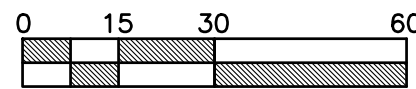


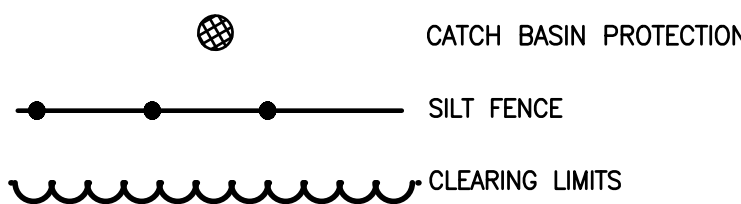
1"=30'



#### NOTES:

- CONTRACTOR SHALL USE BAKER TANK FOR EROSION CONTROL, IF REQUIRED.
- AT ANY TIME DURING CONSTRUCTION IT IS DETERMINED BY THE CITY THAT MUD AND DEBRIS ARE BEING TRACKED ONTO PUBLIC STREETS WITH INSUFFICIENT CLEANUP, ALL WORK SHALL CEASE ON THE PROJECT UNTIL THIS CONDITION IS CORRECTED. THE CONTRACTOR AND/OR THE OWNER SHALL IMMEDIATELY TAKE ALL STEPS NECESSARY TO PREVENT FUTURE TRACKING OF MUD AND DEBRIS INTO THE PUBLIC ROW, WHICH MAY INCLUDE THE INSTALLATION OF A WHEEL WASH FACILITY ON-SITE.
- CONTRACTOR SHALL DESIGNATE A WASHINGTON DEPARTMENT OF ECOLOGY CERTIFIED EROSION AND SEDIMENT CONTROL LEADPERSON, AND SHALL COMPLY WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT.
- SEDIMENT-LADEN RUNOFF SHALL NOT BE ALLOWED TO DISCHARGE BEYOND THE CONSTRUCTION LIMITS IN ACCORDANCE WITH THE PROJECT'S NPDES GENERAL STORMWATER PERMIT.

#### TESC LEGEND:



#### APPROVED

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

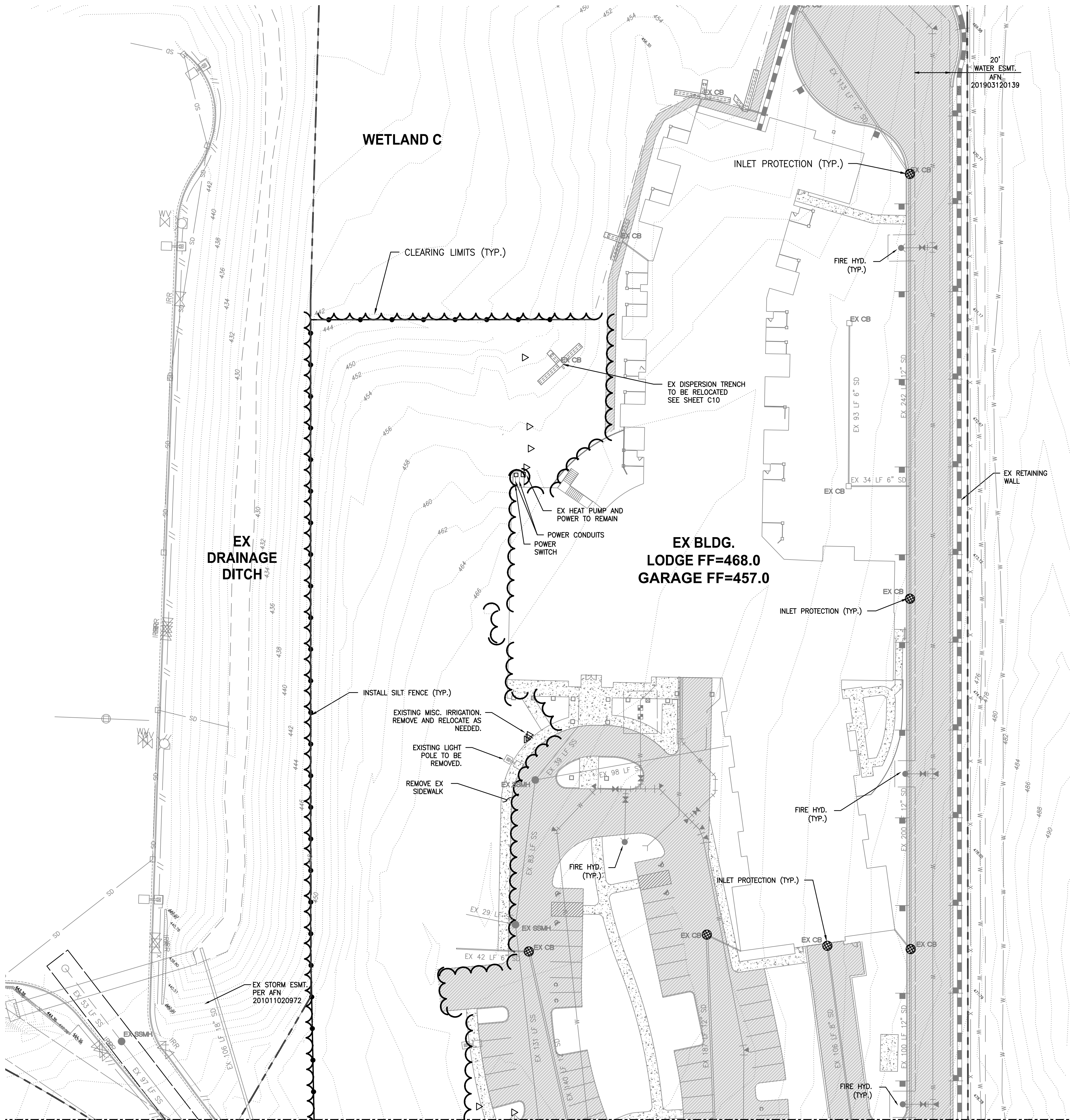
NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.  
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
(Plans; Sht C2 of 19)

EXISTING SITE AND TESC PLAN NORTH

FOR

## PHASE 2 - WESLEY BRADLEY PARK



MATCH LINE SEE SHEET C3

Revision

No.

Date

By

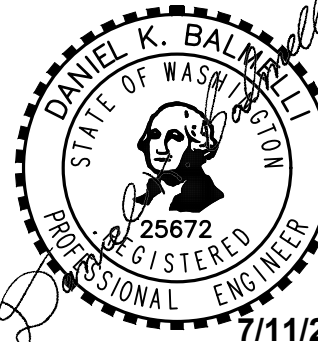
Cdd.

Appr.

Title:

EXISTING SITE AND TESC PLAN NORTH  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY PARK

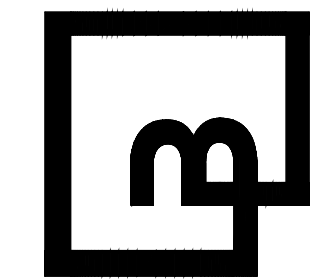
For:  
WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209



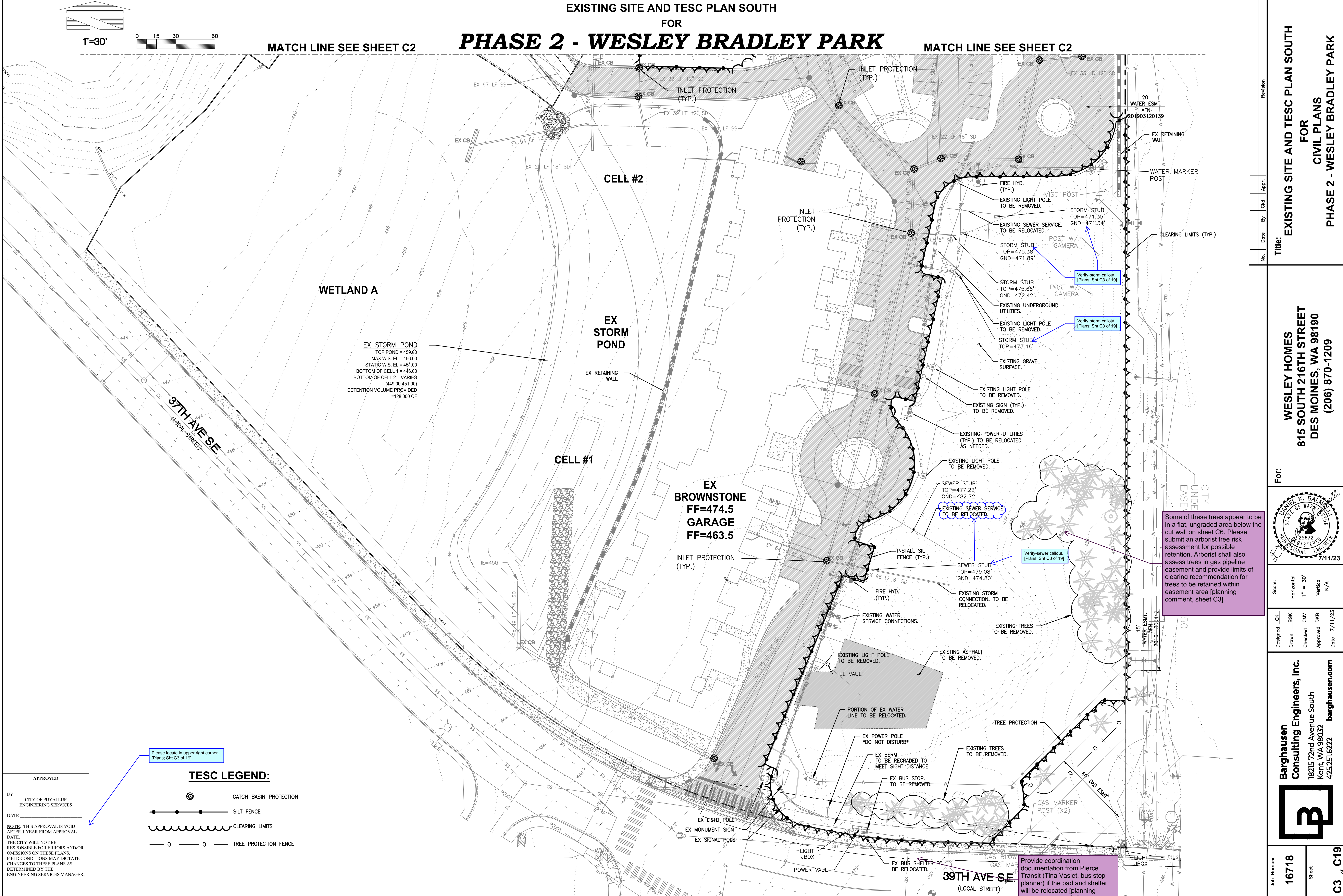
Scale:  
Horizontal  
1" = 30'  
Vertical  
N/A

Designed CK  
Drawn BOK  
Checked CMW  
Approved DKB  
Date 7/11/23

Barghausen  
Consulting Engineers, Inc.  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
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Job Number  
16718  
Sheet  
C2 of 19



APPROVED

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

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AFTER 1 YEAR FROM APPROVAL  
DATE.  
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OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE  
CHANGES TO THESE PLANS AS  
DETERMINED BY THE  
ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
[Plans; Sht C3 of 19]

TESC LEGEND:

- CATCH BASIN PROTECTION
- SILT FENCE
- CLEARING LIMITS
- TREE PROTECTION FENCE

Job Number <b>16718</b>		Sheet <b>C3 of 19</b>	
Title: <b>EXISTING SITE AND TESC PLAN SOUTH FOR CIVIL PLANS PHASE 2 - WESLEY BRADLEY PARK</b>			
For: <b>WESLEY HOMES 815 SOUTH 216TH STREET DES MOINES, WA 98190 (206) 870-1209</b>			
Scale: Horizontal 1" = 30' Vertical N/A		Designed <input checked="" type="checkbox"/> CK Drawn <input type="checkbox"/> BOK Checked <input checked="" type="checkbox"/> CMV Approved <input checked="" type="checkbox"/> DKB Date 7/11/23	
<b>Barghausen Consulting Engineers, Inc.</b> 18215 72nd Avenue South Kent, WA 98032 425.251.6222 <a href="http://barghausen.com">barghausen.com</a>			

Some of these trees appear to be in a flat, ungraded area below the cut wall on sheet C6. Please submit an arborist tree risk assessment for possible retention. Arborist shall also assess trees in gas pipeline easement and provide limits of clearing recommendation for trees to be retained within easement area [planning comment, sheet C3]

Provide coordination documentation from Pierce Transit (Tina Vaslet, bus stop planner) if the pad and shelter will be relocated [planning comment, sheet C3]

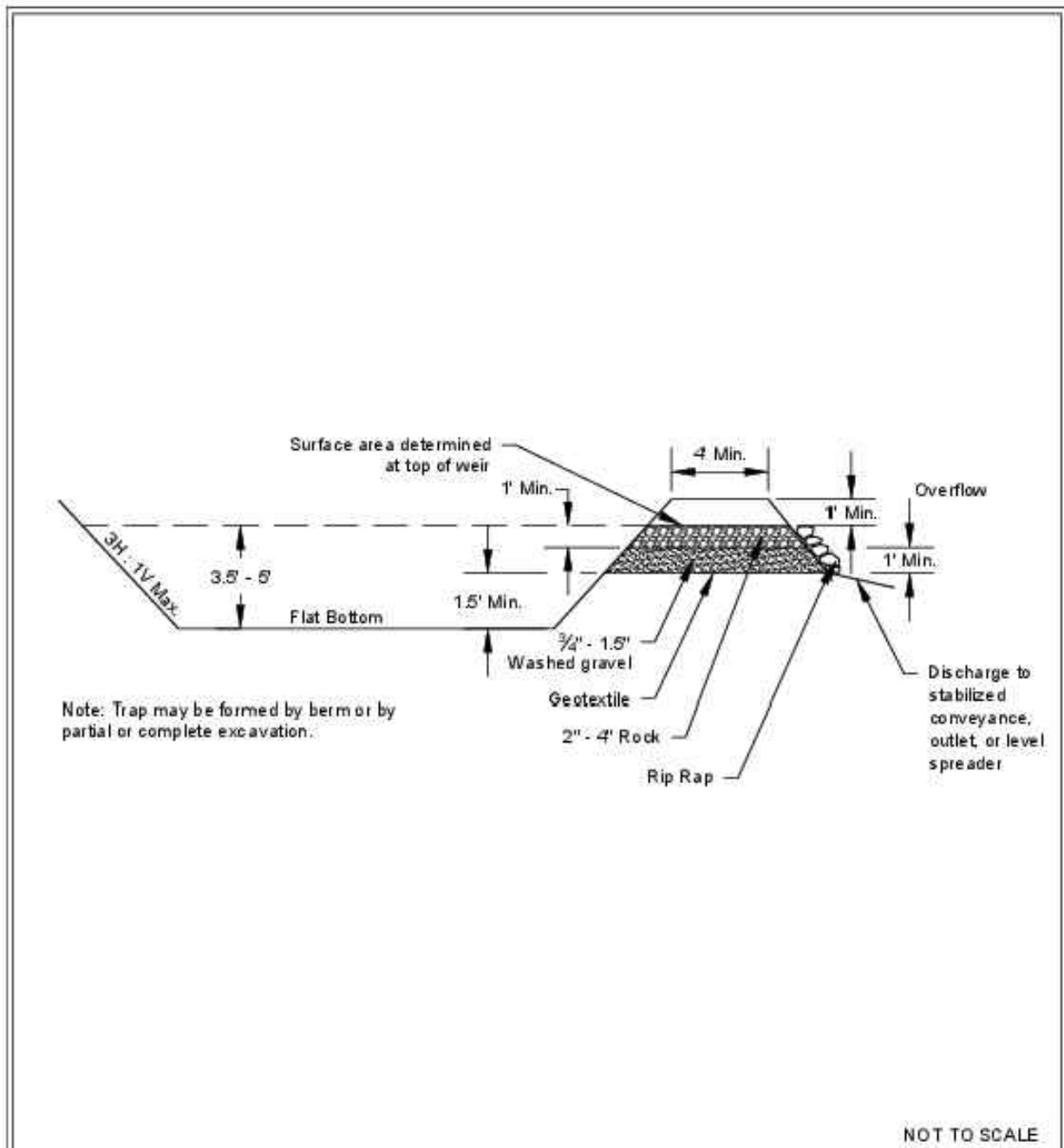
TESC NOTES AND DETAILS  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**

**SOIL STABILIZATION AND REVEGETATION**

EXPOSED AREAS AND SOIL STOCKPILES MUST BE STABILIZED ACCORDING TO THE FOLLOWING SCHEDULE:

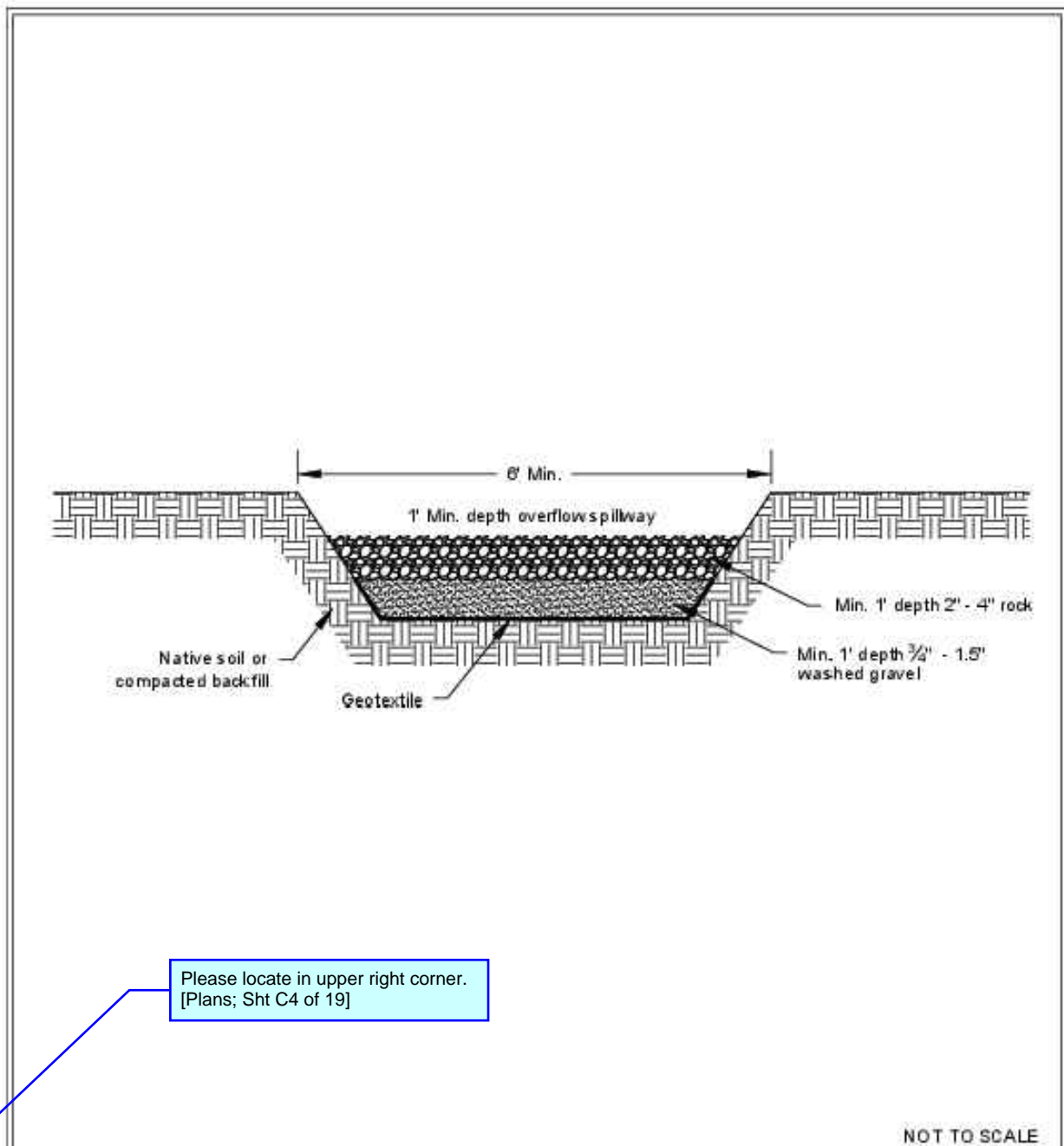
1. FROM APRIL 1 TO OCTOBER 31 ALL DISTURBED AREAS AT FINAL GRADE AND ALL EXPOSED AREAS THAT ARE SCHEDULED TO REMAIN UNWORKED FOR MORE THAN 30 DAYS SHALL BE STABILIZED WITHIN 10 DAYS.
2. FROM NOVEMBER 1 TO MARCH 31 ALL EXPOSED SOILS AT FINAL GRADE SHALL BE STABILIZED IMMEDIATELY USING PERMANENT OR TEMPORARY MEASURES. EXPOSED SOILS WITH AN AREA GREATER THAN 5,000 SQUARE FEET THAT ARE SCHEDULED TO REMAIN UNWORKED FOR MORE THAN 24 HOURS AND EXPOSED AREAS OF LESS THAN 5,000 SQUARE FEET THAT WILL REMAIN UNWORKED FOR MORE THAN SEVEN (7) DAYS SHALL BE STABILIZED IMMEDIATELY.

ALL DISTURBED AREAS WHICH ARE NOT PLANNED TO BE CONSTRUCTED ON WITHIN 90 DAYS FROM TIME OF CLEARING AND GRADING SHALL BE REVEGETATED WITH THE NATIVE VEGETATION.



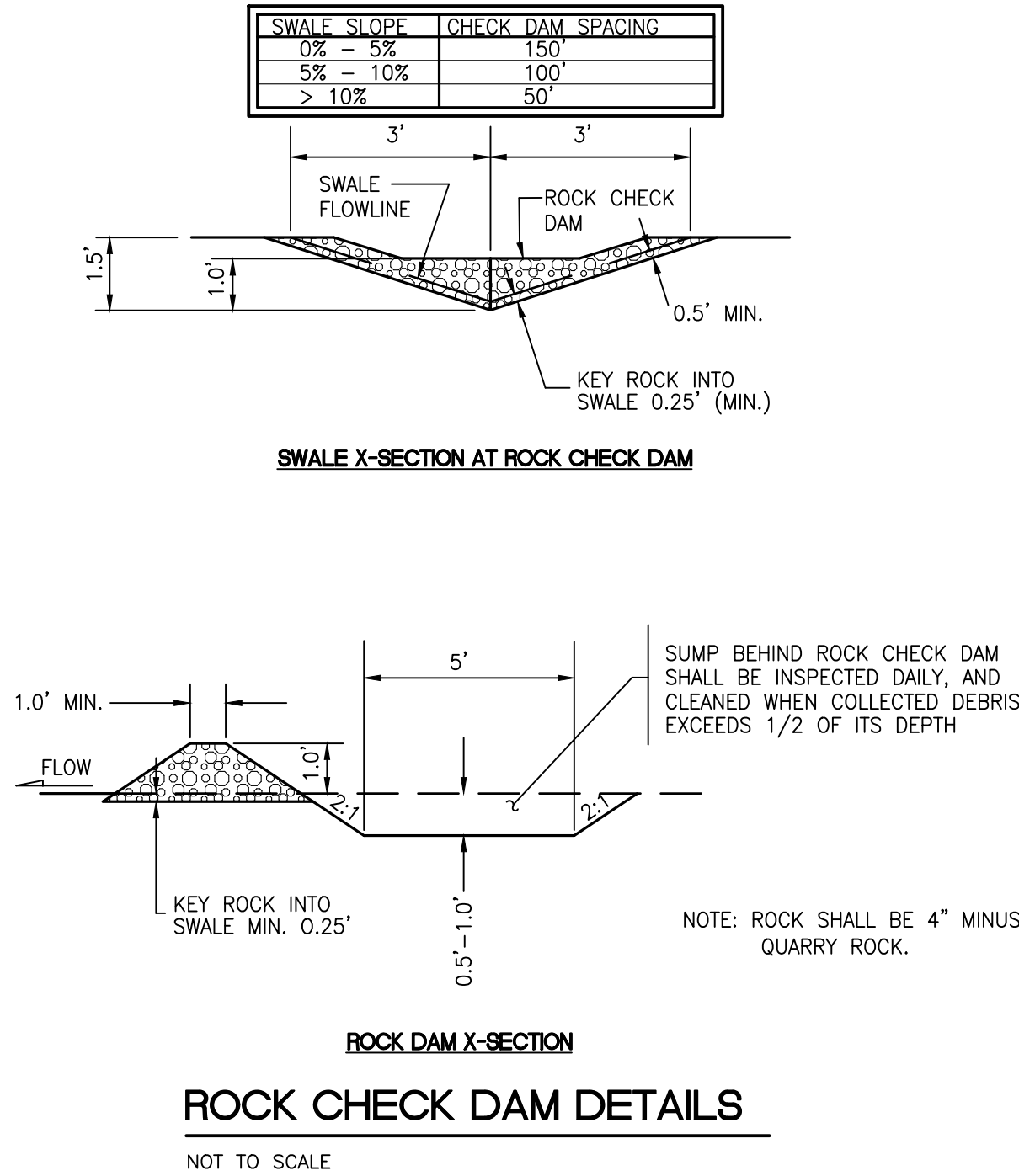
**Figure II-4.2.16**  
**Cross Section of Sediment Trap**  
Revised November 2015

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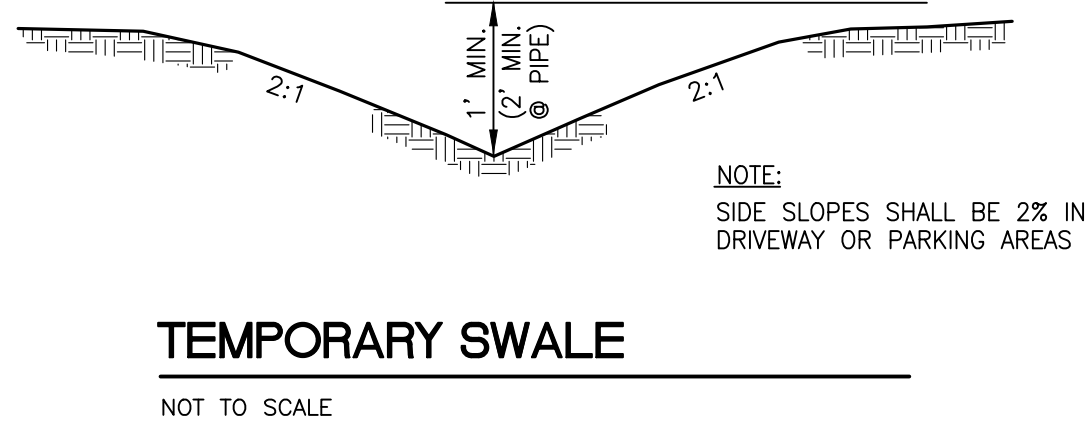


**Figure II-4.2.17**  
**Sediment Trap Outlet**  
Revised November 2015

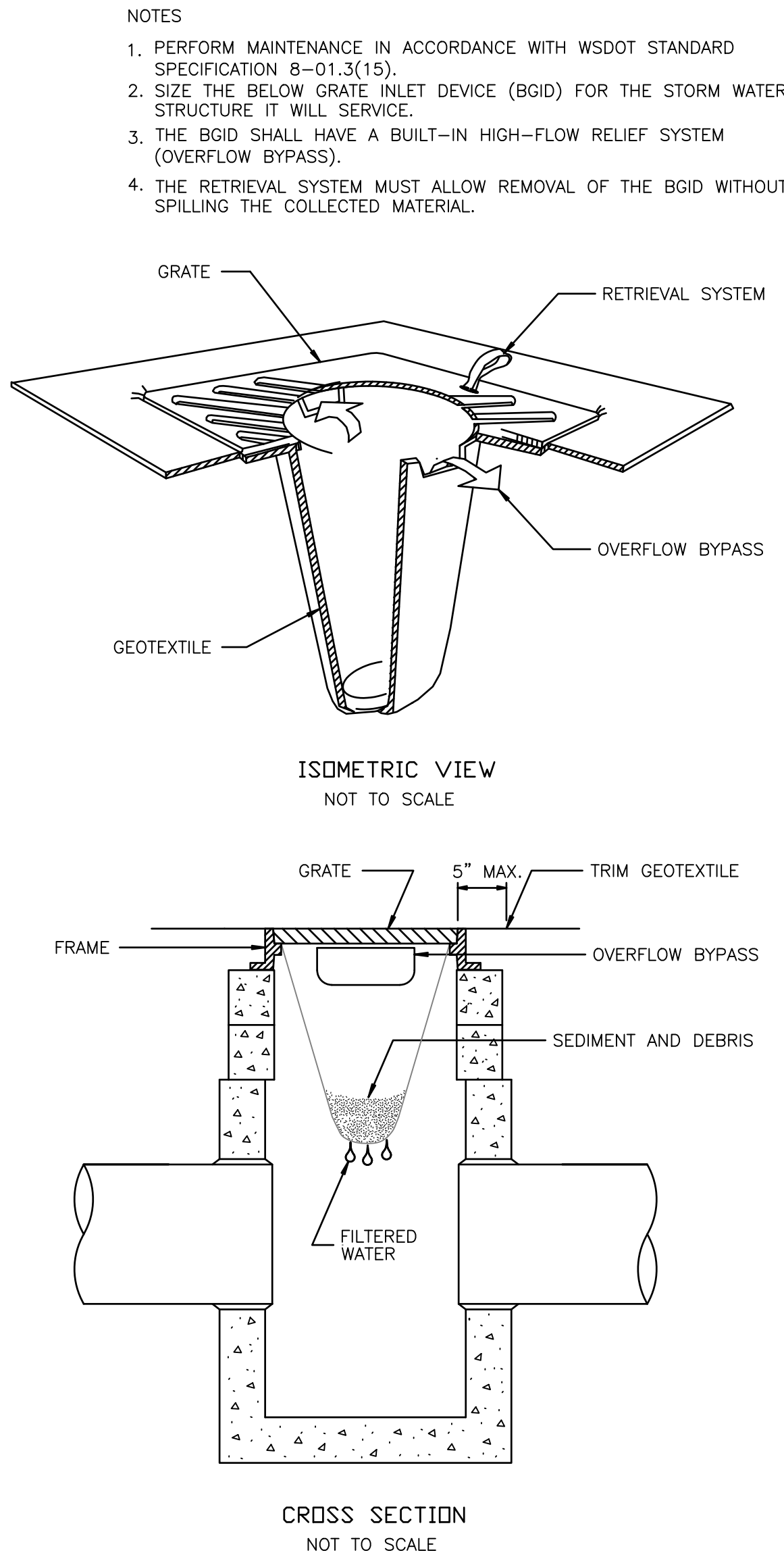
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**ROCK CHECK DAM DETAILS**  
NOT TO SCALE

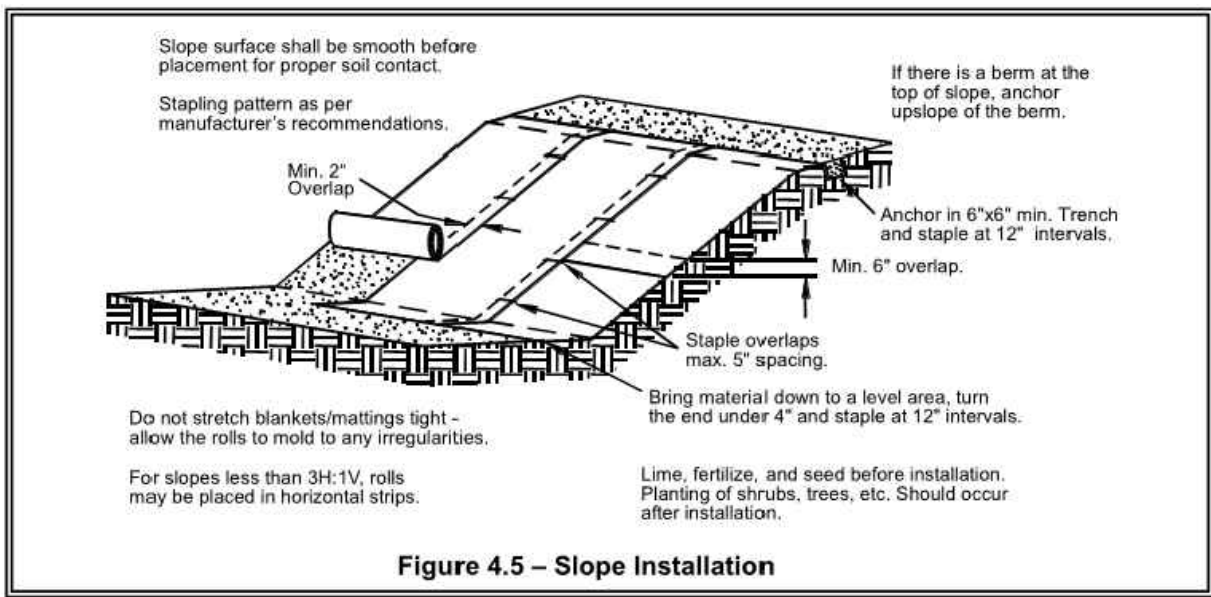


**TEMPORARY SWALE**  
NOT TO SCALE



**CROSS SECTION**  
NOT TO SCALE

**STORM DRAIN**  
**INLET PROTECTION**  
**PREFABRICATED BELOW GRATE**  
**INLET DEVICE DETAILS**  
**WSDOT STANDARD PLAN I-7**



**Figure 4.5 - Slope Installation**

Revision					
No.	Date	By	Chd.	Appr.	
Title: CONSTRUCTION NOTES FOR CIVIL PLANS PHASE 2 - WESLEY BRADLEY PARK					
For: WESLEY HOMES 815 SOUTH 216TH STREET DES MOINES, WA 98190 (206) 870-1209					
Scale:		Horizontal	N/A	Vertical	C4
Designed	CK	Drawn	BCK	Checked	CMV
Approved	DKB	Date	7/11/23		
Job Number		16718		Sheet	
				C4 of 19	

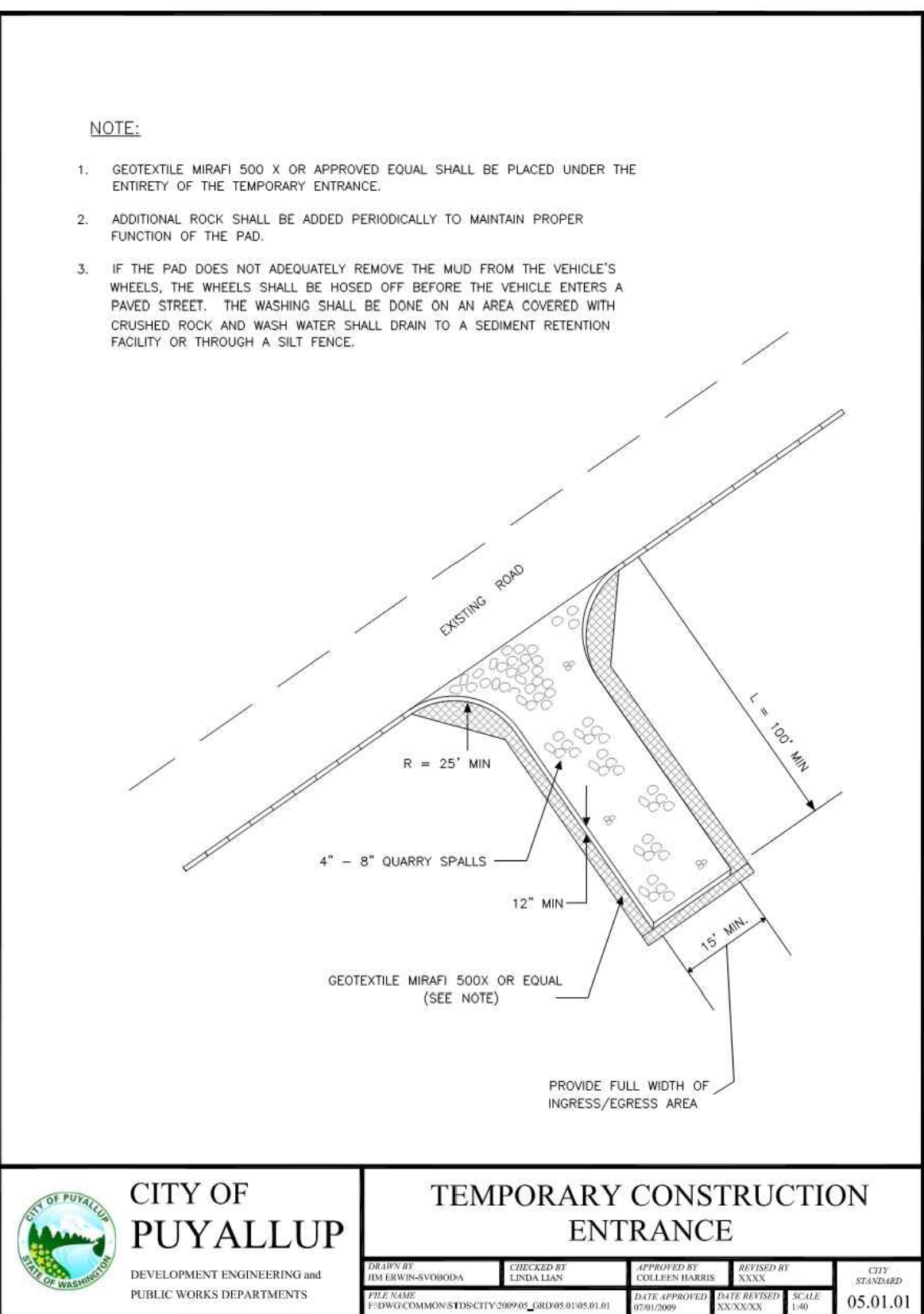
**APPROVED**

BY \_\_\_\_\_ CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

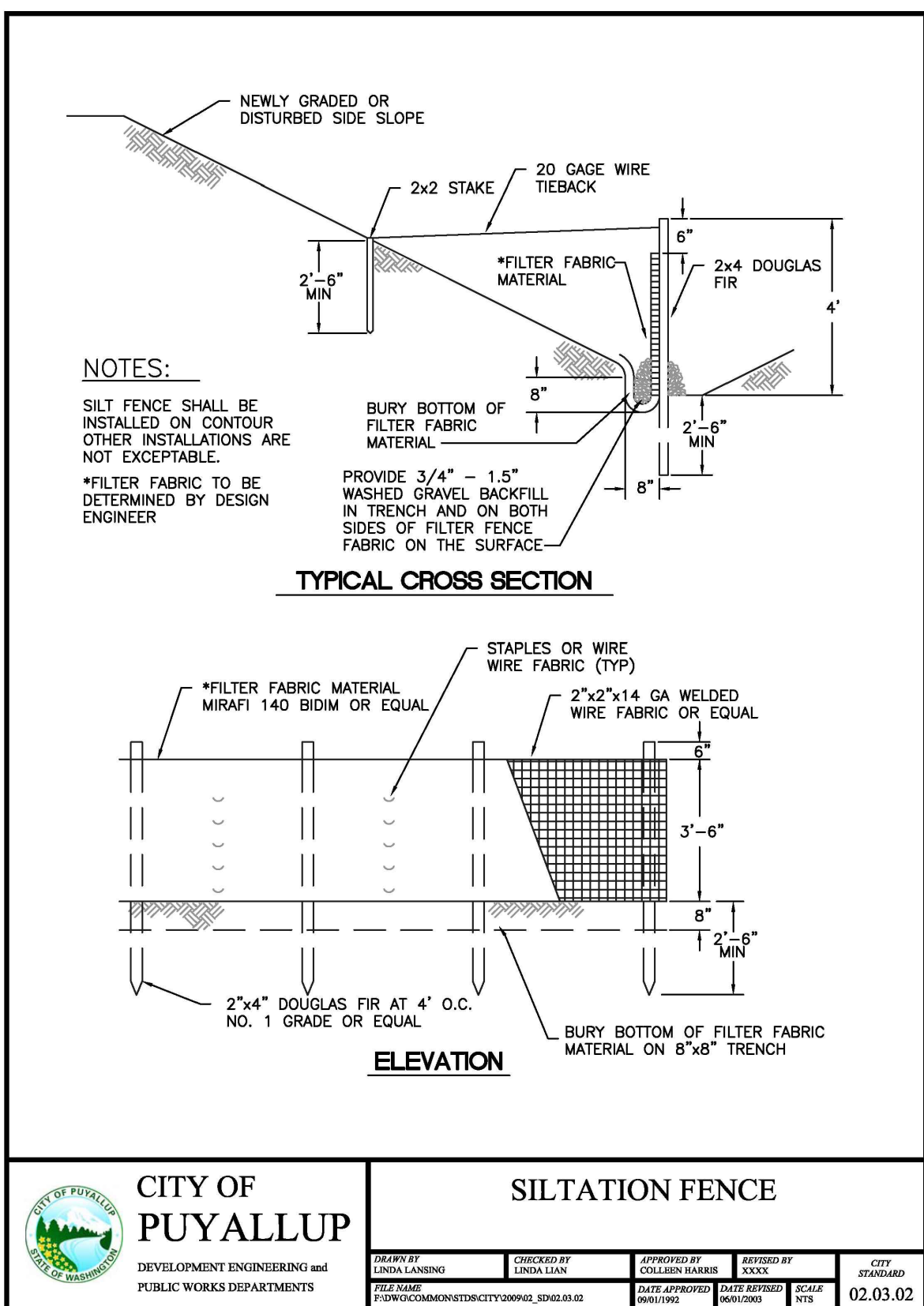
**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. THIS CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
[Plans, Sht C4 of 19]



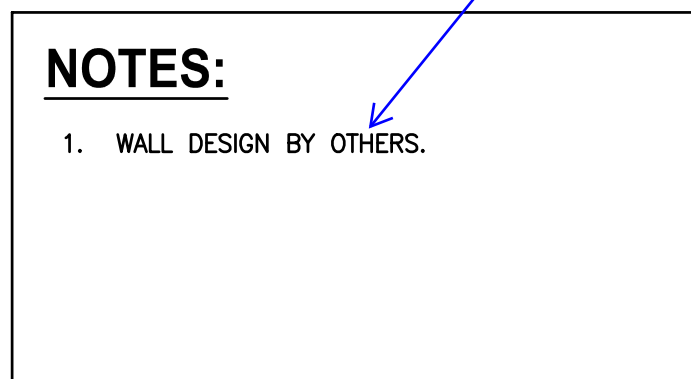
**CITY OF PUYALLUP**  
**TEMPORARY CONSTRUCTION ENTRANCE**

DESIGNED BY	CHECKED BY	APPROVED BY	DATE	05.01.01
PROJECT NAME	PROJECT NUMBER	PROJECT LOCATION	PROJECT DATE	05.01.01



**CITY OF PUYALLUP**  
**SILTATION FENCE**

DESIGNED BY	CHECKED BY	APPROVED BY	DATE	02.03.02
PROJECT NAME	PROJECT NUMBER	PROJECT LOCATION	PROJECT DATE	02.03.02



Prior to permit issuance, provide letter or statement from the retaining wall EOR that the west wall design includes an evaluation of potential surcharge loading from the adjacent building.  
[Plans; Sht C5 of 19]

1 PROPOSED LOCK + LOAD  
RETAINING WALL (TYP.)  
SEE BUILDING PERMIT #\_\_\_\_\_

Diagram illustrating the relationship between Top of Wall Elevation (T.W.), Bottom of Wall Elevation (B.W.), and Wall Height:

- TOP OF WALL ELEV. (TYP.)
- WALL HEIGHT (TYP.)
- TW=505.0
- BW=500.0
- 5.0 (circled)
- BOTTOM OF WALL ELEV. AT EXPOSED FACE UNLESS OTHERWISE SPECIFIED (TYP.)

Clarify-Do not find this designation on the plan. Is this for a specific wall or all of the proposed walls.  
[Plans; Sht C5 of 19]

PMC 20.58.005 (2)  
requires a 6 foot  
landscape setback.  
The walkway and  
wall system appear  
to eliminate the buffer  
in this stretch.  
[Planning comment,  
sheet C5]

NEW BLDG  
LEVEL 1  
FF=468.0  
LEVEL 0  
FF=457.0  
LEVEL POOL  
FF=454.0

EX BLDG.  
LODGE FF=468.0  
GARAGE FF=457.0

PMC 20.58.005 (2)(ii) requires retaining walls to set back minimum of 6 feet with a maximum of 6 feet in height. The wall is located in the six foot setback area and some areas of the wall exceed 6 feet in height [Planning comment, sheet C5]

**MATCH LINE SEE SHEET C6**

**APPROVED**

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

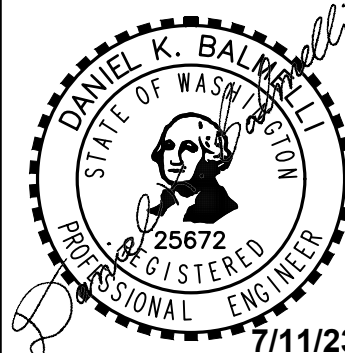
**NOTE:** THIS APPROVAL IS VOID  
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DATE.  
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RESPONSIBLE FOR ERRORS AND/OR  
OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE  
CHANGES TO THESE PLANS AS  
DETERMINED BY THE  
ENGINEERING SERVICES MANAGER.

No.	Date	By	Ckd.	Appr.	Revision

**GRADING PLAN NORTH  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY**

**WESLEY HOMES**  
**815 SOUTH 216TH STREET**  
**DES MOINES, WA 98190**  
**(206) 870-1209**

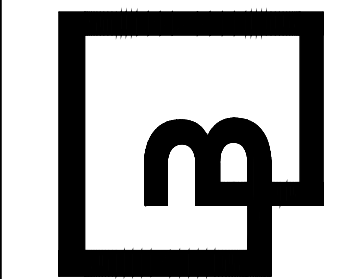
**For:**



Scale:  
Horizontal  
1" = 30'

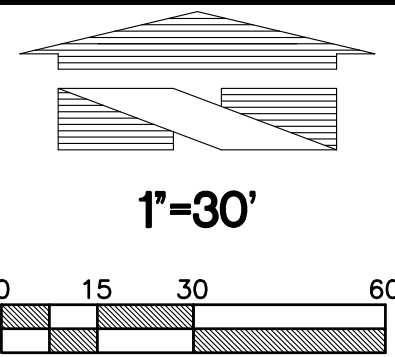
Designed	CK
Drawn	BGK
Checked	CMV
Approved	DKB
Date	7/11/23

**Barghausen  
Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
**barghausen.com**



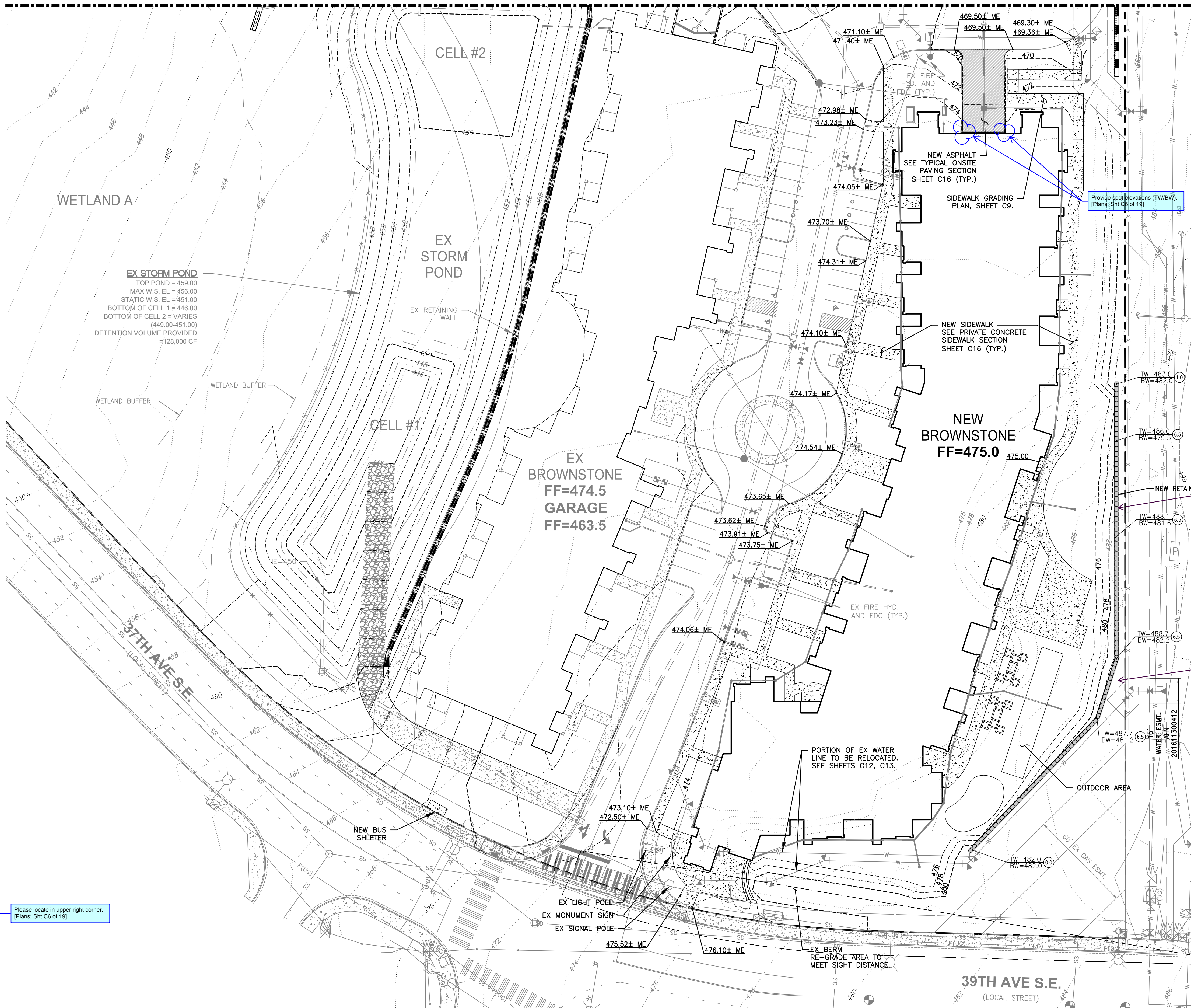
Job Number	16718
Sheet	CE C10

33 of 319  
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GRADING PLAN SOUTH  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**

MATCH LINE SEE SHEET C5



Please locate in upper right corner.  
[Plans; Sht C6 of 19]

Wall near the brownstone structure is a cut wall (facing interior to site). PMC 20.58.005 (2)(ii) will not apply to this wall system. [Planning comment, sheet C6]

See PMC 20.58.005(2)(i) for retaining wall setback criteria. [Plans; Sht C6 of 19]

Note to Engr: Building Permit(s) required for any retaining wall over 4ft (bottom of footing-to-top of wall) or any retaining wall that is surcharged. [Plans; Sht C6 of 19]

**NOTES:**

1. WALL DESIGN BY OTHERS.

Consider adjusting wall interior to the site to retain existing trees in this area. Project arborist to review plan sheet and coordinate with design to determine feasibility of tree retention [Planning comment, sheet C6]

**RETAINING WALL LEGEND:**

1 PROPOSED LOCK + LOAD RETAINING WALL (TYP.) SEE BUILDING PERMIT # \_\_\_\_\_

See comment Sheet C5. [Plans; Sht C5 of 19]

TOP OF WALL ELEV. (TYP.)

WALL HEIGHT (TYP.)

BOTTOM OF WALL ELEV. AT EXPOSED FACE UNLESS OTHERWISE SPECIFIED (TYP.)

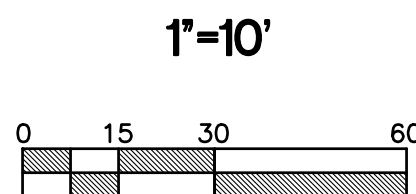
**APPROVED**

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

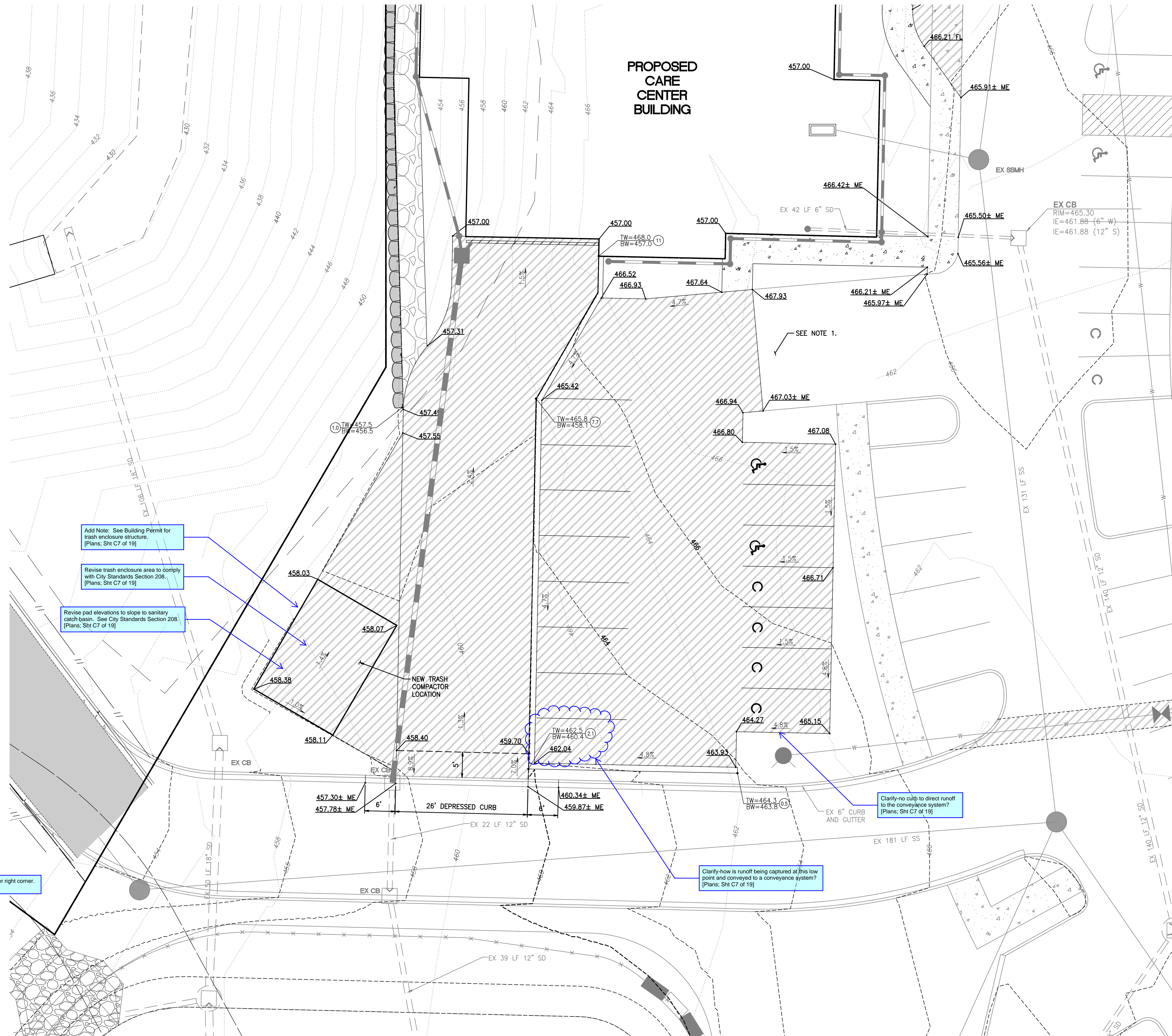
DATE \_\_\_\_\_

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FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Revision		Title:				For:		Scale:		Designed		Job Number				
No.	Date	By	Chd.	Appr.	GRADING PLAN SOUTH FOR CIVIL PLANS PHASE 2 - WESLEY BRADLEY PARK					Horizontal 1" = 30'	Vertical N/A	CK	BOK	16718		
					WESLEY HOMES 815 SOUTH 216TH STREET DES MOINES, WA 98190 (206) 870-1209							Drawn	Checked	Approved	Date 7/11/23	Sheet
					<p><b>Barghausen Consulting Engineers, Inc.</b> 18215 72nd Avenue South Kent, WA 98032 425.251.6222 barghausen.com</p>										<b>C6 of C19</b>	



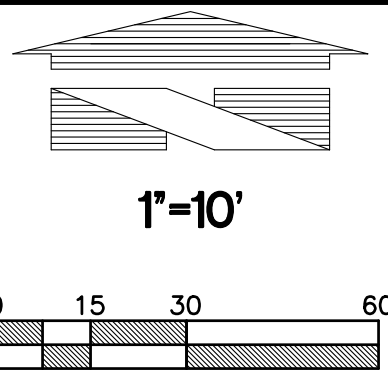
PROPOSED  
CARE  
CENTER  
BUILDING



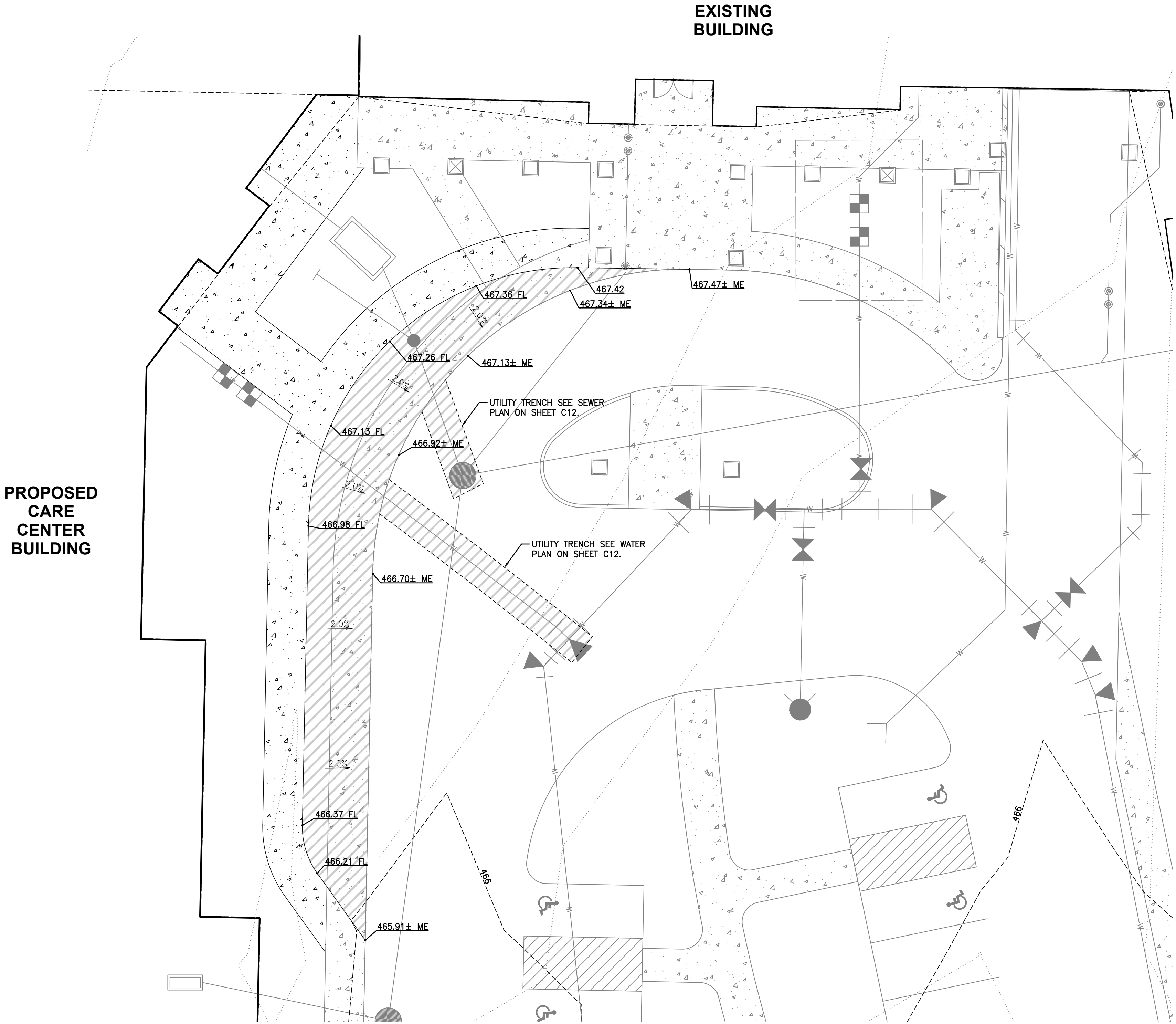
1. CONTRACTOR TO GRADE NEW PAVEMENT TO FACILITATE DRAINAGE. BEFORE CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY ELEVATIONS AND VERIFY GRADING WILL MEET THE INTENTION OF THIS PLAN. NOTIFY ENGINEER IF CONFLICT EXISTS.

Job Number	16718
Sheet	C7 C18

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER



GRADING PLAN - CARE CENTER ENTRANCE PAVING  
FOR  
***PHASE 2 - WESLEY BRADLEY PARK***



PROPOSED  
CARE  
CENTER  
BUILDING

EXISTING  
BUILDING

APPROVED

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

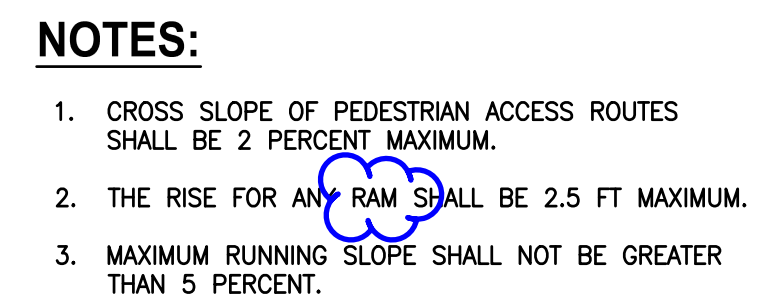
**NOTE:** THIS APPROVAL IS VOID  
AFTER 1 YEAR FROM APPROVAL  
DATE.  
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RESPONSIBLE FOR ERRORS AND/OR  
OMISSIONS ON THESE PLANS.  
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CHANGES TO THESE PLANS AS  
DETERMINED BY THE  
ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
[Plans; Sht C8 of 19]

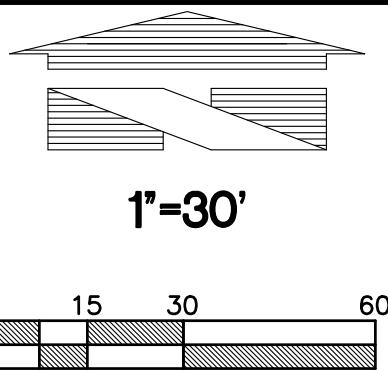
Job Number <b>16718</b>	Sheet <b>C8 of 19</b>	<b>Barghausen Consulting Engineers, Inc.</b> 18215 72nd Avenue South Kent, WA 98032 425.251.6222 <a href="http://barghausen.com">barghausen.com</a>		For: <b>WESLEY HOMES</b> 815 SOUTH 216TH STREET DES MOINES, WA 98190 (206) 870-1209	Title: <b>GRADING PLAN - CARE CENTER ENTRANCE PAVING FOR CIVIL PLANS PHASE 2 - WESLEY BRADLEY PARK</b>				
					No.	Date	By	Chd.	Appr.

Scale:  
Horizontal  
1" = 10'  
Vertical  
N/A

Designed CK  
Drawn BCK  
Checked CMV  
Approved DKB  
Date 7/11/23



Provide spot elevations (TW/BW).  
[Plans; Sht C6 of 19]



DRAINAGE PLAN NORTH  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**

This roof area was not included in the original PH1 MR8 wetland analysis. If this PH2 roof area will direct discharge to the wetland as shown, provide an updated MR8 analysis to ensure the wetland is not compromised. Depending on the category and habitat score of the wetland, the project WWHM may have to be rerun to account for this roof area as bypass. [Plans; Sheet C10 of 19]

**KEYNOTES:**

- NEW 6" PVC ROOF DRAIN COLLECTION SYSTEM @ 0.5% MIN. (TYP.)
- NEW 8" PVC ROOF DRAIN COLLECTION SYSTEM @ 0.5% MIN. (TYP.)

**NOTES:**

- RELOCATE EX. UTILITY STUB TO NEW FACE OF BUILDING (CO#15). (CONNECT EX STORM DRAIN PIPE TO NEW ROOF DRAIN SYSTEM.)
- INSTALL OIL/WATER SEPARATOR AND CONNECT TRENCH DRAIN AT BOTTOM OF ACCESS DRIVE.
- ALL CATCH BASIN OFF-SETS ARE TO CENTER OF GRATE (NOT CENTER OF STRUCTURE)
- PIPE MATERIAL SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-05.
- CONNECT NEW FOUNDATION DRAIN TO EXISTING STORM DRAIN SYSTEM.

Remove note. [Plans; Sht C10 of 19]

Verify callout. [Plans; Sht C10 of 19]

Callout dimension(s) of dispersion trench. [Plans; Sht C10 of 19]

Callout size, length, and slope of pipe run. [Plans; Sht C10 of 19]

Callout dimension(s) of relocated dispersion trench. [Plans; Sht C10 of 19]

Show new pipe run and callout size, length, and slope. [Plans; Sht C10 of 19]

Callout Roof Drain IE at existing connection. [Plans; Sht C10 of 19]

Provide IE. [Plans; Sht C10 of 19]

Provide Trench Drain Rim Elev. [Plans; Sht C10 of 19]

Use DI due to shallow bury. [Plans; Sht C10 of 19]

Readability. [Plans; Sheet C10 of 19]

See comments on Sheet C7 for this raised parking area. [Plans; Sheet C10 of 19]

Please locate in upper right corner. [Plans; Sht C10 of 19]

**MATCH LINE SEE SHEET C11**

Per Phase 1 calculations, this Stormfilter was only sized to collect tributary runoff from the access road. Revise accordingly. See Ecology, Section III-2.6 regarding pollution generating and non-pollution generating runoff draining to a single treatment device. [Plans; Sheet C10 of 19]

CATCH BASINS			
CB #1, RIM=457.05 IE=454.55 (6" N) IE=455.50 (6" NE) IE=454.55 (12" S)	CB #9, RIM=455.30 IE=461.88 (6" W) IE=461.88 (12" S)	CB #21, RIM=457.73 IE=453.73 (12" S)	CB #3, RIM=452.22
CB #4, RIM=444.65 IE=441.65 (6" S)	CO#1, RIM=448.42 IE=441.79 (6" N)	CO#2, RIM=448.36 IE=441.75 (6" S) IE=441.75 (6" E) IE=441.75 (6" W) IE=441.75 (6" S)	CO#3, RIM=449.93 IE=449.40 (6" N) IE=449.40 (6" W)
CO#4, RIM=449.97 IE=449.44 (6" E) IE=449.44 (6" S)	CO#5, RIM=450.26 IE=449.72 (6" E) IE=449.72 (6" W)	CO#6, RIM=451.26 IE=450.00 (6" S) IE=450.00 (6" W)	CO#7, RIM=454.00 IE=450.38 (6" W) IE=450.38 (6" N)
CO#8, RIM=454.00 IE=450.47 (6" S) IE=450.47 (6" E)	CO#9, RIM=454.00 IE=451.00 (6" N)	CO#10, RIM=467.97 IE=465.00 (6" S)	CO#11, RIM=467.96 IE=464.60 (6" N) IE=464.60 (6" E)
CO#12, RIM=467.93 IE=464.50 (6" W) IE=464.50 (6" S)	CO#13, RIM=467.90 IE=464.08 (6" N) IE=464.08 (6" E)	CO#14, RIM=467.79 IE=463.99 (6" W) IE=463.99 (6" S)	CO#15, RIM=467.87 IE=462.41 (6" S) IE=462.41 (6" N)

CATCH BASINS			
CO#16, RIM=467.76 IE=462.43 (6" W) IE=462.43 (6" N)	CO#17, RIM=467.99 IE=464.71 (6" S) IE=464.71 (6" E)	CO#18, RIM=467.99 IE=464.76 (6" W) IE=464.76 (6" N)	CO#19, RIM=467.88 IE=465.00 (6" E)
CO#20, RIM=457.00 IE=454.62 (6" N) IE=454.62 (6" S)	CO#21, RIM=456.79 IE=454.79 (6" N) IE=454.79 (6" S)	CO#22, RIM=456.78 IE=455.07 (6" E) IE=455.07 (6" N) IE=455.07 (6" S)	CO#23, RIM=456.98 IE=455.12 (6" W)
CO#24, RIM=456.98 IE=455.30 (6" W)	CO#25, RIM=456.78 IE=455.27 (6" E) IE=455.27 (6" S)	CO#26, RIM=454.62 IE=454.08 (6" N)	CO#27, RIM=451.01 IE=442.90 (6" E) IE=453.88 (6" S) IE=453.88 (6" N)
CO#28, RIM=451.28 IE=445.78 (6" W)	CO#29, RIM=453.99 IE=453.45 (6" S) IE=453.45 (6" E)		

Revision

No.

Date

By

Appr.

Title:

DRAINAGE PLAN NORTH  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY PARK

For:

WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209

Scale:

Horizontal  
1" = 30'

Vertical  
N/A

Designed

Drawn

Checked

Approved

Date

CK

BOX

CMV

DKB

7/11/23

Barghausen Consulting Engineers, Inc.

18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
barghausen.com

Job Number

16718

Sheet

C10 of C19

Professional Engineer

STATE OF WASHINGTON

25672

7/11/23

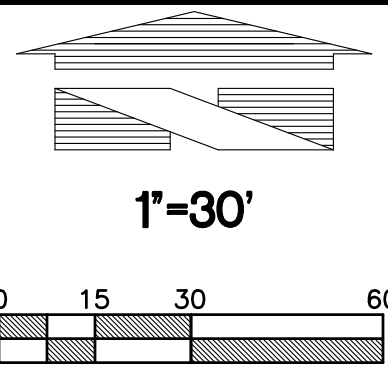
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APPROVED

BY \_\_\_\_\_ CITY OF PUYALLUP  
ENGINEERING SERVICES

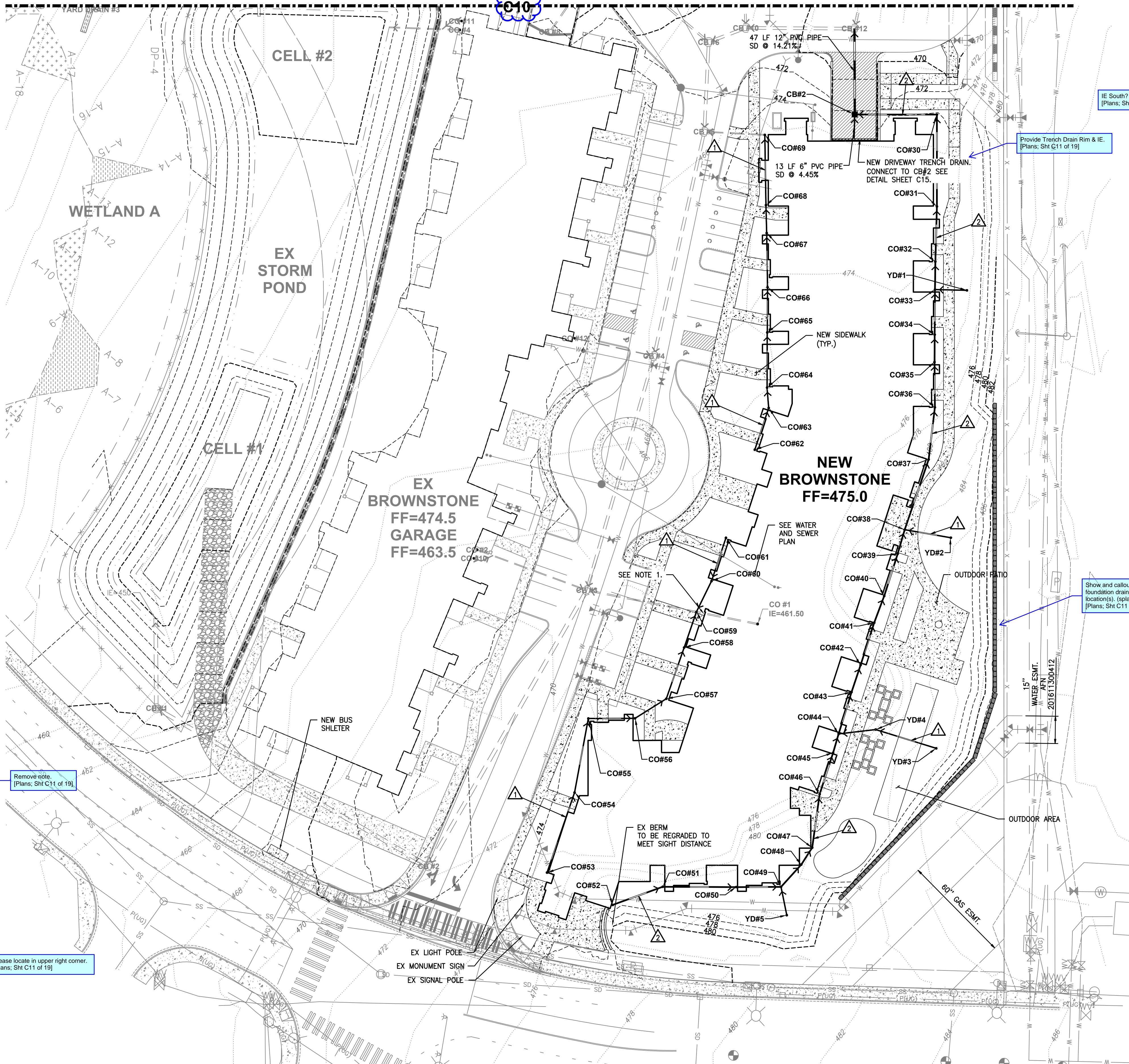
DATE \_\_\_\_\_

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.  
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.



DRAINAGE PLAN SOUTH  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**

MATCH LINE SEE SHEET  
C10



**KEYNOTES:**

- NEW 6" PVC ROOF DRAIN COLLECTION SYSTEM @ 0.5% MIN. (TYP.)
- NEW 8" PVC ROOF DRAIN COLLECTION SYSTEM @ 0.5% MIN. (TYP.)

**NOTES:**

- RELOCATE EX. UTILITY STUB TO NEW FACE OF BUILDING (CO#59). (CONNECT EX STORM DRAIN PIPE TO NEW ROOF DRAIN SYSTEM.)
- INSTALL OIL/WATER SEPARATOR AND CONNECT TRENCH DRAIN AT BOTTOM OF ACCESS DRIVE.
- ALL CATCH BASIN OFF-SETS ARE TO CENTER OF GRATE (NOT CENTER OF STRUCTURE)
- PIPE MATERIAL SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-05.
- CONNECT NEW FOUNDATION DRAINS TO EXISTING STORM DRAIN SYSTEM.

**APPROVED**

BY: CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE:

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Please locate in upper right corner.  
(Plans: Sht C11 of 19)

Remove note.  
(Plans: Sht C11 of 19)

CATCH BASINS			
CB #12,	RIM=469.30	IE=454.04 (15" N)	IE=454.04 (18" W)
CB#2,	RIM=465.74	IE=462.41 (6" S)	IE=462.74 (8" E)
CO#30,	RIM=474.12	IE=463.19 (8" S)	IE=463.19 (8" W)
CO#31,	RIM=475.00	IE=469.58 (8" S)	IE=467.16 (8" N)
CO#32,	RIM=475.00	IE=469.73 (8" S)	IE=469.73 (8" N)
CO#33,	RIM=475.00	IE=469.81 (8" S)	IE=469.81 (8" N)
CO#34,	RIM=475.00	IE=469.93 (8" S)	IE=469.93 (8" N)
CO#35,	RIM=475.00	IE=470.01 (8" S)	IE=470.01 (8" N)
CO#36,	RIM=475.00	IE=470.13 (8" S)	IE=470.13 (8" N)
CO#37,	RIM=475.00	IE=470.27 (8" S)	IE=470.27 (8" N)
CO#38,	RIM=475.00	IE=470.48 (8" S)	IE=470.48 (8" E)
CO#39,	RIM=475.00	IE=470.55 (8" S)	IE=470.55 (8" N)
CO#40,	RIM=475.00	IE=470.67 (8" S)	IE=470.67 (8" N)
CO#41,	RIM=475.00	IE=470.75 (8" S)	IE=470.75 (8" N)
CO#42,	RIM=475.00	IE=470.87 (8" S)	IE=470.87 (8" N)
CO#43,	RIM=475.00	IE=470.95 (8" S)	IE=470.95 (8" N)
CO#44,	RIM=475.00	IE=471.07 (8" S)	IE=471.07 (8" E)
CO#45,	RIM=475.00	IE=471.12 (8" S)	IE=471.12 (8" N)
CO#46,	RIM=475.00	IE=471.24 (8" S)	IE=471.24 (8" N)
CO#47,	RIM=475.00	IE=471.39 (8" SW)	IE=471.39 (8" N)

CATCH BASINS			
CO#48,	RIM=475.00	IE=471.45 (8" SW)	IE=471.45 (8" NE)
CO#49,	RIM=475.00	IE=471.53 (8" W)	IE=471.53 (8" NE)
CO#50,	RIM=475.00	IE=471.65 (8" W)	IE=471.65 (8" E)
CO#51,	RIM=475.00	IE=471.85 (8" W)	IE=471.85 (8" E)
CO#52,	RIM=475.00	IE=472.00 (8" E)	
CO#53,	RIM=474.93	IE=472.00 (6" N)	
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CO#55,	RIM=474.78	IE=471.56 (6" S)	IE=471.56 (6" E)
CO#56,	RIM=475.00	IE=471.43 (6" W)	IE=471.43 (6" NE)
CO#57,	RIM=475.00	IE=471.33 (6" SW)	IE=471.33 (6" N)
CO#58,	RIM=474.98	IE=471.18 (6" S)	IE=471.18 (6" N)
CO#59,	RIM=474.92	IE=458.12 (6" S)	IE=458.12 (6" NE)
CO#60,	RIM=475.00	IE=471.87 (6" N)	IE=471.87 (6" SW)
CO#61,	RIM=474.94	IE=472.00 (6" S)	
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CO#63,	RIM=475.00	IE=471.88 (6" S)	IE=471.88 (6" N)
CO#64,	RIM=474.96	IE=471.82 (6" S)	IE=471.82 (6" N)
CO#65,	RIM=474.98	IE=471.67 (6" S)	IE=471.67 (6" N)
CO#66,	RIM=475.00	IE=471.55 (6" S)	IE=471.55 (6" N)
CO#67,	RIM=475.00	IE=471.40 (6" S)	IE=471.40 (6" N)

CATCH BASINS			
CO#68,	RIM=474.80	IE=471.32 (6" S)	IE=471.32 (6" N)
CO#69,	RIM=474.88	IE=465.03 (6" S)	
YD#1,	RIM=474.50	IE=471.50 (6" W)	
YD#2,	RIM=474.50	IE=471.50 (6" W)	
YD#3,	RIM=474.50	IE=471.23 (6" E)	IE=471.23 (6" W)
YD#4,	RIM=474.50	IE=471.23 (6" E)	
YD#5,	RIM=474.25	IE=471.61 (6" N)	

IE South?  
(Plans: Sht C11 of 19)

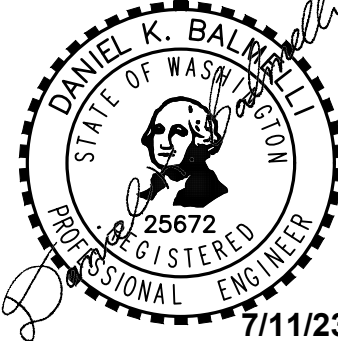
Provide Trench Drain Rim & IE.  
(Plans: Sht C11 of 19)

Show and callout retaining wall  
foundation drain discharge  
location(s). (Splash pad? other?)  
(Plans: Sht C11 of 19)

Title:

WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209

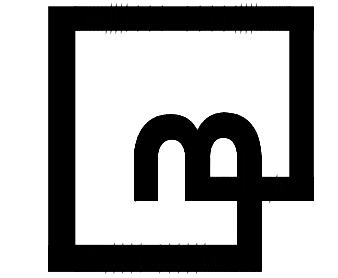
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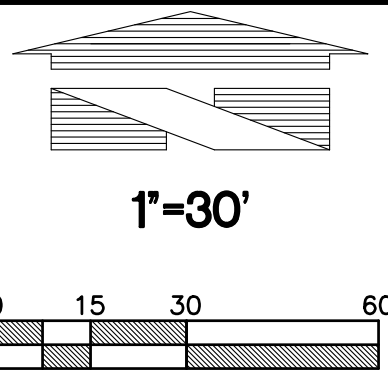
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Designed: CK  
Drawn: BOK  
Checked: CMV  
Approved: DKB  
Date: 7/11/23

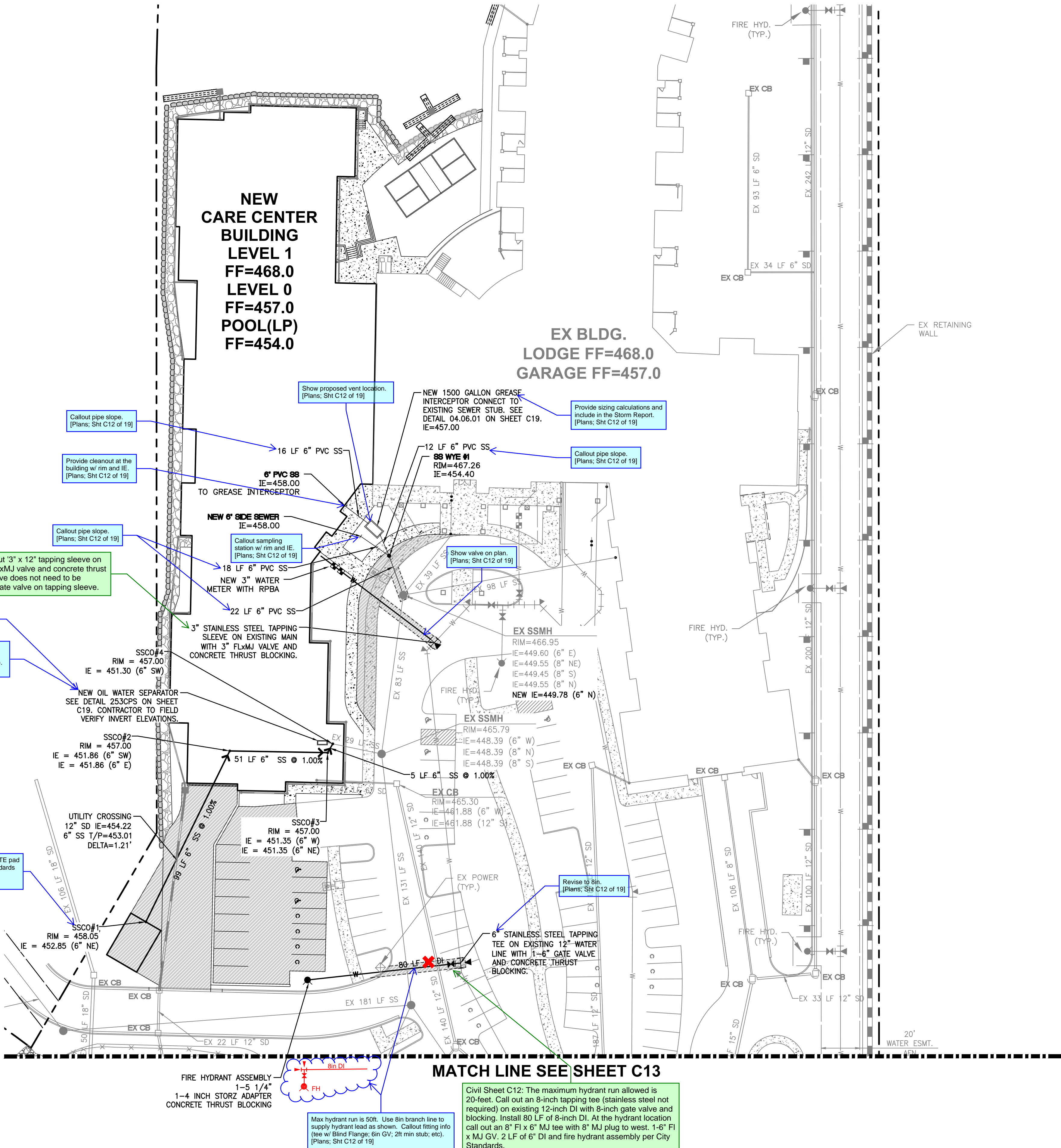
**Barghausen Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222 [barghausen.com](http://barghausen.com)



Job Number  
**16718**  
Sheet  
**C11 of C19**



WATER AND SEWER PLAN NORTH  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**



- NOTES:**
- ALL 12" VALVES TO BE BUTTERFLY VALVES PER CITY STANDARDS.
  - NO TREES TO BE PLANTED WITHIN 5 FEET OF THE WATER MAIN.
  - ALL FDCs SHALL BE LOCATED WITHIN 15 FEET OF THE ADJACENT FIRE HYDRANT, BUT NOT LESS THAN 10 FEET.

**UTILITY CONFLICT**  
**NOTE: CAUTION:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POT-HOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 1-800-424-5555 AND THEN POT-HOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

**APPROVED**

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

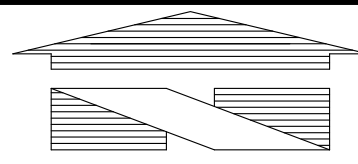
DATE \_\_\_\_\_

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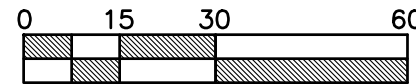
Please locate in upper right corner.  
[Plans; Sht C12 of 19]

Add Fire Code Official approval block to this sheet.  
[Plans; Sht C13 of 19]

No.	Date	By	Chd.	Appr.	Revision
Title: WATER AND SEWER PLAN NORTH FOR CIVIL PLANS PHASE 2 - WESLEY BRADLEY PARK					
For: WESLEY HOMES 815 SOUTH 216TH STREET DES MOINES, WA 98190 (206) 870-1209					
Scale: Horizontal 1" = 30' Vertical N/A					
Designed: CK Drawn: BOK Checked: CMV Approved: DKB Date: 7/11/23					
Barghausen Consulting Engineers, Inc. 18215 72nd Avenue South Kent, WA 98032 425.251.6222 barghausen.com					
Job Number <b>16718</b>	Sheet <b>C12 of C19</b>				



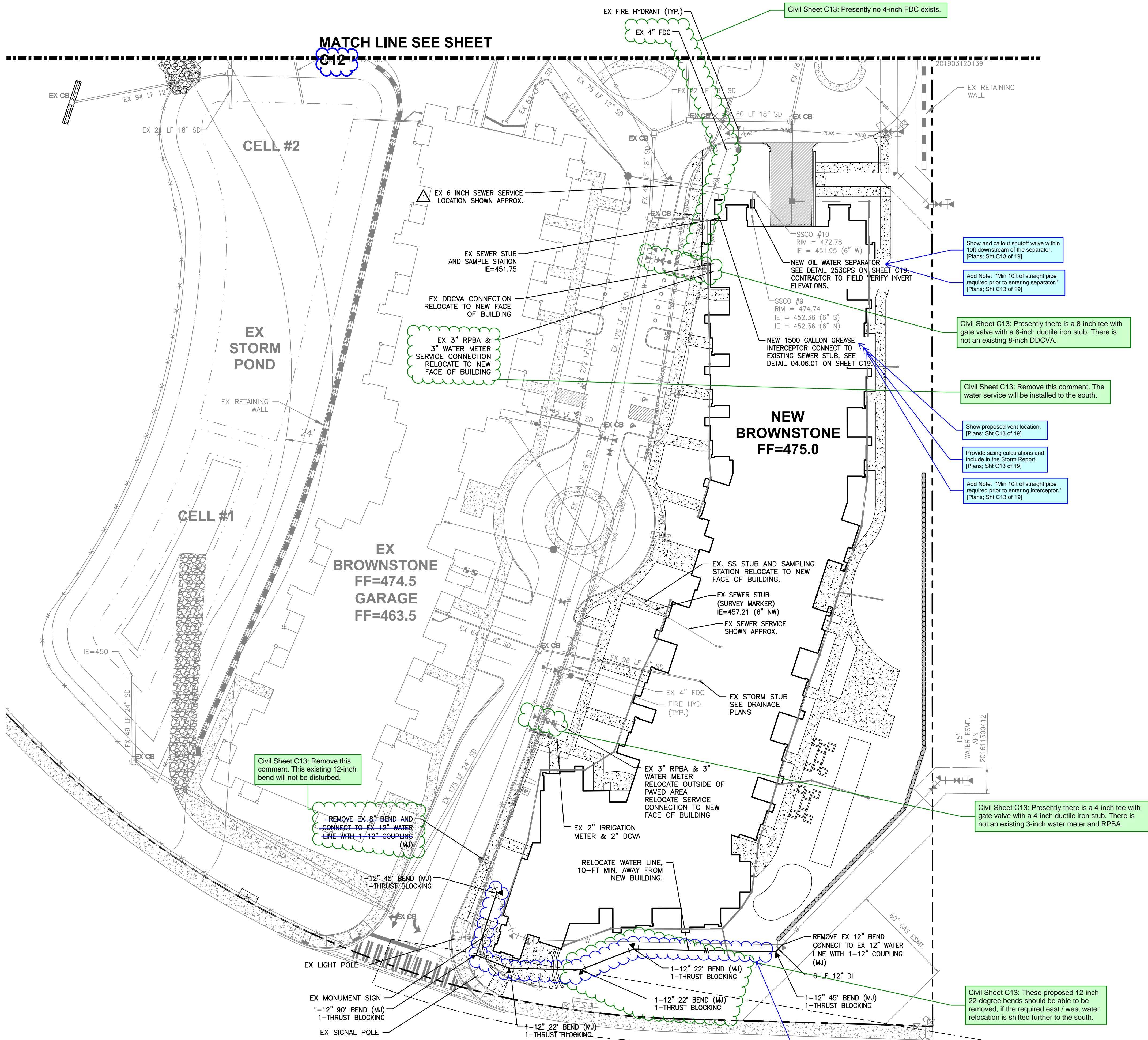
1"=30'



WATER AND SEWER PLAN SOUTH

FOR

PHASE 2 - WESLEY BRADLEY PARK



SPECIAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF EXISTING SEWER SERVICE. CONTRACTOR SHALL VERIFY A SERVICE CONNECTION CAN BE MADE TO THE PROPOSED GREASE INTERCEPTOR. NOTIFY ENGINEER IF CONFLICT EXISTS.

NOTES:

1. ALL 12" VALVES TO BE BUTTERFLY VALVES PER CITY STANDARDS.
2. NO TREES TO BE PLANTED WITHIN 5 FEET OF THE WATER MAIN.

UTILITY CONFLICT

NOTE: CAUTION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POT-HOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 1-800-424-5555 AND THEN POT-HOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

APPROVED

BY CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE

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Please locate in upper right corner.  
[Plans; Sht C13 of 19]

Add Fire Code Official  
approval block to this sheet.  
[Plans; Sht C13 of 19]

Revision

Appr.

Cdd.

By

Date

No.

Title:

WATER AND SEWER PLAN SOUTH

FOR

CIVIL PLANS

PHASE 2 - WESLEY BRADLEY PARK

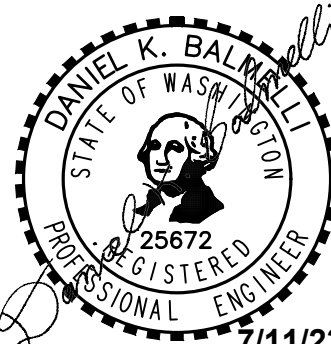
WESLEY HOMES

815 SOUTH 216TH STREET

DES MOINES, WA 98190

(206) 870-1209

For:



Scale:

Horizontal

1" = 30'

Vertical

N/A

Designed CK

Drawn BOK

Checked CMV

Approved DKB

Date 7/11/23

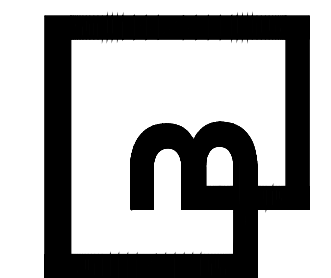
Barghausen  
Consulting Engineers, Inc.

18215 72nd Avenue South

Kent, WA 98032

425.251.6222

barghausen.com



Job Number

16718

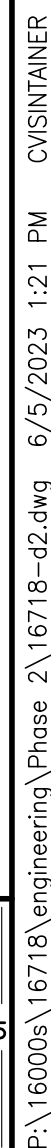
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C13 of

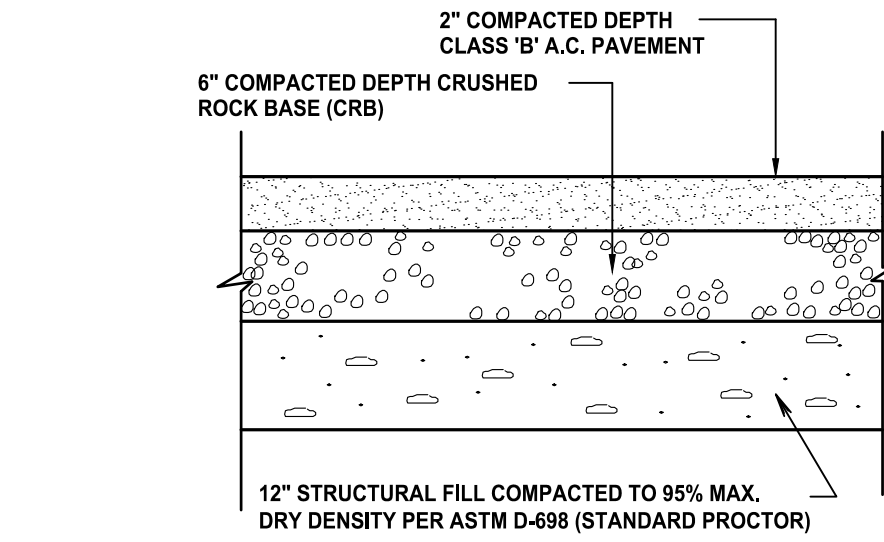
C19



## ***PHASE 2 - WESLEY BRADLEY PARK***



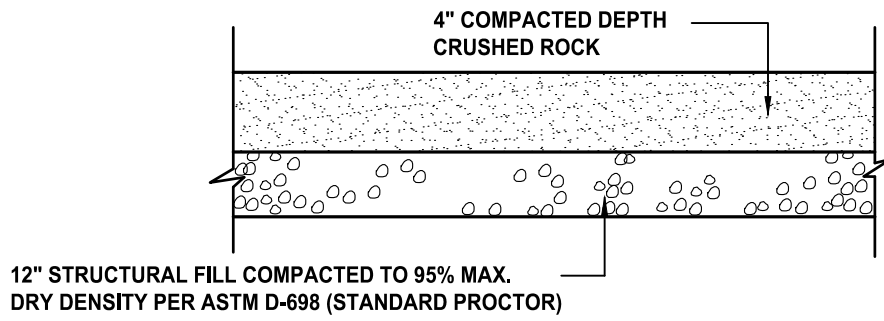
CONSTRUCTION NOTES & DETAILS  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**



ALTERNATE PAVING SECTION  
2" COMPACTED DEPTH  
CLASS "B" A.C. PAVEMENT  
3" ASPHALT TREATED BASE (ATB)

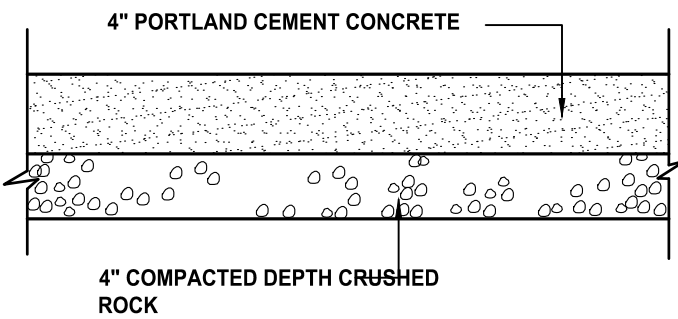
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NOT TO SCALE



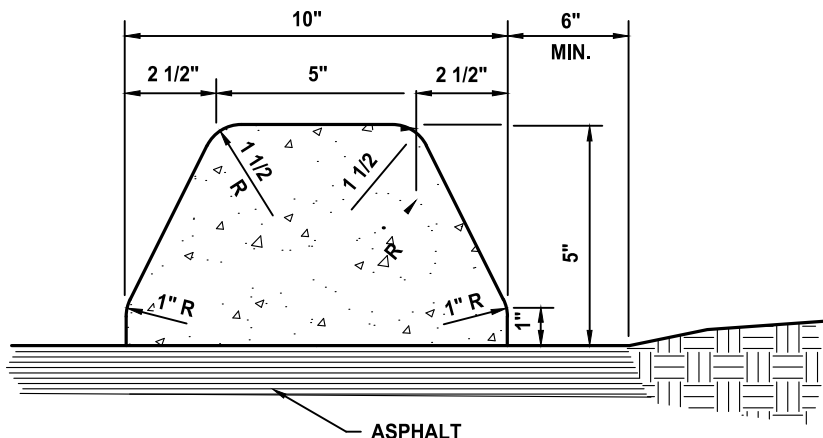
GRAVEL WALKING PATH (ONSITE ONLY)

NOT TO SCALE



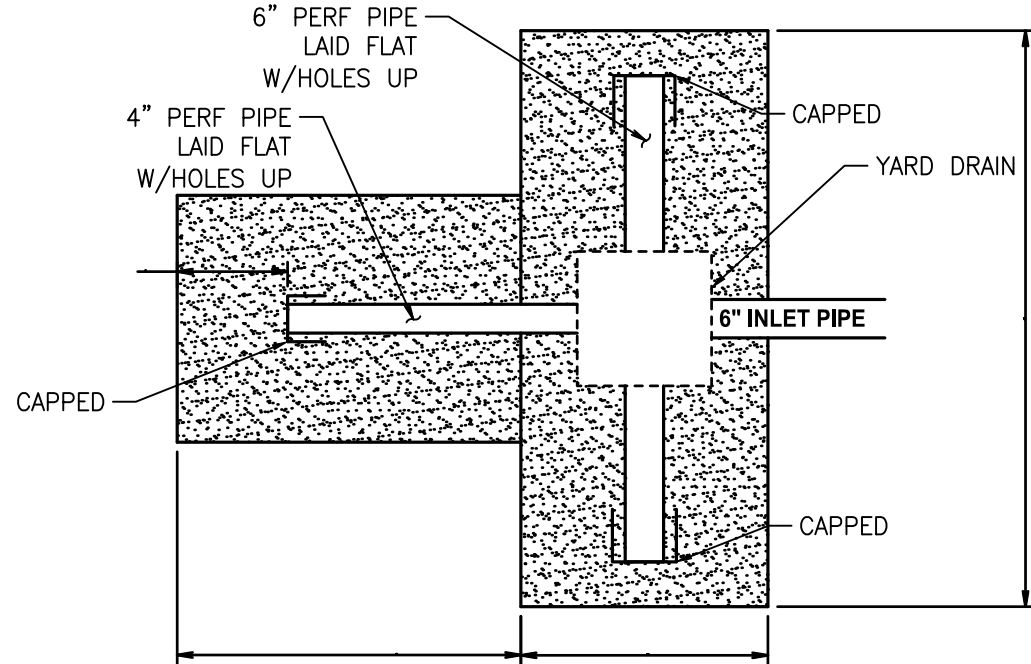
PRIVATE CONCRETE SIDEWALKS (ONSITE ONLY)

NOT TO SCALE



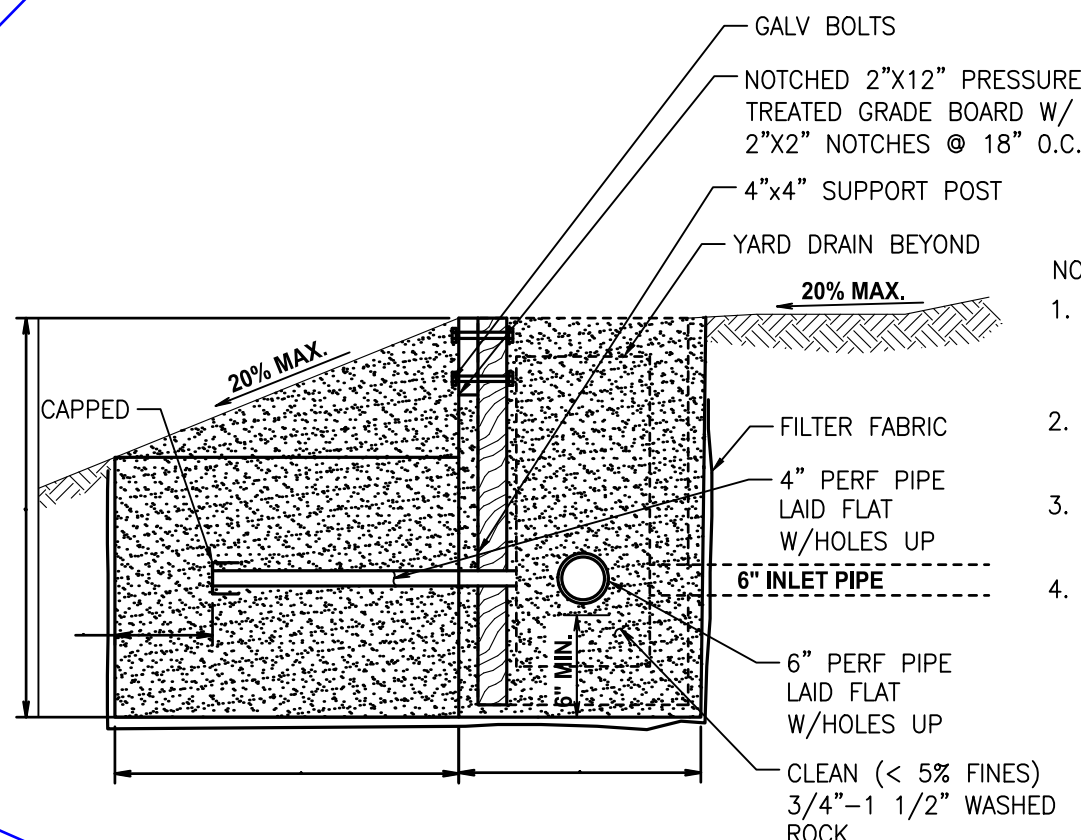
EXTRUDED CONCRETE CURB DETAIL (ONSITE ONLY)

NOT TO SCALE



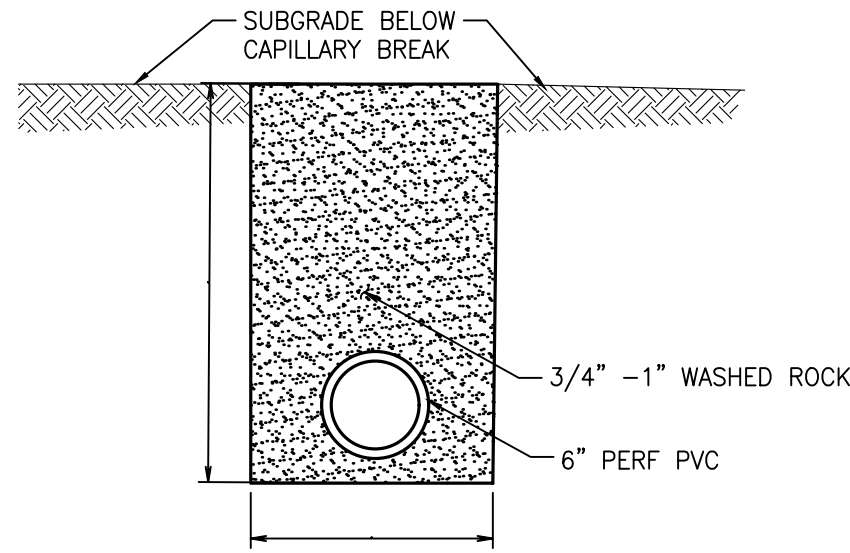
DISPERSION TRENCH TYPICAL PLAN

NOT TO SCALE



DISPERSION TRENCH TYPICAL SECTION

NOT TO SCALE



SUB DRAIN TYPICAL SECTION

NOT TO SCALE

Provide dimensional info for these sections.  
[Plans; Sht C16 of 19]

APPROVED

BY \_\_\_\_\_  
CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE \_\_\_\_\_

**NOTE:** THIS APPROVAL IS VOID  
AFTER 1 YEAR FROM APPROVAL  
DATE.  
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RESPONSIBLE FOR ERRORS AND/OR  
OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE  
CHANGES TO THESE PLANS AS  
DETERMINED BY THE  
ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
[Plans; Sht C16 of 19]

Revision

Appr.

Chd.

By

Date

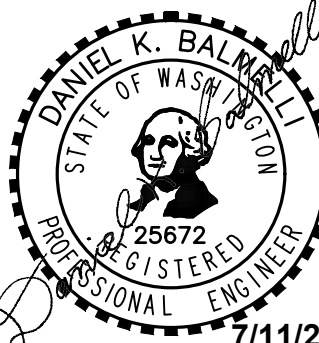
No.

Title:

CONSTRUCTION NOTES & DETAILS  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY PARK

For: WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209

For:



Scale:

Horizontal

N/A

Vertical

N/A

Designed CK

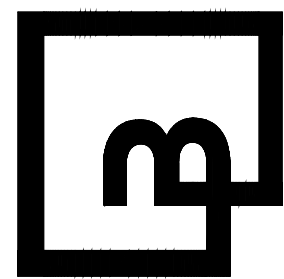
Drawn BOK

Checked CMV

Approved DKB

Date 7/11/23

Barghausen  
Consulting Engineers, Inc.  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
barghausen.com



Job Number

16718

Sheet

C16 of C19

WATER DETAILS  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**

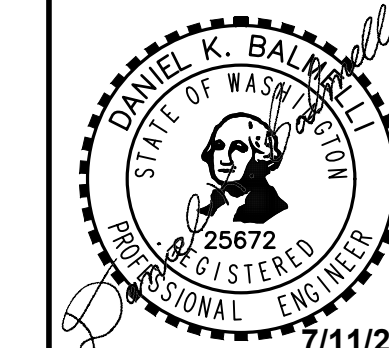
Update all of these details to current standard.  
[Plans: Sht C17 of 19]

WATER DETAILS  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY PARK

Title:

WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209

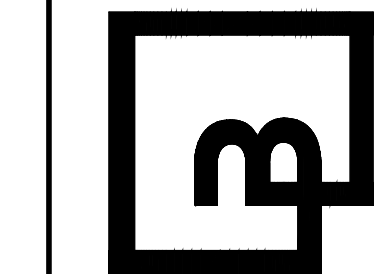
For:



Scale:  
Horizontal N/A  
Vertical N/A

Designed CK  
Drawn BOX  
Checked CMV  
Approved DKB  
Date 7/11/23

**Barghausen Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
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Job Number  
**16718**  
Sheet  
**C17 of C19**

**WATER VALVES AND MAINS**

NOTES:

- WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
- VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN 18" FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF TWO (2) FEET LONG, ONLY ONE EXTENSION TO THE VALVE. VALVE EXTENSION SHALL BE 3 FEET 6 INCHES TO 3 FEET 10 INCHES FINISHED GRADE.
- ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, 1/2" THICK, 1/2" DIA. AND SHALL BE PAINTED WITH TWO COATS OF METAL PAINT.
- VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECE (IF NECESSARY), AS MANUFACTURED BY THE VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF ON THE VALVE BOX COVER. VALVE BOX TOPS INSTALLED IN ARTERIAL ROADWAYS SHALL BE MANUFACTURED BY EAST JORDAN (EJ) IRONWORKS MODEL 8555 OR APPROVED EQUAL.
- NEAT LINE CUTS SHALL BE SEALED WITH A HOT PAVING GRADE ASPHALT OR PATCH CUT TACKED.
- WATER MAINS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH DIVISION 7, WSDOT STANDARD SPECIFICATIONS SUPPLEMENTED WITH THE FOLLOWING:

A. DUCTILE IRON PIPE SHALL CONFORM TO AWWA C 151, CLASS 52, AND SHALL BE COATED WITH COAL TAR VARNISH. PIPE AND FITTINGS SHALL BE WORTON LINED AND SHALL CONFORM TO AWWA C 104. THE THICKNESS OF THE LINED SHALL BE NOT LESS THAN 1/16" THICK FOR 24 IN. DIA. PIPE, 1/8" THICK FOR 30 IN. DIA. PIPE, AND 1/4" THICK FOR 36 IN. DIA. PIPE. THE COAT LAYING SHALL CONFORM TO THE REQUIREMENTS OF AWWA C 105.

B. JOINTS SHALL BE TYTON PUSH-ON JOINTS, STANDARD EQUAL, OR MECHANICAL JOINT TYPE A 111 EXCEPT WHERE FLANGED JOINTS ARE REQUIRED TO CONNECT TO VALVES OR OTHER EQUIPMENT.

C. BOLTS AND NUTS FOR BURIED FLANGES SHALL BE TYPE 316 STAINLESS STEEL, CONFORMING TO ASTM A 193, GRADE B, WITH CORROSION RESISTANT COATING. NUTS SHALL BE TYPE 316 STAINLESS STEEL, CONFORMING TO ASTM A 193, GRADE B, WITH CORROSION RESISTANT COATING. NUTS SHALL BE TYPE 316 STAINLESS STEEL, CONFORMING TO ASTM A 193, GRADE B, WITH CORROSION RESISTANT COATING.

D. BOLTS USED IN FLANGE INSTALLATIONS SHALL CONFORM TO ASTM A 193, GRADE B, NUTS SHALL CONFORM TO ASTM A 193, GRADE B.

E. PROVIDE A WASHER FOR EACH NUT, WHERE NEEDED. WASHERS SHALL BE OF THE SAME MATERIAL AS THE NUTS.

F. ALL FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AWWA C 110 AND AWWA C 111.

G. RESILIENT SEATED GATE VALVES SHALL BE USED FOR TEN (10) INCH MAINS AND SMALLER. BUTTERFLY VALVES SHALL BE USED FOR MAINS GREATER THAN TEN (10) INCHES.

1) RESILIENT SEATED WEDGE GATE VALVE. GATE VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS FOR GATE VALVE, DOUBLE-DISK GATE VALVE, 500 PSI WORKING PRESSURE. THEY SHALL BE NON-BLOCKING, BRONZE, MONOTONIC NON-RETURN ITEM WITH TWO (2) INCH SQUARE METAL COUPLER-POWERED OPERATING MECHANISM JOINT AND/OR FLANGED JOINT VALVES ON FIRE FIGHTING MAINS SHALL BE MANUFACTURED BY THE HELLER COMPANY OR APPROVED EQUAL. VALVE STEERS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE HELLER COMPANY OR APPROVED EQUAL.

2) BUTTERFLY VALVES: BUTTERFLY VALVES CONFORMING WITH AWWA C 504, CLASS 150 AND SHALL HAVE STANDARD AWWA TWO (2) INCH SQUARE NUT.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

DESIGNED BY: JIM EMMERTS/03/02/2024  
CHECKED BY: MARK PALMER/03/02/2024  
APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.01.01

**VALVE MARKER POST**

NOTES:

- PAINT MARKER POST WITH RUST-OLEUM SAFETY YELLOW #563 OR APPROVED EQUAL.
- THE DISTANCE FROM THE MARKER POST TO THE WATER MAIN SHALL BE PAINTED ON THE BACKSIDE OF THE MARKER POST, IN BLACK WITH A 2" HIGH NUMBER.
- VALVE MARKER POST SHALL BE REQUIRED WHEN EVER THE WATER MAIN IS LOCATED IN AN UNPAVED AREA.
- THE POST WILL ALSO BE REQUIRED FOR BLOW-OFF ASSEMBLIES IN THE SAME CONDITION AS WATER VALVES.
- LOCATION OF VALVE MARKER POSTS SHALL BE OFFSET AT RIGHT ANGLES TO EACH LINE VALVE.

Civil Sheet C17: Remove this standard detail. It is not needed for this project.

CITY OF PUYALLUP  
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CHECKED BY: MARK PALMER/03/02/2024  
APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.01.02

**WATER MAIN CROSSING OTHER UTILITIES**

NOTES:

- SEWER LINE IS LAID IN A SEPARATE TRENCH FROM THE WATER LINE.
- WHEN LOCAL CONDITIONS PREVENT THE SEPARATIONS DESCRIBED ON CITY STANDARD 03.01.03-1, A SEWER MAY BE LAID CLOSER THAN 10- FEET HORIZONTALLY OR 18-INCHES VERTICALLY TO A WATER LINE, PROVIDED THE GUIDELINES BELOW ARE FOLLOWED:

UNUSUAL CONDITIONS (PARALLEL SYSTEMS)

- SEWER LINE IS LAID IN A SEPARATE TRENCH FROM THE WATER LINE.
- WHEN 18-INCHES VERTICAL SEPARATION CANNOT BE OBTAINED, THE SEWER SHALL BE CONSTRUCTED OF MATERIALS AND JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION AND SHALL BE PRESSURE TESTED TO ENSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
- THE WATER PIPE SHALL BE PLACED ON A BENCH OF UNDISTURBED EARTH WITH THE BOTTOM OF THE WATER PIPE AT LEAST 18-INCHES ABOVE THE CROWN OF THE SEWER, AND SHALL HAVE AT LEAST 3" OF HORIZONTAL SEPARATION AT ALL TIMES. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MITIGATION EFFORTS, SUCH AS IMPERMEABLE BARRIERS, OTHER MEANS, FOR ADDITIONAL PROTECTION.
- THE SEWER SHALL NOT BE INSTALLED IN THE SAME DITCH AS A POTABLE WATER LINE WITHOUT PRIOR APPROVAL OF THE CITY OF PUYALLUP.

UNUSUAL CONDITIONS (PERPENDICULAR SYSTEMS)

A. GRAVITY SEWERS PASSING UNDER WATER LINES (ALL OF THE FOLLOWING APPLY)

- ONE FULL SEGMENT (NOT LESS THAN 18- FEET LONG) OF DUCTILE IRON CLASS 52 WATER PIPE, AND THE LONGEST STANDARD WATER PIPE LENGTH AVAILABLE FROM THE MANUFACTURER SHALL BE USED WITH THE PIPES CENTER TO MAXIMIZE JOINT SEPARATION.
- STANDARD GRAVITY-SEWER MATERIAL ENCASED IN CONCRETE OR IN A ONE-QUARTER-INCH THICK CONTINUOUS STEEL, DUCTILE IRON, OR PRESTRESSED RATED PVC PIPE WITH A DIMENSION RATIO (THE RATIO OF THE OUTSIDE DIAMETER OF THE PIPE WALL THICKNESS) OF 18 OR LESS, WITH ALL JOINTS PRESSURE-GROUTED IN SAND-CEMENT GROUT OR BENTONITE.

EXAMPLE OF DIMENSION RATIO (DR): (DR) = PIPE DIAMETER DIVIDED BY THE WALL THICKNESS OR (DR) = 8 INCH SCH. 80 PVC PIPE (T=0.5 INCHES) THE DR IS 8.625/0.5=17.25

B. GRAVITY SEWER PASSING OVER WATER LINES

WATER LINES SHALL BE PROTECTED BY PROVIDING:

- A VERTICAL SEPARATION OF AT LEAST 18-INCHES BETWEEN THE TOP OF THE SEWER AND THE CROWN OF THE WATER LINE.
- ADAPTED STRUCTURAL SUPPORT FOR THE SEWER LINE TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLEMENT AND BREAKING OF THE WATER LINE.
- THE SEWER PIPE SHALL BE THE LONGEST STANDARD SEWER PIPE LENGTH AVAILABLE FROM THE MANUFACTURER WITH THE WATER AND SEWER PIPES CENTERED TO MAXIMIZE JOINT SEPARATION.
- THE SEWER LINE CASING EQUIVALENT TO THAT SPECIFIED IN A(2) ABOVE.

CITY STANDARD 03.01.03-2 COVERS ADDITIONAL NOTES FOR THIS DETAIL.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

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CHECKED BY: MARK PALMER/03/02/2024  
APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.01.03-1

**WATER MAIN CROSSING OTHER UTILITIES (NOTES)**

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- STANDARD GRAVITY-SEWER MATERIAL ENCASED IN CONCRETE OR IN A ONE-QUARTER-INCH THICK CONTINUOUS STEEL, DUCTILE IRON, OR PRESTRESSED RATED PVC PIPE WITH A DIMENSION RATIO (THE RATIO OF THE OUTSIDE DIAMETER OF THE PIPE WALL THICKNESS) OF 18 OR LESS, WITH ALL JOINTS PRESSURE-GROUTED IN SAND-CEMENT GROUT OR BENTONITE.

EXAMPLE OF DIMENSION RATIO (DR): (DR) = PIPE DIAMETER DIVIDED BY THE WALL THICKNESS OR (DR) = 8 INCH SCH. 80 PVC PIPE (T=0.5 INCHES) THE DR IS 8.625/0.5=17.25

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- THE SEWER PIPE SHALL BE THE LONGEST STANDARD SEWER PIPE LENGTH AVAILABLE FROM THE MANUFACTURER WITH THE WATER AND SEWER PIPES CENTERED TO MAXIMIZE JOINT SEPARATION.
- THE SEWER LINE CASING EQUIVALENT TO THAT SPECIFIED IN A(2) ABOVE.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

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APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.01.03-2

**HORIZONTAL THRUST BLOCKING**

NOTES:

- THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:

A. BLOCKS MUST BE POSITIONED AGAINST UNDISTURBED SOIL.

B. THE PIPE FITTING AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.

C. CONCRETE SHALL BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.

D. RESTRAINED JOINTS SHALL BE INSTALLED, IN ADDITION TO CONCRETE THRUST BLOCKING.

E. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

2. ALL PIPE SHALL BE PROPERLY BEDDED, SEE CITY OF PUYALLUP STANDARD BEDDING DETAIL NO. 06.01.01

3. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.

4. DETERMINE THRUST BY SAFE BEARING LOAD TO DETERMINE REQUIRED AREA (IN SQUARE FEET) OF CONCRETE TO DISTRIBUTE LOAD.

5. BEARING SURFACE AREAS TO BE ADJUSTED BY THE ENGINEER FOR OTHER PRESSURE AND/OR SOIL CONDITIONS.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

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APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.02.01-1

**VERTICAL THRUST BLOCKING**

NOTES:

- THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:

A. BLOCKS MUST BE POSITIONED AGAINST UNDISTURBED SOIL.

B. THE PIPE FITTING AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.

C. CONCRETE SHALL BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.

D. RESTRAINED JOINTS SHALL BE INSTALLED, IN ADDITION TO CONCRETE THRUST BLOCKING.

E. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

2. ALL PIPE SHALL BE PROPERLY BEDDED, SEE CITY OF PUYALLUP STANDARD BEDDING DETAIL NO. 06.01.01

3. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.

4. DETERMINE THRUST BY SAFE BEARING LOAD TO DETERMINE REQUIRED AREA (IN SQUARE FEET) OF CONCRETE TO DISTRIBUTE LOAD.

5. BEARING SURFACE AREAS TO BE ADJUSTED BY THE ENGINEER FOR OTHER PRESSURE AND/OR SOIL CONDITIONS.

CITY OF PUYALLUP  
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DATE REVISION: 03.02.01-2

**THRUST BLOCKING TABLE**

TABLE 2: THRUST AT FITTINGS AT 200 PSI

SIZE	TEST PRESSURE PSI	THRUST AT FITTINGS IN POUNDS				
		A	B	C	D	E
4"	200	3,140	4,440	2,405	1,225	615
6"	200	7,070	9,995	5,410	2,760	1,385
8"	200	12,565	17,770	9,620	4,905	2,465
10"	200	19,635	27,770	15,030	7,660	3,850
12"	200	28,275	39,985	21,640	11,030	5,545
14"	200	38,485	54,425	29,455	15,015	7,545
16"	200	50,265	71,085	38,470	19,615	9,855

TABLE 3: BEARING VALUE OF SOIL

SOIL TYPE	SAFE BEARING LOAD LBS/SF
MUCK, CLAY, ETC.	1,000
SOFT CLAY, ALLUVIAL SOIL	2,000
SAND	3,000
SAND AND GRAVEL	4,000
SAND AND GRAVEL BLENDED WITH CLAY	5,000
HARD SHALE	10,000

SEE CITY STANDARDS 03.02.01-1 AND 03.02.01-2 FOR ADDITIONAL INFORMATION.

NOTES:

- TO DETERMINE THRUST AT PRESSURE GREATER THAN PSI SHOWN, MULTIPLY THE THRUST OBTAINED IN TABLE 2 BY THE RATIO OF THE PRESSURE TO 200 PSI.  
EXAMPLE: THE THRUST AT 12 INCH, 800 PSI END AT 300 PSI.  
 $300 \text{ PSI} / 200 \text{ PSI} = 1.5$   
 $1.5 \times 59,978 = 89,967$
- TO DETERMINE THE AREA OF THE THRUST BLOCK.  
EXAMPLE: (LBS/CF UNIT WEIGHT OF CONCRETE)  
 $59,978 \text{ LBS} + 150 \text{ LB/SF} = 399.9 \text{ CF}$   
 $399.9 \text{ CF} \div 27 \text{ CF} = 14.81 \text{ CF OF CONCRETE}$
- TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (SF)  
EXAMPLE: (SAFE BEARING VALUE OF SOIL)  
EXAMPLE: FOR SAND AND GRAVEL BEARING VALUE FROM TABLE 3 IS 3,000 LBS/SF  
 $59,978 \text{ LBS} \div 3,000 \text{ LB/SF} = 20 \text{ SF OF AREA}$
- CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
- AREAS TO BE ADJUSTED FOR OTHER PRESSURE CONDITIONS
- NO WATER MAIN SHALL DEAD END AGAINST A MAIN LINE VALVE. DEAD END WATER MAINS SHALL BE BLOCKED AGAINST A RESTRAINED MECHANICAL-JOINT (M.J.) PLUG OR CAP.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

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APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.02.01-3

**1-1/2" AND 2" WATER SERVICE CONNECTION**

NOTES:

- ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED IN APPROVED EQUAL.
- NORMALLY THE WATER METER BOX SHOULD BE LOCATED IN THE PLANTING STRIP. IF SIDEWALK IS AGAINST THE CURB, PLACE THE METER BOX DIRECTLY BEHIND THE WATER METER BOX SHALL NOT BE LOCATED IN HARD SURFACES. WHEN UNAVOIDABLE, EXCEPTIONS MAY BE MADE AT END OF CUL-DE-SACS OR PAN HANDLED LOTS.
- WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
- ALL POLY PIPE COUPLINGS SHALL BE POLY PIPE INSERT STIFFENERS.
- THE WATER SERVICE LINE SHALL HAVE 36" OF COVER BELOW FINISHED GRADE IN THE RIGHT-OF-WAY. THE WATER SERVICE LINE SHALL BE ONE CONTINUOUS PIECE WITH NO SPLICES.
- ALL POLY PIPE SHALL BE HIGH DENSITY POLY (HDPE) (PIPE SIZE) MEETING ASTM D-2513, SDR 7 (PE 3408), 200 PSI MINIMUM.
- FOR A 1-1/2" WATER SERVICE, ALL MATERIAL SHALL BE 2" FROM THE WATER MAIN TO THE COPPERSETTER. REDUCE FROM 2" TO 1-1/2" IMMEDIATELY BEFORE COPPERSETTER.
- VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECE (IF NECESSARY), AS MANUFACTURED BY THE VANRICH # 940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF ON THE VALVE BOX COVER. VALVE BOX TOPS INSTALLED IN ARTERIAL ROADWAYS SHALL BE MANUFACTURED BY EAST JORDAN (EJ) IRONWORKS MODEL 8555 WITH VALVE BOX COVER MODEL 8600 OR APPROVED EQUAL.
- THE STAINLESS STEEL METER FLANGE BOLTS SHALL BE 5/8" DIAMETER FOR THE 1-1/2" METER, AND 3/4" DIAMETER FOR THE 2" METER.

CITY OF PUYALLUP  
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APPROVED BY: LINDA LIAN/03/02/2024  
DATE REVISION: 03.03.02

APPROVED

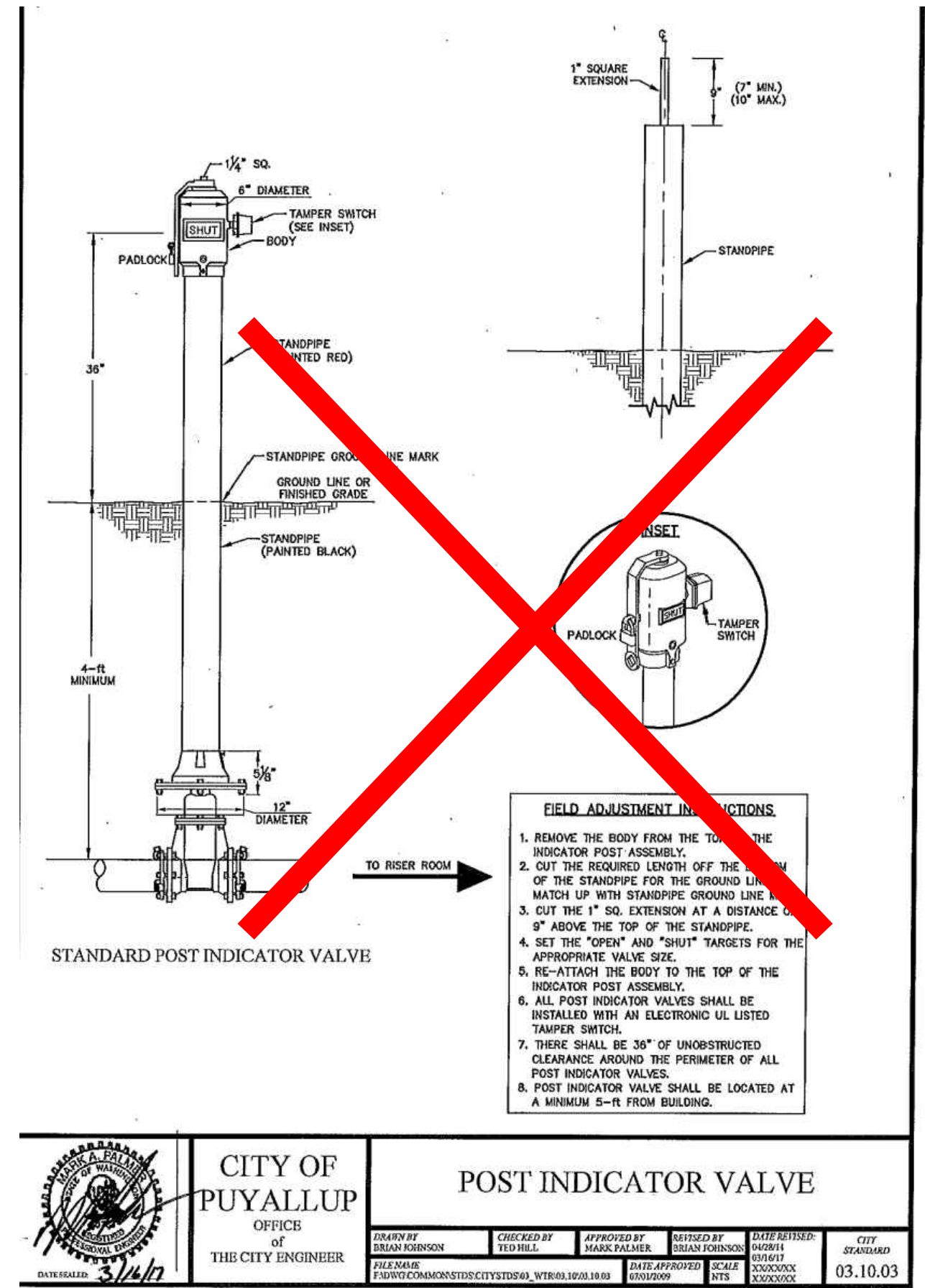
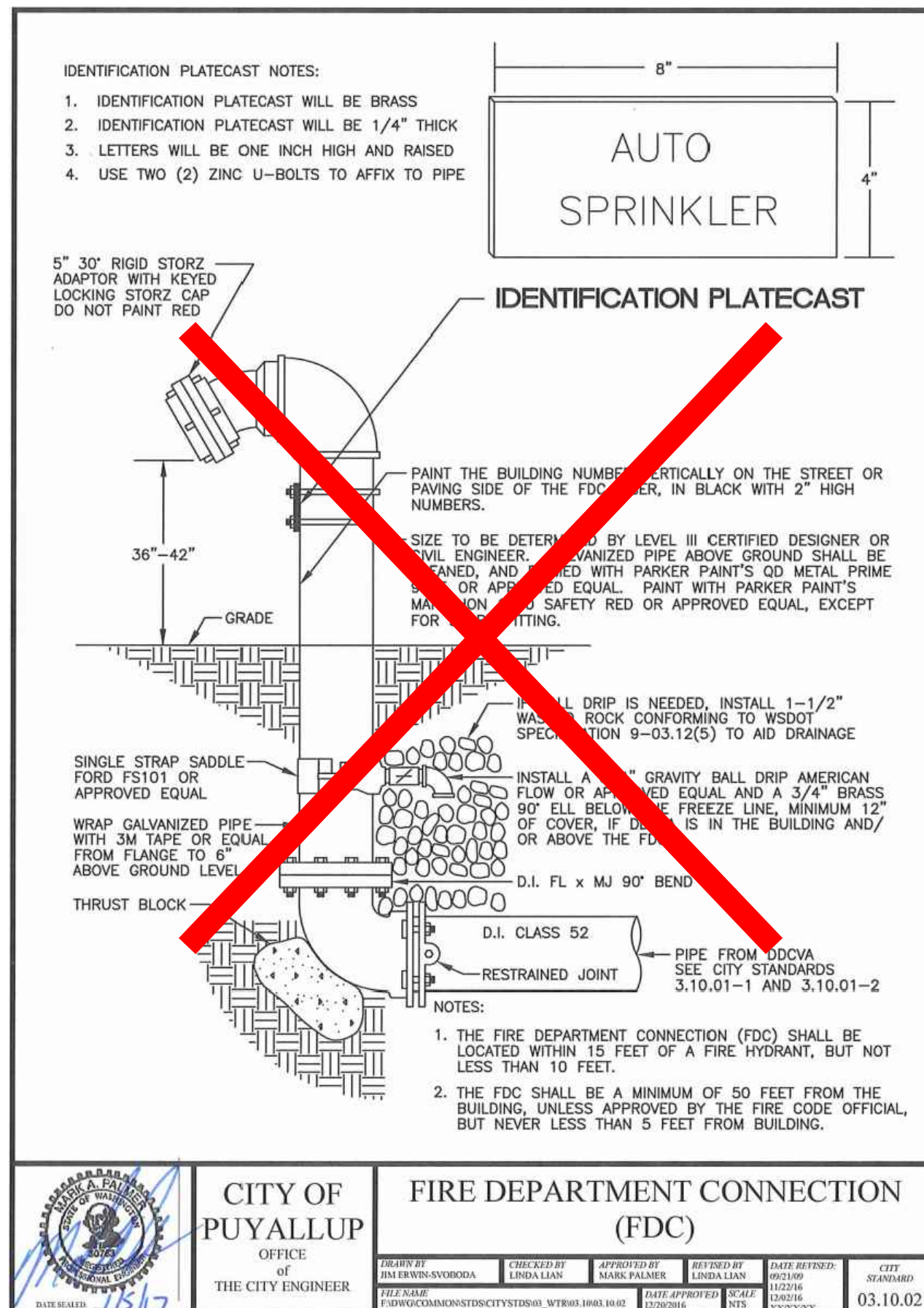
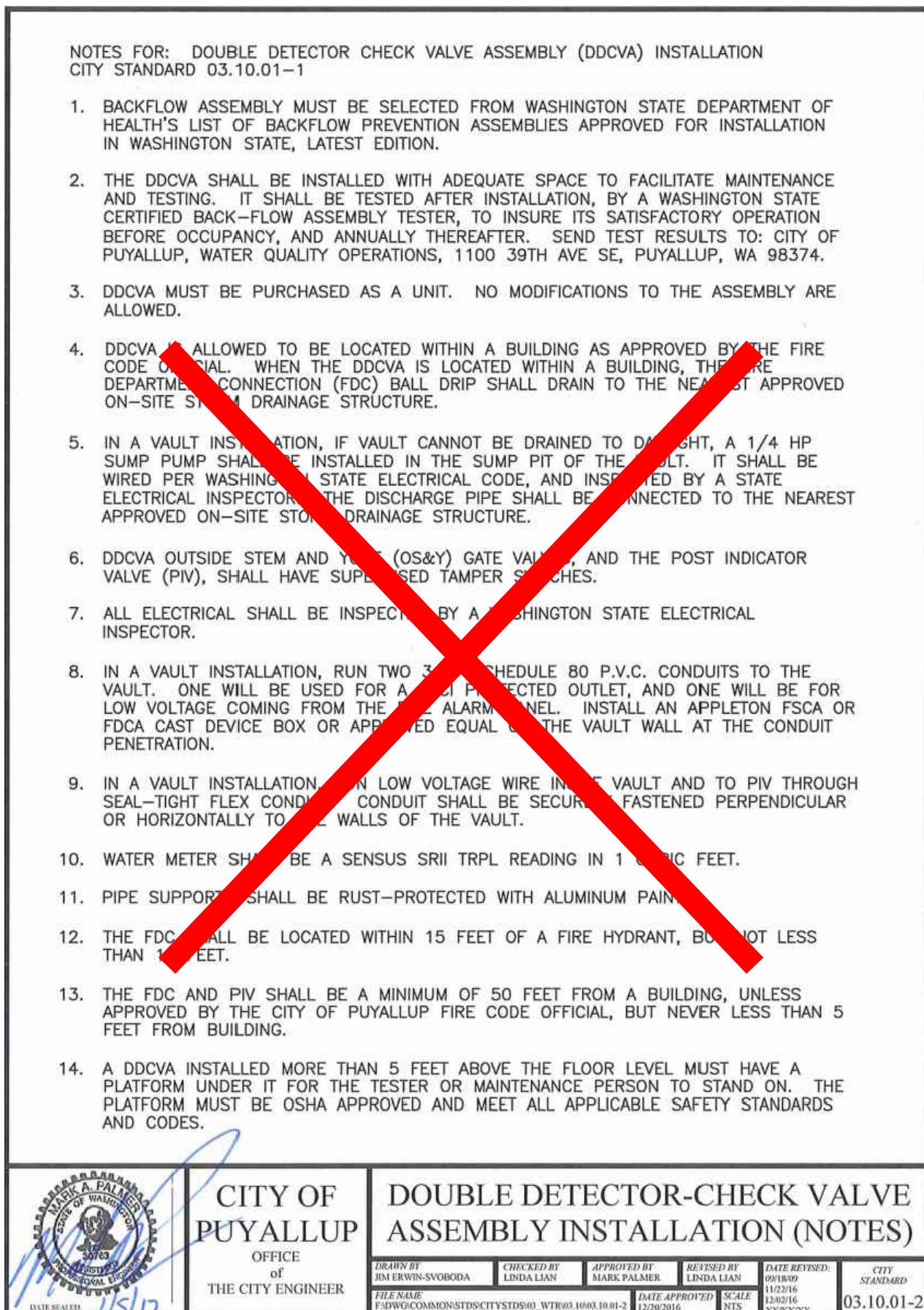
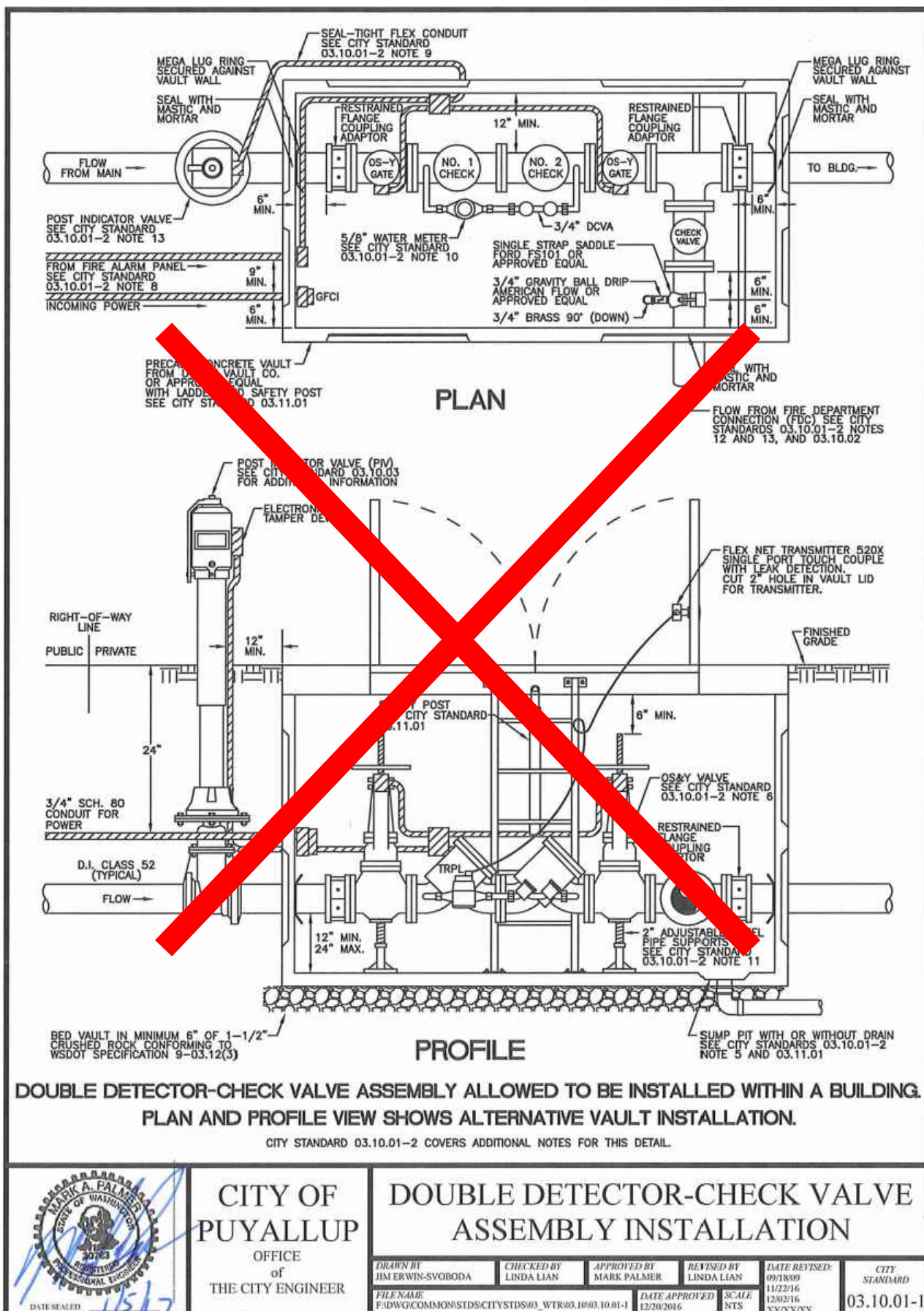
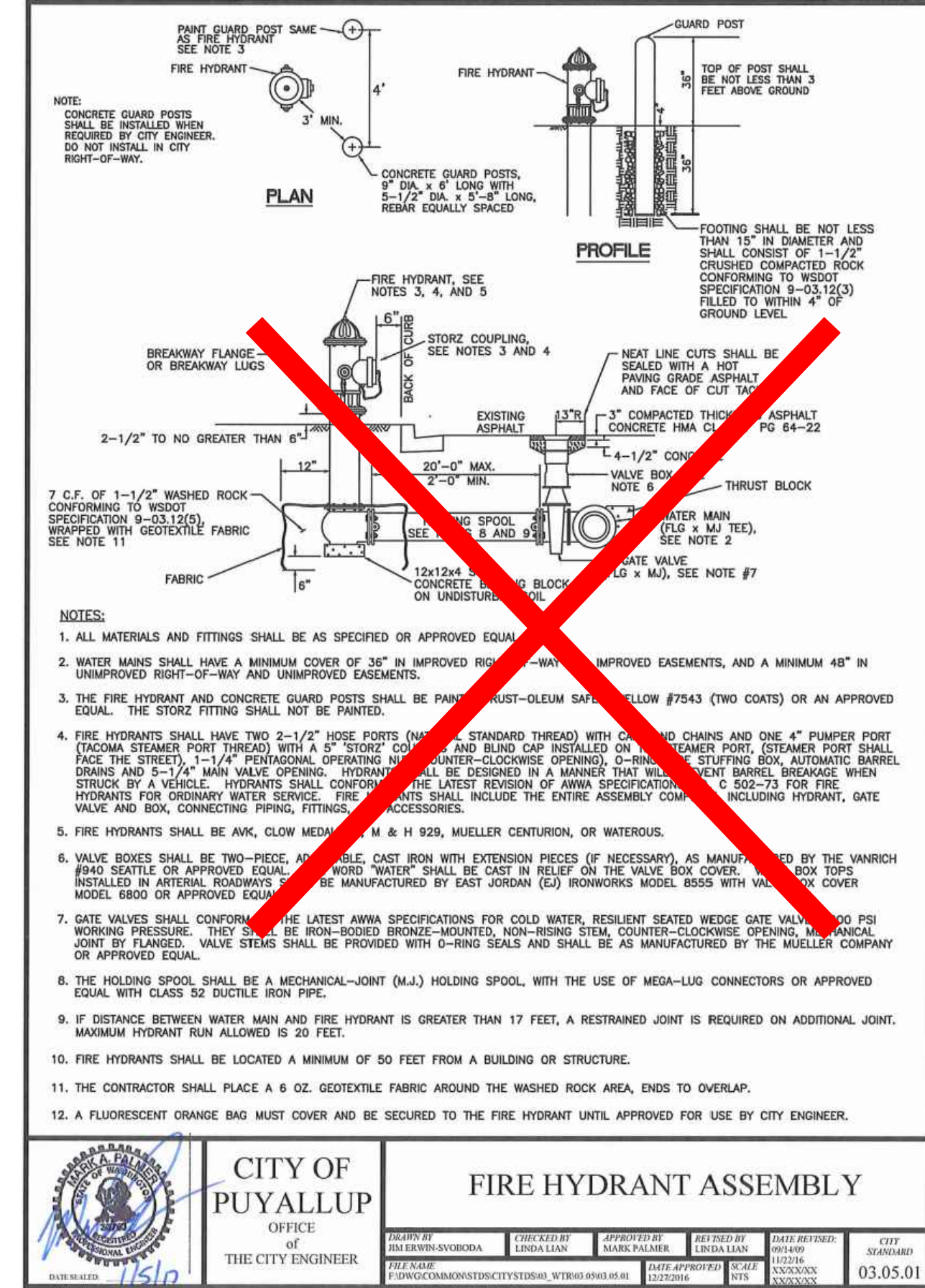
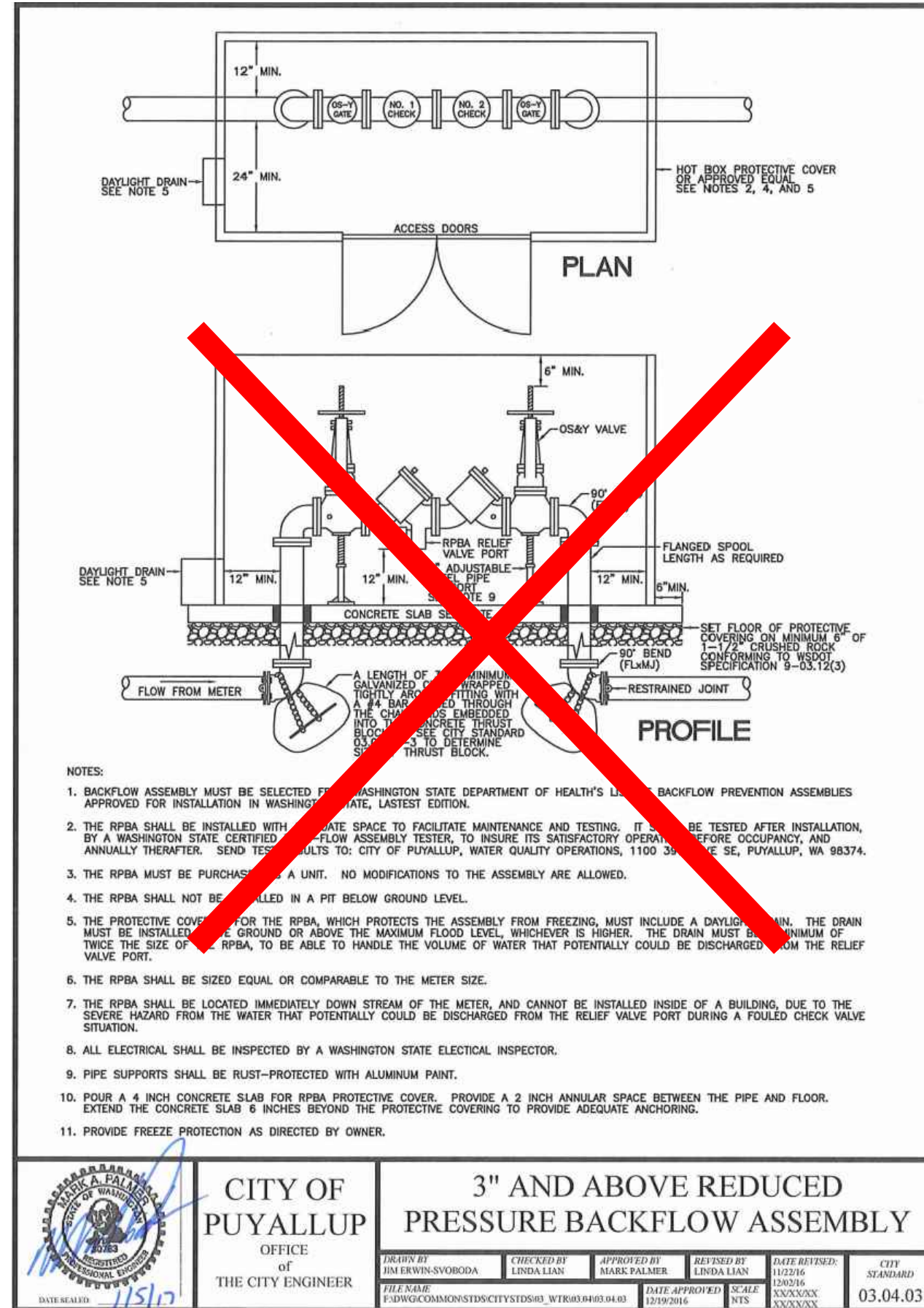
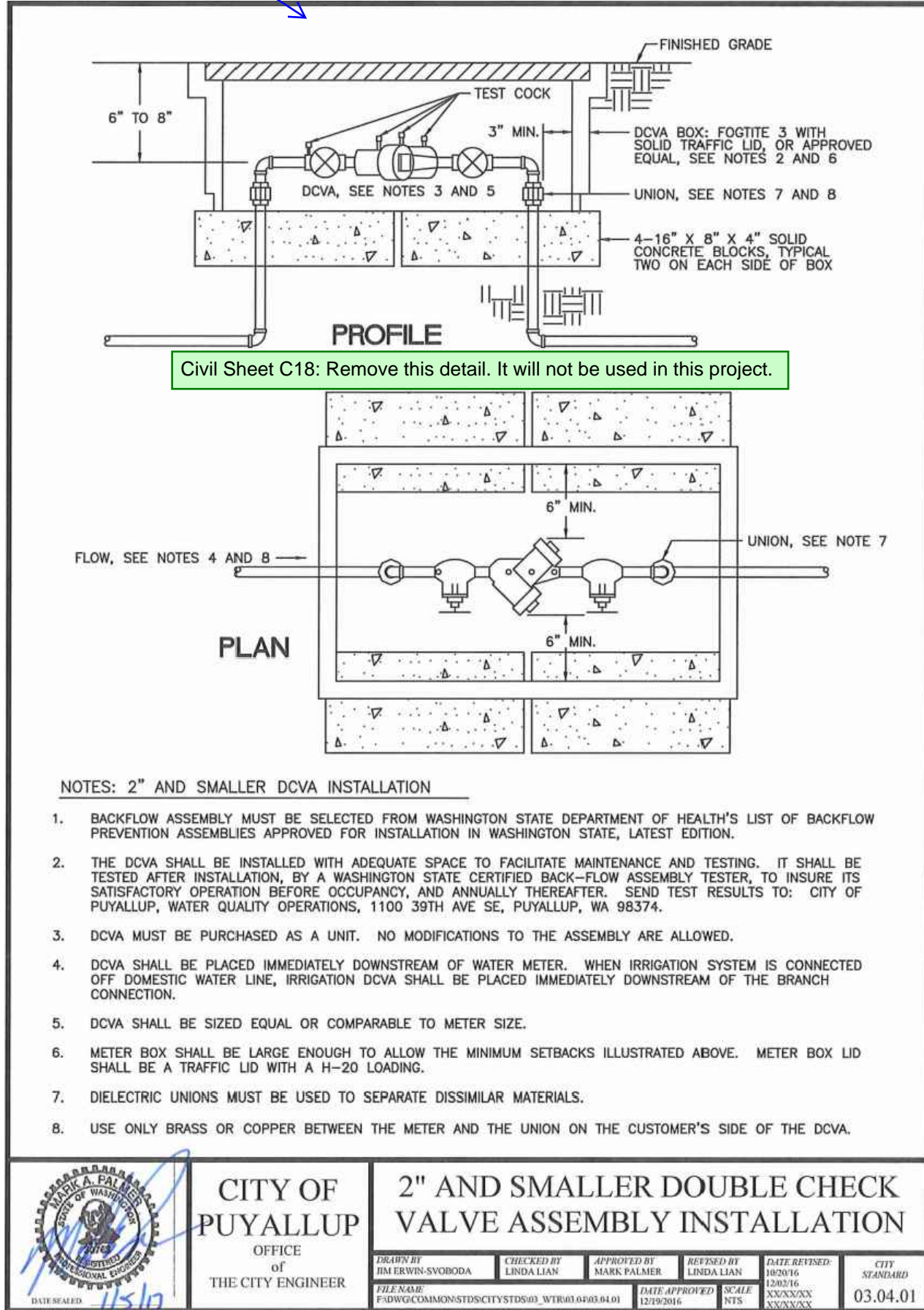
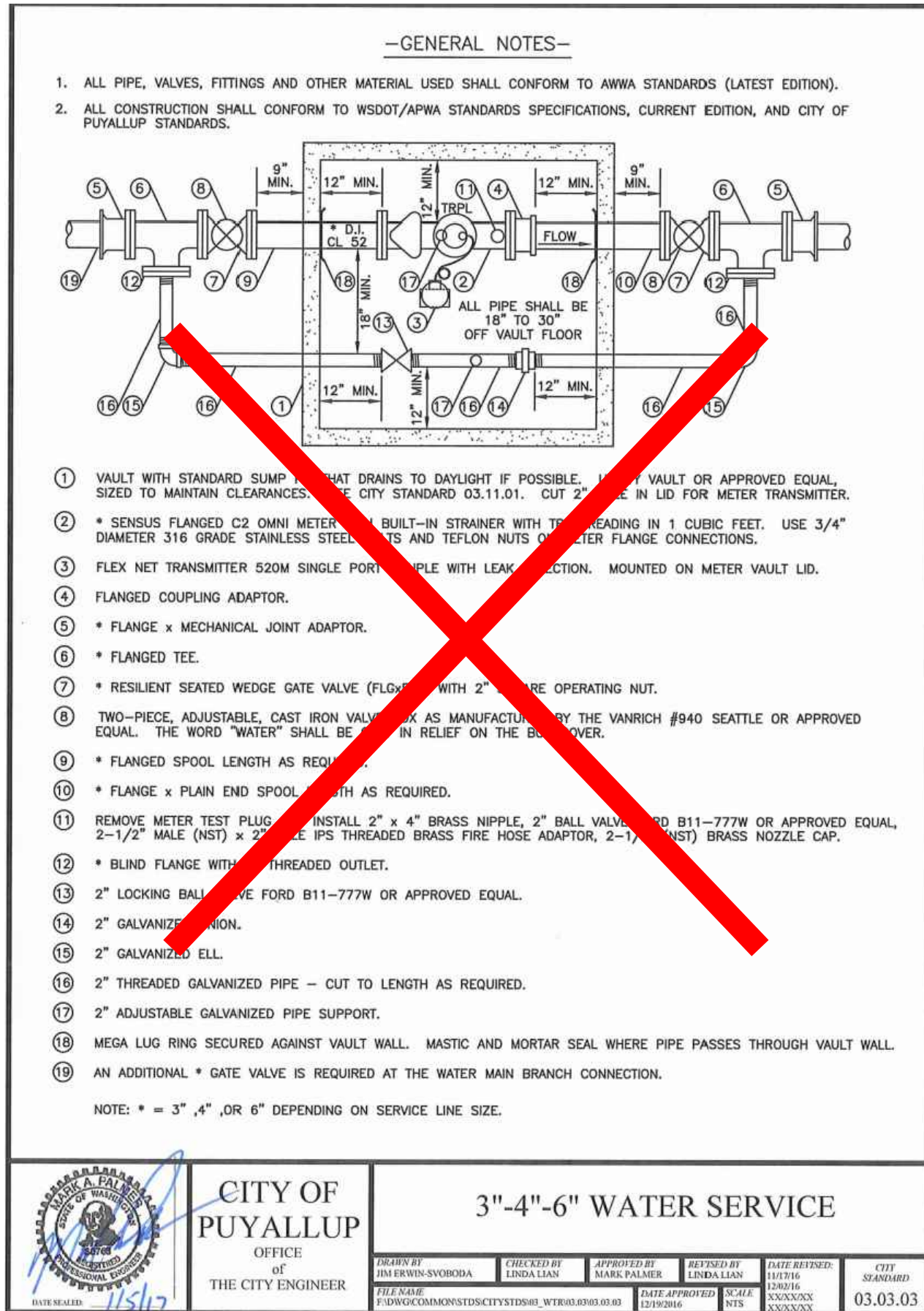
BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.

THIS CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Please locate in upper right corner.  
[Plans: Sht C17 of 19]

WATER DETAILS  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**



Revision

No.	Date	By	Appr.

Title: **WATER DETAILS FOR CIVIL PLANS**

For: **WESLEY HOMES**  
**815 SOUTH 216TH STREET**  
**DES MOINES, WA 98190**  
**(206) 870-1209**

Scale: Horizontal N/A Vertical N/A

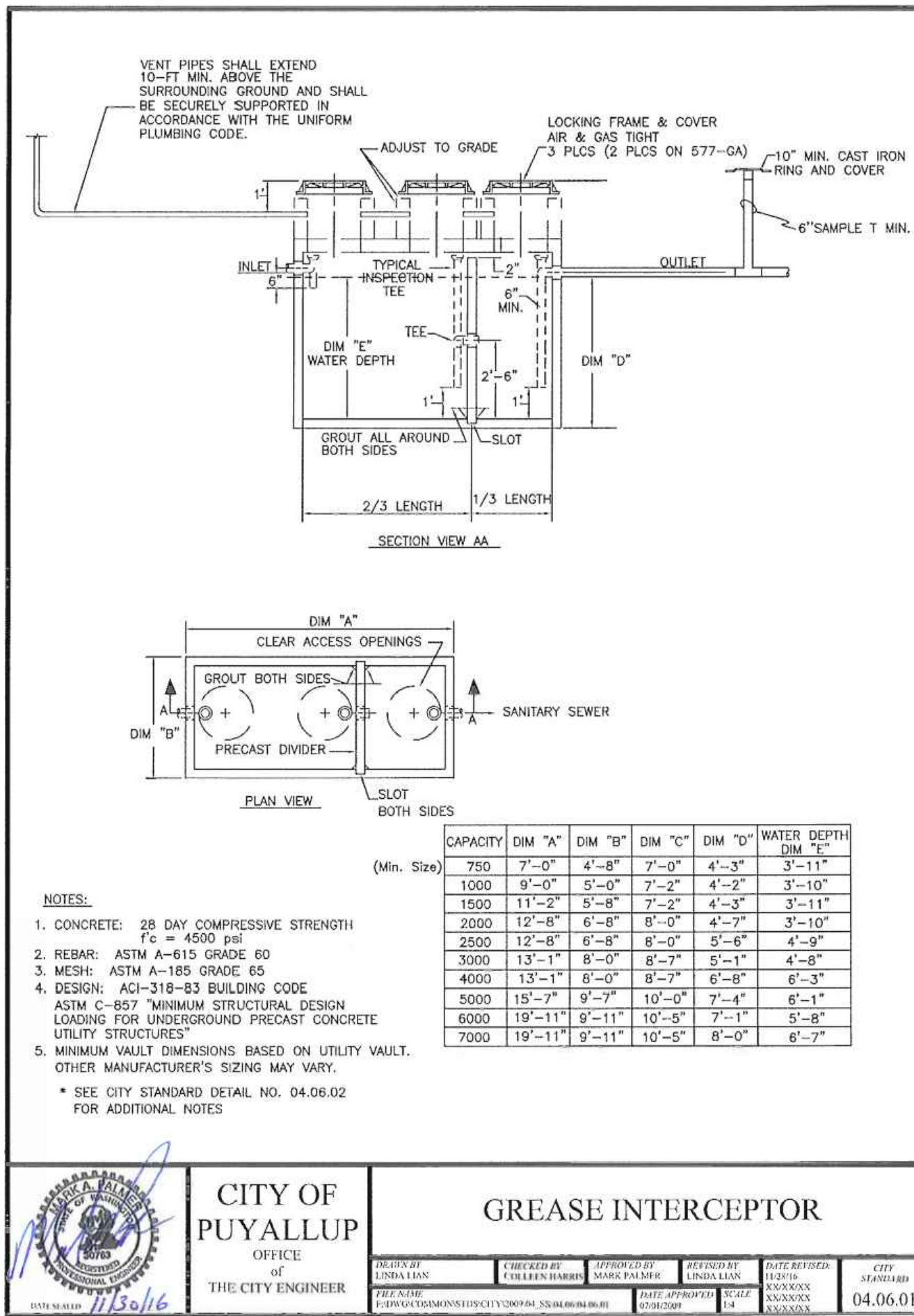
Designed: CK Draw: BOX Checked: CMV Approved: DKB Date: 7/11/23

**Barghausen Consulting Engineers, Inc.**  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
barghausen.com

Job Number: **16718**

Sheet: **C18 of C19**

SEWER DETAILS  
FOR  
**PHASE 2 - WESLEY BRADLEY PARK**



NOTES FOR GREASE INTERCEPTORS:

- THE PLANS & SPECIFICATIONS SHALL ILLUSTRATE PROPERTY BOUNDARIES, PIPING/DRAINAGE DETAILS AND CONNECTIONS TO THE SANITARY SEWER. DETAIL AND ELEVATION DRAWINGS OF THE GREASE INTERCEPTOR SHALL INCLUDE SIZING CALCULATIONS IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE CURRENTLY ADOPTED BY THE CITY OF PUYALLUP.
- VENTING OF THE INTERCEPTOR SHALL BE IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE CURRENTLY ADOPTED BY THE CITY OF PUYALLUP.
- EFFLUENT FROM GREASE INTERCEPTORS SHALL NOT EXCEED 100 mg/L FAT, OIL, AND/OR GREASE DISCHARGED TO THE DOWNSTREAM SANITARY SEWER SYSTEM.
- GREASE INTERCEPTORS INSTALLED IN PAVED AREAS SHALL COMPLY WITH H-20 LOADING CRITERIA.
- THE GREASE INTERCEPTOR SHALL BE INSTALLED AND CONNECTED SUCH THAT IT SHALL BE EASILY ACCESSIBLE FOR INSPECTION, CLEANING, AND REMOVAL AT ALL TIMES. MANHOLE COVERS SHALL BE GAS TIGHT AND HAVE A MINIMUM OPENING OF 24-INCHES IN DIAMETER.
- NO SANITARY WASTEWATER SHALL BE CONVEYED TO THE SEPARATOR. A SEPARATE SIDE SEWER SHALL BE REQUIRED TO CARRY SANITARY WASTEWATER TO THE SEWER MAIN AND SHALL BE PLACED AS CLOSE TO THE SERVICE AREA AS PRACTICAL.
- PLUMBING/PIPING SHALL BE CONSTRUCTED TO ESTABLISH "PARALLEL FLOW" (90-DEGREES TO THE TANK BAFFLE) THROUGH THE GREASE INTERCEPTOR. NO RADIUS, BEND, OR ELBOW SHALL BE ALLOWED IN THE INLET PIPE UPSTREAM OF THE INTERCEPTOR FOR A MINIMUM OF 10-FEET, OR 20-PIPE DIAMETERS, WHICHEVER IS GREATER.
- ANY PUMP MECHANISM SHALL BE INSTALLED DOWNSTREAM OF THE INTERCEPTOR TO PREVENT FAT, OIL AND GREASE EMULSIFICATION. A "TEE" CONNECTION SHALL BE INSTALLED IN THE DISCHARGE PIPING TO PROVIDE FOR SAMPLE COLLECTION.
- ALL GREASE INTERCEPTORS SHALL BE FILLED WITH CLEAN WATER BEFORE USE.
- THE DESIGN ENGINEER SHALL PROVIDE ENGINEERING SERVICES STAFF WITH A LETTER OF INSPECTION CERTIFYING THAT THE INSTALLATION WAS PERFORMED IN ACCORDANCE WITH ALL REGULATIONS AND THE APPROVED PLAN.
- FINAL INSPECTION IS REQUIRED BY ENGINEERING SERVICES STAFF PRIOR TO CONNECTING TO THE SANITARY SEWER.
- THE PROPERTY OWNER SHALL RETAIN OWNERSHIP OF THE GREASE INTERCEPTOR AND SIDE SEWER LINES AND SHALL BE RESPONSIBLE FOR THEIR OPERATION AND MAINTENANCE. A SERVICE/MAINTENANCE RECORD SHALL BE KEPT ON THE PREMISES AT ALL TIMES AND SHALL BE IMMEDIATELY AVAILABLE TO CITY OF PUYALLUP STAFF UPON REQUEST.
- THE PROPERTY OWNER SHALL REPORT IMMEDIATELY TO THE CITY'S INDUSTRIAL PRETREATMENT SPECIALIST ANY SPILL, SURCHARGE, BYPASS, OR MECHANICAL FAULT AND/OR FAILURE WHICH INTERRUPTS, OR OTHERWISE, REDUCES THE CAPACITY OR REMOVAL EFFICIENCY OF THE GREASE INTERCEPTOR BY CALLING (253) 841-5523.

CITY OF PUYALLUP  
OFFICE OF THE CITY ENGINEER

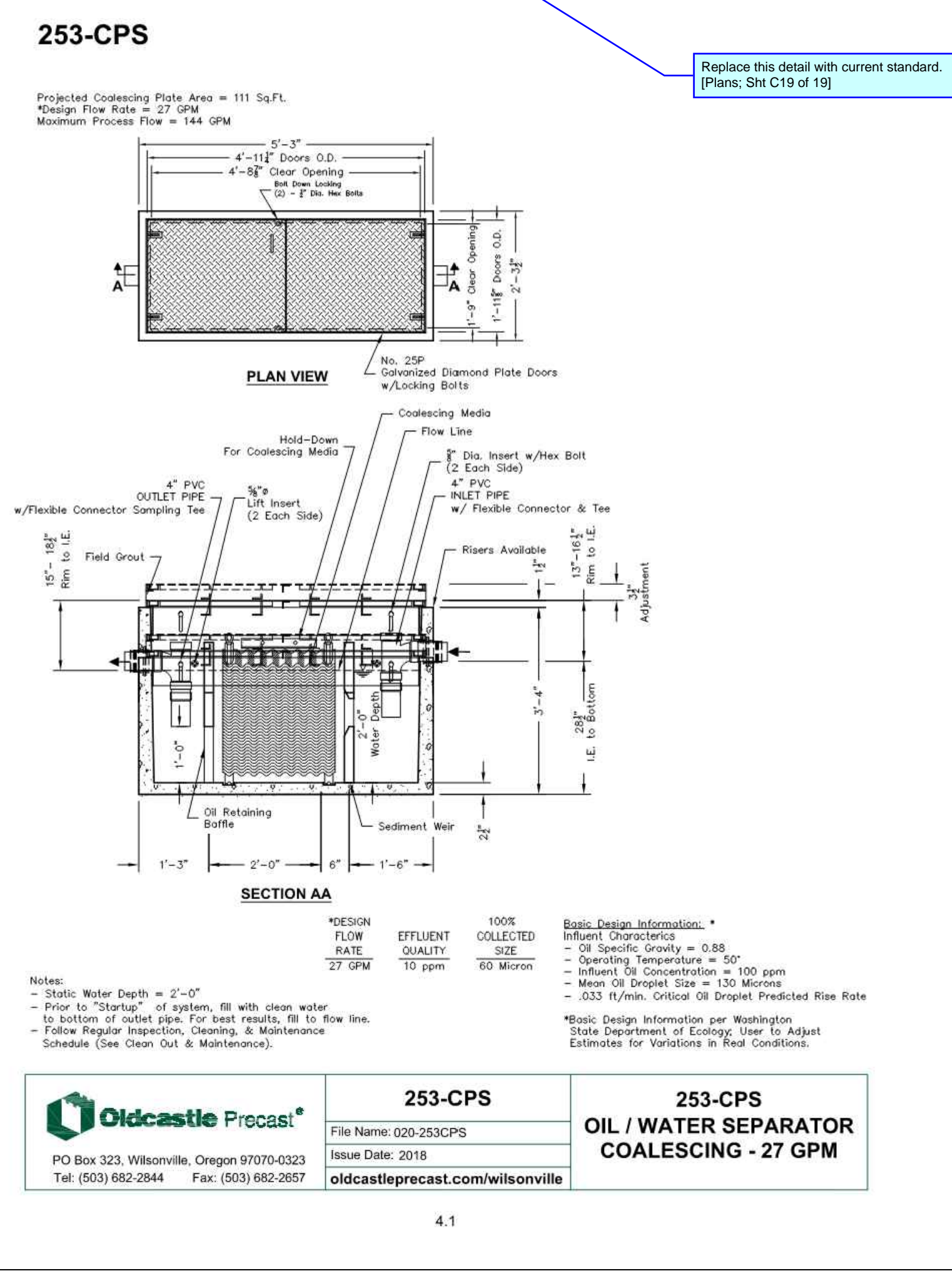
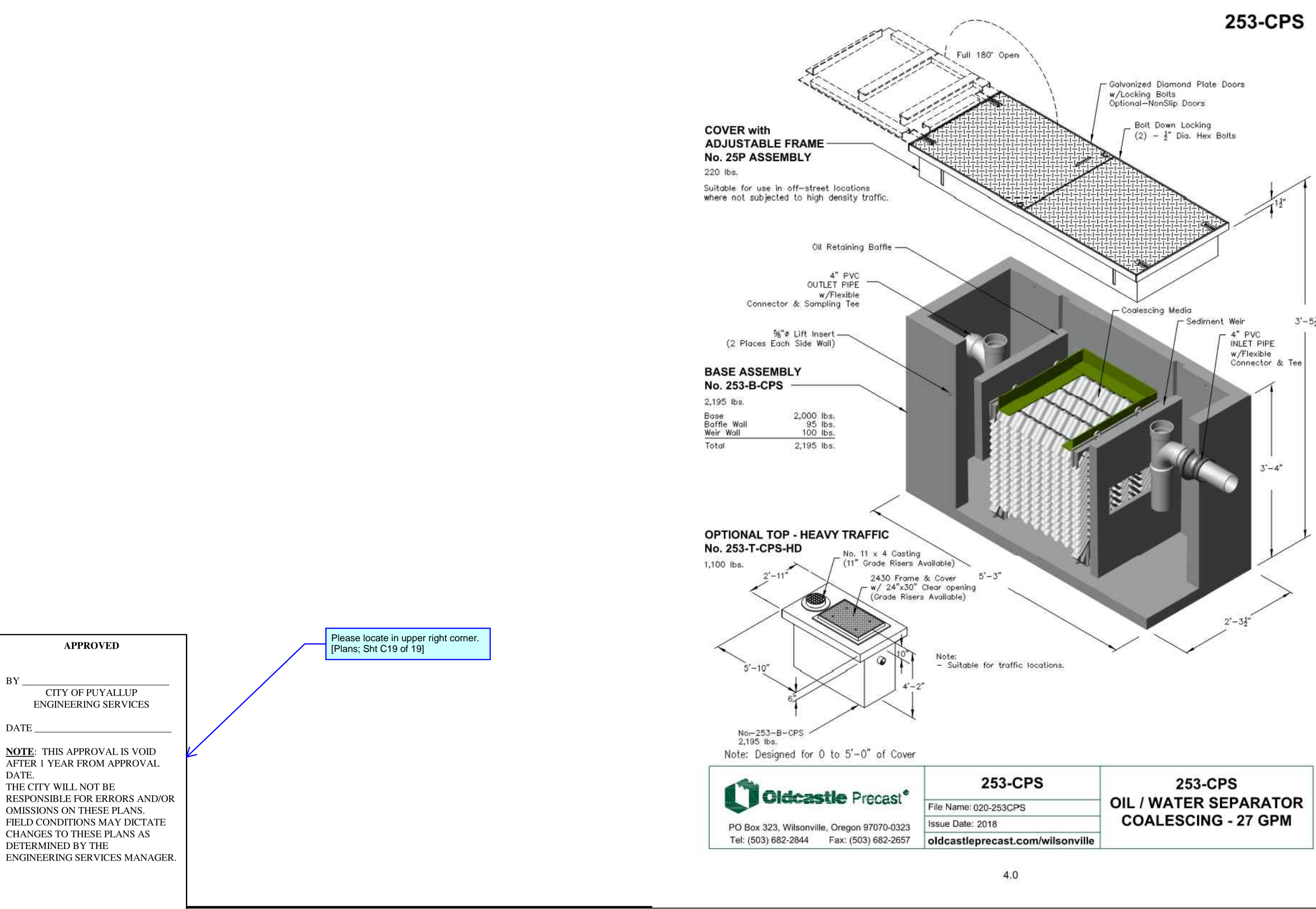
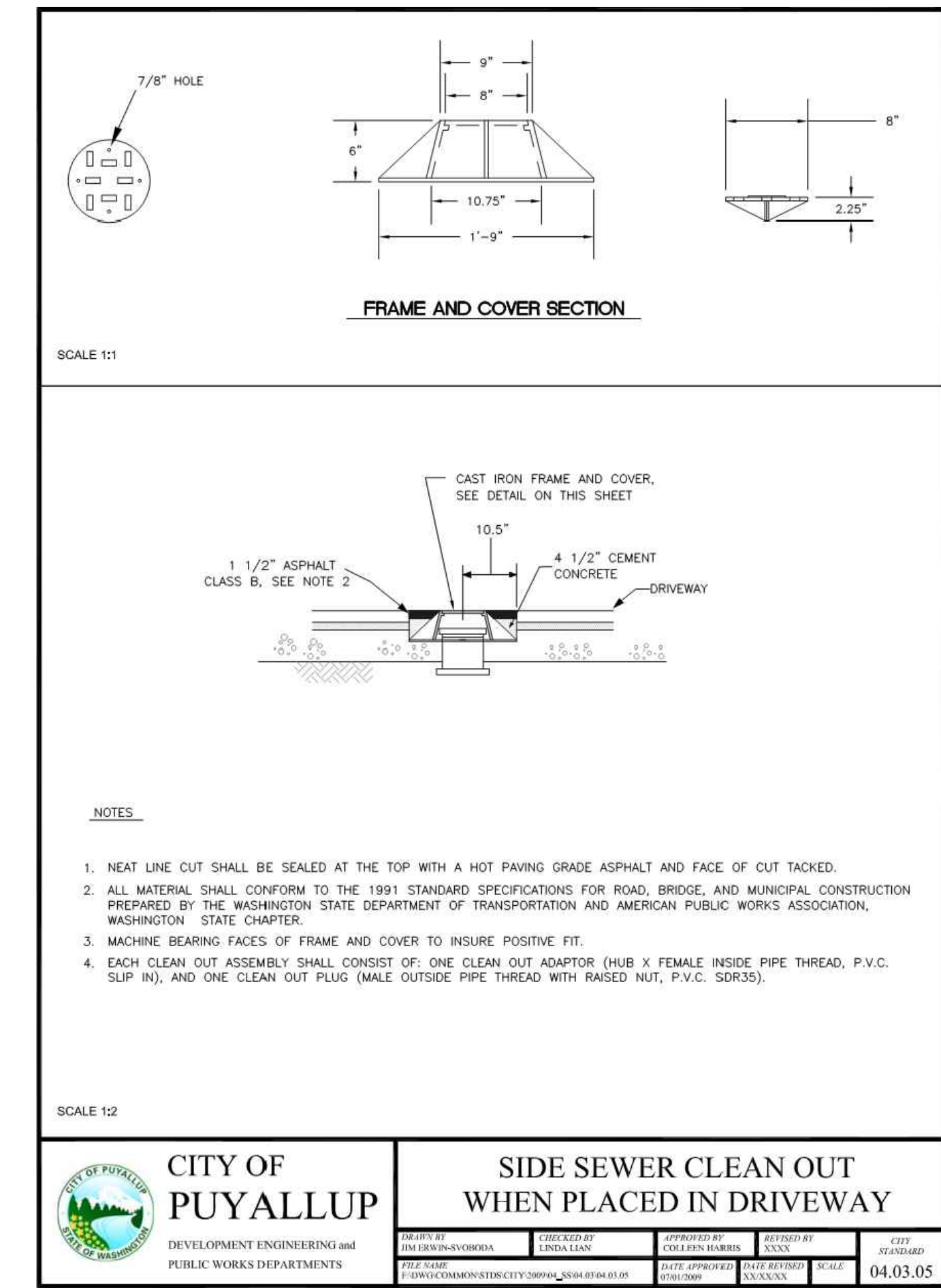
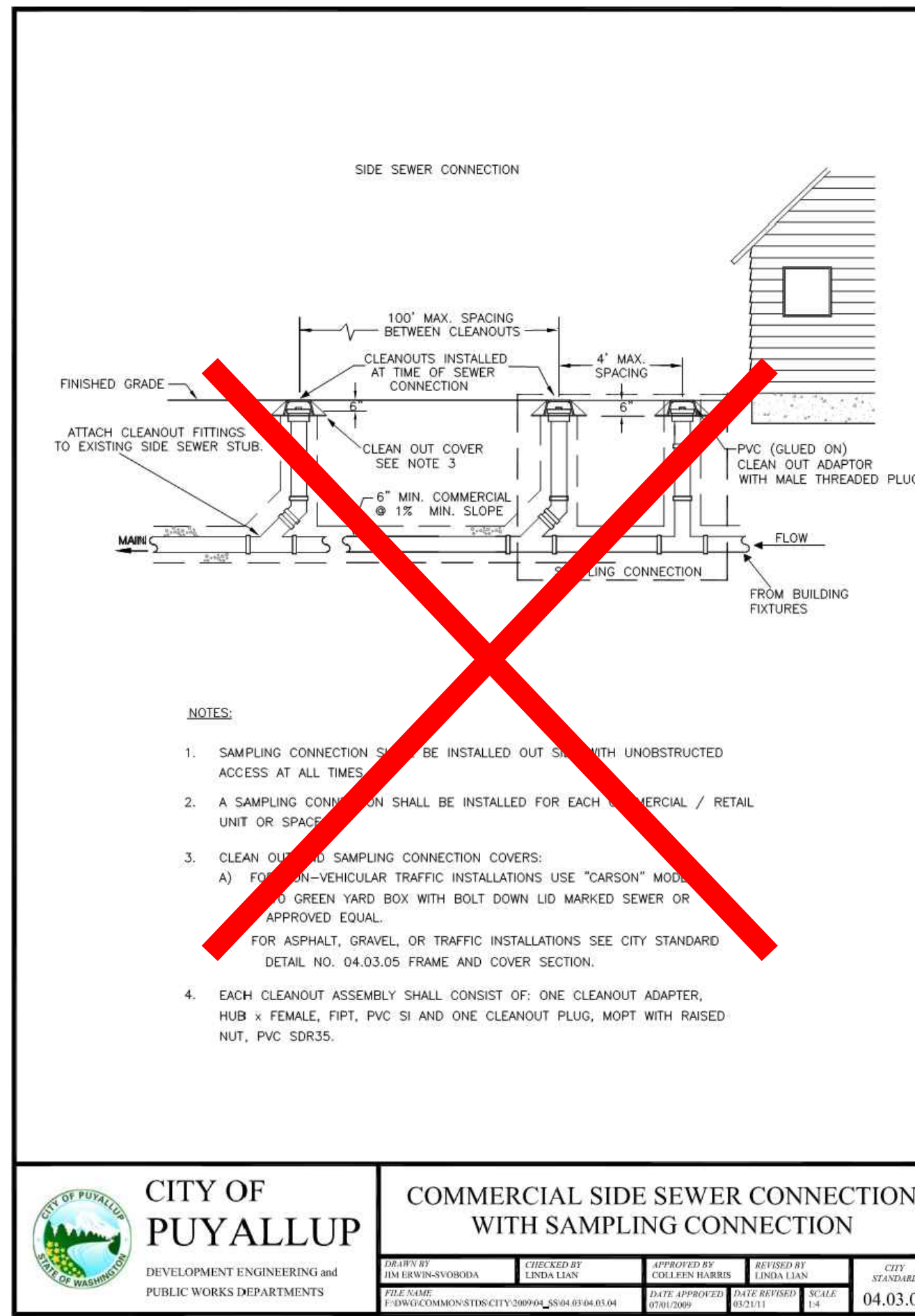
GREASE INTERCEPTOR (NOTES)

DESIGNED BY: J. J. B. / 11/30/16

CHECKED BY: J. J. B. / 11/30/16

APPROVED BY: J. J. B. / 11/30/16

DATE: 04.06.02



APPROVED

BY: CITY OF PUYALLUP  
ENGINEERING SERVICES

DATE:

NOTE: THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.

THIS CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Please locate in upper right corner. [Plans: Sht C19 of 19]

SEWER DETAILS  
FOR  
CIVIL PLANS  
PHASE 2 - WESLEY BRADLEY PARK

Title:

WESLEY HOMES  
815 SOUTH 216TH STREET  
DES MOINES, WA 98190  
(206) 870-1209

For:

DANIEL K. BALKMANN  
STATE OF WASHINGTON  
REGISTERED PROFESSIONAL ENGINEER  
25672  
7/11/23

Scale:

Horizontal: N/A

Vertical: N/A

Designed: CK

Drawn: BOK

Checked: CMV

Approved: DKB

Date: 7/11/23

Barghausen Consulting Engineers, Inc.  
18215 72nd Avenue South  
Kent, WA 98032  
425.251.6222  
barghausen.com

Job Number: 16718

Sheet: C19 of C19