VISTA VIEWS AT BLACK LAKE

3825 58TH LN SW, OLYMPIA WA, 98512

SHEET INDEX

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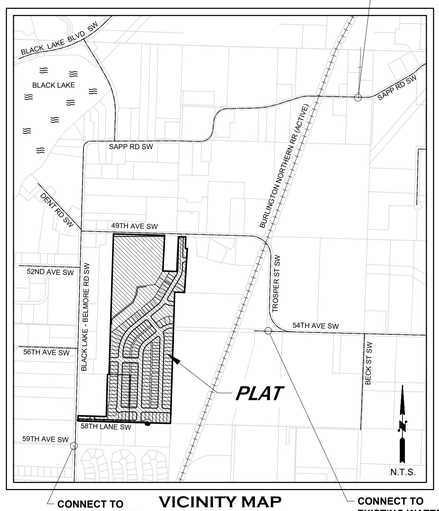
SITE DATA/PROJECT INFOMATION

APPLICANT	Rob Rice Homes 1868 State Avenue NE OLYMPIA, WA 98033
REPRESENTATIVE	JEFF PANTIER HATTON GODAT PANTIER, INC. 3910 MARTIN WAY E, SUITE B OLYMPIA, WA 98506 360-943-1599 JEFFP@HATTONPANTIER.COM
ASSESSOR PARCEL NO.'S	12832310800, 12832310700
ZONING	SFL, Single-Family Low Density Residential
TOTAL AREA	54.36 Acres
-WETLAND AREA	8.86 Acres
-WETLAND BUFFER AREA	3.95 Acres
-PUBLIC ROADWAY LENGTH	7,673 L.F.
-PUBLIC ROADWAY AREA	9.44 Acres
-ALLEY LENGTH	1,457 L.F.
-ALLEY AREA	1.03 Acres
NET AREA	31.08
NO. OF LOTS	184
DENSITY	5.92 UNITS PER ACRE
OPEN SPACE	19.61 ACRES (36%) (17.4% ACTIVE)
SMALLEST LOT AREA	4,000 SQ. FT
AVERAGE LOT AREA	5,448
SEWER	CITY OF TUMWATER
WATER	CITY OF TUMWATER
ELECTRICITY	PUGET SOUND ENERGY
NATURAL GAS	PUGET SOUND ENERGY
COMMUNICATIONS	COMCAST
REFUSE	LEMAY
SCHOOL DISTICT	TUMWATER



VICINITY MAP

SURVEY NOTES

1. A PORTION OF THE LAND DESCRIBED HEREIN HAS BEEN ASSIGNED PROPERTY TAX ACCOUNT NO. 12832310700 BY THURSTON COUNTY.
2. A PORTION OF THE LAND DESCRIBED HEREIN HAS BEEN ASSIGNED PROPERTY TAX ACCOUNT NO. 1283231800 BY THURSTON COUNTY.
3. INTENTIONALLY OMITTED.
4. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS AS SET FORTH ON SHORT SUBDIVISION NO. SS-0250 RECORDED UNDER AUDITOR'S FILE NO. 964806.
5. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO PROVISIONS OF THURSTON COUNTY BOARD OF COMMISSIONERS RESOLUTION NO. 5871 FOR VACATED ROADWAY UNDER AUDITOR'S FILE NO. 1040136
6. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO PROVISIONS OF INSTRUMENT RECORDED UNDER AUDITOR'S FILE NO. 1130043, RELATED TO MOBILE HOMES.
7. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS AS SET FORTH ON SHORT SUBDIVISION NO. SS-1617 RECORDED UNDER AUDITOR'S FILE NO. 1135045.
8. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO EASEMENT AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 8801130095.
9. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS AS SET FORTH ON SHORT SUBDIVISION NO. BLA-020441TC RECORDED UNDER AUDITOR'S FILE NO. 3451145 AND 3451146.
10. A PORTION OF THE LAND DESCRIBED HEREIN IS SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, ENCROACHMENTS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS AS SET FORTH ON SHORT SUBDIVISION NO. BLA-0411522TC RECORDED UNDER AUDITOR'S FILE NO. 3671242 AND 3671243.

1. 60' WIDE EASEMENT DESCRIBED UNDER AUDITOR'S FILE NO. 8801130095 (SEE TITLE NOTES NO. 8)
2. 5' DRAINAGE EASEMENT AS PER SS 0250 RECORDED UNDER AUDITOR'S FILE NO. 964806 (SEE TITLE NOTES NO. 4)
3. VACATED RIGHT-OF-WAY PURSUANT OF BOARD OF COMMISSIONERS RESOLUTION NO. 5871 RECORDED UNDER AUDITOR'S FILE NO. 1040136 (SEE TITLE NOTES NO. 5)
4. UN-OPENED RIGHT-OF-WAY RECORDED UNDER AUDITOR'S FILE NO. 352883
- P1 PLANNED 10' WIDE UTILITY EASEMENT
- P2 PLANNED RIGHT OF WAY DEDICATION (1.10 ACRES)
- P3 PLANNED WETLAND MITIGATION AREA (CROSS HATCHED AREA) 5,682 S.F.

CITY OF TUMWATER

VERTICAL DATUM (NGVD 29)	MERIDIAN (HORIZ DATUM)
THURSTON COUNTY PHOTOGRAMMERTRY	THURSTON COUNTY HIGH PRECISION SURVEY CONTROL NETWORK. BASED ON CONTROL POINTS #7597 AND #6028 BEARING EQUALS NORTH 01°23'12" EAST

100 50 0 100 200
SCALE: 1" = 100'

PROJECT PROPONENT

ROB RICE
EVERGREEN HEIGHTS, LLC
1868 STATE AVENUE NE
OLYMPIA, WA 98506-4600
PH. (360) 754-7010

LEGAL DESCRIPTIONS

PARCEL A
PARCEL "A" OF BOUNDARY LINE ADJUSTMENT NO. BAL-111522TC, AS RECORDED SEPTEMBER 3, 2004, UNDER AUDITOR'S FILE NO.'S 3671242 AND 3671243; IN THURSTON COUNTY, WASHINGTON.

PARCEL B
PARCEL "C" OF BOUNDARY LINE ADJUSTMENT NO. BLAD NO. 020441TC, AS RECORDED JULY 30, 2002, UNDER AUDITOR'S FILE NO.'S 3451145 AND 3451146.

TRACT USAGE/AREAS

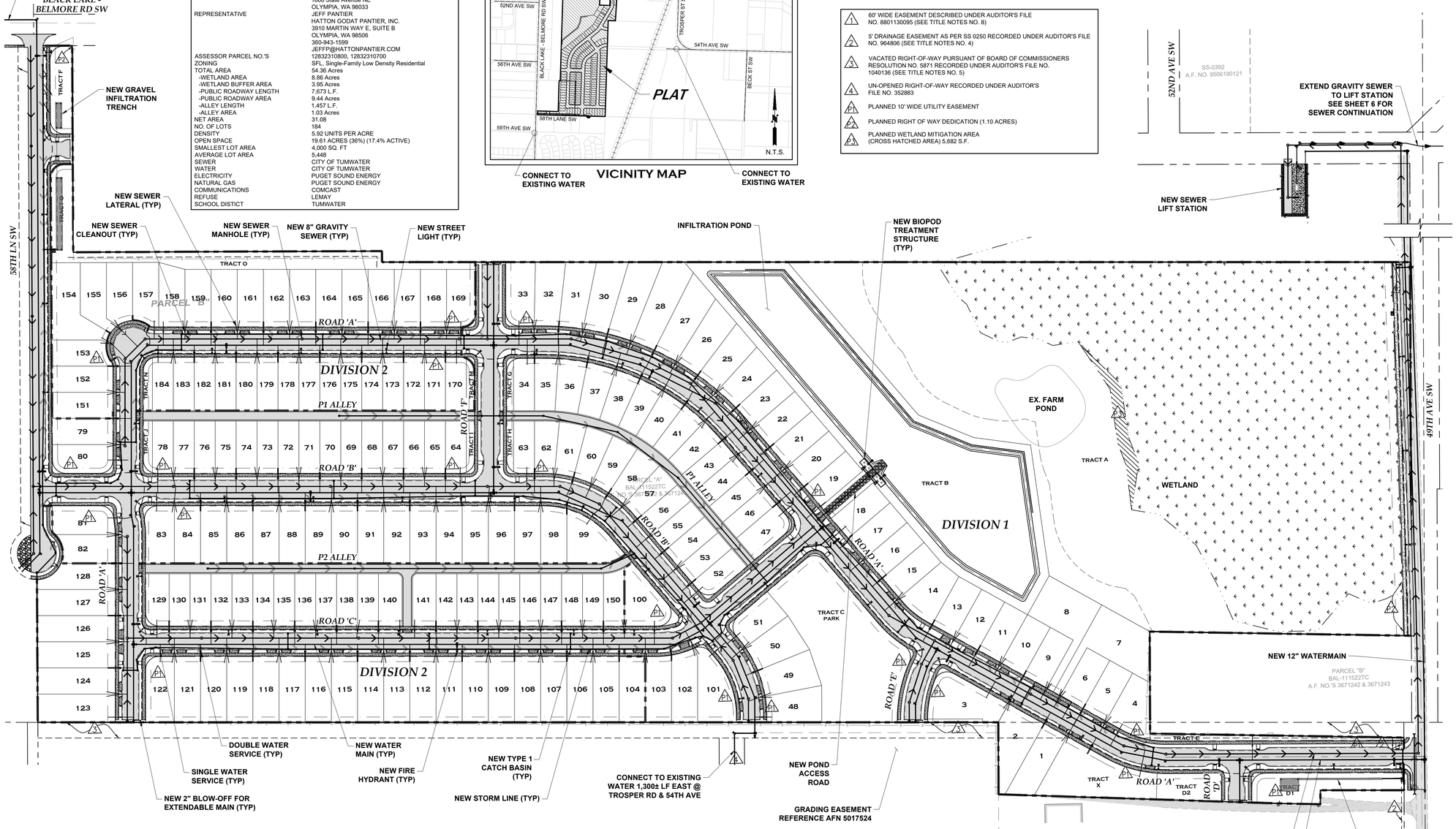
TRACT	USEAGE	AREA (ACRES)
A	OPEN SPACE/WETLAND/BUFFER/TREE	13.39
B	STORM/ACTIVE REC	3.45
C	OPEN SPACE/PARK	1.08
D1	OPEN SPACE/LANDSCAPE	0.29
D2	OPEN SPACE LANDSCAPE	0.14
E	OPEN SPACE/LANDSCAPE	0.11
F	OPEN SPACE/LANDSCAPE	0.16
G	OPEN SPACE/LANDSCAPE	0.16
H	LANDSCAPE TRACT	0.04
I	LANDSCAPE TRACT	0.04
J	LANDSCAPE TRACT	0.03
K	ALLEY	0.29
L	ALLEY	0.47
M	LANDSCAPE TRACT	0.04
N	LANDSCAPE TRACT	0.04
O	LANDSCAPE TRACT	0.64
P	ALLEY	0.43
Q	PRIVATE RD/CUL-DE-SAC EASEMENT	0.12

NOTES:

1. TRACTS A THROUGH P TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
2. ALL KNOWN WATER SUPPLIES WITHIN 200 FEET OF THE PROJECT BOUNDARY ARE IDENTIFIED HEREON (LOCATIONS ARE BASED ON FIELD SURVEY AND THURSTON COUNTY RECORDS)
3. ALL EXISTING WELLS AND SEPTIC SYSTEMS TO BE ABANDONED PER THURSTON COUNTY HEALTH AND D.O.E. STANDARDS.
4. TOPOGRPAHIC INFORMATION (CONTOURS) DEPICTED HEREON ARE BASED ON THURSOTN COUNTY PHOTOGRAMMERTRY (NGVD 29).
5. ALL EXISTING BUILDINGS TO BE DEMOLISHED.

LEGEND

- EX. DECIDUOUS TREE
- EX. POWER POLE
- EX. WATER WELL
- EX. MONITOR WELL
- EX. WATERMAIN
- EX. SEWERMAIN
- EX. FENCE
- EX. EDGE OF PAVEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. GRAVEL ROAD
- EX. ASPHALT PAVEMENT
- FINISH MAJOR CONTOUR
- FINISH MINOR CONTOUR
- NEW WATER LINE
- NEW STORM LINE
- NEW SEWER FORCEMAIN
- NEW SEWER GRAVITY MAIN
- NEW SEWER LATERAL LINE
- NEW J-BOX
- NEW HIGH MAST STREET LIGHT
- NEW FIRE HYDRANT
- NEW SINGLE SERVICE WATER METER
- NEW DOUBLE SERVICE WATER METER
- NEW WATER GATE VALVE
- NEW BLOWOFF ASSEMBLY
- NEW SEWER MANHOLE
- NEW SEWER CLEAN OUT
- NEW CATCH BASIN, TYPE 1
- NEW CATCH BASIN, TYPE 2
- NEW CB TYPE 1 W/ SOLID LID
- NEW CB TYPE 2 W/ SOLID LID
- NEW CONCRETE SIDEWALK
- NEW ASPHALT PAVEMENT
- NEW GRAVEL ACCESS



TOPOGRAPHIC NOTE:
THE EXISTING TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, HGP CANNOT ENSURE ITS ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THAT INFORMATION OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

CONSTRUCTION STAKING:
THIS PROJECT MUST BE STAKED PRIOR TO CONSTRUCTION BY THE DESIGN ENGINEER OR A LICENSED LAND SURVEYOR.

RECORD DOCUMENTS:
THE CONTRACTOR SHALL FURNISH HATTON GODAT PANTIER WITH A DRAWING(S) SHOWING THE CHANGES MADE TO THE DESIGN DRAWING(S).

THIS DRAWING DOES NOT REPRESENT A RECORD DOCUMENT, UNLESS CERTIFIED BY HATTON GODAT PANTIER.

ANY ALTERATIONS TO THE DESIGN SHOWN HEREON MUST BE REVIEWED AND APPROVED BY HATTON GODAT PANTIER.

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

DESIGNED BY:	DWS
DRAWN BY:	JEG
CHECKED BY:	CPM
DATE:	SEPT. 2024
SCALE:	1" = 100'
	V N/A

JULIE PATRICIA MCINTYRE
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
09/26/24

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E, SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY COVER SHEET

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

TP # 12832310800, 12832310700

AGENCY NO.
SHEET: 1 OF 10
H:\DGN\21-000\21-102\PRELIMINARY
INDEX: 21-102 pre-cov
JOB: 21-102

CONSTRUCTION SEQUENCE:

1. CONSTRUCTION ON THIS SITE SHALL BE CONDUCTED SUBSTANTIALLY IN ACCORDANCE WITH THE APPROVED PLANS. DEVIATIONS FROM THESE PLANS SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND REVIEWING AGENCY. DEVIATIONS MUST BE APPROVED PRIOR TO ANY SITE DISTURBING ACTIVITY NOT CONTAINED WITHIN THE APPROVED PLANS.
2. FOR DEVELOPMENT OF THIS SITE, THE FOLLOWING GENERAL SEQUENCE SHALL BE OBSERVED:
   - A. INSTALL STABILIZED CONSTRUCTION ENTRANCE TO PROVIDE SITE ACCESS AT INDICATED CONSTRUCTION ENTRANCE
   - B. LOCATION. INSTALL SILT FENCE AND CLEARING LIMITS FENCING AS SHOWN IN THESE PLANS.
   - C. INSTALL INLET PROTECTION FOR EXISTING INLETS IN THE VICINITY OF AREAS TO BE DISTURBED AS INDICATED ON PLANS.
   - D. CALL FOR INSPECTION BY THE REVIEWING AGENCY AND PROJECT ENGINEER.
   - E. BEGIN TREE CLEARING AND GRUBBING OF AREAS WHICH ARE TO BE GRADED.
   - F. BEGIN GRADING OF AREA TO SUBGRADE AS SPECIFIED.
   - G. INSTALLATION OF STORM DRAINAGE FACILITIES (I.E., PIPING, CATCH BASINS, AND OTHER UTILITIES.)
   - H. STRUCTURE CONSTRUCTION
   - I. PERMANENT EROSION CONTROL MEASURES (I.E., HYDROSEEDING, GRASSING, PLANTINGS, ETC.)
3. ONCE THE SITE HAS BEEN DISTURBED, CONTINUE OPERATIONS DILIGENTLY TOWARD COMPLETION AND STABILIZATION OF THE SITE.
4. MONITOR ALL EROSION CONTROL FACILITIES, REPAIR, MODIFY, AND ENHANCE AS DIRECTED OR AS REQUIRED.

STANDARD SWPPP NOTES:

APPROVAL OF THIS CONSTRUCTION SWPPP DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION/DETENTION/INFILTRATION FACILITIES, UTILITIES, ETC.).

THE IMPLEMENTATION OF THIS CONSTRUCTION SWPPP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE CONSTRUCTION SWPPP FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

THE CONSTRUCTION SWPPP FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

THE CONSTRUCTION SWPPP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.

THE CONSTRUCTION SWPPP FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

THE CONSTRUCTION SWPPP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.

AT NO TIME SHALL MORE THAN 1 FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN TRAP (OR SUMP). ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE SEDIMENT CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

CITY OF TUMWATER DRAINAGE DESIGN AND EROSION CONTROL MANUAL
VOLUME II - CONSTRUCTION STORMWATER POLLUTION PREVENTION
APPENDIX II-A
JULY 2022

FINAL SITE STABILIZATION

1. CONSTRUCT FILLS AND COMPACT PER THESE PLANS AND SPECIFICATIONS.
2. LIGHTLY SCARIFY SURFACE OF FINISHED FILLS TO LOOSEN THE TOP 1/2 - 1 INCH (BACK BLADE WITH DOZER, ROTOTILL OR DISC, ETC).
3. COMPLETE HYDROSEEDING AND OTHER REQUIRED SITE STABALIZATION MEASURES PER THESE PLANS AND SPECIFICATIONS.

POND NOTE:

EXCAVATE INFILTRATION POND BOTTOMS NO DEEPER THAN DESIGN BOTTOM DURING CONSTRUCTION. ONCE SITE IS FULLY STABILIZED, ALL CONSTRUCTION MUCK SHALL BE REMOVED FROM BASINS.

SILT FENCE NOTES: (BMP C233)

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SILT FENCES AT THE LOCATIONS SHOWN IN THE PLANS.
2. CONSTRUCT SILT FENCES IN AREAS OF CLEARING, GRADING, OR DRAINAGE PRIOR TO STARTING THOSE ACTIVITIES.
3. THE SILT FENCE SHALL HAVE A 2-FOOT MINIMUM AND 2.5-FOOT MAXIMUM HEIGHT ABOVE THE ADJACENT GROUND SURFACE.
4. THE FILTER FABRIC SHALL BE SEWN TOGETHER AT THE POINT OF MANUFACTURE TO FORM FILTER FABRIC LENGTHS AS REQUIRED. LOCATE ALL SEWN SEAMS AT SUPPORT POSTS. ALTERNATIVELY, TWO SECTIONS OF SILT FENCE CAN BE OVERLAPPED, PROVIDED THE CONTRACTOR CAN DEMONSTRATE, TO THE SATISFACTION OF THE ENGINEER, THAT THE OVERLAP IS LONG ENOUGH AND THAT THE ADJACENT FENCE SECTIONS ARE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.
5. ATTACH THE FILTER FABRIC ON THE UPSLOPE SIDE OF THE POSTS AND SECURE WITH STAPLES, WIRE, OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ATTACH THE FILTER FABRIC TO THE POSTS IN A MANNER THAT REDUCES THE POTENTIAL FOR TEARING.
6. SUPPORT THE FILTER FABRIC WITH WIRE OR PLASTIC MESH, DEPENDENT ON THE PROPERTIES OF THE GEOTEXTILE SELECTED FOR USE. IF WIRE OR PLASTIC MESH IS USED, FASTEN THE MESH SECURELY TO THE UPSLOPE SIDE OF THE POSTS WITH THE FILTER FABRIC UPSLOPE OF THE MESH.
7. MESH SUPPORT, IF USED, SHALL CONSIST OF STEEL WIRE WITH A MAXIMUM MESH SPACING OF 2 INCHES, OR A PREFABRICATED POLYMERIC MESH. THE STRENGTH OF THE WIRE OR POLYMERIC MESH SHALL BE EQUIVALENT TO OR GREATER THAN 180 POUNDS GRAB TENSILE STRENGTH. THE POLYMERIC MESH MUST BE AS RESISTANT TO THE SAME LEVEL OF ULTRAVIOLET RADIATION AS THE FILTER FABRIC IT SUPPORTS.
8. BURY THE BOTTOM OF THE FILTER FABRIC 4 INCHES MINIMUM BELOW THE GROUND SURFACE. BACKFILL AND TAMP SOIL IN PLACE OVER THE BURIED PORTION OF THE FILTER FABRIC, SO THAT NO FLOW CAN PASS BENEATH THE FENCE AND SCOURING CANNOT OCCUR. THE WIRE OR POLYMERIC MESH SHALL EXTEND INTO THE GROUND 3 INCHES MINIMUM.
9. DRIVE OR PLACE THE FENCE POSTS INTO THE GROUND 18 INCHES MINIMUM. A 12-INCH MINIMUM DEPTH IS ALLOWED IF TOPSOIL OR OTHER SOFT SUBGRADE SOIL IS NOT PRESENT AND 18 INCHES CANNOT BE REACHED. INCREASE FENCE POST MIN. DEPTHS BY 6 INCHES IF THE FENCE IS LOCATED ON SLOPES OF 3H:1V OR STEEPER AND THE SLOPE IS PERPENDICULAR TO THE FENCE. IF REQUIRED POST DEPTHS CANNOT BE OBTAINED, THE POSTS SHALL BE ADEQUATELY SECURED BY BRACING OR GUYING TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT LOADING.
10. USE WOOD, STEEL, OR EQUIVALENT POSTS. THE SPACING OF THE SUPPORT POSTS SHALL BE A MAXIMUM OF 6 FEET. POSTS SHALL CONSIST OF EITHER:
    - WOOD WITH DIMENSIONS OF 2-INCH BY 2-INCH MINIMUM WIDTH AND A 3-FOOT MINIMUM LENGTH. WOOD POSTS SHALL BE FREE OF DEFECTS SUCH AS KNOTS, SPLITS, OR GOUGES.
    - NO. 6 STEEL REINFORCEMENT BAR OR LARGER.
    - ASTM A 120 STEEL PIPE WITH A MINIMUM DIAMETER OF 1 INCH.
    - U, T, L, OR C SHAPE STEEL POSTS WITH A MINIMUM WEIGHT OF 1.35 POUNDS PER FOOT.
    - OTHER STEEL POSTS HAVING EQUIVALENT STRENGTH AND BENDING RESISTANCE TO THE POST SIZES LISTED ABOVE.
11. LOCATE SILT FENCES ON CONTOUR AS MUCH AS POSSIBLE, EXCEPT AT THE ENDS OF THE FENCE, WHERE THE FENCE SHALL BE TURNED UPHILL SUCH THAT THE SILT FENCE CAPTURES THE RUNOFF WATER AND PREVENTS WATER FROM FLOWING AROUND THE END OF THE FENCE.
12. IF THE FENCE MUST CROSS CONTOURS, WITH THE EXCEPTION OF THE ENDS OF THE FENCE, GRAVEL CHECK DAMS SHALL BE PLACED PERPENDICULAR TO THE BACK OF THE FENCE TO MINIMIZE CONCENTRATED FLOW AND EROSION. THE SLOPE OF THE FENCE LINE WHERE CONTOURS MUST BE CROSSED SHALL NOT BE STEEPER THAN 3H:1V.
    - GRAVEL CHECK DAMS SHALL BE APPROXIMATELY 1 FOOT DEEP AT THE BACK OF THE FENCE. GRAVEL CHECK DAMS SHALL BE CONTINUED PERPENDICULAR TO THE FENCE AT THE SAME ELEVATION UNTIL THE TOP OF THE CHECK DAM INTERCEPTS THE GROUND SURFACE BEHIND THE FENCE.
    - GRAVEL CHECK DAMS SHALL CONSIST OF CRUSHED SURFACING BASE COURSE, GRAVEL BACKFILL FOR WALLS, OR SHOULDER BALLAST. GRAVEL CHECK DAMS SHALL BE LOCATED EVERY 10 FEET ALONG THE FENCE WHERE THE FENCE MUST CROSS CONTOURS.

CITY OF TUMWATER DRAINAGE DESIGN & EROSION CONTROL MANUAL
VOLUME II - JANUARY 2019

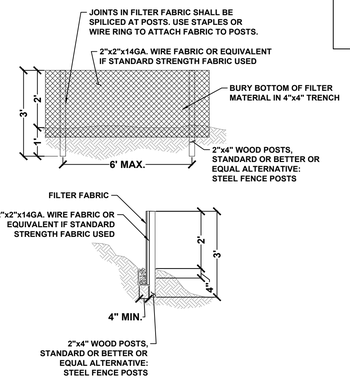
LEGEND

- CLEARING LIMITS
- SILT FENCING
- STRAW WATTLES
- INLET SEDIMENT PROTECTION
- MONITORING WELL LOCATIONS
- WELL LOCATIONS

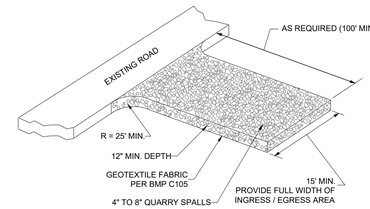
CITY OF TUMWATER

VERTICAL DATUM (NGVD 29)	MERIDIAN (HORIZ DATUM)
THURSTON COUNTY PHOTOGRAMMERTRY	THURSTON COUNTY HIGH PRECISION SURVEY CONTROL NETWORK. BASED ON CONTROL POINTS #7597 AND #6028 BEARING EQUALS NORTH 01°23'12" EAST

100 50 0 100 200
SCALE: 1" = 100'



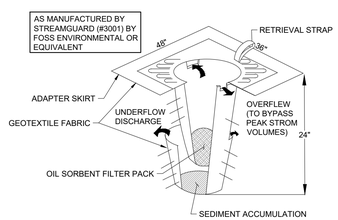
SILT FENCE DETAIL
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
BMP C105

STABILIZED CONSTRUCTION ENTRANCE NOTES: (BMP C105)

1. MATERIAL SHALL BE 4 INCH TO 8 INCH QUARRY SPALLS. (STATE STANDARD SPECIFICATIONS.)
2. A SEPARATION GEOTEXTILE SHALL BE PLACED UNDER THE QUARRY SPALLS.
3. THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 100 FEET LONG. WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA. SMALLER PADS MAY BE APPROVED FOR SINGLE-FAMILY RESIDENTIAL AND SMALL COMMERCIAL SITES.
4. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
5. IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.



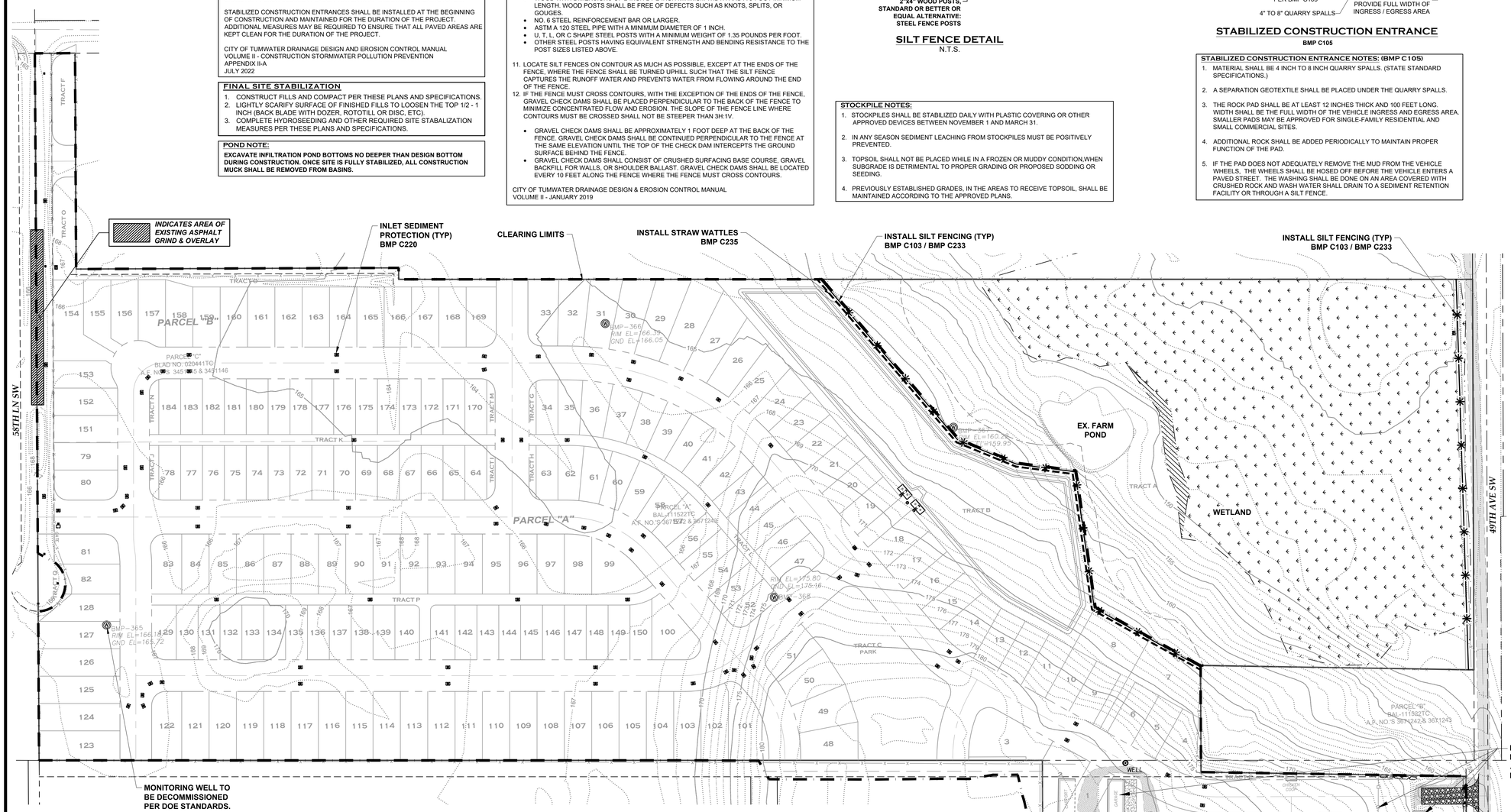
INLET SEDIMENT PROTECTION
(BMP C220)
N.T.S.

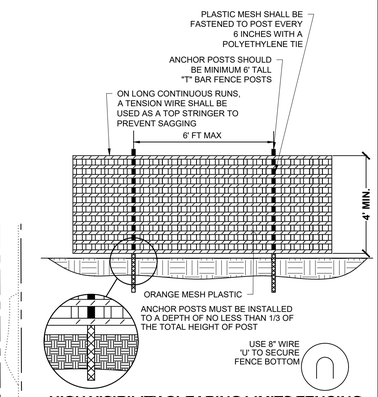
INLET SEDIMENT PROTECTION NOTES: (BMP C220)

1. INSTALL INSERT PER THE MANUFACTURER'S SPECIFICATIONS
2. MAINTAIN AND REPLACE INSERTS AS RECOMMENDED BY THE MANUFACTURER, AS REQUIRED BY THE INSPECTOR OR PROJECT ENGINEER, AND AS OTHERWISE NECESSARY.

STOCKPILE NOTES:

1. STOCKPILES SHALL BE STABILIZED DAILY WITH PLASTIC COVERING OR OTHER APPROVED DEVICES BETWEEN NOVEMBER 1 AND MARCH 31.
2. IN ANY SEASON SEDIMENT LEACHING FROM STOCKPILES MUST BE POSITIVELY PREVENTED.
3. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION,WHEN SUBGRADE IS DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
4. PREVIOUSLY ESTABLISHED GRADES, IN THE AREAS TO RECEIVE TOPSOIL, SHALL BE MAINTAINED ACCORDING TO THE APPROVED PLANS.





HIGH VISIBILITY CLEARING LIMITS FENCING
BMP C103

THE CONTRACTOR SHALL PERFORM THE FOLLOWING BEFORE THE START OF ANY LOGGING, GRADING, OR CLEARING ON-SITE:

A. SURVEY / LOCATE THE CLEARING LIMITS AS DELINEATED ON THE APPROVED SITE PLAN AND TREE PROTECTION PLANS.

B. INSTALL POSTS FOR THE CLEARING LIMITS FENCING. T-BAR METAL POSTS, 6 FEET ON CENTER, INSTALLED AT THE LIMITS OF CLEARING.

C. THE TOP 2 FEET OF THE CLEARING LIMITS FENCING POSTS SHALL BE PAINTED BRIGHT PINK OR ORANGE.

HIGH VISIBILITY FENCE NOTES: (BMP C103)

- HIGH VISIBILITY PLASTIC FENCE SHALL BE COMPOSED OF A HIGH-DENSITY POLYETHYLENE MATERIAL AND SHALL BE AT LEAST 4 FEET IN HEIGHT. POSTS FOR THE FENCING SHALL BE STEEL OR WOOD AND PLACED EVERY 6 FEET ON CENTER (MAXIMUM) OR AS NEEDED TO ENSURE RIGIDITY. THE FENCING SHALL BE FASTENED TO THE POST EVERY 6 INCHES WITH A POLYETHYLENE TIE. ON LONG CONTINUOUS LENGTHS OF FENCING, A TENSION WIRE OR ROPE SHALL BE USED AS A TOP STRINGER TO PREVENT SAGGING BETWEEN POSTS. THE FENCE COLOR SHALL BE HIGH VISIBILITY ORANGE. THE FENCE TENSILE STRENGTH SHALL BE 360 POUNDS PER FOOT USING THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) D4595 TESTING METHOD.
- IF APPROPRIATE, INSTALL FABRIC SILT FENCE IN ACCORDANCE WITH BMP C233 TO ACT AS HIGH VISIBILITY FENCE. EXCEPT THAT THE SILT FENCE SHALL BE AT LEAST 3 FEET HIGH AND MUST BE HIGHLY VISIBLE TO MEET THE REQUIREMENTS OF THIS BMP.
- METAL FENCES ARE THE LEAST PREFERRED BUT MIGHT BE APPROPRIATE TO ADDRESS SECURITY CONCERNS. METAL FENCING SHALL BE DESIGNED AND INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
- METAL FENCES SHALL BE AT LEAST 4 FEET HIGH AND MUST BE HIGHLY VISIBLE.
- FENCES SHALL NOT BE WIRED OR STAPLED TO TREES.

CITY OF TUMWATER DRAINAGE DESIGN & EROSION CONTROL MANUAL
VOLUME II - JULY 2022

TOPOGRAPHIC NOTE:
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DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: 1" = 100'
V N/A

CHUCK PATRICIA MCINTYRE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
09/26/24

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ENGINEERS AND SURVEYORS
3910 MARTIN WAY E, SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

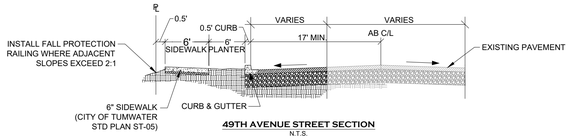
VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY EROSION CONTROL PLAN

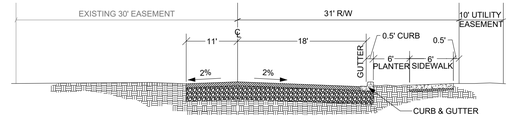
A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

TP # 12832310800, 12832310700

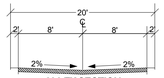
AGENCY NO.
SHEET: 2 OF 10
H:\DGN\21-000\21-102\PRELIMINARY
INDEX: 21-102 pre-ec
JOB: 21-102



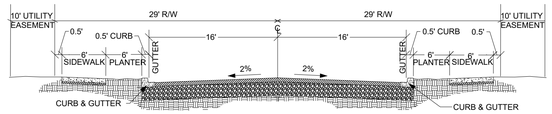
49TH AVENUE STREET SECTION
N.T.S.



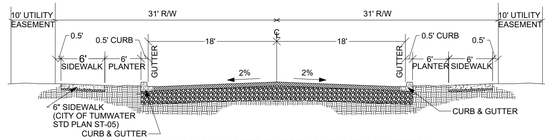
61' PUBLIC ROADWAY SECTION (58TH LANE SW)
N.T.S.



ALLEY SECTION
N.T.S.



58' PUBLIC ROADWAY SECTION (LOCAL ACCESS)
N.T.S.



62' PUBLIC ROADWAY SECTION (NEIGHBORHOOD COLLECTOR)
N.T.S.

CUT / FILL NOTES:

A. THE GROUND SURFACE FOR THE PLANNED FILL AREAS SHALL BE PREPARED TO RECEIVE FILL BY REMOVING ALL TREES, BRUSH, LANDSCAPING DEBRIS AND OTHER DELETERIOUS MATERIAL.

B. EXISTING SOILS IN FILL AREA SHALL BE EXAMINED BY SOILS ENGINEER/GEOLOGIST RETAINED FOR PROJECT.

C. TOP SOIL AND ANY OTHER SOILS THAT CAN NOT MEET COMPACTION REQUIREMENTS AS SHOWN IN THESE PLANS SHALL BE REMOVED PRIOR TO THE COMMENCEMENT OF FILL OPERATIONS.

D. EXISTING SOILS IN FILL AREAS SHALL BE COMPACTED FOLLOWING THE RECOMENDATIONS OF THE GEOLOGIST/SOILS ENGINEER.

E. THE GEOLOGIST RETAINED FOR THE PROJECT SHOULD BE INVOLVED IN PLANNING THE EXTENT OF EXISTING SOILS TO BE REMOVED, THE LOCATION AND THICKNESS OF FILL PLACEMENT, OBSERVING PLACEMENT AND COMPACTION OF FILL SOILS AND IN VERIFYING COMPACTION REQUIREMENTS HAVE BEEN MET.

EARTHWORK CALCULATIONS

CUT	164,700 CY
FILL	157,700 CY
NET (CUT)	7,000 CY

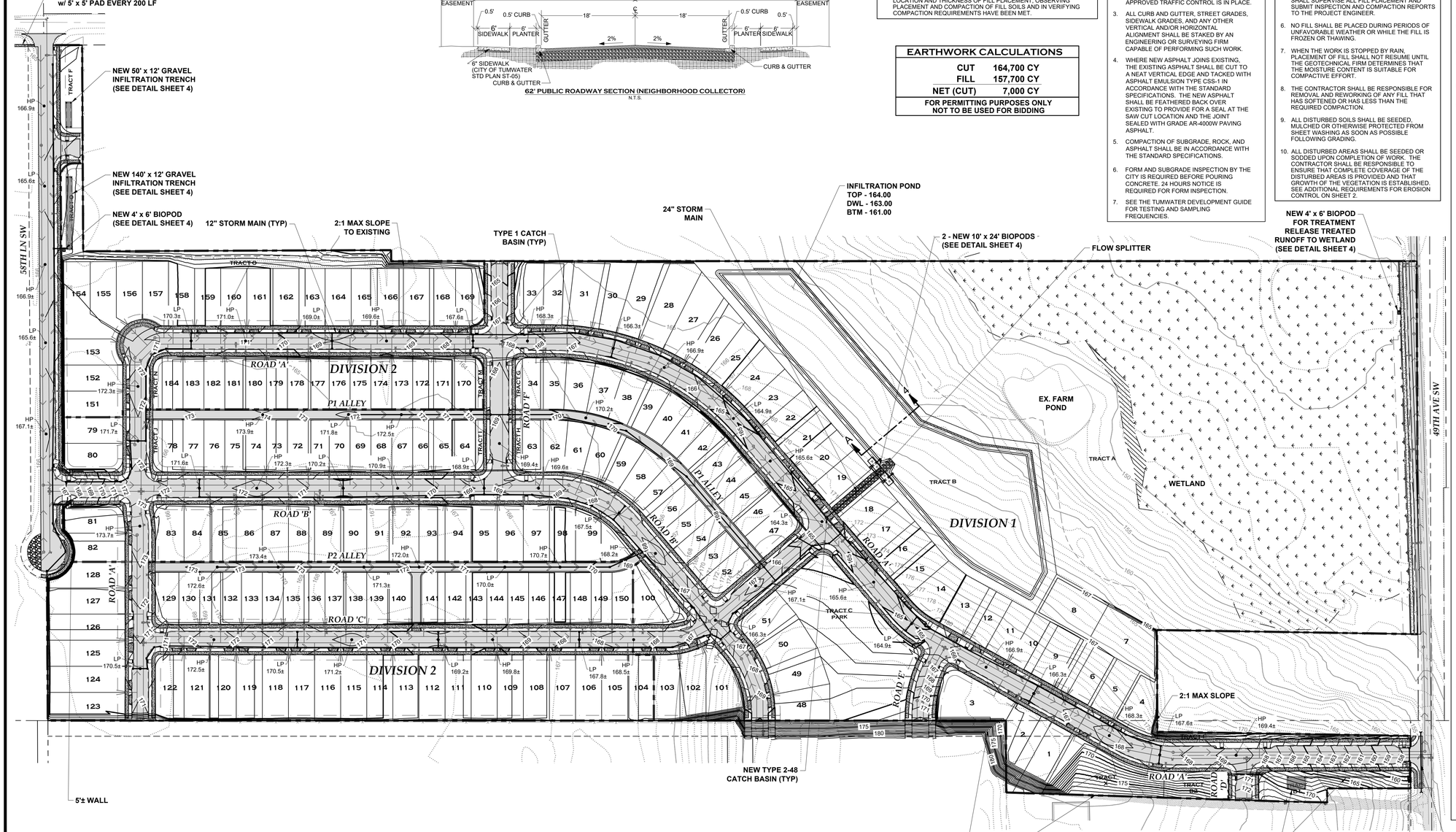
FOR PERMITTING PURPOSES ONLY NOT TO BE USED FOR BIDDING

STREET CONSTRUCTION NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF TUMWATER STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH THE MUTCD. PRIOR TO DISRUPTION OF ANY TRAFFIC, TRAFFIC CONTROL PLANS SHALL BE PREPARED AND SUBMITTED TO THE CITY FOR APPROVAL. NO WORK SHALL COMMENCE UNTIL ALL APPROVED TRAFFIC CONTROL IS IN PLACE.
3. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY AN ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
4. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE NEW ASPHALT SHALL BE FEATHERED BACK OVER EXISTING TO PROVIDE FOR A SEAL AT THE SAW CUT LOCATION AND THE JOINT SEALED WITH GRADE AR-4000W PAVING ASPHALT.
5. COMPACTION OF SUBGRADE, ROCK, AND ASPHALT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
6. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE POURING CONCRETE. 24 HOURS NOTICE IS REQUIRED FOR FORM INSPECTION.
7. SEE THE TUMWATER DEVELOPMENT GUIDE FOR TESTING AND SAMPLING FREQUENCIES.

GEOTECHNICAL SPECIFICATIONS:

1. ALL EMBANKMENT MATERIAL SHALL CONFORM TO SECTION 9-03.14(1) GRAVEL BORROW OF THE WSDOT STANDARD SPECIFICATIONS.
2. EMBANKMENT MATERIAL SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DENSITY PER WSDOT/APWA STANDARDS 2-03.3(14)0.
3. EMBANKMENTS SHALL BE PLACED PER WSDOT STANDARD SPECIFICATIONS METHOD C.
4. AREAS TO BE FILLED SHALL BE CLEARED AND GRUBBED PRIOR TO PLACING ANY FILL MATERIAL.
5. A GEOTECHNICAL FIRM CAPABLE OF SUCH WORK SHALL SUPERVISE ALL FILL PLACEMENT AND SUBMIT INSPECTION AND COMPACTION REPORTS TO THE PROJECT ENGINEER.
6. NO FILL SHALL BE PLACED DURING PERIODS OF UNFAVORABLE WEATHER OR WHILE THE FILL IS FROZEN OR THAWING.
7. WHEN THE WORK IS STOPPED BY RAIN, PLACEMENT OF FILL SHALL NOT RESUME UNTIL THE GEOTECHNICAL FIRM DETERMINES THAT THE MOISTURE CONTENT IS SUITABLE FOR COMPACTIVE EFFORT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REWORKING OF ANY FILL THAT HAS SOFTENED OR HAS LESS THAN THE REQUIRED COMPACTION.
9. ALL DISTURBED SOILS SHALL BE SEEDED, MULCHED OR OTHERWISE PROTECTED FROM SHEET WASHING AS SOON AS POSSIBLE FOLLOWING GRADING.
10. ALL DISTURBED AREAS SHALL BE SEEDED OR SODDED UPON COMPLETION OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT COMPLETE COVERAGE OF THE DISTURBED AREAS IS PROVIDED AND THAT GROWTH OF THE VEGETATION IS ESTABLISHED. SEE ADDITIONAL REQUIREMENTS FOR EROSION CONTROL ON SHEET 2.



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CITY OF TUMWATER

VERTICAL DATUM (NGVD 29)	MERIDIAN (HORIZ DATUM)
THURSTON COUNTY PHOTOGRAMMERTRY	THURSTON COUNTY HIGH PRECISION SURVEY CONTROL NETWORK. BASED ON CONTROL POINTS #7597 AND #6028 BEARING EQUALS NORTH 01°23'12" EAST

100 50 0 100 200
SCALE: 1" = 100'

STANDARD STORMWATER NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA).
2. TEMPORARY EROSION/WATER POLLUTION MEASURES SHALL BE REQUIRED IN ACCORDANCE WITH SECTION 1-07.15 OF THE STANDARD SPECIFICATIONS AND THE DRAINAGE DESIGN AND EROSION CONTROL MANUAL ("DRAINAGE MANUAL").
3. PROPONENT SHALL COMPLY WITH ALL OTHER PERMITS AND OTHER REQUIREMENTS OF THE GOVERNING AUTHORITY OR AGENCY.
4. A PRECONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION OR STAKING OF THE SITE.
5. ALL STORM MAINS AND RETENTION/DETENTION AREAS SHALL BE STAKED FOR GRADE AND ALIGNMENT BY AN ENGINEERING OR SURVEY FIRM LICENSED TO PERFORM SUCH WORK.
6. STORM DRAIN PIPE SHALL BE AS SPECIFIED IN THE DRAINAGE MANUAL.
7. SPECIAL STRUCTURES, OIL/WATER SEPARATORS, AND OUTLET CONTROLS SHALL BE INSTALLED PER PLANS AND MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE TRAFFIC CONTROL PLAN(S) AS REQUIRED IN ACCORDANCE WITH MUTCD.
9. CALL UNDERGROUND LOCATE LINE 1-800-424-5555 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATIONS.
10. ALL SURVEYING AND STAKING SHALL BE PERFORMED BY AN ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK. THE ENGINEER OR SURVEYOR DIRECTING SUCH WORK SHALL BE LICENSED BY THE STATE OF WASHINGTON.
11. THE MINIMUM STAKING OF STORM SEWER SYSTEMS SHALL BE AS FOLLOWS:
    A. STAKE LOCATION OF ALL CATCH BASINS/MANHOLES AND OTHER FIXTURES FOR GRADE AND ALIGNMENT.
    B. STAKE LOCATION, SIZE AND DEPTH OF RETENTION/DETENTION FACILITY.
    C. STAKE FINISHED GRADE OF ALL STORM WATER FEATURES, INCLUDING BUT NOT LIMITED TO CATCH BASIN/MANHOLE RIM ELEVATIONS, OVERFLOW STRUCTURES, WEIRS, AND INVERT ELEVATIONS OF ALL PIPES IN CATCH BASINS, MANHOLES, AND THOSE PIPES THAT DAYLIGHT.
12. PIPE MATERIALS USED FOR STORM WATER CONVEYANCE SHALL BE AS ACCEPTABLE BY THE JURISDICTION. PIPE SIZE, SLOPE, COVER, ETC., SHALL BE AS SPECIFIED IN THE DRAINAGE MANUAL.
13. ALL DRIVEWAY CULVERTS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE A MINIMUM 3:1 SLOPE FROM THE EDGE OF THE DRIVEWAY TO THE BOTTOM OF THE DITCH. CULVERTS SHALL HAVE BEVELED SECTIONS TO MATCH THE SIDE SLOPE.
14. IF DRAINAGE OUTLETS (STUB-OUTS) ARE TO BE PROVIDED FOR EACH INDIVIDUAL LOT, THE STUB-OUTS SHALL CONFORM TO THE FOLLOWING:
    A. EACH OUTLET SHALL BE SUITABLY LOCATED AT THE LOWEST ELEVATION ON THE LOT, SO AS TO SERVICE ALL FUTURE ROOF DOWNSPOUTS AND FOOTING DRAINS, DRIVEWAYS, YARD DRAINS, AND ANY OTHER SURFACE OR SUBSURFACE DRAINS NECESSARY TO RENDER THE LOTS SUITABLE FOR THEIR INTENDED USE. EACH OUTLET SHALL HAVE FREE-FLOWING, POSITIVE DRAINAGE TO AN ACCEPTABLE STORM WATER CONVEYANCE SYSTEM OR TO AN APPROVED OUTFALL LOCATION.
    B. OUTLETS ON EACH LOT SHALL BE LOCATED WITH A FIVE-FOOT-HIGH, 2"X4" STAKE MARKED "STORM" OR "DRAIN". THE STUB-OUT SHALL VISIBLY EXTEND ABOVE SURFACE LEVEL AND BE SECURED TO THE STAKE.
    C. PIPE MATERIAL SHALL BE AS APPROVED BY THE JURISDICTION.
    D. DRAINAGE EASEMENTS ARE REQUIRED FOR DRAINAGE SYSTEMS DESIGNED TO CONVEY FLOWS THROUGH INDIVIDUAL LOTS.
    E. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS OF ALL STUB-OUT CONVEYANCE LINES WITH RESPECT TO THE UTILITIES (E.G., POWER, GAS, TELEPHONE TELEVISION).
    F. ALL INDIVIDUAL STUB-OUTS SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE LOT HOME OWNER.
15. THE STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED ACCORDING TO APPROVED PLANS ON FILE WITH THE JURISDICTION. ANY MATERIAL DEVIATION FROM THE PLANS WILL REQUIRE WRITTEN APPROVAL FROM THE JURISDICTION.
16. A COPY OF THE APPROVED STORM WATER PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
17. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SIMILARLY STABILIZED TO THE SATISFACTION OF THE JURISDICTION. FOR SITES WHERE GRASS HAS BEEN PLANTED THROUGH HYDROSEEDING, THE PERFORMANCE BOND WILL NOT BE RELEASED UNTIL THE GRASS HAS BEEN THOROUGHLY ESTABLISHED, UNLESS OTHERWISE APPROVED BY THE JURISDICTION.
18. ALL BUILDING DOWNSPOUTS ON COMMERCIAL SITES SHALL BE CONNECTED TO THE STORM DRAINAGE SYSTEM, UNLESS OTHERWISE ACCEPTABLE TO THE JURISDICTION.
19. ALL EROSION CONTROL AND STORM WATER FACILITIES SHALL BE REGULARLY INSPECTED AND MAINTAINED BY THE CONTRACTOR DURING THE CONSTRUCTION PHASE OF THE DEVELOPMENT PROJECT.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. ALL SECTIONS OF THE CURRENT W.S.D.O.T. STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL SHALL APPLY.
21. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN STREET USE AND OTHER RELATED OR REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY IN THE JURISDICTION'S RIGHT-OF-WAY. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION.
22. NO FINAL CUT OR FILL SLOPE SHALL EXCEED TWO (2) HORIZONTAL TO ONE (1) VERTICAL WITHOUT STABILIZATION BY ROCKERY OR BY A STRUCTURAL RETAINING WALL.
23. THE PROJECT ENGINEER SHALL VERIFY THE LOCATIONS, WIDTHS, THICKNESSES, AND ELEVATIONS OF ALL EXISTING PAVEMENTS AND STRUCTURES, INCLUDING UTILITIES AND OTHER FRONTAGE IMPROVEMENTS, THAT ARE TO INTERFACE WITH NEW WORK, PROVIDE ALL TRIMMING, CUTTING, SAW CUTTING, GRADING, LEVELING, SLOPING, COATING, AND OTHER WORK, INCLUDING MATERIALS AS NECESSARY TO CAUSE THE INTERFACE WITH EXISTING WORKS TO BE PROPER, WITHOUT CONFLICT, ACCEPTABLE TO THE ENGINEER AND THE JURISDICTION, COMPLETE IN PLACE, AND READY TO USE.
24. COMPACTION OF ALL FILL AREAS SHALL BE PER CURRENT APWA SPECIFICATIONS. FILL SHALL BE PROVIDED IN 6" MAXIMUM LIFTS AND SHALL BE COMPACTED TO 95 PERCENT OF ITS MAXIMUM RELATIVE DENSITY.

CITY OF TUMWATER
CHAPTER 5: STORMWATER MANAGEMENT (08-2008)
APPENDIX S

TP # 1283231080, 1283231070

DESIGNED BY:	DWS
DRAWN BY:	JEG
CHECKED BY:	CPM
DATE:	SEPT. 2024
SCALE:	1" = 100'
	V N/A

CHARLES PATRICIA MCINTYRE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
09/26/24

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hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY GRADING & DRAINAGE PLAN

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST W.M.

AGENCY NO. _____
SHEET: 3 OF 10
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INDEX: 21-102 pre-grd
JOB: 21-102

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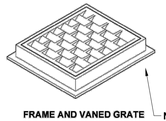
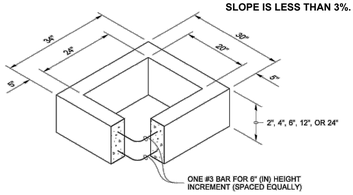


FRAME AND VANED GRATE

NOTE: RECTANGULAR HERRINGBONE GRADE REQUIRED WHERE ROAD SLOPE IS LESS THAN 3%.



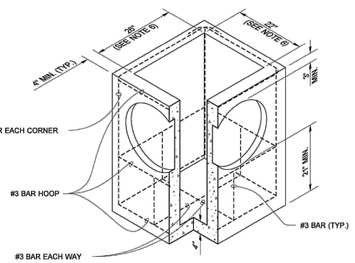
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP ★ (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

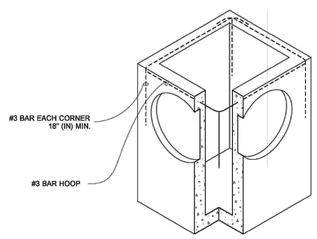
★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the **Precast Base Section**.
7. All pickup holes shall be grouted full after the basin has been placed.



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

Julie Heilman 2020.09.01 07:52:50 -07'00'

CATCH BASIN TYPE 1

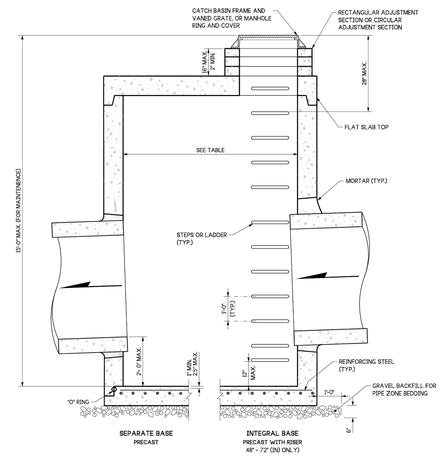
STANDARD PLAN B-5.20-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve Digitally signed by Roark, Steve Date: 2020.09.09 09:45:23 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation

NOTES:

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
5. Pipe allowances will vary depending on the pipe material used. Contact the Region Hydraulics Engineer for assistance.



CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES					
CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ① PP ④	SOLID WALL PVC ②	PROFILE WALL PVC:③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe (See Standard Specification Section 9-05.20)
② (See Standard Specification Section 9-05.12(1))
③ (See Standard Specification Section 9-05.12(2))
④ Polypropolyne Pipe (See Standard Specification Section 9-05.24)

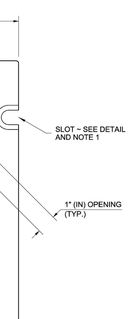
Aug 23, 2023

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Aug 23, 2023
STATE DESIGN ENGINEER
Washington State Department of Transportation

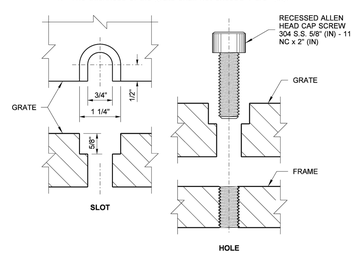


TOP

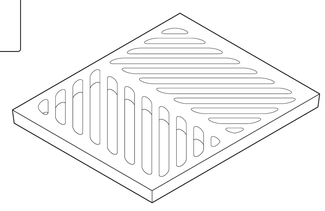
DRAWN BY: FERN LIDDELL

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification section 9-05.15**, and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.
4. The thickness of the grate shall not exceed 1 5/8" (in).



BOLT-DOWN DETAILS
SEE NOTE 1



ISOMETRIC

Heilman, Julie Feb 20 2018 12:55 PM

RECTANGULAR HERRINGBONE GRATE

STANDARD PLAN B-30.50-03

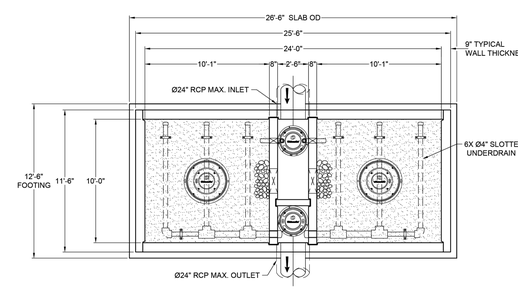
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff Feb 27 2018 7:59 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

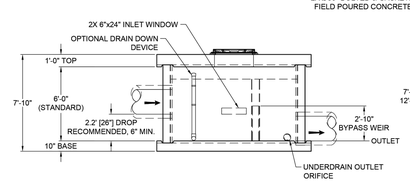
SITE SPECIFIC DATA				
Structure ID				ID
Treatment Flow Rate (cfs)				-
Peak Flow Rate (cfs)				-
Rim Elevation				-
Top of Vault Elevation				-
Pipe Data	Pipe Location	Pipe Size	Pipe Type	Invert Elevation
Inlet	-	-	-	-
Outlet	-	-	-	-
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.810 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.720 cfs
Bypass Capacity	20.00 cfs

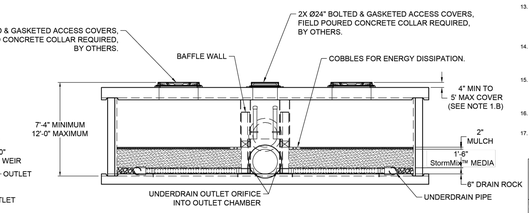
*Contact Oldcastle for alternative treatment flow capacities.



PLAN VIEW



LEFT END VIEW



ELEVATION VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 (WITH IMPACT)
   B. DESIGN SOIL COVER: 5'-0" MAXIMUM
   C. ASSUMED WATER TABLE: BELOW BASE OF PRECAST (ENGINEER-OF-RECORD TO CONFIRM SITE WATER TABLE ELEVATION)
   D. LATERAL EARTH PRESSURE: 45 PCF (DRAINED)
   E. LATERAL LIVE LOAD SURCHARGE: 80 PSF (APPLIED TO 8'-0" BELOW GRADE)
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28-DAY MINIMUM COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM.
3. REINFORCING: REBAR, ASTM A615/A706, GRADE 60
4. MESH REINFORCEMENT: ASTM A1064, S1.2, GRADE 80
5. CEMENT: ASTM C150
6. REQUIRED ALLOWABLE SOIL BEARING CAPACITY: 2,500 PSF
7. REFERENCE STANDARD:
   A. ASTM C990
   B. ASTM C913
   C. ACI 318-14
8. THIS STRUCTURE IS DESIGNED TO THE PARAMETERS NOTED HEREIN. ENGINEER-OF-RECORD SHALL VERIFY THE NOTED PARAMETERS MEET OR EXCEED PROJECT REQUIREMENTS. IF DESIGN PARAMETERS ARE INCORRECT, REVIEWING ENGINEER/AUTHORITY SHALL NOTIFY OLDCASTLE INFRASTRUCTURE UPON REVIEW.
9. OVERSIZED HOLES TO ACCOMMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE FILLED WITH A MINIMUM OF 3,000 PSI CONCRETE FOR FULL THICKNESS OF PRECAST WALLS.
10. CONTRACTOR RESPONSIBLE TO VERIFY ALL SIZES, LOCATIONS, AND ELEVATIONS OF OPENINGS.
11. CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
12. ADAPTORS/ANGLES AND EXTERNAL PIPING BY OTHERS.
13. SECTION HEIGHTS, SLAB/WALL THICKNESSES, AND KEYWAYS ARE SUBJECT TO CHANGE AS REQUIRED FOR SITE REQUIREMENTS AND/OR DUE TO PRODUCT AVAILABILITY AND PRODUCTION FACILITY CONSTRAINTS.
14. MAXIMUM PICK WEIGHTS:
   A. TOP SLAB: XX,XXX LBS
   B. PANELS: XX,XXX LBS
   C. BASE SLAB: XX,XXX LBS
15. INTERNALS SHALL CONSIST OF UNDERDRAIN PIPE, ROCK, STORMAX™ MEDIA, MULCH, DIVIDER WALLS, BAFFLE WALLS, BYPASS WEIR AND OPTIONAL DRAIN DOWN.
16. SYSTEM SHIPPED EMPTY. INTERNALS INSTALLED BY CONTRACTOR.
17. CONTRACTOR RESPONSIBLE FOR OFF-LOAD AND INSTALLATION. OLDCASTLE REPRESENTATIVE TO BE ON SITE TO OVERSEE THE INSTALLATION OF ALL INTERNAL COMPONENTS.

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System (STANDARD)
Underground Vault with Internal Bypass

CUSTOMER:
-
PROJECT NAME:
-

SHEET NAME	REVISION	SHEET
Specifier Drawing BPU-1024IB	- REV DATE:	1 OF 1

Stormwater Biofiltration

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

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DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: N/A
V N/A

CHASE PATRICIA MCINTYRE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
09/26/24

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E. SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE

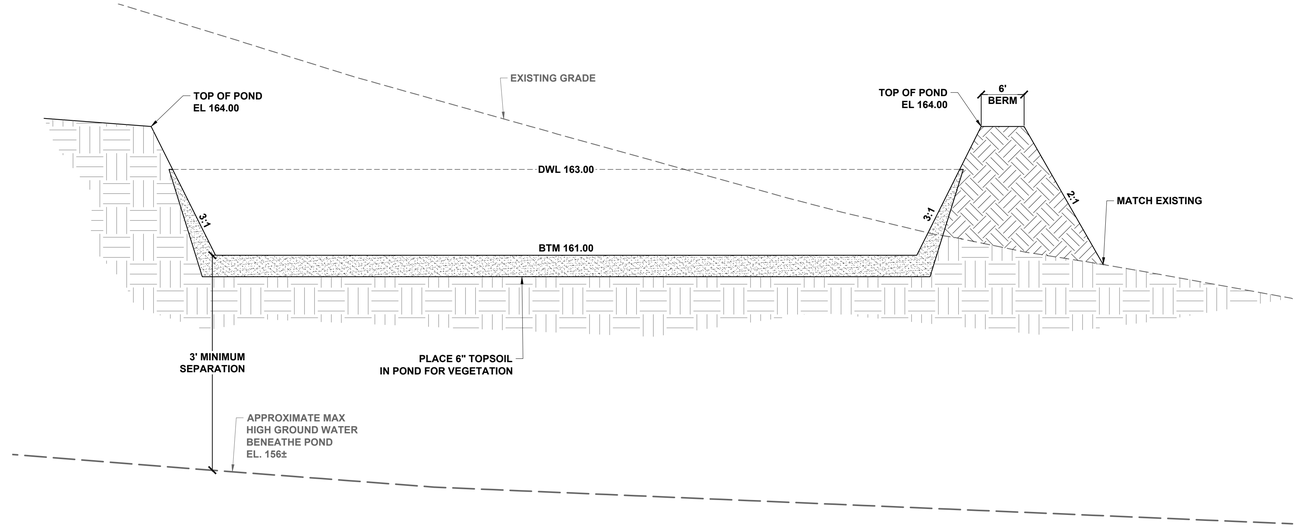
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY DRAINAGE DETAILS - 1

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

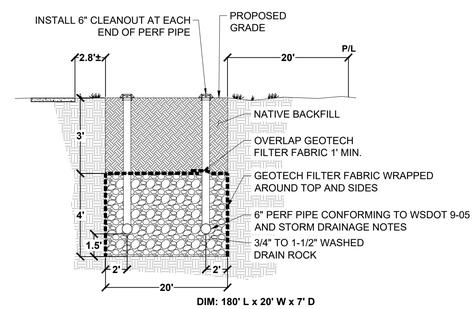
TP # 12832310800, 12832310700

AGENCY NO.
SHEET: 4 OF 10
H:\DGN\21-000\21-102\PRELIMINARY
INDEX: 21-102 pre-det
JOB: 21-102



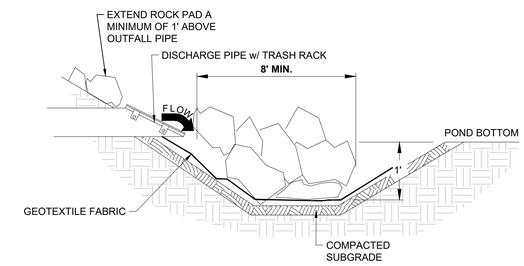
INFILTRATION POND SECTION A-A

N.T.S.



INFILTRATION TRENCH DETAIL

N.T.S



ROCK LINING OUTFALL DETAIL

N.T.S.

INFILTRATION TRENCH NOTES:

1. GEOTECH FABRIC SHALL BE WSDOT 9-33.
2. DRAIN ROCK SHALL BE PLACED IN 12-INCH LIFTS. COMPACT ROCK BETWEEN LIFTS TO MAINTAIN A UNIFORM CONTACT BETWEEN THE FABRIC AND THE TRENCH WALL.
3. CLEANOUTS TO BE PLACED AT BOTH ENDS OF ALL PIPES.
4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT SUBGRADE CONDITION IS NOT COMPROMISED BY CONSTRUCTION EQUIPMENT AND/OR OTHER CONSTRUCTION ACTIVITY.
5. GEOTECHNICAL ENGINEER SHALL BE CONTACTED TO INSPECT BOTTOM OF EXCAVATION OF INTILTRATION TRENCHES AND TO PERFORM INFILTRATION TESTING TO CONFIRM DESIGN ASSUMPTIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER PRIOR TO BACKFILLING IF THERE ARE ANY DISCREPANCIES.

ROCK LINING NOTE:

ROCK LINING SHALL CONFORM WITH TABLE V-1.7 OF THE 2019 SWMMWW DRAINAGE AND EROSION CONTROL MANUAL

ROCK PROTECTION SHALL BE REASONABLY QUARRY SPALLS WITH THE FOLLOWING GRADATION:

100% PASSING 8" SQUARE SIEVE
40% - 60% PASSING 3" SQUARE SIEVE
0% - 10% PASSING 3/4" SIEVE

ARMOR POND A MINIMUM OF 3' IN EACH SIDE OF OUTFALL

GEOTEXTILE FABRIC NOTE:

GEOTEXTILE FABRIC USED UNDER ROCK PROTECTION OF OUTFALLS AND OVERFLOW SPILLWAYS SHOWN IN THESE PLANS SHALL BE US FABRICS US160NW OR APPROVED EQUIVALENT.

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

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DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: N/A
V N/A

CHLOE PATRICIA MCINTYRE
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
09/26/24

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3910 MARTIN WAY E. SUITE B
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TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE

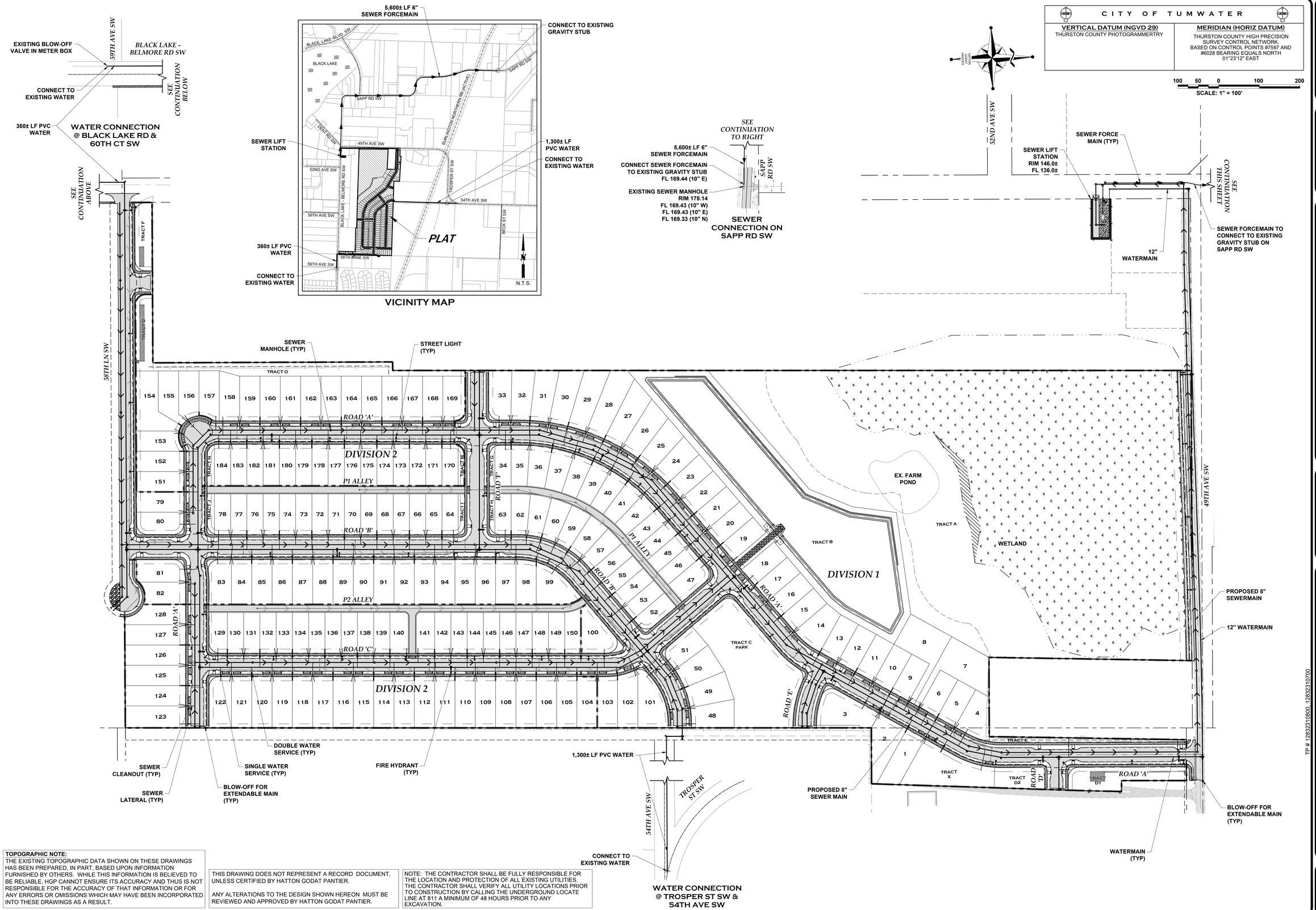
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY DRAINAGE DETAILS - 2

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

TP # 12832310800, 12832310700

AGENCY NO.
SHEET: 5 OF 10
H:\DGN\21-000\21-102\PRELIMINARY
INDEX: 21-102 pre-det
JOB: 21-102



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DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: 1" = 100'
V N/A

CHARLES PATRICIA MCINTYRE
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
09/26/24

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hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE

3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY UTILITY PLAN

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

TP # 1283231080, 1283231070

AGENCY NO.
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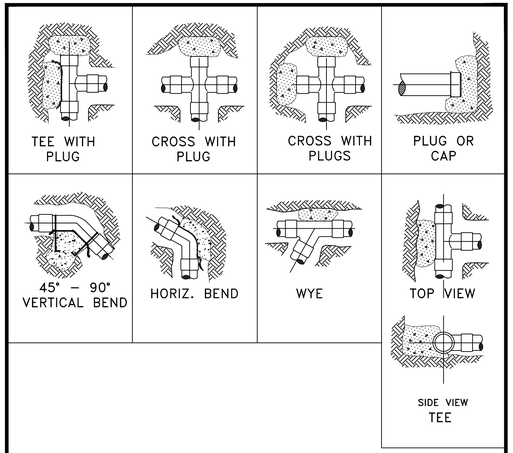


GENERAL NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL THRUST BLOCKS AND FITTINGS.
3. ANCHOR REBAR SHALL BE 5/8" MINIMUM DIAMETER

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

STANDARD BLOCKING DETAIL

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-1
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JUNE 2014	NOT TO SCALE

THRUST LOADS

THRUST AT FITTINGS IN POUNDS AT 225 POUNDS PER SQUARE INCH OF WATER PRESSURE

PIPE DIAMETER	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	DEAD END OR TEE
4"	4,100	2,300	1,200	600	3,000
6"	9,000	5,000	2,600	1,400	6,500
8"	16,500	9,000	4,700	2,500	11,500
10"	25,500	14,000	7,000	3,500	18,000
12"	36,000	20,000	10,500	5,500	26,000
14"	50,000	27,000	14,000	7,000	35,000
16"	65,000	35,000	18,000	9,000	46,000

NOTES:
1. BLOCKING SHALL BE COMMERCIAL CONCRETE POURED IN PLACE THRUST BLOCK WITH PLASTIC SHEETING OR SIMILAR MATERIAL TO ISOLATE THE FITTING.
2. TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET(S.F.)
   EXAMPLE : 12" – 90° BEND IN SAND AND GRAVEL 36,000 LBS
   3000 LB/S.F. = 12 S.F. OF AREA
3. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.
4. BLOCKING SHALL BE ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

SAFE SOIL BEARING LOADS

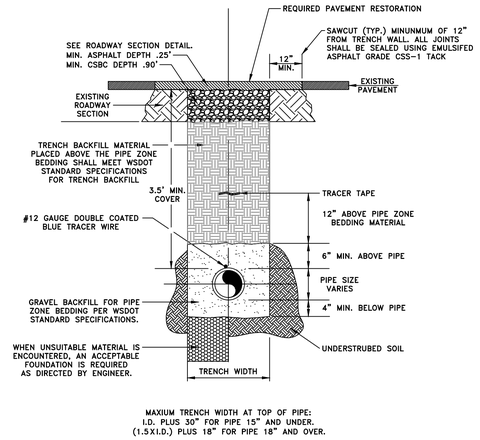
FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET

SOIL	POUNDS PER SQUARE FOOT
MUCK, PEAT	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

THRUST LOADS

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-2
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JUNE 2014	NOT TO SCALE



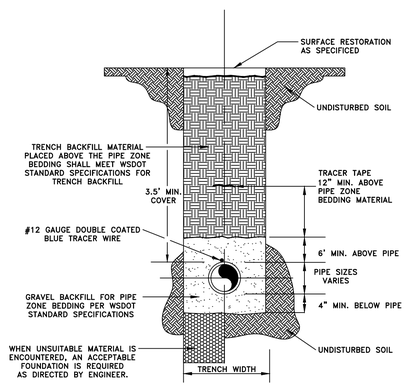
MAXIUM TRENCH WIDTH AT TOP OF PIPE:
I.D. PLUS 30" FOR PIPE 15" AND UNDER.
(1.5XI.D.) PLUS 18" FOR PIPE 18" AND OVER.

GENERAL NOTES:
1. COMPACTION: THE TESTING REQUIREMENTS SHALL BE PER THE CITY OF TUMWATER DEVELOPMENT GUIDELINES AND PUBLIC WORKS STANDARDS.
2. ALL MATERIALS, WORKMANSHIP, AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION OR AS AMENDED BY CITY OF TUMWATER STANDARDS.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

WATER TRENCH DETAIL
PAVED AREAS

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-5
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JUNE 2014	NOT TO SCALE



MAXIUM TRENCH WIDTH AT TOP OF PIPE:
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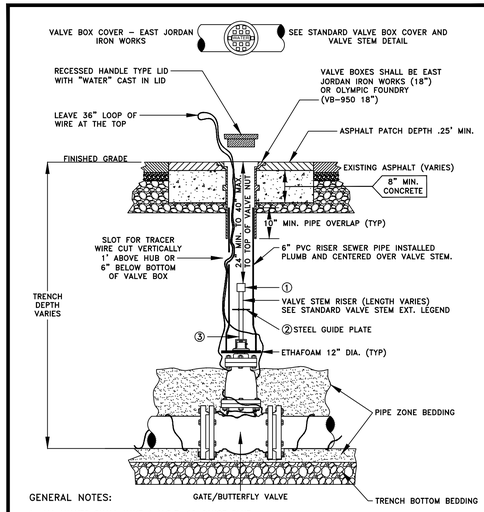
CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

WATER TRENCH DETAIL
UNPAVED AREAS

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-5.2
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JUNE 2014	NOT TO SCALE



GENERAL NOTES:
1. ALL VALVES SHALL HAVE A U.S.E. 12 GAUGE BLUE COATED COPPER TRACER WIRE TIED OFF AT VALVE BODY. THE WIRE SHALL BE EXTENDED UP ON THE OUTSIDE RISER PIPE A FOOT ABOVE THE VALVE HUB BEFORE THE WIRE IS PUT INTO THE RISER THROUGH A SLOT CUT INTO THE RISER. LEAVE 36" OF WIRE ABOVE THE TOP OF VALVE BOX.
2. ALL WELDS TO THE SHAFT SHALL BE FILLET WELD, AROUND THE ENTIRE PLATE PER #2 BELOW.

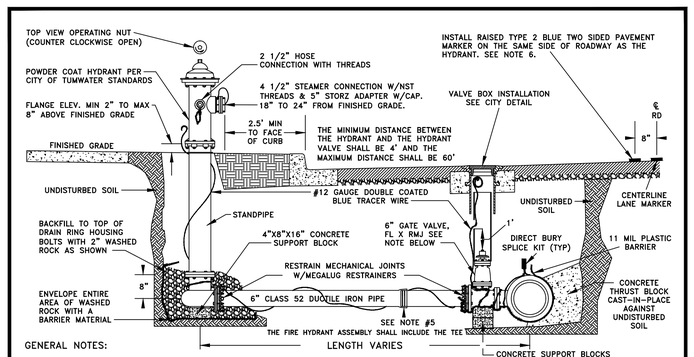
VALVE STEM EXTENSION LEGEND

① VALVE OPERATING NUT OR 1-7/8" X 1- 7/8" X 2" HIGH GRADE STEEL WELDED TO GUIDE PLATE.
② 3/16" THICK X 5 1/5" DIA STEEL GUIDE PLATE WELDED TO RISER SHAFT.
③ 2"X2"X 3/16" SQUARE STRUCTURAL STEEL TUBING TO FIT OPERATING NUT. LENGTH AS REQUIRED.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

STANDARD VALVE BOX

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-12
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JUNE 2014	NOT TO SCALE



GENERAL NOTES:
1. A MINIMUM FIVE FOOT RADIUS OF UNOBSTRUCTED WORKING AREA SHALL BE PROVIDED AROUND ALL HYDRANTS. OBSTRUCTIONS INCLUDE, BUT ARE NOT BE LIMITED TO TREES, SHRUBS, PLANTS, VAULTS, FDC, METERS, WALLS, EMBANKMENTS, SIGN POSTS, ETC.
2. HYDRANT SHALL BE WATEROUS PACER, M & H RELIANT STYLE 929, AMERICAN AVK, KENNEDY K-81, MUELLER CENTURION, OR CLOW MEDALLION.
3. GATE VALVES SHALL BE RESILIENT WEDGE NRS WITH O-RING SEALS. VALVE ENDS SHALL BE MECHANICAL JOINT BY ANSI FLANGES. VALVES SHALL CONFORM TO AWWA C515 LATEST REVISION. VALVES SHALL BE MUELLER, M&H, KENNEDY, CLOW R/W, WATEROUS SERIES 2500 OR AMERICAN AVK.
4. REMOVE FACTORY CHAINS HOLDING CAPS.
5. WHEN DISTANCE BETWEEN FIRE HYDRANT AND VALVE EXCEEDS MORE THAN 1 STICK OF PIPE RESTRAINED JOINTS SHALL BE REQUIRED.
6. INSTALLATION OF A BLUE, TYPE 2, TWO WAY, REFLECTIVE HYDRANT MARKER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE HYDRANT MARKER SHALL BE ALIGNED WITH THE OUTSIDE EDGE OF THE LANE MARKER 8" FROM THE CENTERLINE.
7. CONTRACTOR REQUIRED TO MAINTAIN POWDER COATING UNTIL FINAL ACCEPTANCE BY CITY.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

FIRE HYDRANT ASSEMBLY

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-13
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE

GENERAL NOTES (WATERMAIN INSTALLATION)

1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH CITY OF TUMWATER STANDARDS AND THE MOST CURRENT COPY OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. IN CASES OF CONFLICT, THE MOST STRINGENT STANDARD SHALL APPLY.
2. THE CONTRACTOR SHALL BE IN COMPLIANCE WITH ALL SAFETY STANDARDS AND REQUIREMENTS AS SET FORTH BY OSHA, WISHA, AND THE WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH THE WSDOT/APWA STANDARD PLANS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (ALL APPLICABLE "K" PLANS) AND/OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). PRIOR TO DISRUPTION OF ANY TRAFFIC, A TRAFFIC CONTROL PLAN SHALL BE PREPARED AND SUBMITTED TO THE CITY FOR APPROVAL. NO WORK SHALL COMMENCE UNTIL ALL APPROVED TRAFFIC CONTROL IS IN PLACE.
4. ALL APPROVALS AND PERMITS REQUIRED BY THE CITY OF TUMWATER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
5. IF CONSTRUCTION IS TO TAKE PLACE IN THE COUNTY RIGHT-OF-WAY, THE CONTRACTOR SHALL NOTIFY THE COUNTY AND OBTAIN ALL THE REQUIRED APPROVALS AND PERMITS.
6. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE CITY OF TUMWATER CONSTRUCTION INSPECTORS PRIOR TO THE START OF CONSTRUCTION.
7. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555, OR 811, A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A COPY OF AN APPROVED SET OF PLANS ON THE CONSTRUCTION SITE AT ALL TIMES.
9. ALL SURVEYING AND STAKING SHALL BE PERFORMED PER THE CORRESPONDING CHAPTER OF THE CITY OF TUMWATER DEVELOPMENT GUIDELINES AND PUBLIC WORKS STANDARDS.
10. TEMPORARY EROSION CONTROL/WATER POLLUTION MEASURES SHALL BE REQUIRED IN ACCORDANCE WITH WSDOT/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AND THE CITY OF TUMWATER DRAINAGE DESIGN AND EROSION CONTROL STANDARDS. AT NO TIME WILL SILTS AND DEBRIS BE ALLOWED TO DRAIN INTO AN EXISTING OR NEWLY INSTALLED FACILITY UNLESS SPECIAL PROVISIONS HAVE BEEN DESIGNED.
11. WATER MAINS EQUAL TO OR LESS THAN TEN INCHES IN DIAMETER SHALL BE AWWA C900 CLASS 200, SDR 14 OR DUCTILE IRON STANDARD PRESSURE RATING 350. WATER MAINS LARGER THAN 10 INCHES IN DIAMETER SHALL BE DUCTILE IRON STANDARD PRESSURE CLASS RATING 350.
12. GATE VALVES SHALL BE RESILIENT WEDGE, NRS (NON RISING STEM) WITH O-RING SEALS. VALVE ENDS SHALL BE MECHANICAL JOINT OR ANSI FLANGES. VALVES SHALL CONFORM TO AWWA C 515 LATEST REVISION. VALVES SHALL BE MUELLER, M & H, KENNEDY, CLOW R/W, A.V.K. OR WATEROUS SERIES 2500.
13. **EXISTING VALVES SHALL BE OPERATED BY CITY EMPLOYEES ONLY.**
14. HYDRANTS SHALL BE THE DRY BARREL TYPE AND ONE OF THE FOLLOWING: WATEROUS, M & H, MUELLER, CLOW OR EJ (EAST JORDAN) WATERMASTER 5CD250. HYDRANTS SHALL BE BAGGED UNTIL SYSTEM IS APPROVED. ALL HYDRANTS SHALL BE POWDER COATED AND SHALL BE EQUIPPED WITH STORZ ADAPTERS.
15. THE CONTRACTOR SHALL INSTALL, CHLORINATE, AND FLUSH ALL WATER LINES. THE LINES SHALL BE CHLORINATED AND TESTED IN CONFORMANCE WITH THE ABOVE REFERENCED SPECIFICATION (SEE NOTE 1 ABOVE) AFTER FLUSHING THE CHLORINATED WATER FROM THE DISINFECTED LINES, THE CONTRACTOR SHALL MEASURE THE CHLORINE RESIDUAL TO VERIFY THAT FLUSHING IS COMPLETE. THIS SHALL BE COMPLETED PRIOR TO REQUESTING THE CITY FOR MICROBIOLOGICAL SAMPLES.
16. ALL PIPE AND SERVICES SHALL BE INSTALLED WITH CONTINUOUS TRACER TAPE INSTALLED 12" TO 18" UNDER THE GROUND SURFACE. THE MARKER SHALL BE PLASTIC NON-BIODEGRADABLE, METAL CORE BACKING MARKED "WATER" WHICH CAN BE DETECTED BY A STANDARD METAL DETECTOR. TAPE SHALL BE TERRA TAPE "D" OR APPROVED EQUAL. IN ADDITION TO TRACER TAPE, INSTALL DIRECT BURY, U.S.E. 12 GAUGE BLUE COATED COPPER WIRE, WRAPPED AROUND OR TAPED TO THE PIPE, AS SHOWN ON DETAIL. LOW VOLTAGE GREASE-TYPE SPLICE KITS SHALL BE USED ON TRACER WIRE. CONTINUITY TESTING OF THE WIRE WILL BE DONE BY THE CITY.
17. ALL SERVICE LINE LOCATIONS SHALL BE MARKED ON THE TOP OR FACE OF THE CURB WITH AN EMBOSSED "W" 3 INCHES HIGH AND ¼ INCH INTO CONCRETE.
18. THE CITY WILL BE GIVEN 96 HOURS NOTICE PRIOR TO SCHEDULING A SHUTDOWN. WHERE CONNECTIONS REQUIRE "FIELD VERIFICATION", CONNECTION POINTS SHALL BE EXPOSED BY CONTRACTOR AND FITTINGS VERIFIED 96 HOURS PRIOR TO DISTRIBUTING SHUT-DOWN NOTICES.
19. SEPARATION BETWEEN WATER AND SEWER SHALL BE MAINTAINED PER DEPARTMENT OF ECOLOGY (DOE) STANDARDS.
20. A CONCRETE PAD SHALL BE INSTALLED AROUND ALL VALVE BOXES AND BLOW-OFFS.
21. AT ANY CONNECTION TO AN EXISTING LINE WHERE A NEW VALVE IS NOT INSTALLED, THE EXISTING VALVE MUST BE PRESSURE TESTED TO CITY STANDARDS PRIOR TO CONNECTION. IF AN EXISTING VALVE FAILS TO PASS THE TEST, THE CONTRACTOR SHALL MAKE THE NECESSARY PROVISIONS TO TEST THE NEW LINE PRIOR TO CONNECTION TO THE EXISTING SYSTEM OR INSTALL A NEW VALVE.
22. THE MINIMUM BURIAL DEPTH OF ALL WATER LINES SHALL BE 42 INCHES.
23. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND DEPTH OF THE EXISTING MAIN AND PROVIDE THE FITTINGS REQUIRED TO MAKE THE CONNECTION TO THE EXISTING MAIN.
24. AT THE CITY'S REQUEST THE CONTRACTOR SHALL INSTALL A TEMPORARY 2-INCH BRASS BLOW OFF FOR FLUSHING AND SAMPLING ON THE EXISTING AND/OR NEW WATER MAIN. THE BLOW OFF SHALL BE CONSTRUCTED WITH A STANDARD 2-INCH TAPPING SADDLE AND FORD BRASS CORPORATION STOP WITH 2-INCH BRASS PIPE EXTENDED UP TO FINISHED GRADE. WHEN FLUSHING AND SAMPLING ARE COMPLETED THE 2-INCH PIPE SHALL BE REMOVED. THE CORPORATION STOP SHALL BE SHUT OFF AND CAPPED TIGHT WITH THREADED BRASS CAP.
25. WHEN AN EXISTING CITY WATER MAIN IS TO BE ABANDONED IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO COORDINATE AND ABANDON THE EXISTING MAIN. IT SHALL ALSO BE THE DEVELOPER'S RESPONSIBILITY TO INSTALL AND TRANSFER EXISTING WATER SERVICES TO THE NEW MAIN. CITY CREWS WILL MAKE THE FINAL CONNECTION BETWEEN THE NEW METER AND THE OWNER'S PROPERTY.
26. ALL VALVE BOX, BLOW-OFF, AND MANHOLE LIDS SHALL BE CLEAN AND CLEAR OF ASPHALT OR CONCRETE BEFORE SCHEDULING A WALK THROUGH.
27. THE WATER MAIN, APPURTENANCES, AND SERVICE CONNECTIONS TO THE METER SETTER, SHALL BE TESTED IN SECTIONS OF CONVENIENT LENGTHS UNDER A HYDROSTATIC PRESSURE EQUAL TO 150 PSI IN EXCESS OF THAT UNDER WHICH IT WILL OPERATE. IN NO CASE SHALL THE TEST PRESSURE BE LESS THAN 225 PSI.
28. NO LOT LINE WATER MAINS ARE ALLOWED.

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

THIS DRAWING DOES NOT REPRESENT A RECORD DOCUMENT, UNLESS CERTIFIED BY HATTON GODAT PANTIER.

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THE DETAILS ON THIS SHEET WITH AN AGENCY TITLE BLOCK WERE PREPARED BY THE REVIEWING AGENCY AND WERE REQUIRED TO BE INCLUDED ON THIS PLAN BY SAID AGENCY. THE DESIGN ENGINEER MAKES NO WARRANTY AS TO THE SUITABILITY OR APPROPRIATENESS OF THOSE DETAILS. SOME AGENCY DETAILS ON THIS SHEET MAY HAVE BEEN MODIFIED TO SUIT DESIGN NEEDS AND HAVE BEEN NOTED AS SUCH.

DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: N/A
V N/A

STATE OF WASHINGTON
DALE PATRICIA MCINTYRE
REGISTERED PROFESSIONAL ENGINEER
09/26/24

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E, SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY WATER DETAILS - 1

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST W.M.

TP # 1283210800, 1283210700

AGENCY NO.
SHEET: 7 OF 10
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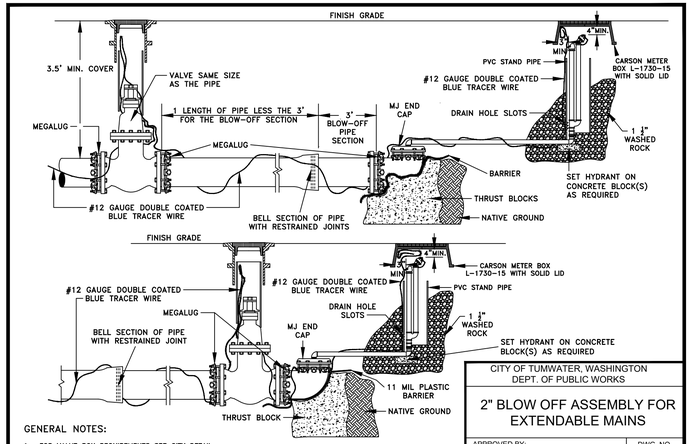
INDEX: 21-102 pre-det
JOB: 21-102



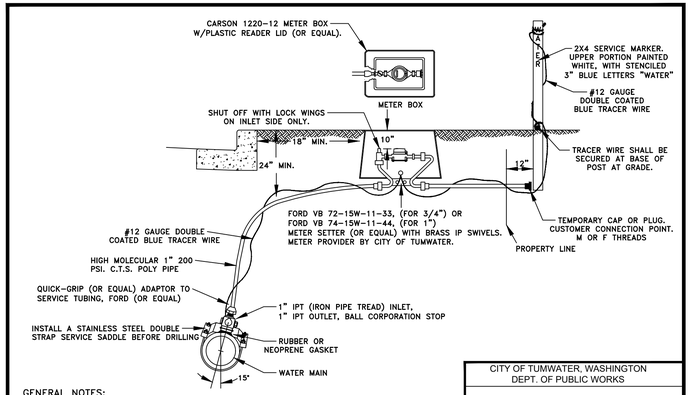
GENERAL NOTES:

1. FOR VALVE BOX REQUIREMENTS SEE CITY DETAIL.
2. FILL THE AREA OUTSIDE OF THE BLOW-OFF RISER STAND PIPE WITH WASHED ROCK.
3. ALL 2" FITTINGS SHALL BE BRASS.
4. CARSON METER BOX SHALL HAVE A SOLID LID. A TRAFFIC RATED LID SHALL BE REQUIRED IF THE METER BOX IS IN THE TRAVELED WAY.
5. WHEN CONCEIVABLE LOCATE BLOW-OFF HYDRANT OUTSIDE ROADWAY.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

2" BLOW OFF ASSEMBLY FOR EXTENDABLE MAINS

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-19
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE



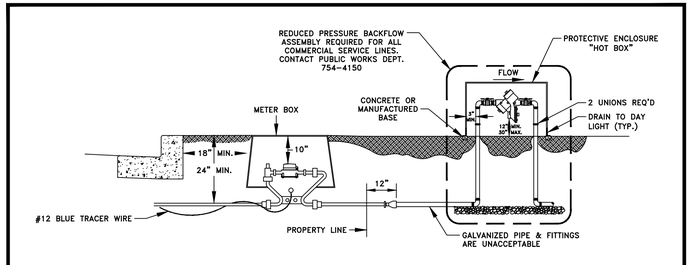
GENERAL NOTES:

1. METER BOXES SHOULD NOT BE DESIGNED IN DRIVEWAYS, DRIVEWAY APPROACHES, SIDEWALKS OR CONFLICTED AREAS. WHEN POSSIBLE CREATE PLANTER AREAS FOR METER BOX INSTALLATION.
2. STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL PACK JOINTS AND GRIP TIGHT ADAPTERS.
3. ALL SERVICE SADDLES SHALL HAVE RUBBER GASKETS AND I.P. THREADS.
4. GALVANIZED PIPES AND FITTINGS BETWEEN WATER METER AND BACKFLOW ASSEMBLY ARE NOT ALLOWED.
5. SERVICE CLAMPS SHALL BE STAINLESS STEEL, DOUBLE STRAP. DIRECT TAPS ARE NOT ALLOWED.
6. DOUBLE INSULATED 12 GAUGE BLUE COATED COPPER U.S.E. TONING WIRE SPLICED TO MAINLINE TRACER WIRE ON ALL SERVICE LINES.
7. ALL SERVICE LINE FITTINGS SHALL BE BRASS.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

3/4" & 1" SINGLE METER SERVICE

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-21
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE



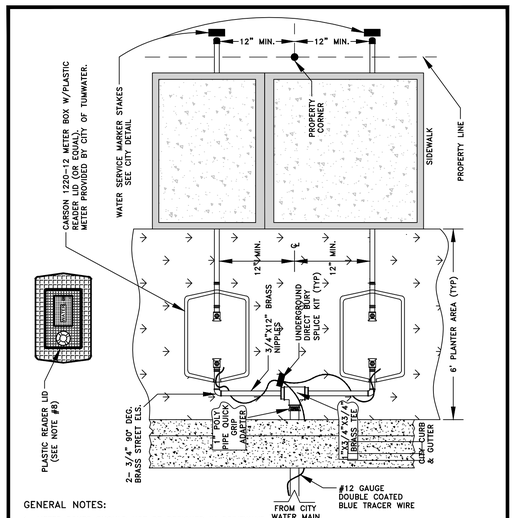
GENERAL NOTES:

1. METER BOXES SHOULD NOT BE DESIGNED IN DRIVEWAYS, DRIVEWAY APPROACHES, SIDEWALKS OR CONFLICTED AREAS. WHEN POSSIBLE CREATE PLANTER AREAS FOR METER BOX INSTALLATION.
2. REDUCED PRESSURE BACKFLOW ASSEMBLY SHALL BE PLACED WITHIN 4 FEET OF THE METER ON THE DOWNSTREAM SIDE.
3. STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL PACK JOINTS AND GRIP TIGHT ADAPTERS.
4. GALVANIZED PIPES AND FITTINGS BETWEEN WATER METER AND BACKFLOW ASSEMBLY ARE NOT ALLOWED.
5. DOUBLE INSULATED 12 GAUGE BLUE COATED COPPER U.S.E. TONING WIRE SPLICED TO MAINLINE TRACER WIRE ON ALL SERVICE LINES.
6. REDUCED PRESSURE BACKFLOW ASSEMBLY SHALL BE A WASHINGTON STATE DEPARTMENT OF HEALTH APPROVED MODEL.
7. REDUCED PRESSURE BACKFLOW ASSEMBLY SHALL BE ABOVE GROUND AND VERTICAL.
8. THE SERVICE LINE SHALL BE THOROUGHLY FLUSHED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY.
9. THE BACKLOW ASSEMBLY SHALL BE INSTALLED A MINIMUM OF 12" ABOVE FINISHED GRADE.
10. THE BACK FLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING, FLOODING AND THEFT WITH A PROTECTIVE ENCLOSURE SECURED TO A BASE.
11. THE PROTECTIVE ENCLOSURE SHALL HAVE A MINIMUM OF 12" CLEARANCE FROM ALL OTHER STRUCTURES.
12. A PLUMBING PERMIT IS REQUIRED.
13. THE BACKFLOW ASSEMBLY SHALL BE TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AFTER INSTALLATION AND PRIOR TO ACCEPTANCE.
14. TEST RESULTS SHALL BE SENT TO THE CITY OF TUMWATER CROSS CONNECTION SPECIALIST.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

RPBA - Reduced Pressure Backflow Assembly

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-21.1
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE



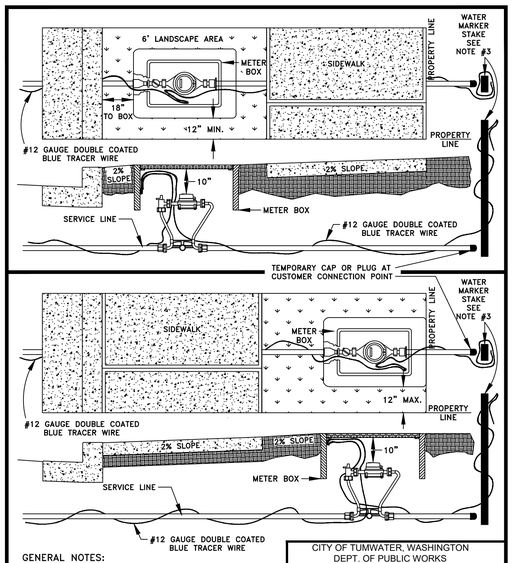
GENERAL NOTES:

1. METER BOXES SHOULD NOT BE DESIGNED IN DRIVEWAYS, DRIVEWAY APPROACHES, SIDEWALKS OR CONFLICTED AREAS. WHEN POSSIBLE CREATE PLANTER AREAS FOR METER BOX INSTALLATION.
2. STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL PACK JOINTS AND GRIP TIGHT ADAPTERS.
3. ALL SERVICE SADDLES SHALL HAVE RUBBER GASKETS AND I.P. THREADS.
4. GALVANIZED PIPES AND FITTINGS BETWEEN WATER METER AND BACKFLOW ASSEMBLY ARE NOT ALLOWED.
5. SERVICE CLAMPS SHALL BE STAINLESS STEEL, DOUBLE STRAP. DIRECT TAPS ARE NOT ALLOWED.
6. DOUBLE INSULATED 12 GAUGE BLUE COATED COPPER U.S.E. TONING WIRE SPLICED TO MAINLINE TRACER WIRE ON ALL SERVICE LINES.
7. ALL SERVICE LINE FITTINGS SHALL BE BRASS.
8. IF METERS ARE LOCATED IN DRIVEWAY OR SIDEWALK, THEY MUST BE BOXED OUT WITH MASTIC JOINTS OR SCRIBE MARKS AND HAVE A TRAFFIC RATED LID.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

3/4" DOUBLE WATER METER SERVICE

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-22
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE



GENERAL NOTES:

1. METER BOXES SHOULD NOT BE DESIGNED IN DRIVEWAYS, DRIVEWAY APPROACHES, SIDEWALKS OR CONFLICTED AREAS. WHEN POSSIBLE CREATE PLANTER AREAS FOR METER BOX INSTALLATION.
2. EXTEND THE SERVICE LINE FOR CUSTOMER CONNECTION POINT 1' BEYOND THE PROPERTY LINE OR 1' BEYOND ANY EASEMENT OR JOINT UTILITY TRENCH.
3. WHITE MARKER STAKES WITH BLUE LETTERING MUST BE 18" ABOVE FINISHED GRADE.

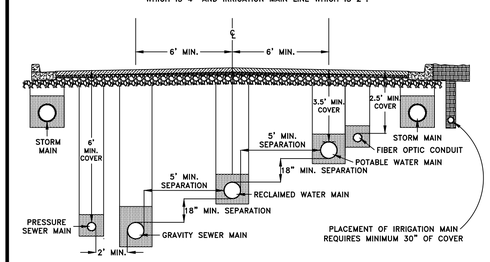
CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

TYPICAL SINGLE METER PLACEMENT

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-23
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE

PIPE ZONES IN DESCENDING ORDER

ALL PIPES SHOWN IN THIS DETAIL ARE 12" IN DIA. EXCEPT FOR PRESSURE SEWER WHICH IS 6", FIBER OPTIC CONDUIT WHICH IS 4" AND IRRIGATION MAIN LINE WHICH IS 2".



IN ROADS WHERE RECLAIMED WATER IS REQUIRED THE MINIMUM DEPTH OF THE SEWER SHALL BE 9'. IN ROADS THAT REQUIRE NO RECLAIMED WATER THE MINIMUM DEPTH OF ALL SEWER MAINS SHALL BE 7'.

GENERAL NOTES:

1. THE POTABLE WATER MAIN SHALL BE INSTALLED ON THE NORTH AND EAST SIDE OF THE ROADWAY (6' OFF CENTERLINE).
2. THE SEWER MAIN SHALL BE INSTALLED ON THE SOUTH AND WEST SIDES OF THE ROADWAY (6' OFF CENTERLINE). WHEN THE INSTALLATION REQUIRES BOTH GRAVITY AND PRESSURE SEWER MAINS THE PRESSURE MAIN SHALL BE INSTALLED FURTHER SOUTH OR WEST OF THE GRAVITY SEWER MAIN.
3. THE RECLAIMED WATER MAIN SHALL BE INSTALLED IN THE CENTER OR TO THE SOUTH OR WEST OF THE CENTER LINE OF THE ROADWAY OR AS DIRECTED BY THE CITY.
4. ALL OF THE ABOVE PIPING SHALL BE INSTALLED IN ORDER OF DESCENDING QUALITY WITH A MINIMUM OF 18" SEPARATION FROM THE BOTTOM OF THE HIGHER PIPE TO THE CROWN OF THE LOWER PIPE. NO DEVIATIONS FROM THIS REQUIREMENT SHALL BE ALLOWED.
5. THE HORIZONTAL SEPARATION WHEN ATTAINABLE SHALL BE 10' FROM THE SPRING LINE OF ONE PIPE TO THE SPRING LINE OF THE NEXT PIPE. WHEN THE 10' SEPARATION IS NOT ATTAINABLE, APPROVAL FROM THE CITY IS REQUIRED TO REDUCE THE SEPARATION REQUIREMENTS TO 5' HORIZONTAL AND 18" VERTICAL.
6. THE DESIGN REQUIREMENT ON THIS SHEET SHALL APPLY TO ALL SITUATIONS WITHIN THE RIGHT OF WAY OR EASEMENT, EXISTING OR PROPOSED.

CITY OF TUMWATER, WASHINGTON
DEPT. OF PUBLIC WORKS

PIPE ZONES IN DESCENDING ORDER

APPROVED BY:				DWG. NO.
CITY ENGINEER				WA-44
DES. PW	DWG. BY PW	CK'D BY KMC	DATE JULY 2014	NOT TO SCALE

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

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DESIGNED BY:	DWS
DRAWN BY:	JEG
CHECKED BY:	CPM
DATE:	SEPT. 2024
SCALE:	N/A
	N/A

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E, SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

DATE:

REVISIONS:

VISTA VIEWS AT BLACK LAKE

3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY WATER DETAILS - 2

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

TP # 1283231080, 1283231070

AGENCY NO. _____

SHEET: 8 OF 10

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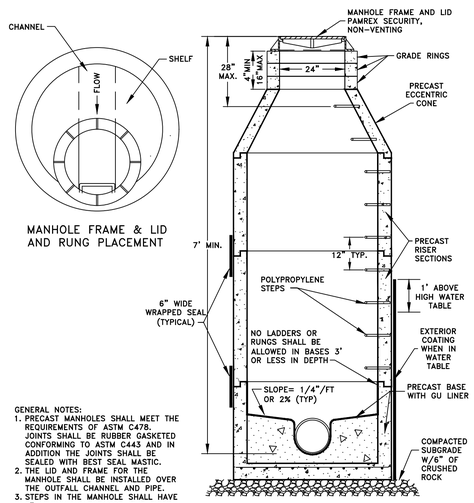
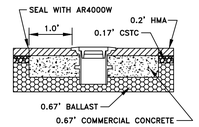


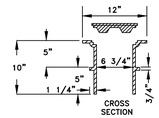
MANHOLE FRAME & LID AND RUNG PLACEMENT

GENERAL NOTES:
1. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF ASTM C478. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C443 AND IN ADDITION THE JOINTS SHALL BE SEALED WITH BEST SEAL WASTIC.
2. THE LID AND FRAME FOR THE MANHOLE SHALL BE INSTALLED OVER THE OUTFALL CHANNEL AND PIPE.
3. STEPS IN THE MANHOLE SHALL HAVE 6" MINIMUM CLEARANCE. THE FIRST STEP SHALL BE A MAXIMUM OF 28" FROM THE TOP OF THE COVER.
4. GU LINER BASES WITH THE LINER EXTENDED TO THE FIRST JOINT SHALL BE REQUIRED FOR ALL MANHOLES.
5. CONNECTION TO EXISTING MANHOLES SHALL BE MADE BY KOR-N-SEAL BOOT OR SAND COLLAR.
6. ALL JOINTS AND LIFTING HOLES SHALL BE GROUTED FROM THE INSIDE AND OUTSIDE.
7. A SEWER GUARD SHALL BE INSTALLED IN ANY MANHOLE SUBJECT TO FLOODING.

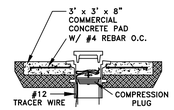
CITY OF TUMWATER, WASHINGTON DEPT. OF PUBLIC WORKS				
TYPE 1 MANHOLE				
APPROVED				DWG. NO.
CITY ENGINEER				SS-2
DES.	DWG. BY	CK'D BY	DATE	NOT TO SCALE
PW	PW	MW	NOV. 2014	



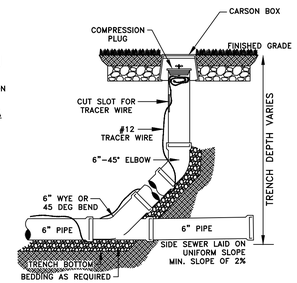
INSIDE PAVED ROADWAY



PVC LATERAL AND RAISER



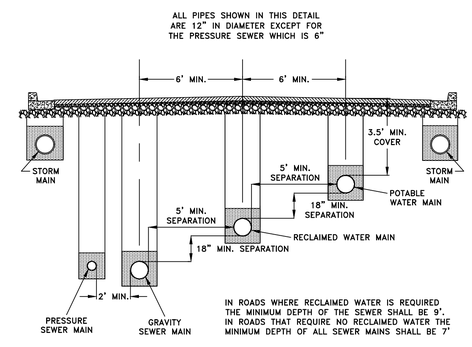
OUTSIDE PAVED AREA
IN LANDSCAPING AREAS



GENERAL NOTES:

1. ALL SEWER PIPE SHALL BE ASTM 3034 SDR 35.
2. LOCATED IN CENTER OF CUL-DE-SAC WHEN APPROPRIATE.

CITY OF TUMWATER, WASHINGTON DEPT. OF PUBLIC WORKS				
6" LATERIAL CLEANOUT PVC				
APPROVED				DWG. NO.
CITY ENGINEER				SS-11-A
DES.	DWG. BY	CK'D BY	DATE	NOT TO SCALE
PW	PW	MW	NOV. 2014	

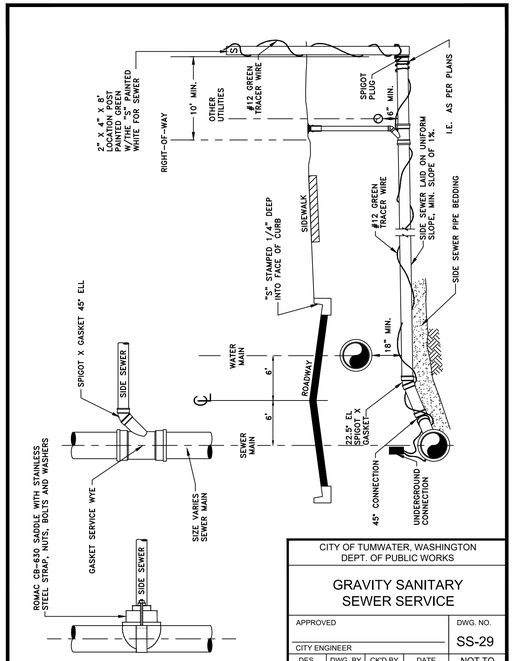


IN ROADS WHERE RECLAIMED WATER IS REQUIRED THE MINIMUM DEPTH OF THE SEWER SHALL BE 9'. IN ROADS THAT REQUIRE NO RECLAIMED WATER THE MINIMUM DEPTH OF ALL SEWER MAINS SHALL BE 7'

GENERAL NOTES:

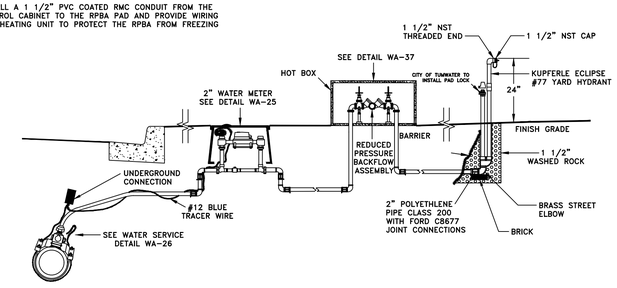
1. THE POTABLE WATER MAIN SHALL BE INSTALLED ON THE NORTH AND EAST SIDE OF THE ROADWAY (6' OFF CENTERLINE).
2. THE SEWER MAIN SHALL BE INSTALLED ON THE SOUTH AND WEST SIDES OF THE ROADWAY (6' OFF CENTERLINE). WHEN THE INSTALLATION REQUIRES BOTH GRAVITY AND PRESSURE SEWER MAINS THE PRESSURE MAIN SHALL BE INSTALLED FURTHER SOUTH OR WEST OF THE GRAVITY SEWER MAIN.
3. THE RECLAIMED WATER MAIN SHALL BE INSTALLED IN THE CENTER OR TO THE SOUTH OR WEST THE CENTER LINE OF THE ROADWAY OR AS DIRECTED BY THE CITY.
4. ALL OF THE ABOVE PIPING SHALL BE INSTALLED IN ORDER OF DESCENDING QUALITY WITH A MINIMUM OF 18" SEPARATION FROM THE BOTTOM OF THE HIGHER PIPE TO THE CROWN OF THE LOWER PIPE. NO DEVIATIONS FROM THIS REQUIREMENT SHALL BE ALLOWED.
5. THE HORIZONTAL SEPARATION WHEN ATTAINABLE SHALL BE 10' FROM THE SPRING LINE OF ONE PIPE TO THE SPRING LINE OF THE NEXT PIPE. WHEN THE 10' SEPARATION IS NOT ATTAINABLE, APPROVAL FROM THE CITY IS REQUIRED TO REDUCE THE SEPARATION REQUIREMENTS TO 5' HORIZONTAL AND 18" VERTICAL.
6. THE DESIGN REQUIREMENT ON THIS SHEET SHALL APPLY TO ALL SITUATIONS WITHIN THE RIGHT-OF-WAY OR EASEMENTS, EXISTING OR PROPOSED.

CITY OF TUMWATER, WASHINGTON DEPT. OF PUBLIC WORKS				
PIPE ZONES				
APPROVED				DWG. NO.
CITY ENGINEER				SS-26
DES.	DWG. BY	CK'D BY	DATE	NOT TO SCALE
PW	PW	KMC	JAN. 2012	



CITY OF TUMWATER, WASHINGTON DEPT. OF PUBLIC WORKS				
GRAVITY SANITARY SEWER SERVICE				
APPROVED				DWG. NO.
CITY ENGINEER				SS-29
DES.	DWG. BY	CK'D BY	DATE	NOT TO SCALE
PW	PW	KMC	JAN. 2012	

INSTALL A 1 1/2" PVC COATED RMC CONDUIT FROM THE CONTROL CABINET TO THE RPBA PAD AND PROVIDE WIRING AND HEATING UNIT TO PROTECT THE RPBA FROM FREEZING



GENERAL NOTES:

1. THE WATER MAIN IS LOCATED 6' NORTH OR EAST OF THE CENTERLINE.
2. THE BROKEN LINES INDICATE A MISSING DISTANCES. ALL DISTANCES SHALL BE SHOWN ON THE PLANS.
3. TWO (2) COATS OF RED EPOXY PAINT IS REQUIRED AFTER INSTALLATION.
4. INSTALL A RPBA WITHIN THE FENCED AREA WITH NO OBSTRUCTIONS AROUND IT. SEE DETAIL 7-18.1 AND 7-18.2.
5. THE WASH HYDRANT SHALL BE INSTALLED WITHIN THE FENCED AREA OF A LIFT STATION OR A COMMUNITY ON-SITE SYSTEM.
6. THE ENCLOSURE FOR THE RPBA SHALL BE A HOT BOX HB-200 WITH HEAT COIL.

CITY OF TUMWATER, WASHINGTON DEPT. OF PUBLIC WORKS				
LIFT STATION WASH HYDRANT				
APPROVED				DWG. NO.
CITY ENGINEER				SS-33
DES.	DWG. BY	CK'D BY	DATE	NOT TO SCALE
PW	PW	KMC	JAN. 2012	

GENERAL NOTES (SANITARY SEWER MAIN INSTALLATION)

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF TUMWATER STANDARDS AND THE LATEST EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA).
2. CITY OF TUMWATER DATUM SHALL BE USED FOR ALL VERTICAL CONTROL. A BENCHMARK LIST IS AVAILABLE FROM THE PUBLIC WORKS DEPARTMENT.
3. ALL APPROVALS AND PERMITS REQUIRED BY THE CITY OF TUMWATER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
4. IF CONSTRUCTION IS TO TAKE PLACE IN THE COUNTY RIGHT-OF-WAY, THE CONTRACTOR SHALL NOTIFY THE COUNTY AND OBTAIN ALL THE REQUIRED APPROVALS AND PERMITS.
5. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE CITY OF TUMWATER CONSTRUCTION INSPECTOR PRIOR TO THE START OF CONSTRUCTION.
6. THE CITY OF TUMWATER CONSTRUCTION INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF A TAP CONNECTION TO AN EXISTING MAIN.
7. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCITON BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.
8. GRAVITY SEWER MAIN SHALL BE PVC, ASTM D 3034 SDR 35 OR ASTM F 789 WITH JOINTS AND RUBBER GASKETS CONFORMING TO ASTM D 3212 AND ASTM F 477.
9. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF ASTM C 478. MANHOLES SHALL BE TYPE 1-48 OR LARGER UNLESS OTHERWIES SPECIFIED ON THE PLANS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443 AND SHALL BE GROUTED FROM THE INSIDE. LIFT HOLES SHALL BE GROUTED FROM THE OUTSIDE AND INSIDE OF THE MANHOLE.
10. SIDE SEWER SERVICES SHALL BE PVC, ASTM D 3034 SDR 35 WITH FLEXIBLE GASKETED JOINTS. SIDE SEWER CONNECTIONS SHALL BE MADE BY A TAP TO AN EXISTING MAIN OR A WYE BRANCH FROM A NEW MAIN.
11. ALL SEWER MAINS SHALL BE FIELD STAKED FOR GRADES AND ALIGNMENT BY A LICENSED ENGINEERING OR SURVEYING FIRM QUALIFIED TO PERFORM SUCH WORK.
12. BEDDING OF THE SEWER MAIN AND COMPACTION OF THE BACKFILL MATERIAL SHALL BE REQUIRED IN ACCORDANCE WITH THE ABOVE MENTIONED SPECIFICATION (SEE NOTE 1).
13. TEMPORARY STREET PATCHING SHALL BE ALLOWED AS APPROVED BY THE CITY ENGINEER. TEMPORARY STREET PATCHING SHALL BE PROVIDED BY PLACEMENT AND COMPACTION OF ONE-INCH MAXIMUM ASPHALT CONCRETE COLD MIX. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AS REQUIRED.
14. EROSION CONTROL MEASURES SHALL BE TAKEN BY THE CONTRACTOR DURING CONSTRUCTION TO PREVENT SILTATION OF EXISTING AND PROPOSED STORM DRAINAGE FACILITIES AND ROADWAYS.
15. PROVIDE TRAFFIC CONTROL PLAN(S) IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS REQUIRED.
16. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A COPY OF THE APPROVED PLANS ON THE CONSTRUCTION SITE AT ALL TIMES.
17. ANY CHANGES TO THE DESIGN SHALL FIRST BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER AND THE CITY OF TUMWATER.
18. ALL LINES SHALL BE CLEANED AND PRESSURE TESTED IN CONFORMANCE WITH THE ABOVE REFERENCED SPECIFICATIONS (SEE NOTE 1). A WATER TEST OF ALL MANHOLES IN ACCORDANCE WITH TUMWATER STANDARDS IS ALSO REQUIRED. TESTING SHALL TAKE PLACE AFTER ALL UNDERGROUND UTILITIES ARE INSTALLED AND COMPACTION OF THE ROADWAY SUBGRADE IS COMPLETE.
19. PRIOR TO BACKFILL, ALL MAINS AND APPURTENANCES SHALL BE INSPECTED AND APPROVED BY THE CITY OF TUMWATER CONSTRUCTION INSPECTOR. APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FOR CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND INSPECTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF TUMWATER FOR THE REQUIRED INSPECTIONS.
20. ALL SANITARY SEWER MAINS SHALL BE PLACED IN PUBLIC RIGHTS-OF-WAY OR, IF IN EASEMENT AREAS, PROVIDE 12-FOOT WIDE PAVED (SIX-INCH BALLAST, TWO-INCH CRUSHED, TWO-INCH ASPHALT) ACCESS TO ALL MANHOLES. NO LOT LINE SEWER MAINS WILL BE ALLOWED.
21. ALL MAINS SHALL BE DEDICATED TO THE CITY FOR MAINTENANCE WITH APPROPRIATE BILLS OF SALE AND EASEMENTS.
22. CITY OWNERSHIP OF THE MAIN AND LATERAL SHALL EXTEND TO THE PROPERTY LINE OR EASEMENT IF A CLEANOUT EXISTS AT THIS POINT. IF NO CLEANOUT EXISTS, CITY RESPONSIBILITY ENDS AT THE LIMIT OF THE MAIN.

GENERAL NOTES (PRESSURE SEWER MAIN INSTALLATION)

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF TUMWATER STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA). IN CASES OF CONFLICT, THE MOST STRINGENT STANDARD SHALL APPLY.
2. ALL SAFETY STANDARDS AND REQUIREMENTS SHALL BE COMPLIED WITH AS SET FORTH BY OSHA, WISHA AND WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES.
3. ALL APPROVALS AND PERMITS REQUIRED BY THE CITY OF TUMWATER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
4. IF CONSTRUCTION IS TO TAKE PLACE IN THE COUNTY RIGHT-OF-WAY, THE CONTRACTOR SHALL NOTIFY THE COUNTY AND OBTAIN ALL THE REQUIRED APPROVALS AND PERMITS.
5. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE CITY OF TUMWATER CONSTRUCTION INSPECTOR PRIOR TO THE START OF CONSTRUCTION.
6. THE CITY OF TUMWATER CONSTRUCTION INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF A TAP CONNECTION TO AN EXISTING MAIN.
7. ANY CHANGES TO THE DESIGN SHALL FIRST BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER AND THE CITY OF TUMWATER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH THE WSDOT/APWA STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (ALL APPLICABLE"K" PLANS) AND/OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). PRIOR TO DISRUPTION OF ANY TRAFFIC, TRAFFIC CONTROL PLANS SHALL BE PREPARED AND SUBMITTED TO THE CITY FOR APPROVAL. NO WORK SHALL COMMENCE UNTIL ALL APPROVED TRAFFIC CONTROL IS IN PLACE.
9. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.
10. ALL SEWER MAINS FIELD STAKED FOR GRADES AND ALIGNMENT.
11. BEDDING OF THE PRESSURE SEWER MAIN AND COMPACTION OF THE BACKFILL MATERIAL SHALL BE REQUIRED. BEDDING MATERIAL SHALL BE CLEAN 5/8" MINUS SAND/GRAVEL MIXTURE FREE FROM ORGANIC MATTER.
12. A THREE (3) FOOT SQUARE x EIGHT (8) INCH THICK CONCRETE PAD WITH #4 REBAR SHALL BE INSTALLED AROUND ALL VALVES THAT ARE NOT IN A PAVEMENT AREA.
13. TEMPORARY STREET PATCHING SHALL BE ALLOWED AS APPROVED BY THE CITY INSPECTOR. TEMPORARY STREET PATCHING SHALL BE PROVIDED BY PLACEMENT AND COMPACTION OF 1-INCH MINIMUM ASPHALT CONCRETE HOT MIX. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AS REQUIRED.
14. EROSION CONTROL MEASURES SHALL BE TAKEN BY THE CONTRACTOR DURING CONSTRUCTION PER THE APPROVED PLANS, SPECIFICATIONS AND CURRENT CITY DRAINAGE MANUAL.
15. PRESSURE MAINS LESS THAN 4 INCHES IN DIAMETER SHALL BE HDPE SDR 11 OR SCHEDULE 80 PVC, ASTM D1784, WITH RUBBER GASKET JOINTS. PRESSURE MAINS 4 INCHES IN DIAMETER OR GREATER SHALL BE HDPE SDR 11 OR PVC C-900 CLASS 200. CERTAIN-TEED CERTA-LOC C-900 R/J PIPE DISAPPROVED FOR USE WHERE RESTRAINED JOINTS ARE REQUIRED. WELDED POLY (HDPE) PIPE SHALL BE HIGH DENSITY ASTM SOCKET WELDED OR BUTT FUSION WELDED. HDPE PIPE SHALL BE SIZED BY INSIDE DIAMETER. PIPING FOR SEWER LINES SHALL BE GREEN. HDPE SEWER PIPE SHALL HAVE A GREEN STRIPE MANUFACTURED ON THE PIPE.
16. GRINDER SERVICE LINE FROM MAIN CONNECTION TO SERVICE BALL VALVE SHALL BE 1 ¼ INCH DIAMETER SCHEDULE 80 PVC. HDPE PIPE SHALL BE HIGH DENSITY ASTM SOCKET OR BUTT FUSION WELDED.
17. ALL PLASTIC PIPE AND SERVICES SHALL BE INSTALLED WITH CONTINUOUS TRACER TAPE INSTALLED 12 INCHES TO 18 INCHES UNDER THE PROPOSED FINISHED SUB GRADE. THE MARKER SHALL BE PLASTIC NON-BIODEGRADABLE. METAL CORE OR BACKING MARKED SEWER WHICH CAN BE DETECTED BY A STANDARD METAL DETECTOR. IN ADDITION, PRESSURE MAINS SHALL BE INSTALLED WITH 12 GAUGE DIRECT BURY,U.S.E. GREEN COATED COPPER WIRE WRAPPED AROUND ALL PLASTIC PIPE, BROUGHT UP AND TIED OFF AT VALVE BODY. CONTINUITY TESTING OF THE WIRE WILL BE DONE BY THE CITY. TAPE SHALL BE TERRA TAPE "D" OR APPROVED EQUAL. THE TAPE AND WIRE SHALL BE FURNISHED BY THE CONTRACTOR.
18. PRIOR TO ACCEPTANCE OF THE PROJECT THE PRESSURE MAINLINES SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST OF 225 POUNDS FOR 15 MINUTES AND ANY LEAKS OR IMPERFECTIONS DEVELOPING UNDER SAID PRESSURE SHALL BE REMEDIED BY THE CONTRACTOR. NO AIR WILL BE ALLOWED IN THE LINE. THE MAIN SHALL BE TESTED BETWEEN VALVES. INSOFAR AS POSSIBLE, NO HYDROSTATIC PRESSURE SHALL BE PLACED AGAINST THE OPPOSITE SIDE OF THE VALVE BEING TESTED. THE PRESSURE TEST SHALL BE MAINTAINED WHILE THE ENTIRE INSTALLATION IS INSPECTED. IN ADDITION, ALL PRESSURE MAINS SHALL BE PIGGED IN THE PRESENCE OF THE CITY INSPECTOR PRIOR TO PLACING MAIN IN SERVICE.
19. PRIOR TO BACKFILL ALL MAINS AND APPURTENANCES SHALL BE INSPECTED AND APPROVED BY THE CITY OF TUMWATER. APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FOR CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND INSPECTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF TUMWATER FOR THE REQUIRED INSPECTIONS.

NOTE: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

THIS DRAWING DOES NOT REPRESENT A RECORD DOCUMENT, UNLESS CERTIFIED BY HATTON GODAT PANTIER.

ANY ALTERATIONS TO THE DESIGN SHOWN HEREON MUST BE REVIEWED AND APPROVED BY HATTON GODAT PANTIER.

THE DETAILS ON THIS SHEET WITH AN AGENCY TITLE BLOCK WERE PREPARED BY THE REVIEWING AGENCY AND WERE REQUIRED TO BE INCLUDED ON THIS PLAN BY SAID AGENCY. THE DESIGN ENGINEER MAKES NO WARRANTY AS TO THE SUITABILITY OR APPROPRIATENESS OF THOSE DETAILS. SOME AGENCY DETAILS ON THIS SHEET MAY HAVE BEEN MODIFIED TO SUIT DESIGN NEEDS AND HAVE BEEN NOTED AS SUCH.

DESIGNED BY: DWS
DRAWN BY: JEG
CHECKED BY: CPM
DATE: SEPT. 2024
SCALE: N/A
V N/A

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E, SUITE B
OLYMPIA, WA 98506
TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

TP # 1283231080, 1283231070

PRELIMINARY SEWER DETAILS

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

AGENCY NO.
SHEET: 9 OF 10
H:\DGN\21-000\21-102\PRELIMINARY
INDEX: 21-102 pre-det
JOB: 21-102

VISTA VIEWS AT BLACK LAKE

3825 58TH LN SW, OLYMPIA WA, 98512

LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
PRIMARY STREET TREES	Carpinus betulus 'Fastigiata' Acer grandidentatum 'Schmidt' Acer buergeranum Carpinus carolina 'Rising Fire' Acer platanoides 'Crimson Sentry'	Pyramidal European Hornbeam Rocky Mtn. Glow Maple Trident Maple Rising Fire American Hornbeam Crimson Sentry Maple	2" CAL.
ACCENT STREET TREES	Malus spp. Syringa reticula 'Ivory Silk' Malus 'Royal Raindrops' Malus 'Tschonoskii'	Raspberry/Ivory Spear Crab. Ivory Silk Japanese Tree Lilac Royal Raindrops Crabapple Tschonoskii Crabapple	2" CAL.
OPEN SPACE TREES	Calocedrus decurrens Thuja plicata 'Excelsa' Tsuga heterophylla Acer circinatum Rhamnus purshiana Cercidophyllum japonicum	Incense Cedar Excelsa Western Red Cedar Western Hemlock Vine Maple Cascara Tree Katsura Tree	6'-7' HT, B&B
NATIVE SHRUB MIX	Arctostaphylos uva-ursi Gaultheria shallon Mahonia aquifolium Symphoricarpos albus Vaccinium ovatum Holodiscus discolor Ribes sanguineum Mahonia aquifolium 'Compacta'	Kinnikinnick Salal Tall Oregon Grape Common Snowberry Evergreen Huckleberry Oceanspray Red Flowering Currant Compact Oregon Grape	1-3 GAL
TRACT C PARK AMENITIES	Bench Play Area & Structure		
HYDROSEED LAWN	OPEN SPACE & PLANTER STRIPS - PERENNIAL RYE MIX		

TREE SUMMARY

AS PER THE TREE PLAN BY PROFESSIONAL FORESTRY SERVICES, INC. DATED AUGUST 1, 2024

REQUIRED TREES: 12 TREES PER ACRE SHALL BE RETAINED.
GROSS SITE AREA = 54.36 AC X 12 = 653 TREES

TREES TO BE RETAINED:
TREES IN TREE TRACT A (13.39 ACRES) = 275
WITHIN TREE TRACT A <24" = 213
WITHIN TREE TRACT A 24" + = 28
WITHIN TREE TRACT A HABITAT TREES:
LIVE W/DEAD TOPS = 15
SNAGS = 19

MITIGATED TREES TO BE PLANTED WILL BE:
673-275 = 378 REQUIRED (1 TO 1 BASIS)
TOTAL TO BE REPLANTED - 404

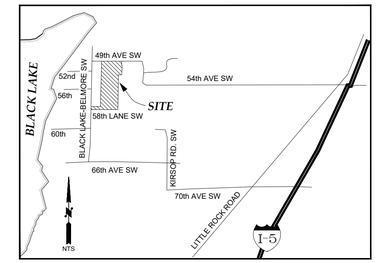
CITY OF TUMWATER

VERTICAL DATUM (NGVD 29)	MERIDIAN (HORIZ DATUM)
THURSTON COUNTY PHOTOGRAMMERTRY	THURSTON COUNTY HIGH PRECISION SURVEY CONTROL NETWORK. BASED ON CONTROL POINTS #7597 AND #6028 BEARING EQUALS NORTH 01°23'12" EAST

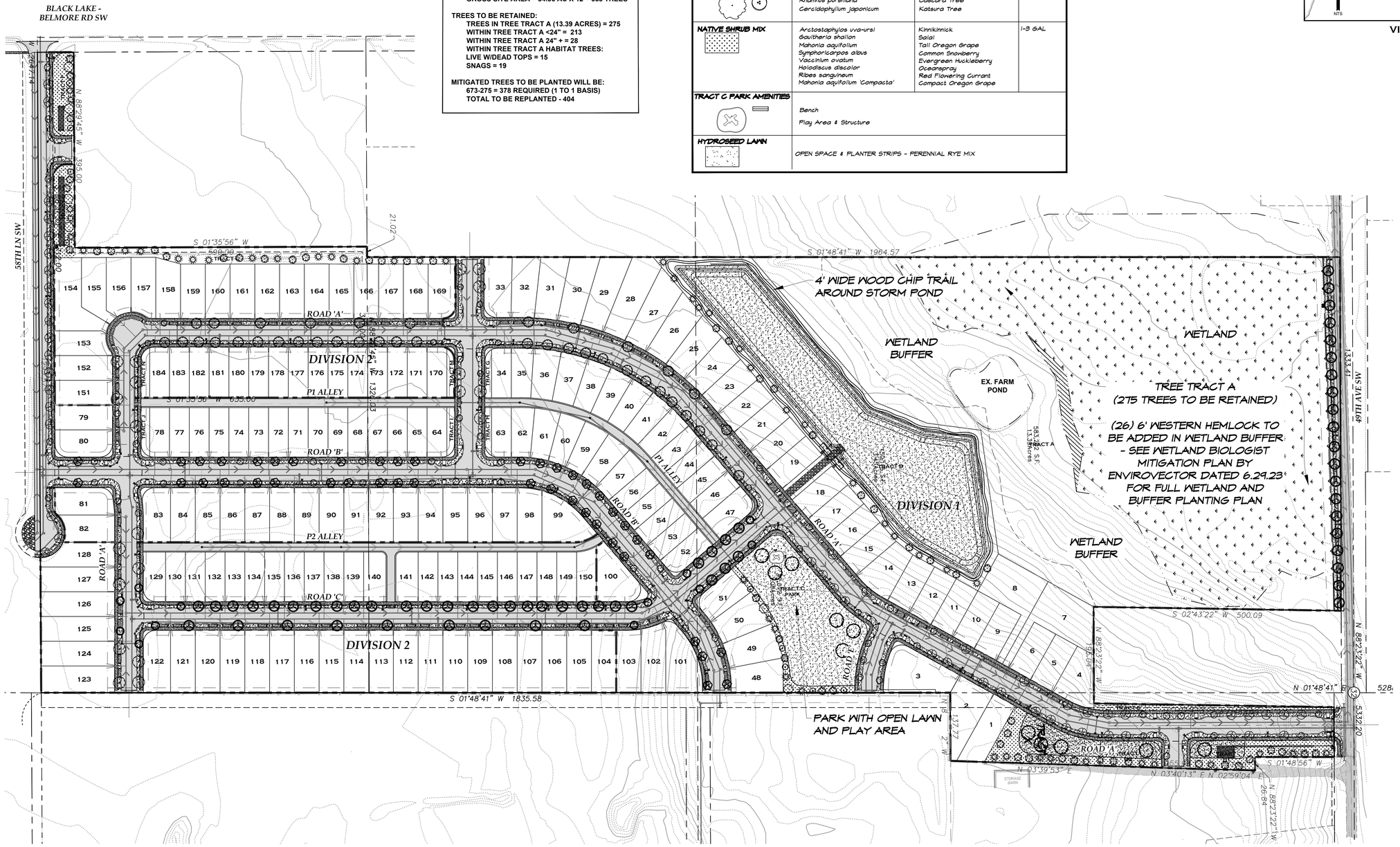
100 50 0 100 200
SCALE: 1" = 100'

PROJECT PROPONENT

ROB RICE
EVERGREEN HEIGHTS, LLC
1868 STATE AVENUE NE
OLYMPIA, WA 98506-4600
PH. (360) 754-7010



VICINITY MAP



TP # 1283231080, 1283231070

DESIGNED BY: DL
DRAWN BY: DL
CHECKED BY: CPM
DATE: SEPT 2024
SCALE: 1" = 100'
V

STATE OF WASHINGTON
DAVID LOUTHAN
NO. 2007258
EXP. 04/21/2025
LICENSED LANDSCAPE ARCHITECT

HATTON GODAT PANTIER
ENGINEERS AND SURVEYORS
3910 MARTIN WAY E. SUITE B
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TEL: 360.943.1599 FAX: 360.357.6299
hattonpantier.com

REVISIONS: DATE:

VISTA VIEWS AT BLACK LAKE
3825 58TH LN SW, OLYMPIA WA, 98512

PRELIMINARY
LANDSCAPE PLAN

A PORTION OF THE NE QUARTER OF THE SW QUARTER & SE QUARTER OF THE SW QUARTER & THE NW QUARTER OF THE SE QUARTER OF SECTION 32, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.

AGENCY NO.
SHEET: 10 OF 10
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INDEX: 21-102 lac2
JOB: 21-102