DUCKS UNLIMITED

US-WA-368-1 SUNNYSIDE WILDLIFE AREA BRADY UNIT

LOCATION MAP



NOT TO SCAL

WASHINGTON

VICINITY MAP



PROJECT LOCATION

Section: -Township: T 9 N Range: R 22 E Meridian: Willamette County: Yakima State: Washington

SURVEY DATUM

Horizontal: NAD 83 US State Plane Washington South Zone Vertical: NAVD88 Units: US Feet

MAP DATA

Contour Interval: 1 Foot

Aerial Photo: Google, NAIP

Unauthorized Changes & Uses The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.



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SHEET INDEX

1	Cover Sheet
2	Definitions & Legend
3	Site Plan
4	Details
5	Sections
6	Details & WCS Table

EMERGENCY CONTACT INFORMATION

In case of fire: CALL 911

PROJECT DIRECTORY

Ducks Unlimited, Inc. Pacific Northwest Office 11805 NE 99th St. Suite 1300 Vancouver Washington 98682 Ph. (360) 885-2011



90% DESIGN



Sunnyside State Wildlife Recreation Area Wetland Enhancement Project (Brady Unit)



Applicant: WDFW Location: Yakima County, WA Section/Township/Range: 26/ 9N / 22E Latitude/Longitude: 46.242; -120.026 Prepared by: Ducks Unlimited, Inc Date Prepared: March 2025

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Figure 2. Project Area Sunnyside State Wildlife Recreation Area Wetland Enhancement Project (Brady Unit) Applicant: WDFW



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GENERAL NOTES:

- 1. Ducks Unlimited makes no representations as to the existence or nonexistence of utilities. It is the responsibility of the contractor to comply with the provisions of all applicable utility notification regulations. The contractor will be liable for any damage to utilities caused by construction activities.
- 2. The engineer does not represent that the location of utilities shown on the plans are exact or complete. It shall be the responsibility of the contractor to determine the presence of, actual locations of and make provisions for all watercourses and utilities. The contractor shall verify location, depth and height. Their verification shall be coordinated by the contractor with the appropriate utility company.
- 3. The contractor shall exercise extreme caution when working in the vicinity of overhead power lines. Verify location in the field and protect in place.
- 4. At least 2 working days prior to beginning any digging or excavation work, the contractor shall notify underground service alert (a.k.a. USA North) at www.usanorth.org or by phone at 811 or 1-800-227-2600, to determine locations of existing utilities.
- 5. In accordance with generally accepted construction practices, the contractor will be solely and completely responsible for the conditions of the job site including safety of all persons and property during performance of the work. The contractor shall ensure that all work is performed in accordance with occupational safety laws, including the design and construction of proper shoring of trenches. The duties of the project engineer do not include review of the adequacy of the contractor's safety in, on, or near the job site.
- 6. It is the responsibility of the contractor to be knowledgeable about the project specifications and permits. All work shall be completed in compliance with the contract documents. The contractor shall have copies of the most current approved plans, specifications and permit conditions on site during all work operations.
- 7. The project site and adjacent areas contain sensitive habitat areas for protected wildlife, and may include endangered species. The contractor shall protect wildlife and water quality, and minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained on these plans or in the specifications, the contractor shall contact the construction manager for such further explanations as may be necessary.
- 9. Should the contractor find any discrepancies between the conditions existing in the field and the information shown on the drawings, he shall notify the construction manager before proceeding with construction.

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CTBM	Bench Mark (permanent)
CTBT	Bench Mark (temporary)
CTCP	Survey Control Point (permanent)
CTCT	Survey Control Point (temporary)
DIFL	Ditch Flowline
DIGB	Ditch Grade Break
DITO	Ditch Toe
DITP	Ditch Top
ELBX	Electric, Box or Pullbox
ELGY	Electric, Guy Wire
ELPP	Electric, Power Pole
ELSN	Electric, Warning Sign
ELTR	Electric, Transformer
ELTW	Electric, Tower
ELVT	Electric, Vault
FNAP	Fence Angle Point
FNCR	Fence Corner
FNGT	Fence Gate
FNLN	Fence Line
IRCO	Irrigation Concrete Pad
IRCP	Irrigation Control Panel
IRPI	Irrigation Pipe Invert
IRPM	Irrigation Pump
IRPT	Irrigation Pipe Top
IRVL	Irrigation Valve
IRWL	Irrigation Well
LVCL	Levee Centerline
LVGB	Levee Grade Break
LVTO	Levee Toe of Slope
LVTP	Levee Top of Slope
RDCL	Road, Centerline
RDED	Road, Edge of Dirt Road
RDEG	Road, Edge of Gravel Road
RDEP	Road, Edge of Paved Road
RDGB	Road Grade Break

ABBREV

AC APPROX

EL EX, EXIST

BREV	IATIONS
AB	Aggregate Base
AC	Acre
PPROX	Approximate
BM	Benchmark
CAP	Corrugated Aluminum Pipe
00	Center to Center
CF	Cubic Epot
CES	Cubic Foot Per Second
CL. 9	Centerline
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Arch Pipe
CONC	Concrete
CP	Control Point
CY	Cubic Yard
DEMO	Demolish
DIA, Ø	Diameter
Dp	Pipe Diameter
Dr	Riser Diameter
DU	Ducks Unlimited, Inc.
D/S	Downstream
E	East
EG	Existing Ground
EL	Elevation
, EXIST	Existing
FG	Finished Grade
FL	Flowline
FRG	Final Rough Grade
FI	Foot, Feet
FIG	Fitting, Footing
GA	Gauge
GB	Grade Break
	High-Density Polyethylene
	Half Pound
	Inside Diameter
IF	Invert Elevation
IG	Initial Grade
IN	Inch. Inches
INV	Invert
IPS	Iron Pipe Size
L	Length, Left
LBF	Pounds-Force
LF	Linear Feet
MAINT	Maintenance
MAX	Maximum

RDSH	Road Shoulder
RDSN	Road Sign
RDTO	Road, Toe of Slope
RDTP	Road, Top of Slope
SDMH	Storm Drain, Manhole
SDPI	Storm Drain, Pipe Invert
SDPT	Storm Drain, Pipe Top
SSMH	Sanitary Sewer, Manhole
SWFL	Swale Flowline
SWGB	Swale Grade Break
SWTO	Swale Toe
SWTP	Swale Top
TFBL	Topo Feature, Building
TFBR	Topo Feature, Brush
TFCO	Topo Feature, Concrete (pad, slab, etc.)
TFFL	Topo Feature, Flowline
TFGB	Topo Feature, Grade Break
TFGS	Topo Feature, Ground Shot
TFRK	Topo Feature, Rock Or Rocky Area Boundary
TFTL	Topo Feature, Tree line
TFTO	Topo Feature, Grade Break at Toe
TFTP	Topo Feature, Grade Break at Top
TFTR	Topo Feature, Tree
WAEW	Edge of Water
WAHW	High Water Mark
WAUW	Under Water Ground Shot
WAWS	Water Surface
WCFL	Water Control Structure, Flowline/Invert at Structur
WCFR	Water Control Structure, Frame Top
WCHW	Water Control Structure, Headwall
WCPI	Water Control Structure, Pipe Invert at Outlet
WCPT	Water Control Structure, Pipe Top at Outlet
WCST	Water Control Structure, Top of Structure
WCWW	Water Control Structure, Wing Wall

Minimum MISC Miscellaneous

New

North

NIC Not In Contract

Not To Scale

Outside Diameter

Pressure Treated PVC Polyvinyl Chloride

Pressure Irrigation Pipe

Pounds per Square Inch

Reinforced Concrete Box

Standard Dimension Ratio

To Be Determined by Engineer

Temporary Benchmark

Underground Service Alert

Width, West (where applicable)

Reference Dimension

On Center

Power Pole

MIN

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SPECS

QTY Quantity

Right

Road

Required Right Of Way

South

Sheet

STA Station

Special

Schedule

Stainless Steel

Square Feet

Specifications

Square Yard

Top Elevation

Top of Island

Top of Levee Top of Berm

Typical

Valve

Upstream

WCS Water Control Structure

Temporary

Standard

PIP

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Section Letter
Sheet Where — Section is Shown
Detail Number —





	LEGE	ND & STANDAR	D SYMBOLS (Symbols d	lo not represent actua	I scale / size of object)
		x	Existing Fence Line - Barbed Wire	-0-	Existing Power / Tel	ephone Pole
		o	Existing Fence Line - Chain Link	(Existing Electric Gu	y Wire
		0H	Power / Telephone Overhead Lines	s	Existing Electric Tra	nsformer
			Underground Gas Line	\bowtie	Existing Electric Tov	ver
	S	E	Electric Line	∇	Existing Electric Val	ılt
	Ž		Force Main Line	В	Existing Blind	
	0	SS	Sanitary Sewer Line	\bowtie	Existing Gate Valve	
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ky Area Boundary	Z		Existing Swale	_0_	Existing Sign	
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		CL	Existing Road - Gravel	ľ <u> </u>	Existing Water Cont	rol Structure
wline/lowest at Ot		HOULD	ER	·	רומוז Round)	
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e Top at Outlet		WCS01	Water Control Structure ID#		New Power Pole	
p or ຣtructure າg Wall			Revision Number Hard's	H	New Gate Valve	
	S	$\overline{1}$	INGVISION INUMBER IDENTIFIER	*	New Air Relief Valve	e
	L.	1 5553	Cut/Borrow Area / Pothole	۲	New Alfalfa / Overflo	ow Valve
	Ö	22221 200000	Fill Area		New Irrigation Pump)
WS Water Surface			i m Alea	1	New Water Control	Structure
WSEL Water Surface Elevation	Z				New Water Control	Structure
WWF Welded Wire Fabric	7.5		Ditch Cleaning		New Agri-Drain Inlin Structure	e Water Control
X:1 Slope, Horizontal:Vertical	<u> </u>		New Ditch Centerline / Flowline		Benchmark	
	Z		New Swale Centerline / Flowline	₹ 	Temporary Benchm	ark
	9	****	Regrade Existing Swale	Ý	Control Point	
	S		New Levee Centerline	4		
	<u> </u>		Improved Levee Centerline		Grading Example	
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Unauthorized Changes & Uses
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200 400 HORIZONTAL SCALE

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STRUCTURAL NOTES:

- 1. WATER CONTROL STRUCTURE SHALL BE LOCATED AND ORIENTED AS DIRECTED BY THE ENGINEER.
- 2. CONCRETE SLAB FOUNDATION SHALL BE ON FIRM UNDISTURBED EARTH. OVER-EXCAVATION SHALL BE BACKFILLED AND COMPACTED TO 90% OPTIMUM DENSITY.
- 3. SEE SHEET S03.
- 4. REINFORCING STEEL SHALL BE NEW, CLEAN DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60. FABRICATION SHALL BE IN ACCORDANCE WITH ACI-315. LAP SPLICES SHALL BE A MINIMUM OF 32 DIAMETERS UNLESS OTHERWISE SHOWN.
- MISCELLANEOUS EMBEDDED STEEL ITEMS SHALL BE FABRICATED FROM A-36 STEEL. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 WITH E-60 ELECTRODES. ALL MISCELLANEOUS STEEL ITEMS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION PER ASTM A-153.
- 6. PRECASTOR SHALL SUBMIT SHOP DRAWINGS WITH REBAR LAYOUT TO ENGINEER.
- 7. FABRICATOR SHALL SUPPLY ONE (1) SET OF WOOD STOPLOGS PER STRUCTURE. 8. CANAL GATE SHALL BE WATERMAN C-20 FLATBACK GATE OR APPROVED EQUAL.

GENERAL WATER CONTROL STRUCTURE NOTES:

- 1. CONTRACTOR SHALL UNIFORMLY GRADE BACKFILL TO BLEND INTO EXISTING GROUND.
- 2. STRUCTURES SHALL BE SET TO GRADE AS SPECIFIED IN THE WATER CONTROL STRUCTURE TABLE.
- 3. BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS.
- 4. CONSTRUCT STRUCTURE FOUNDATION PER SECTION A/15.

PIPE INSTALLATION NOTES:

- 1. ALL MATERIAL TO BE USED FOR PIPE BED PREPARATION AND BACKFILL WILL BE SUITABLE SITE MATERIAL.
- 2. THE CONTRACTOR SHALL COMPACT THE IN-SITU MATERIAL BELOW THE INVERT ELEVATIONS PRIOR TO ASSEMBLY AND ERECTION OF THE PIPE. THIS BED SHALL BE FULLY LEVELED AND COMPACTED THROUGHOUT THE FULL WIDTH AND LENGTH OF THE TRENCH AND TO THE EXACT GRADE AS SPECIFIED, SO THAT THE BARREL OF THE PIPE SHALL BE UNIFORMLY AND EVENLY SUPPORTED THROUGHOUT ITS ENTIRE LENGTH.
- 3. INITIAL BACKFILL SHALL BE DEPOSITED IN HORIZONTAL, UNIFORM LAYERS NOT EXCEEDING SIX (6) INCHES IN THICKNESS BEFORE COMPACTION, AND EACH LAYER SHALL BE THOROUGHLY COMPACTED THROUGHOUT TO ENSURE THOROUGH TAMPING OF BACKFILL UNDER THE HAUNCHES AND AROUND THE PIPE. THIS IS TO BE ACHIEVED BY HAND COMPACTION FOR A DISTANCE OF TWO (2) FEET FROM THE PIPE CIRCUMFERENCE. HAND COMPACTION OF FILL MATERIAL SHALL BE ACCOMPLISHED BY THE APPLICATION OF FILL MATERIAL SHALL BE ACCOMPLISHED BY THE APPLICATION OF MOTOR DRIVEN HAND TAMPERS OR OTHER APPROVED EQUIPMENT IN SUCH A MANNER THAT EVERY POINT OF THE SURFACE OF EACH LAYER WILL BE COMPACTED.
- 4. AFTER THE ABOVE INITIAL BACKFILLING HAS BEEN COMPLETED AND APPROVED, THE REMAINING BACKFILL, CONSISTING OF SUITABLE SITE MATERIAL, SHALL BE PLACED IN LAYERS NOT EXCEEDING EIGHT (8) INCHES BEFORE COMPACTION. EACH LAYER SHALL BE COMPACTED BY MECHANICAL MEANS TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING UNEXCAVATED MATERIAL.





PROFILE - Gravel Road Alignment (Sta. 0+00.00 to Sta. 10+36.95)



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- ADD GRAVEL SURFACE ELEV = 654.0

8+	00					94	+00					10+	-00	10-	+37
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	WATER CONTROL STRUCTURE TABLE												
WCS#	DIKE TOP EL (TOD)	MAX WATER CELL (WS)	RISER TOP EL (TP)	BASE EL (BS)	PIPE INVERT (IE)	RISER HEIGHT (H) FT	RISER WIDTH (Dr) IN	RISER HEADWALL WIDTH (HW) IN	LENGTH OF PIPE (L) FT	PIPE DIAMETER INSIDE (Dp) IN	SAND COLLAR	INLET - EROSION CO ROCK (CY)	
WCS01	654.5	653.5	654.5	646.2±	647.0	7.5	60	24	50	48	YES	8	







- 1. STONES SHALL BE FREE OF OVERBURDEN, SPOIL, SHALE, AND ORGANIC MATERIAL 2. ALL ROCK RIPRAP SHALL BE COMPOSED OF HARD, DURABLE, SOUND PIECES.

100

50-80

20-50

- 3. ROCK RIPRAP SHALL BE HARD, ANGULAR ROCK, AND MAXIMUM ROCK DIMENSION SHALL BE NO
- GREATER THAN THREE (3) TIMES THE MINIMUM DIMENSION. 4. EACH LOAD OF ROCK RIPRAP SHALL BE WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE SPECIFIED.
- 5. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION.



TYPICAL SECTION

EXCAVATION AND ISLAND

SCALE AS SHOWN

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