sliding;***

  (iii) Located to provide adequate distance between adjoining buildings for adequate light, air circulation, and fire fighting;

- The proposed wall is clearly within an area subject to ground movement, especially during a catastrophic earthquake or extraordinary event.

Appeal #2 Issues

- The proposed wall is located in an area that is prone to *“ground slumping or sloping.”* A city provided or required barrier has been sliding down an adjacent slope next to the end of a public street.

Existing concrete barriers at the end of City street sliding toward wetland due to unstable slope, located within 15 feet of proposed structure.

Proposed wall location

Appeal #3 Solution

1. Require a geotechnical study, including soils analysis to verify stability of the area related to the site development. This will assure adjacent property owners have assurance that any buildings or other structures with such significant proposed wall and fill structure will not settle and/or fail in an earthquake or other catastrophic event.

Appeal #4

- Buffering between properties is required by SHMC 17.96.180 4.(a).

  Buffering shall be provided between different types of land uses (for example, between single-dwelling units and multi-dwelling units residential, and residential and commercial), and the following factors shall be considered in determining the adequacy of the type and extent of the buffer:

  (a) The purpose of the buffer, for example to decrease noise levels, absorb air pollution, filter dust, or ***to provide a visual barrier;***

- *"Relationship to the Natural and Physical Environment"* be considered

  2(a) *Buildings (presumably associate structures) shall be:*

  (i) Located to preserve existing trees, topography, and natural drainage in accordance with other sections of this code;

  (ii) Located in areas not subject to ground slumping or sliding;

  (iii) Located to provide adequate distance between adjoining buildings for adequate light, air circulation, and fire fighting;

Additionally, SHMC 17.44.070 5 (b) requires that *"All requirements of a full site development review have been met"* including the buffering requirements in 17.96.180.

Appeal #4 Issues

- No provision for such buffering are shown in any of the Site Development documents. Lots 9 and 10 are designed to be owner-occupied separately deeded properties. The adjacent property is multi-family rental property. No buffering is shown or proposed, including any landscaping that may be part of the buffering.
- It is also likely that the distance between the wall and existing building is inadequate for firefighting and/or rescue during such events describe above, assuming the wall does not deteriorate or collapse during such an event.

Appeal Issues #4

- While it is difficult to determine actual concrete wall setbacks from the documentation provided in the application, the property marker that was replaced after being dislocated due to the tree felling is 9” 2” from the foundation of the existing building on the adjacent property. SHMC 17.32.070 4.(d) requires that side yards shall be *“10 feet for multi-dwelling structures. Corner lots shall have a minimum exterior side yard of 10 feet.”* The adjacent structure is both a duplex and a corner lot. Furthermore, the 10-foot minimum does not provide adequate circulation for emergency equipment should it be needed to access the rear of the adjacent property. <u>This is the only vehicle access point for the rear of the adjacent properties.</u>

9’ 2” measured from existing foundation

Issue #4 Solution

1. Require that a buffering plan be submitted as part of a complete Site Development Plan packet.
2. If a development solution is not adopted other than a 12-foot concrete wall, require a minimum setback from the property line of at least twenty feet to accommodate emergency vehicle and equipment access to existing buildings.

Appeal #5 Issue

- This Site Development Application is in an active wildlife area. SHMC 17.44.040 4. (2) requires that *"the extent and nature of the proposed landform alteration or development will not create site disturbances to an extent greater than the minimum required for the use."* The proposed 12-foot wall creates a major impediment to wildlife migration, frequently seen in the area.
- Although the Site Development Plan shows no building structures as required by SHMC, current practice and existing buildings demonstrate that a habitable structure can be built without a 12-foot retaining wall, using foundations that a contoured to the topography.

Wildlife migrate from Lot 10 to drainage

Appeal #5 Issues

- There is a clear precedent in the area for development that minimized impact near wetlands and does not require the use of a **12-foot wall** constructed of concrete barriers. The proposed construction method substantially changes the topography and existing natural landscape. The precedent is at 287 N. 16th Street and demonstrates that a foundation contoured to the topography is possible, while maintaining the integrity of the surrounding terrain. No precedent exists for extraordinary site disturbance that a 12-foot wall constructed of concrete barriers with backfill creates. (See example of alternate construction method the complies with SHMC on next pages.)

Use of 10-foot stem wall contoured to topography

10+-foot slope with contoured foundation

Alternate Construction using short concrete stem walls with wood building wall.

Appeal #5 Solution

1. Require construction methods that have been used in surrounding structures, which do not require massive wall structures and are in compliance with the St. Helens Municipal Code related to minimal topography and wildlife impact. A compatible landscape plan that provides buffering and soil stabilization should be part of this plan.

Conclusion and Recommendations

There are no precedents for the scale and type of major wall construction, grading and fill proposed by the land use action in this neighborhood of St Helens where significant number of buildings have been built on challenging slopes. There is a precedent on the adjacent property for grading and use of construction techniques that respect the existing topography, vegetation and wildlife. Therefore, the following solution is offered in compliance with St Helens Municipal Code (SHMC):

1. Use construction methods that incorporates steel reinforced stem walls for building construction that contour to the existing topography. This will eliminate the need for unsightly and potentially unstable retaining walls.
2. Before further consideration, require the applicant to submit a complete Site Development Plan as required by SHMC so that the impacts can be properly evaluated.

Conclusion and Recommendations, Cont.

3. A geotechnical study, including soils analysis should be conducted and made part of the applicant's Site Development Plan submission to ensure soil and slope stability in the event of an earthquake or other major catastrophic event.
4. Since a mature oak tree was cut without an approved site plan permit and soil grading was done without permit, a detailed landscape and buffering plan should be submitted that includes adequate setbacks for emergency access and the replanting of vegetation and trees of the similar type and species to provide buffering with the adjacent property and ground stability.

Finally, there is a simple commonsense question to consider: Would any of us want a 12-foot wall made of concrete barriers, a wall taller than the first floor of the homes, in Seismic Zone 5 (most potential hazard) to be constructed less than ten feet away from the back or side of the place we live?

Request to Keep Record Open

- Following the hearing, this is a formal request to keep the record open for seven days through May 16, 2023 to respond to any questions or new information that is provided during the hearing.

Exhibit A – SHMC 17.96.180

- **17.96.180 Approval standards.**

The director shall make a finding with respect to each of the following criteria when approving, approving with conditions, or denying an application:

(1) Provisions of all applicable chapters of the Community Development Code per SHMC 17.04.010.

(2) Relationship to the Natural and Physical Environment.

(a) Buildings shall be:

(i) Located to preserve existing trees, topography, and natural drainage in accordance with other sections of this code;

(ii) Located in areas not subject to ground slumping or sliding;

(iii) Located to provide adequate distance between adjoining buildings for adequate light, air circulation, and fire fighting; and

(iv) Oriented with consideration for sun and wind; and

(b) Trees having a six-inch DBH (as defined by Chapter 17.132 SHMC) or greater shall be preserved or replaced by new plantings of equal character;

(3) Exterior Elevations. Along the vertical face of single-dwelling units – attached and multi-dwelling unit structures, offsets shall occur at a minimum of every 30 feet by providing any two of the following:

(a) Recesses (decks, patios, entrances, floor area, etc.) of a minimum depth of eight feet;

(b) Extensions (decks, patios, entrances, floor area, etc.) of a minimum depth of eight feet, and maximum length of an overhang shall be 25 feet; and

(c) Offsets or breaks in roof elevations of three or more feet in height;

Exhibit A Cont.

(4) Buffering, Screening, and Compatibility between Adjoining Uses (See Figure 13, Chapter 17.72 SHMC).

(a) Buffering shall be provided between different types of land uses (for example, between single-dwelling units and multi-dwelling units residential, and residential and commercial), and the following factors shall be considered in determining the adequacy of the type and extent of the buffer:

(i) The purpose of the buffer, for example to decrease noise levels, absorb air pollution, filter dust, or to provide a visual barrier;

(ii) The size of the buffer required to achieve the purpose in terms of width and height;

(iii) The direction(s) from which buffering is needed;

(iv) The required density of the buffering; and

(v) Whether the viewer is stationary or mobile;

Exhibit B – SHMC 17.44.080

- *The proposed site development plan shall be at the same scale as the site analysis plan and shall include the following information:*
  - *(1) The proposed site and surrounding properties;*
  - *(2) Contour line intervals (see SHMC 17.44.070(3));*
  - *(3) The location, dimensions, and names of all:*
    - *(a) Existing and platted streets and other public ways and easements on the site and on adjoining properties; and*
    - *(b) Proposed streets or other public ways and easements on the site.*
  - *(4) The location and dimension of:*
    - *(a) Entrances and exits on the site;*
    - *(b) Parking and traffic circulation areas;*
    - *(c) Loading and services areas;*
    - *(d) Pedestrian and bicycle facilities;*
    - *(e) Outdoor common areas; and*
    - *(f) Utilities.*
  - *(5) The location, dimensions, and setback distances of all:*
    - *(a) Existing structures, improvements, and utilities which are located on adjacent property and are permanent in nature; and*
    - *(b) Proposed structures, improvements, and utilities on the site.*
  - *(6) The location of areas to be landscaped;*
  - *(7) The concept locations of proposed utility lines; and*
  - *(8) The method for mitigating any adverse impacts upon wetland, riparian, or wildlife habitat areas. (Ord. 3031 Att. A, 2007; Ord. 2875 § 1.092.080, 2003)*

Exhibit B - 17.44.090 Grading plan

- *The site plan shall include a grading plan which contains the following information:*

  (1) Requirements in SHMC 17.44.070 and 17.44.080;

  (2) The identification and location of the benchmark and corresponding datum;

  (3) Location and extent to which grading will take place indicating contour lines, slope ratios, and slope stabilization proposals; and

  (4) A statement from a registered engineer supported by factual data substantiating:

    (a) The validity of the slope stabilization proposals;

    (b) That other off-site impacts will not be created;

    (c) Stream flow calculations;

    (d) Cut and fill calculations; and

    (e) Channelization measures proposed. (Ord. 3031 Att. A, 2007; Ord. 2875 § 1.092.090, 2003)

Exhibit B - 17.44.100 Landscape plan

(1)The landscape plan shall be drawn at the same scale as the site analysis plan, or a larger scale if necessary, and shall indicate:

(a) Location and height of fences, buffers, and screenings;

(b) Location of terraces, decks, shelters, play areas, and common open spaces where applicable; and

(c) Location, type, and size of existing and proposed plant materials.

(2) The landscape plan shall include a narrative which addresses:

(a) Soil conditions; and

(b) Erosion control measures that will be used. (Ord. 3031 Att. A, 2007; Ord. 2875 § 1.092.100, 2003)