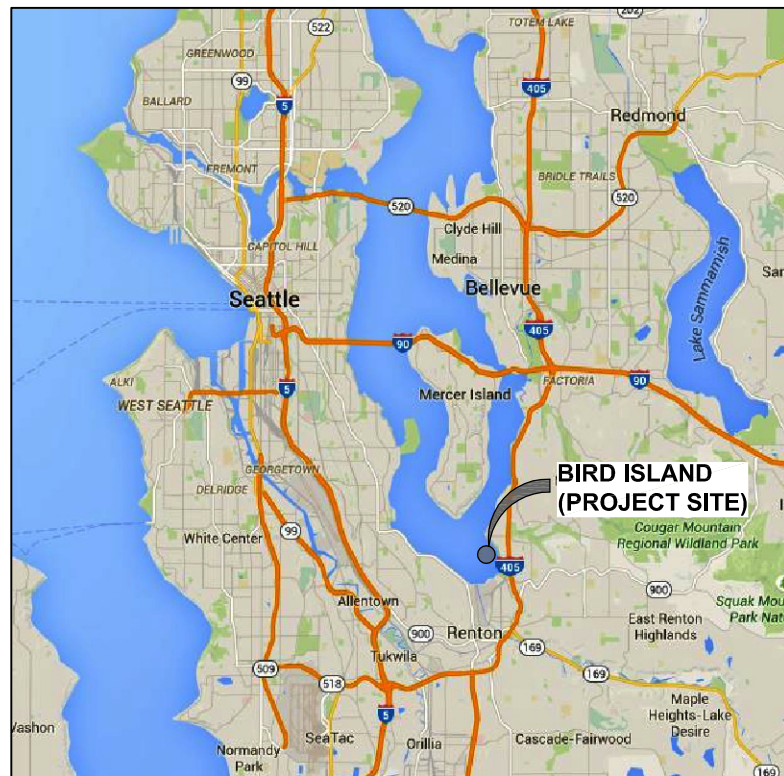


BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK

MAY 2017



VICINITY MAP



AERIAL PHOTO

SHEET INDEX	
TITLE	No.
PND ENGINEERS	
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APS SURVEYING	
SITE SURVEY 1 of 2	1
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DIGITAL SIGNATURE:

THIS DRAWING SET WAS CREATED AS AN ELECTRONIC DOCUMENT. IF THE ELECTRONIC DOCUMENT DOES NOT INCLUDE A VERIFIABLE DIGITAL SIGNATURE IN THE BOX ABOVE, PLEASE CONTACT THE ENGINEER OF RECORD FOR THE ORIGINAL CERTIFIED ELECTRONIC DOCUMENT.

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5-31-2017

REVISIONS		
REV	DATE	DESCRIPTION

100% DESIGN			
BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK			
TITLE SHEET AND INDEX			
DESIGNED BY:	AD	PROJECT NO:	154031.01
DRAWN BY:	DM	DATE:	MAY 2017
CHECKED BY:	SR	SCALE:	NOTED
SHEET NO:			1 OF 15

5/31/17 DMCDONALD K:\2015\154031 - BIRD ISLAND\MARINE - 100% DESIGN\154031.01-01_COVER SHEET.DWG

5/24/17 DMCDONALD K:\2015\154031 - BIRD ISLAND\MARINE - 100% DESIGN\154031_01-02_EX-COND-IESC.DWG

LEGEND

- TURBIDITY CURTAIN
- PROPERTY LINE
- WETLAND BORDER
- EXISTING TREE
- EXISTING VEGETATION
- DEBRIS REMOVAL AREA
- ORDINARY HIGH WATER (EL. 21.7')
- ORDINARY LOW WATER (EL. 20.0')
- DETAIL MARKER
A: DETAIL NUMBER
B: CALLED OUT ON SHEET #
C: DETAILED ON SHEET #

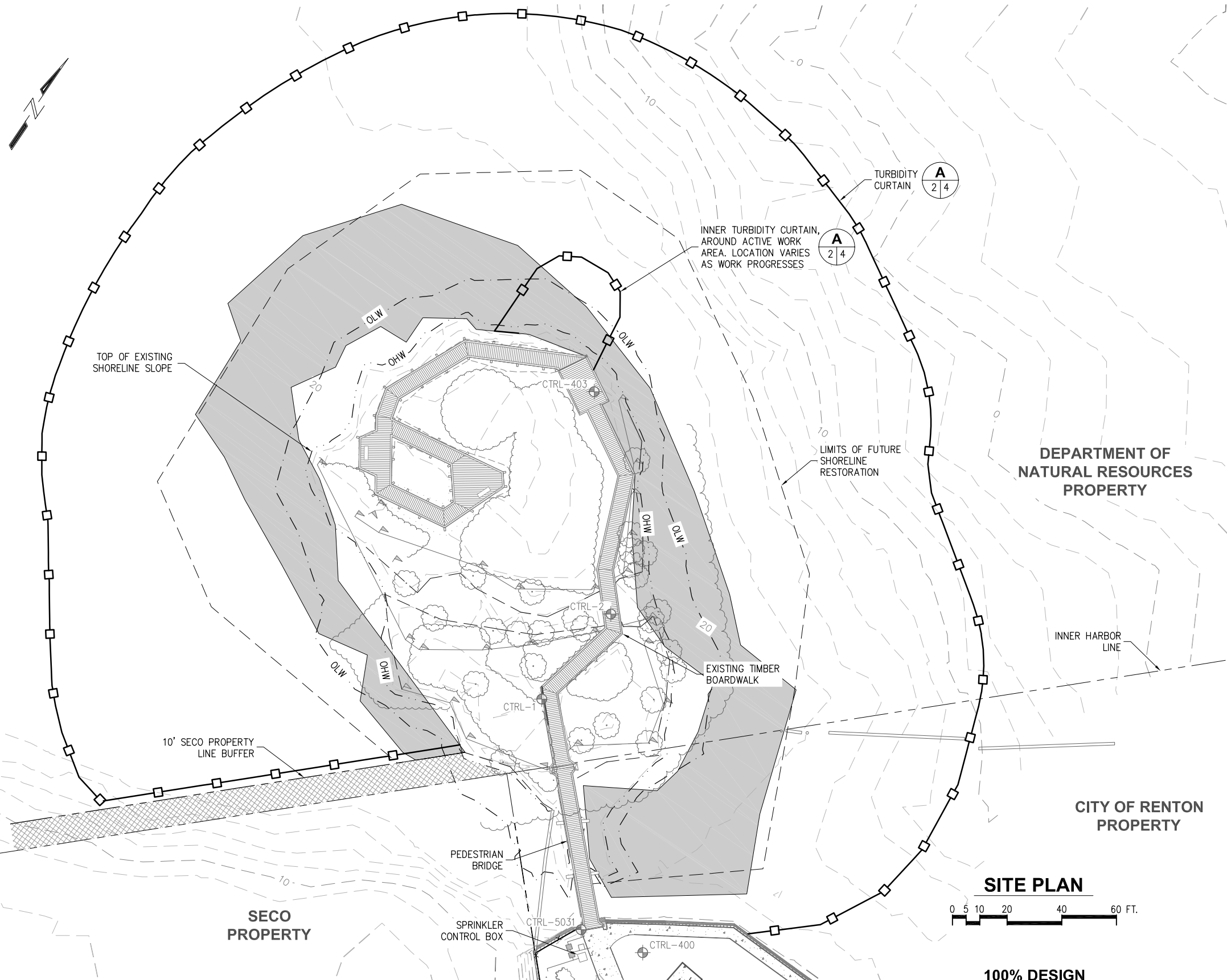


DEPARTMENT OF
NATURAL RESOURCES
PROPERTY

DEPARTMENT OF
NATURAL RESOURCES
PROPERTY

CITY OF RENTON
PROPERTY

SECO
PROPERTY



SITE PLAN

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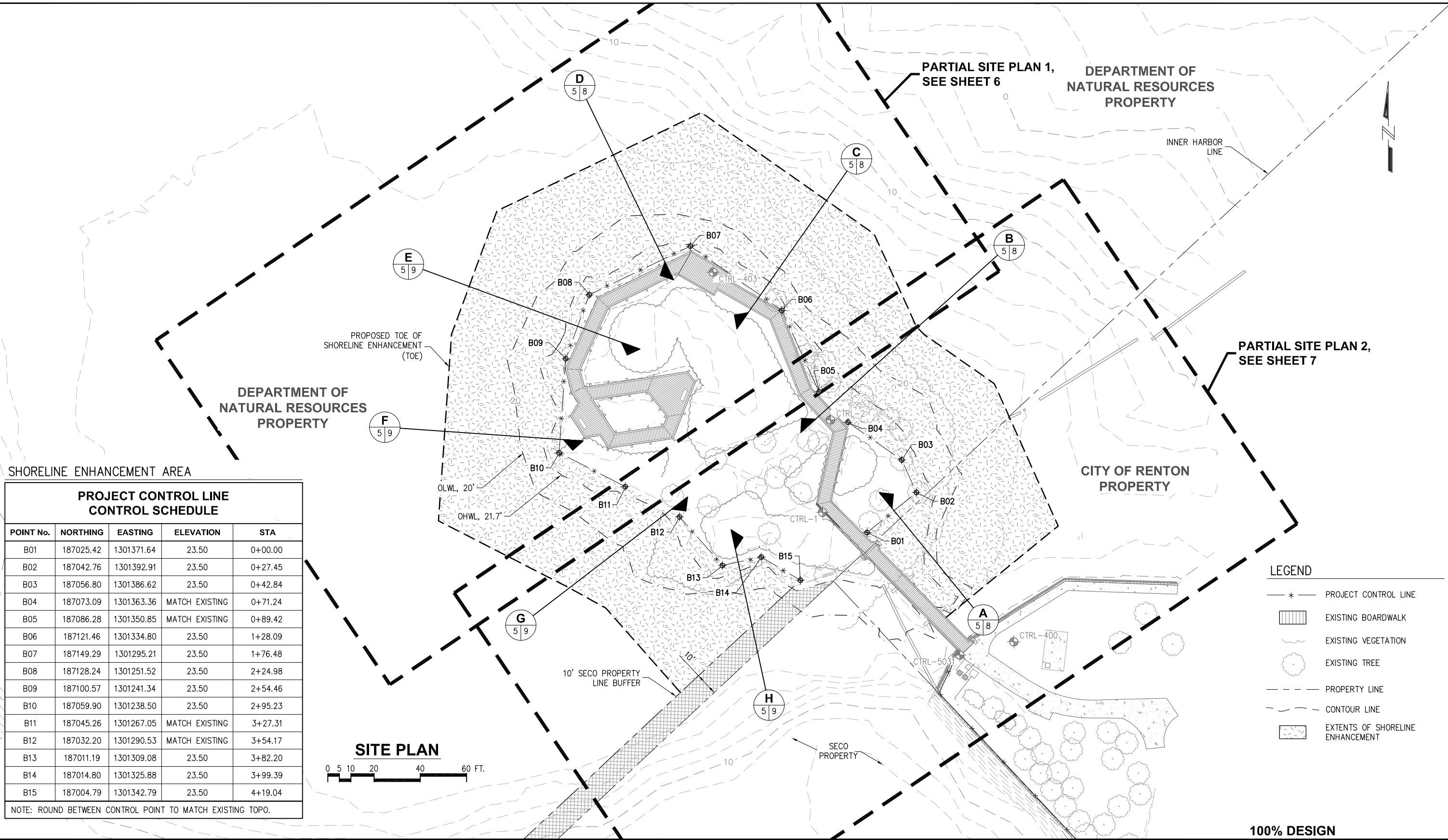
REVISIONS		
REV	DATE	DESCRIPTION

BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK

TITLE: **EXISTING CONDITIONS AND TESC PLAN**

DESIGNED BY: AD	PROJECT NO: 154031.01	SHEET NO:
DRAWN BY: DM	DATE: MAY 2017	2 OF 15
CHECKED BY: SR	SCALE: NOTED	

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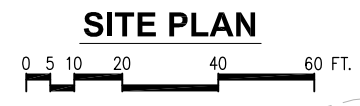


SHORELINE ENHANCEMENT AREA

PROJECT CONTROL LINE CONTROL SCHEDULE

POINT No.	NORTHING	EASTING	ELEVATION	STA
B01	187025.42	1301371.64	23.50	0+00.00
B02	187042.76	1301392.91	23.50	0+27.45
B03	187056.80	1301386.62	23.50	0+42.84
B04	187073.09	1301363.36	MATCH EXISTING	0+71.24
B05	187086.28	1301350.85	MATCH EXISTING	0+89.42
B06	187121.46	1301334.80	23.50	1+28.09
B07	187149.29	1301295.21	23.50	1+76.48
B08	187128.24	1301251.52	23.50	2+24.98
B09	187100.57	1301241.34	23.50	2+54.46
B10	187059.90	1301238.50	23.50	2+95.23
B11	187045.26	1301267.05	MATCH EXISTING	3+27.31
B12	187032.20	1301290.53	MATCH EXISTING	3+54.17
B13	187011.19	1301309.08	23.50	3+82.20
B14	187014.80	1301325.88	23.50	3+99.39
B15	187004.79	1301342.79	23.50	4+19.04

NOTE: ROUND BETWEEN CONTROL POINT TO MATCH EXISTING TOPO.



LEGEND

- * — PROJECT CONTROL LINE
- [Hatched Box] EXISTING BOARDWALK
- [Wavy Line] EXISTING VEGETATION
- [Tree Symbol] EXISTING TREE
- PROPERTY LINE
- - - CONTOUR LINE
- [Shaded Area] EXTENTS OF SHORELINE ENHANCEMENT

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BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK

TITLE: **SHORELINE ENHANCEMENT PLAN**

DESIGNED BY: AD	PROJECT NO: 154031.01	SHEET NO:
DRAWN BY: DM	DATE: MAY 2017	5 OF 15
CHECKED BY: SR	SCALE: NOTED	

5/31/17 DMCDONALD K:\2015\154031 - BIRD ISLAND\MARINE - 100% DESIGN\154031.01-07-PARTIAL SITE PLAN 2.DWG



SITE PLAN
0 5 10 20 30 FT.

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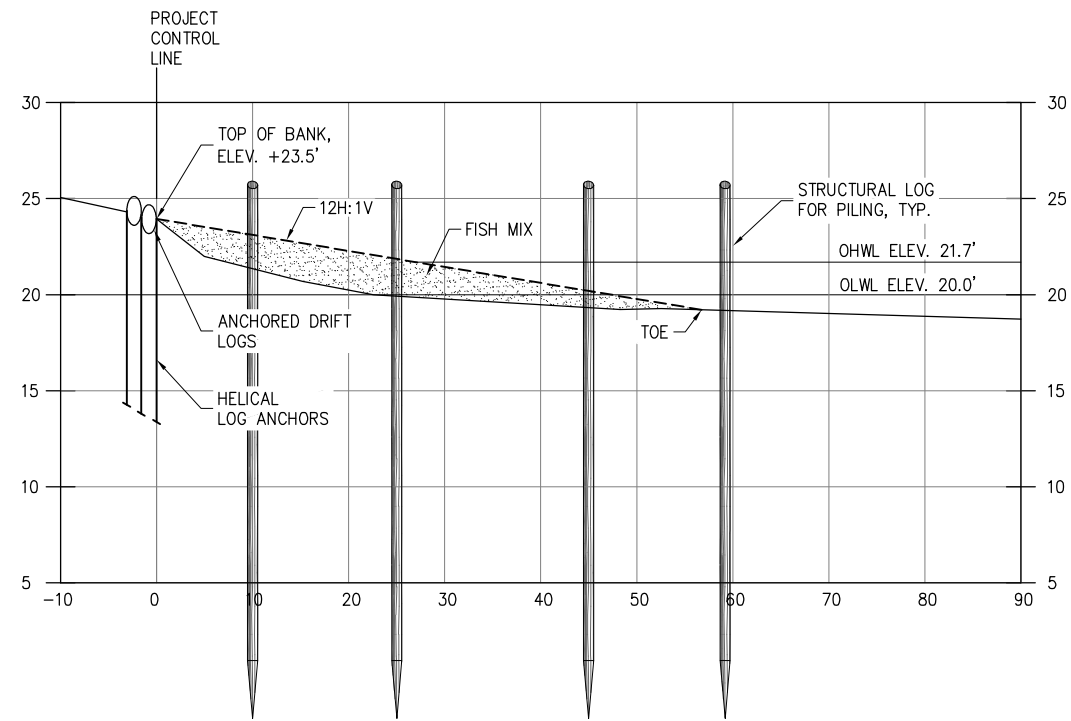


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BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK

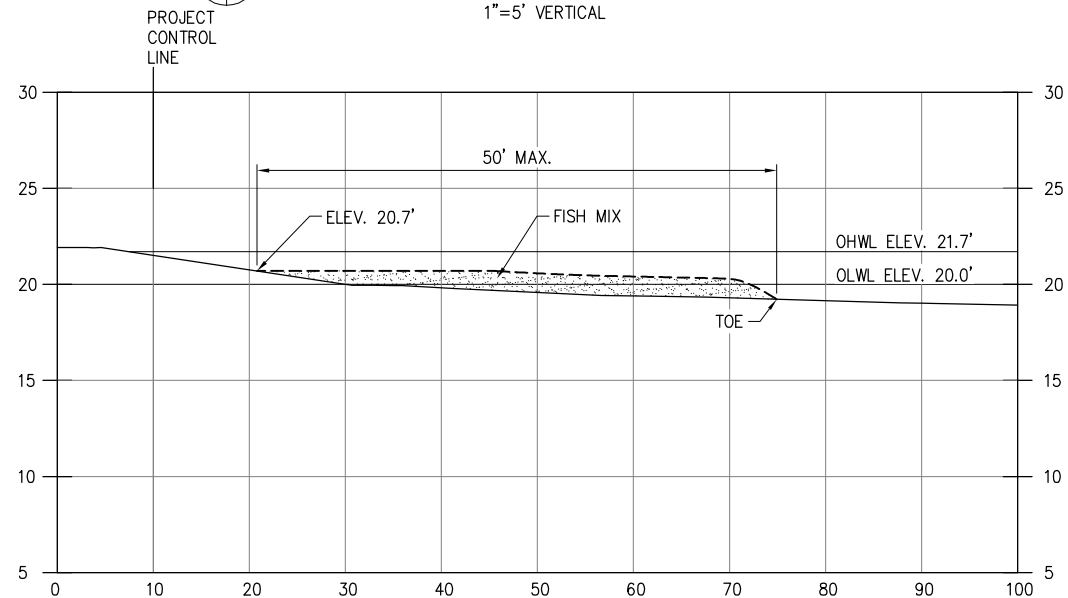
TITLE: **SHORELINE PARTIAL SITE PLAN 2**

DESIGNED BY: AD	PROJECT NO: 154031.01	SHEET NO: 7 OF 15
DRAWN BY: DM	DATE: MAY 2017	
CHECKED BY: SR	SCALE: NOTED	



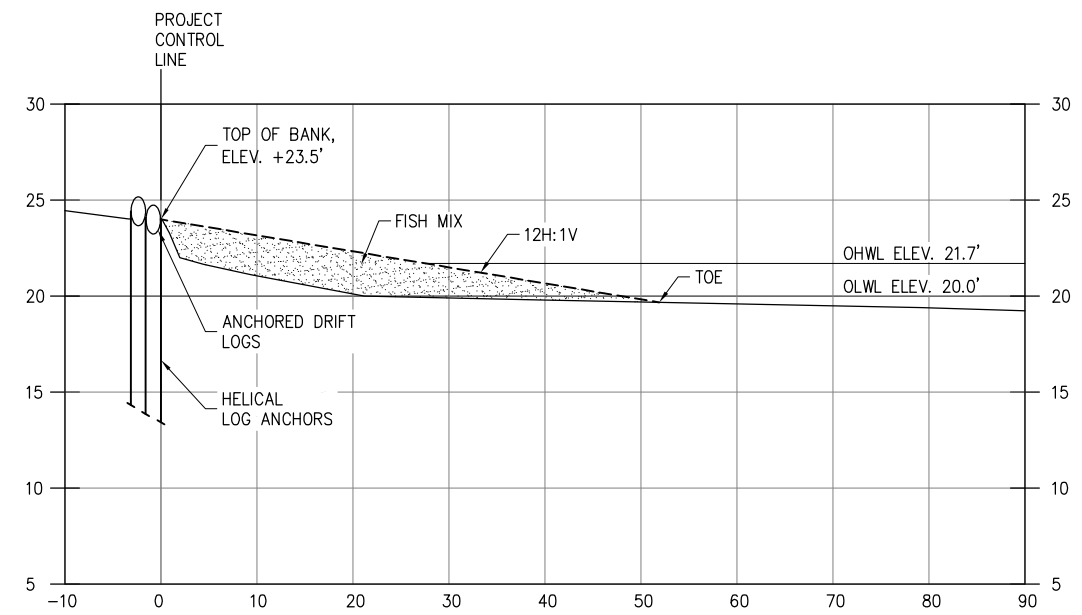
E SHORELINE SECTION - STA 2+39.49

5 | 9
1"=10' HORIZONTAL
1"=5' VERTICAL



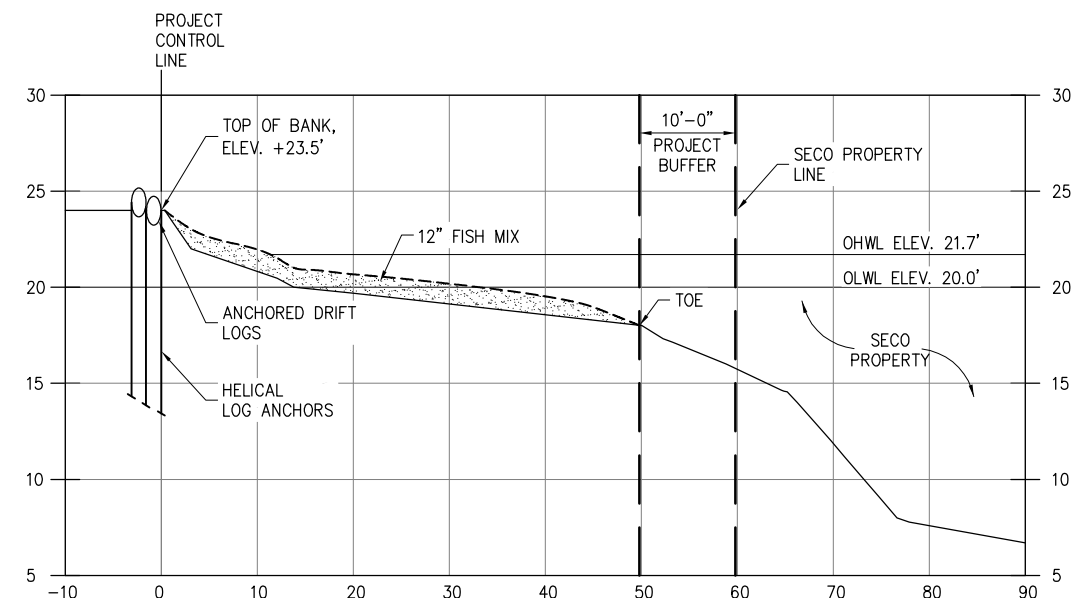
G SHORELINE SECTION - STA 3+49.08

5 | 9
1"=10' HORIZONTAL
1"=5' VERTICAL



F SHORELINE SECTION - STA 2+89.41

5 | 9
1"=10' HORIZONTAL
1"=5' VERTICAL



H SHORELINE SECTION - STA 3+89.17

5 | 9
1"=10' HORIZONTAL
1"=5' VERTICAL

100% DESIGN

**BIRD ISLAND SHORELINE ENHANCEMENT
PROJECT PHASE 2 - MARINE WORK**

TITLE:
SHORELINE SECTIONS 5 TO 8

DESIGNED BY:	AD	PROJECT NO:	154031.01	SHEET NO:
DRAWN BY:	DM	DATE:	MAY 2017	9 OF 15
CHECKED BY:	SR	SCALE:	NOTED	

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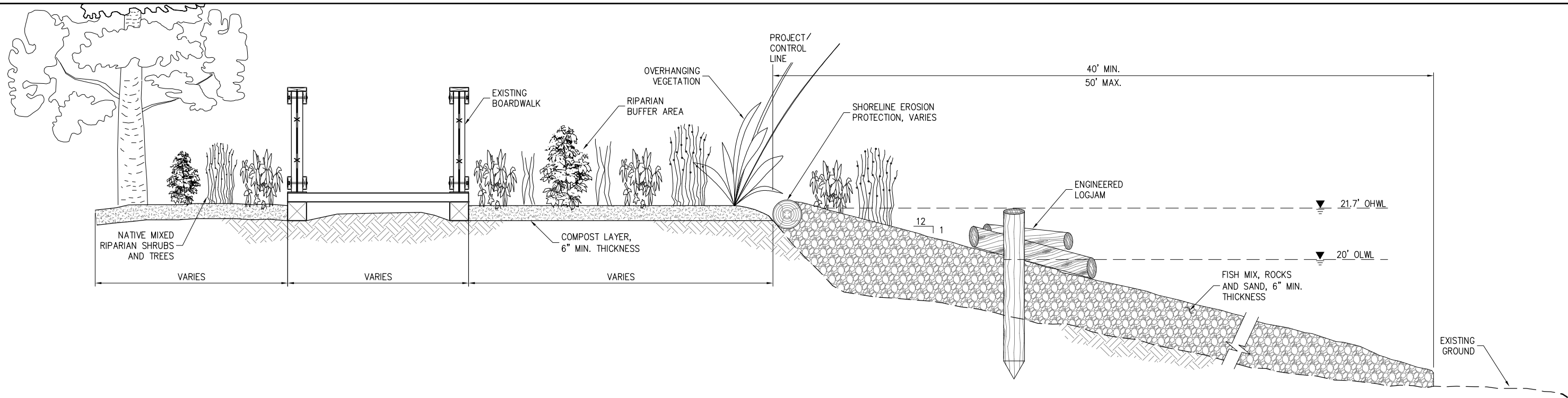


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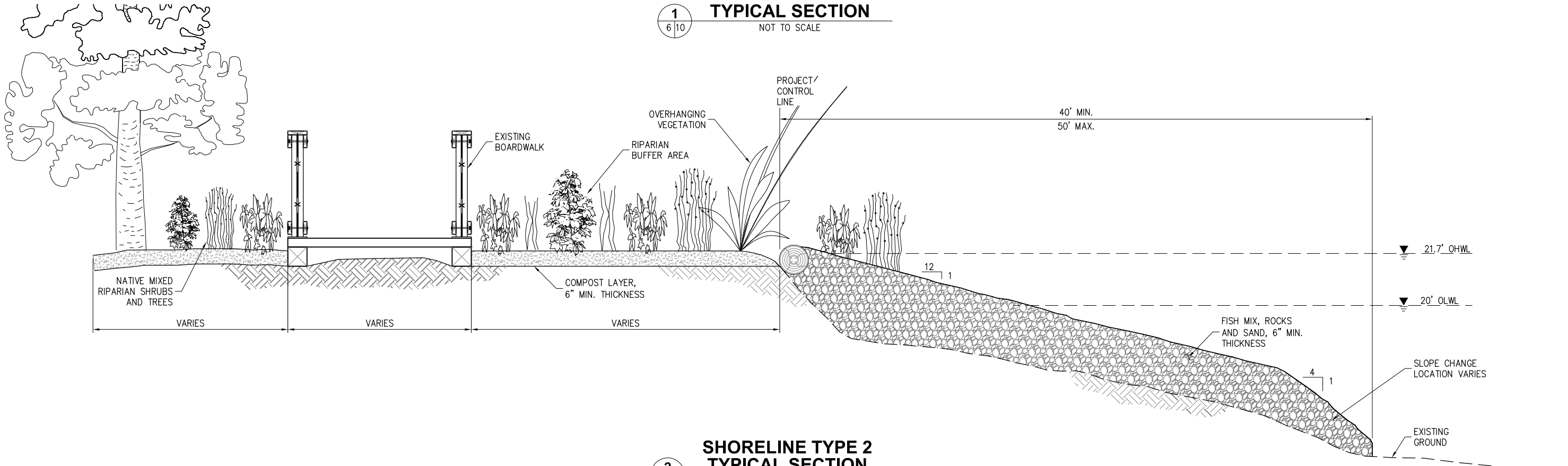
5/24/17 DMCDONALD K:\2015\154031 - BIRD ISLAND\MARINE - 100% DESIGN\154031_01-10_TYP_SHORELINE_SECTIONS.DWG



**SHORELINE TYPE 1
TYPICAL SECTION**

1
6/10

NOT TO SCALE



**SHORELINE TYPE 2
TYPICAL SECTION**

2
6/10

NOT TO SCALE

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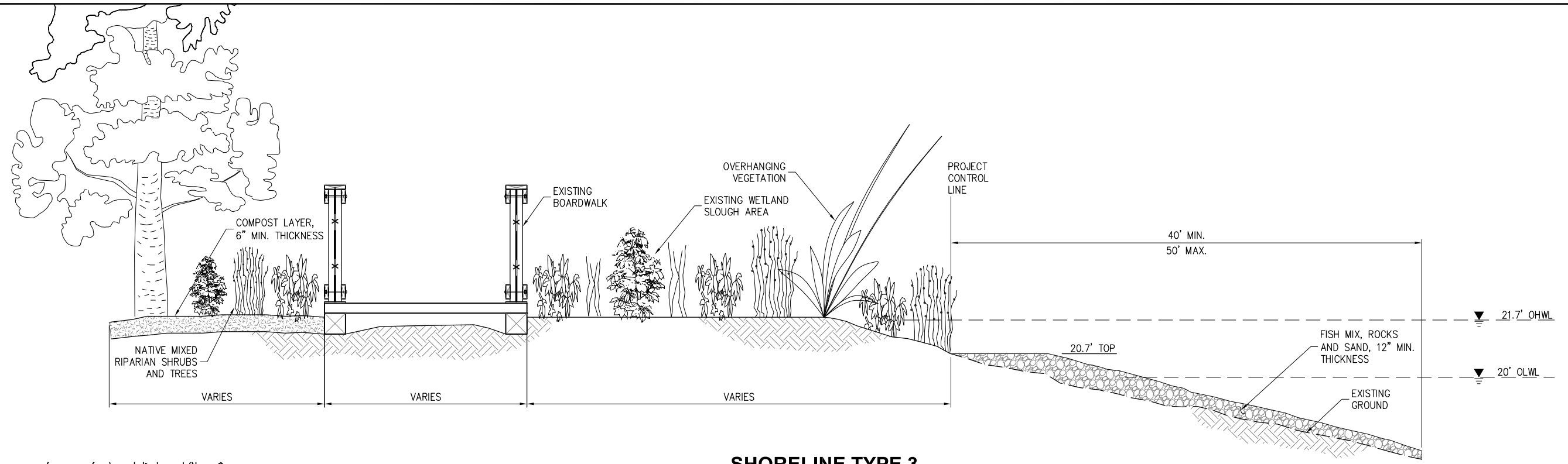
REVISIONS		
REV	DATE	DESCRIPTION

**BIRD ISLAND SHORELINE ENHANCEMENT
PROJECT PHASE 2 - MARINE WORK**

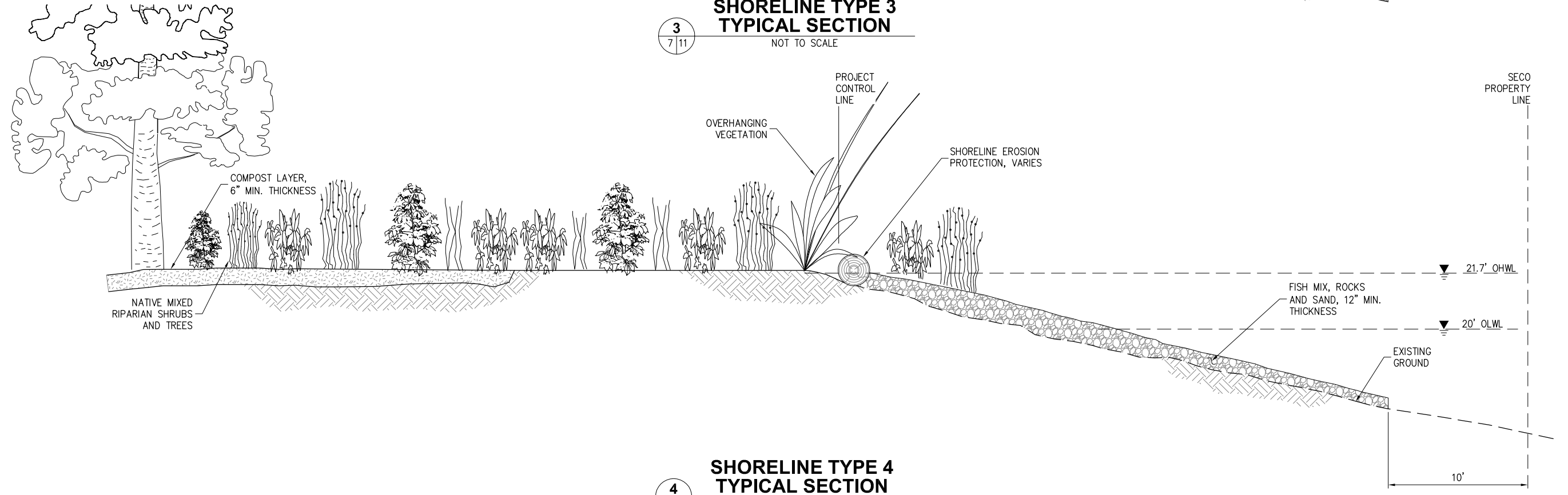
TITLE:
TYPICAL SHORELINE DETAILS 1 OF 2

DESIGNED BY:	AD	PROJECT NO:	154031.01	SHEET NO:
DRAWN BY:	DM	DATE:	MAY 2017	10 OF 15
CHECKED BY:	SR	SCALE:	NOTED	

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3
7 | 11
SHORELINE TYPE 3
TYPICAL SECTION
NOT TO SCALE



4
7 | 11
SHORELINE TYPE 4
TYPICAL SECTION
NOT TO SCALE

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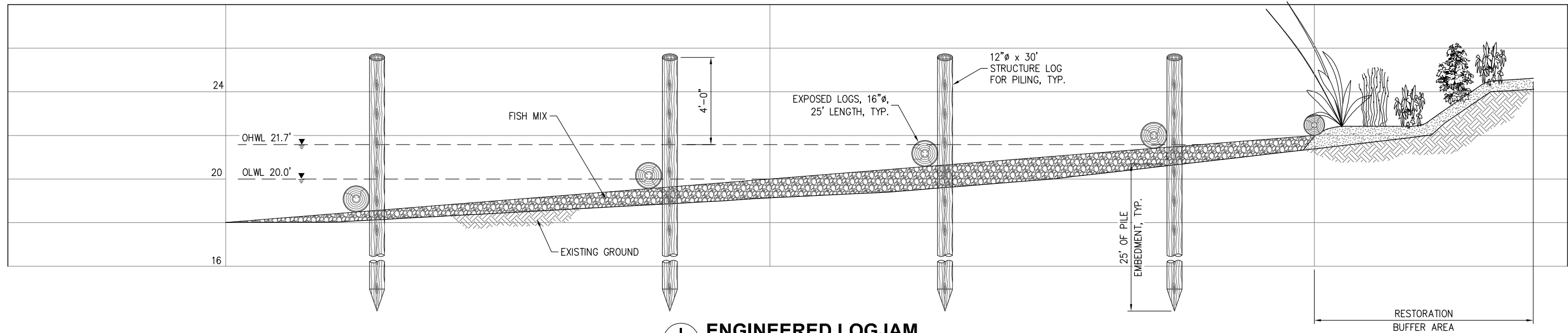


REVISIONS		
REV	DATE	DESCRIPTION

BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK

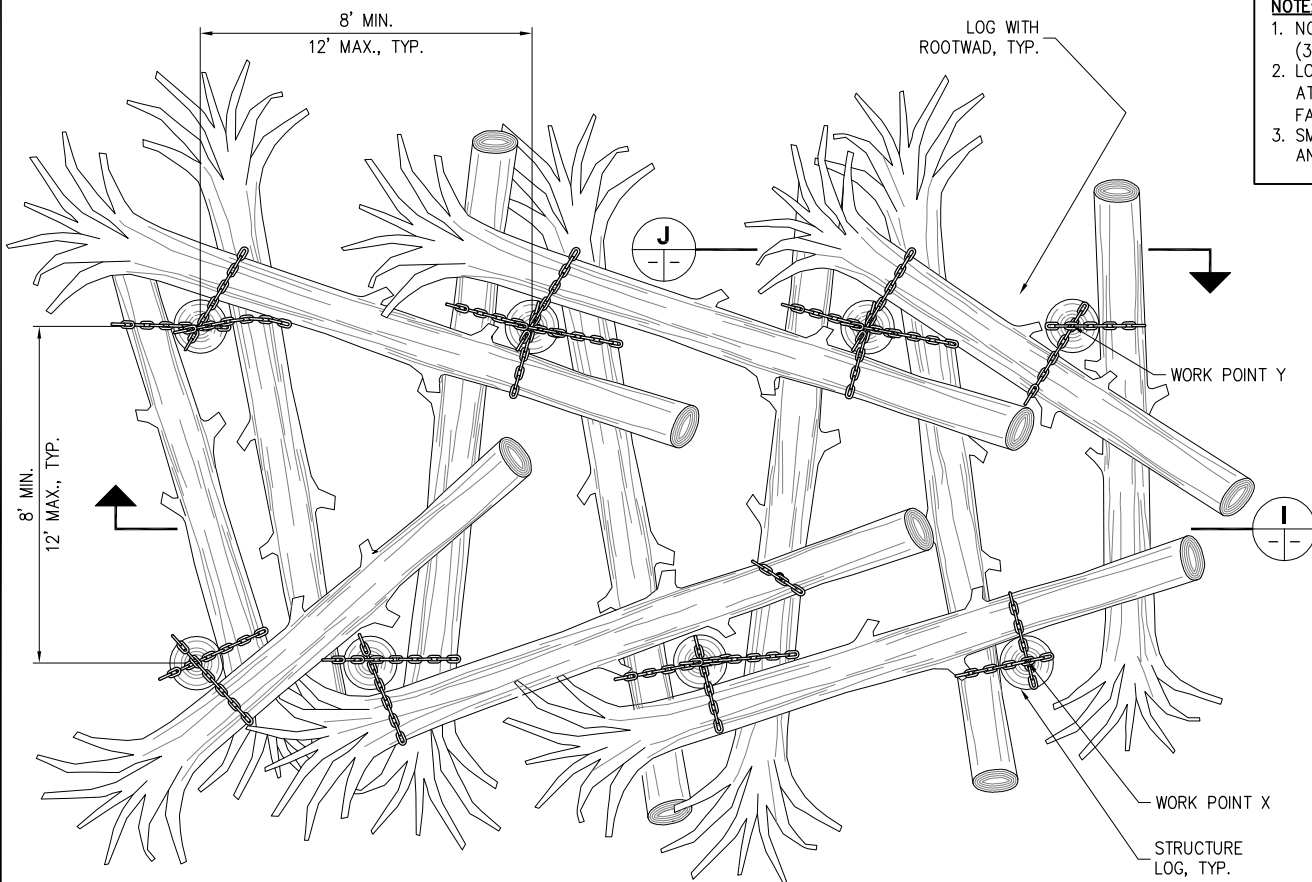
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DESIGNED BY: AD	PROJECT NO: 154031.01	SHEET NO:
DRAWN BY: DM	DATE: MAY 2017	11 OF 15
CHECKED BY: SR	SCALE: NOTED	

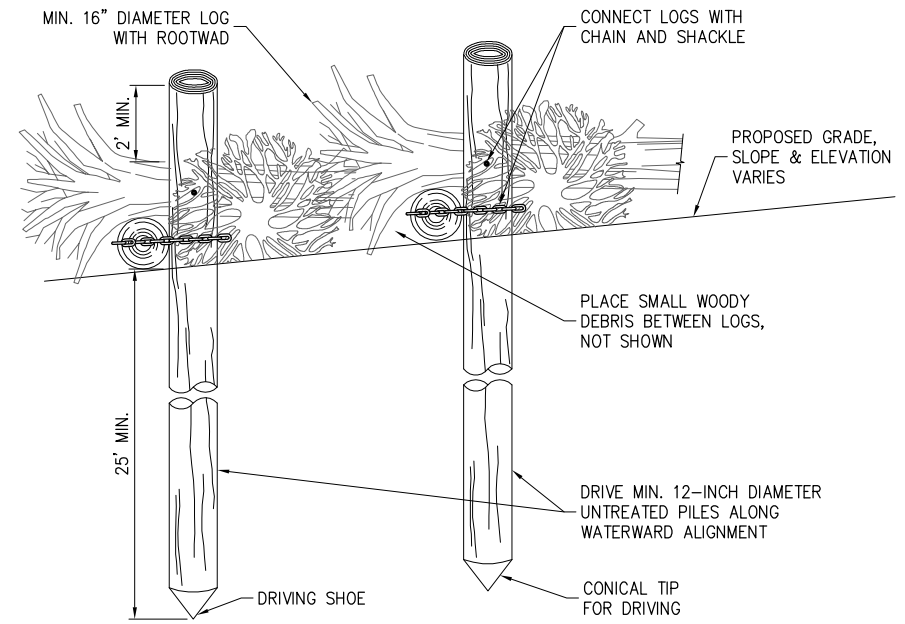


I ENGINEERED LOGJAM

- NOTE:**
1. NO EXPOSED LOGS SHALL BE PLACED BELOW 18.7' (3' BELOW OHWL)
 2. LOGS SHALL BE FASTENED TO A PILE OR OTHER LOG AT A MINIMUM OF 2 PLACES. (ONE POSSIBLE FASTENING SYSTEM SHOWN)
 3. SMALL WOODY DEBRIS SHALL BE PLACED BETWEEN AND UNDER LOGS IN THE LOGJAM.



8 ENGINEERED LOGJAM PLAN VIEW
NOT TO SCALE



J ENGINEERED LOGJAM
NOT TO SCALE

100% DESIGN

5/24/17 DMCDONALD K: 12015154031 - BIRD ISLAND MARINE - 100% DESIGN 154031:01-13_ENGINEERED LOGJAM.DWG

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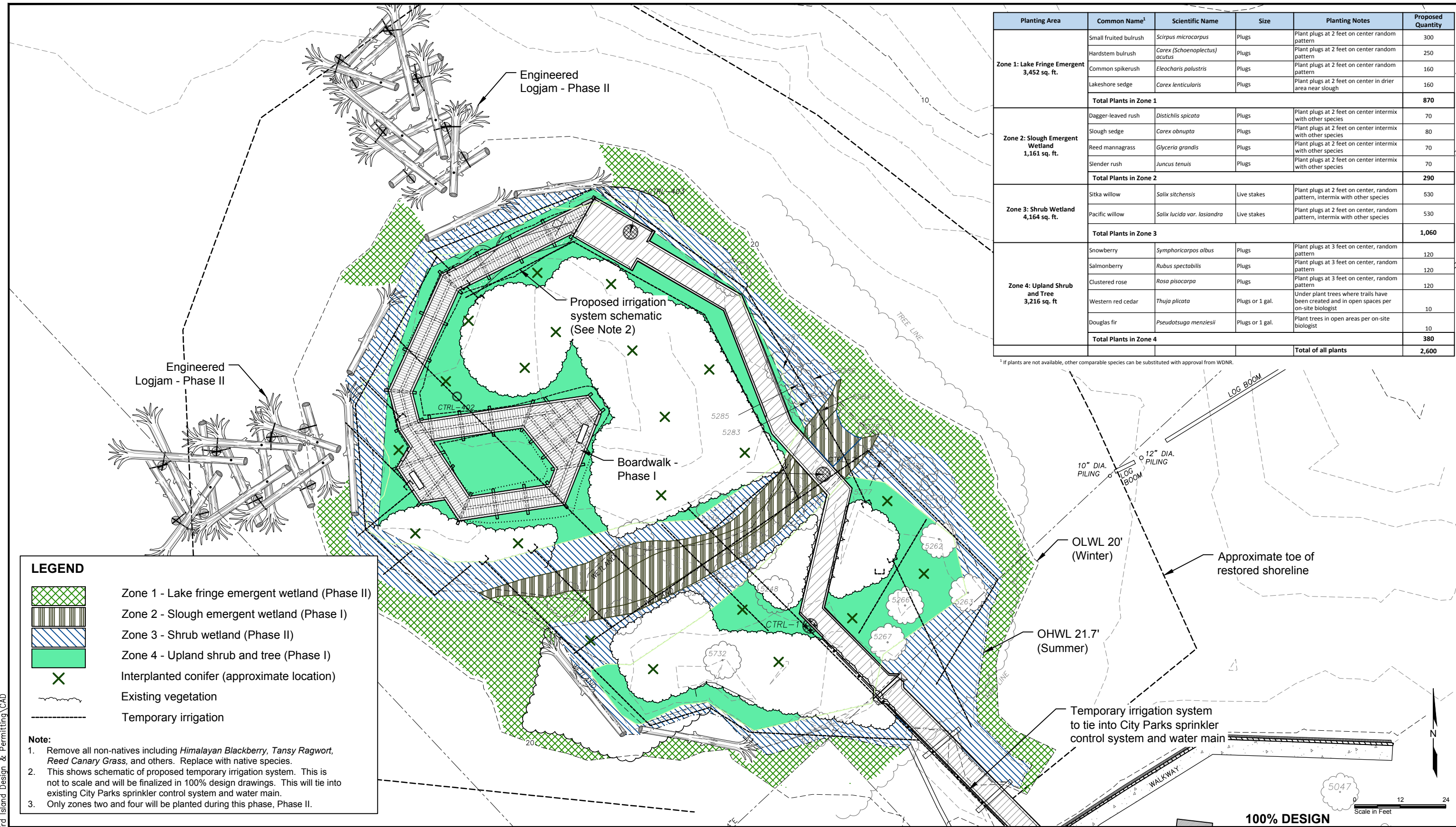
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REV	DATE	DESCRIPTION

BIRD ISLAND SHORELINE ENHANCEMENT PROJECT PHASE 2 - MARINE WORK			
TITLE: ENGINEERED LOGJAM DETAILS			
DESIGNED BY: AD	PROJECT NO: 154031.01	SHEET NO: 13 OF 15	
DRAWN BY: DM	DATE: MAY 2017		
CHECKED BY: SR	SCALE: NOTED		

9/26/16 NOTEBOOKS\1213233_PND Bird Island Design & Permitting\CAD



Planting Area	Common Name ¹	Scientific Name	Size	Planting Notes	Proposed Quantity
Zone 1: Lake Fringe Emergent 3,452 sq. ft.	Small fruited bulrush	<i>Scirpus microcarpus</i>	Plugs	Plant plugs at 2 feet on center random pattern	300
	Hardstem bulrush	<i>Carex (Schoenoplectus) acutus</i>	Plugs	Plant plugs at 2 feet on center random pattern	250
	Common spikerush	<i>Eleocharis palustris</i>	Plugs	Plant plugs at 2 feet on center random pattern	160
	Lakeshore sedge	<i>Carex lenticularis</i>	Plugs	Plant plugs at 2 feet on center in drier area near slough	160
Total Plants in Zone 1					870
Zone 2: Slough Emergent Wetland 1,161 sq. ft.	Dagger-leaved rush	<i>Distichlis spicata</i>	Plugs	Plant plugs at 2 feet on center intermix with other species	70
	Slough sedge	<i>Carex obtuspa</i>	Plugs	Plant plugs at 2 feet on center intermix with other species	80
	Reed mannagrass	<i>Glyceria grandis</i>	Plugs	Plant plugs at 2 feet on center intermix with other species	70
	Slender rush	<i>Juncus tenuis</i>	Plugs	Plant plugs at 2 feet on center intermix with other species	70
Total Plants in Zone 2					290
Zone 3: Shrub Wetland 4,164 sq. ft.	Sitka willow	<i>Salix sitchensis</i>	Live stakes	Plant plugs at 2 feet on center, random pattern, intermix with other species	530
	Pacific willow	<i>Salix lucida var. lasiandra</i>	Live stakes	Plant plugs at 2 feet on center, random pattern, intermix with other species	530
Total Plants in Zone 3					1,060
Zone 4: Upland Shrub and Tree 3,216 sq. ft.	Snowberry	<i>Symphoricarpos albus</i>	Plugs	Plant plugs at 3 feet on center, random pattern	120
	Salmonberry	<i>Rubus spectabilis</i>	Plugs	Plant plugs at 3 feet on center, random pattern	120
	Clustered rose	<i>Rosa pisocarpa</i>	Plugs	Plant plugs at 3 feet on center, random pattern	120
	Western red cedar	<i>Thuja plicata</i>	Plugs or 1 gal.	Under plant trees where trails have been created and in open spaces per on-site biologist	10
	Douglas fir	<i>Pseudotsuga menziesii</i>	Plugs or 1 gal.	Plant trees in open areas per on-site biologist	10
Total Plants in Zone 4					380
Total of all plants					2,600

¹ If plants are not available, other comparable species can be substituted with approval from WDNR.

LEGEND

- Zone 1 - Lake fringe emergent wetland (Phase II)
- Zone 2 - Slough emergent wetland (Phase I)
- Zone 3 - Shrub wetland (Phase II)
- Zone 4 - Upland shrub and tree (Phase I)
- Interplanted conifer (approximate location)
- Existing vegetation
- Temporary irrigation

Note:

- Remove all non-natives including *Himalayan Blackberry*, *Tansy Ragwort*, *Reed Canary Grass*, and others. Replace with native species.
- This shows schematic of proposed temporary irrigation system. This is not to scale and will be finalized in 100% design drawings. This will tie into existing City Parks sprinkler control system and water main.
- Only zones two and four will be planted during this phase, Phase II.



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REV	DATE	DESCRIPTION

PROJECT: **BIRD ISLAND SHORELINE ENHANCEMENT PHASES I AND II**

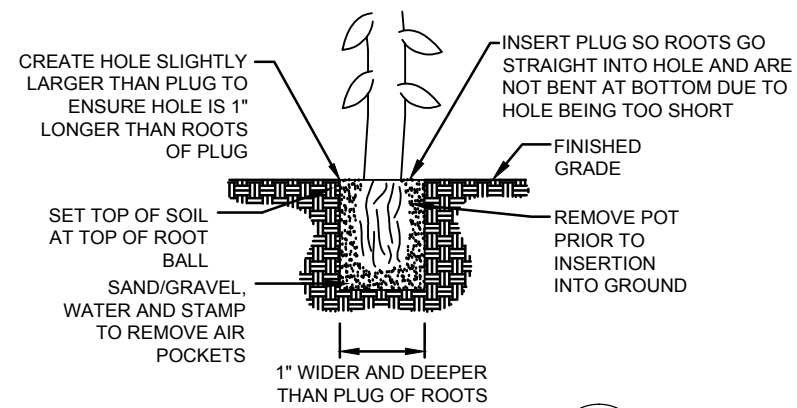
TITLE: **PLANTING PLAN**

DESIGNED BY: JS PROJECT NO: 12132-33 SHEET NO: 14 OF 15

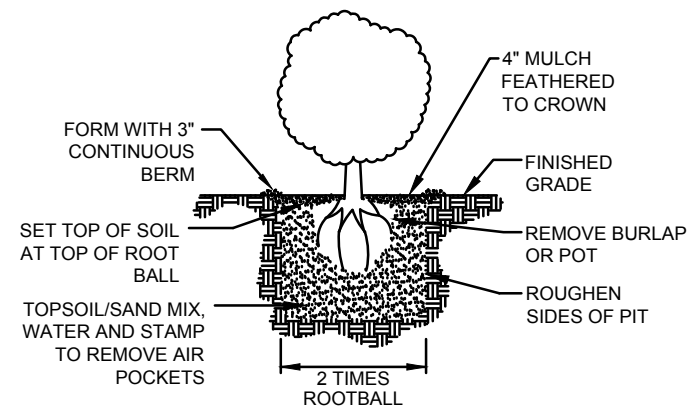
DRAWN BY: EAL DATE: OCTOBER 2016

CHECKED BY: SCALE: 1" = 12'

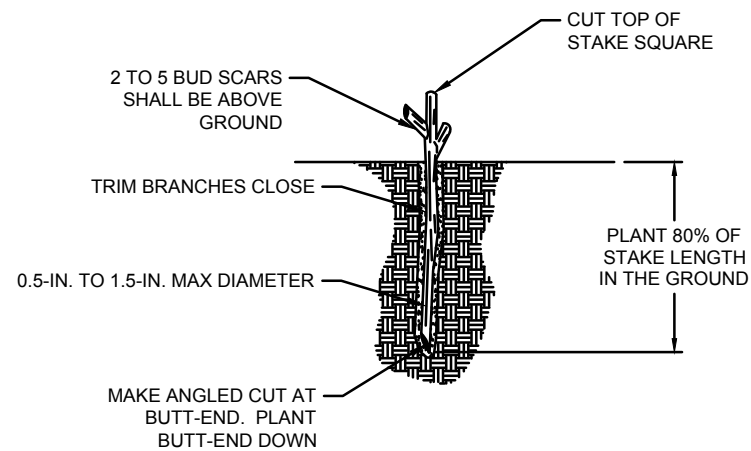
100% DESIGN



PLUG PLANTING DETAIL
NOT TO SCALE



1-GALLON PLANTING DETAIL
NOT TO SCALE



LIVE STAKE PLANTING DETAIL
NOT TO SCALE



NOTES:

1. THE RECOMMENDED TIME FOR PLANT INSTALLATION IS EARLY FALL BETWEEN OCTOBER 1 AND NOVEMBER 15.
2. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH ALL PARTICIPATING PARTIES PRIOR TO COMMENCEMENT OF WORK IN THE PLANTING AREAS TO REVIEW THE PROJECT GOALS, PLANTING DETAILS, SITE CONDITIONS, CLEARING/EXCAVATION LIMITS, AND CONSTRUCTION SEQUENCING.
3. CONTRACTOR SHALL REMOVE ANY REMAINING INVASIVE SPECIES THROUGHOUT THE PLANTING AREA, INCLUDING BUT NOT LIMITED TO BLACKBERRY, BINDWEED, AND NON-NATIVE GRASSES USING MACHINERY OR BY HAND. ON-SITE SOIL CONTAINING INVASIVE PLANT SPECIES SHALL NOT BE REUSED WITHIN THE PLANTING AREAS.
4. AN APPROXIMATELY 4-INCH-DEEP LAYER OF MULCH SHALL BE PLACED IN A RING AROUND UPLAND PLANTS IN THE AREA ABOVE THE OHW LINE FOR EROSION CONTROL, WEED PREVENTION, AND MOISTURE RETENTION.
5. ALL SOIL AND MULCH SHALL BE CERTIFIED FREE OF MATERIAL TOXIC TO PLANT GROWTH AND NOXIOUS WEED SEEDS.
6. ONLY ZONES ONE AND THREE WILL BE PLANTED DURING THIS PHASE, PHASE II.

PLANT SPECIFICATIONS AND INSTALLATION:

1. ALL PLANTS AND PLANTING ACTIVITIES SHALL CONFORM TO LANDSCAPE INDUSTRY STANDARDS. PLANT STOCK SHALL BE FREE OF DEFECTS, DISEASE, INFESTATIONS, AND SHALL BE HEALTHY. THE OWNER OR OWNER'S REPRESENTATIVE MAY REQUIRE REPLACEMENT OR SUBSTITUTION OF ANY UNACCEPTABLE PLANTS. PLANT STOCK SHALL BE OBTAINED FROM A NURSERY LICENSED TO SELL PLANTS IN WASHINGTON; PLANT STOCK SHALL BE LOCALLY GROWN IN WESTERN WASHINGTON.
2. THE OWNER OR REPRESENTATIVE SHALL BE PRESENT TO INSPECT PLANTS BEFORE THEY ARE INSTALLED AND THE OWNER CAN REJECT PLANTS IF THEY DO NOT MEET THE INDUSTRY STANDARD. CONTRACTOR SHALL PROVIDE OWNER A COPY OF THE PLANT RECEIPTS THAT INCLUDES THE NUMBER PURCHASED. DURING INSPECTION PLANTS NEED TO BE ORGANIZED TO ALLOW FOR EASY INSPECTION AND COUNT.
3. ALL PLANT STOCK SHALL BE HANDLED WITH CARE TO ENSURE PROTECTION FROM INJURY. PLANTS SHALL BE KEPT MOIST AND STORED IN A SHADED AREA UNTIL INSTALLATION WHILE BEING STORED ON THE PROJECT SITE. BEFORE AND AFTER PLANTING, SOIL IN THE PLANTING PITS SHALL BE SATURATED.
4. FOLLOWING EARTHWORK, THE PLANTINGS SHALL BE INSTALLED PER THE SPECIES, QUANTITIES, SIZES, GROUPING AND SPACING IDENTIFIED IN THE PLANT SCHEDULE.
5. PLANTS SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON PLAN (UPLAND OR RIPARIAN AREAS).
6. ZONES 1, 2, AND 4:
 - a. EXCAVATE PLANTING PITS AS SHOWN IN DETAIL 1. GENTLY LOOSEN ROOTS OF CONTAINERIZED PLANT STOCK PRIOR TO PLANTING.
 - b. BACKFILL PLANTING PITS WITH CERTIFIED WEED FREE TOPSOIL/SAND MIX. NO CHEMICALS SHALL BE ADDED TO THE BACKFILL SOIL.
 - c. WATER EACH PLANT THOROUGHLY AFTER PLANTING IN ORDER TO ELIMINATE AIR POCKETS AND AID IN NATURAL SOIL COMPACTION.
9. ZONE 3:
 - a. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
 - b. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION. USE A PILOT BAR IN FIRM SOILS.
 - c. SOAK CUTTINGS CONTINUOUSLY PRIOR TO INSTALLATION.
 - d. TAMP THE SOIL AROUND THE STAKE.
 - e. ONLY NURSERY GROWN STOCK SHALL BE USED. HARVESTING OF WILD PLANTS IS NOT ACCEPTABLE.
 - f. USE EQUAL NUMBER AND EVEN DISTRIBUTION OF EACH WILLOW SPECIES.
 - g. INSTALL WILLOW PER PLANTING DETAIL 3.

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REVISIONS		
REV	DATE	DESCRIPTION

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TITLE: PLANTING DETAILS			
DESIGNED BY: JS	PROJECT NO: 12132-33	SHEET NO: 15 OF 15	
DRAWN BY: EAL	DATE: OCTOBER 2016	SCALE: NOT TO SCALE	
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