



zero deaths | zero serious injuries
on Montana roadways

Montana Department of Transportation

PO Box 201001
Helena, MT 59620-1001

Memorandum

To: e-Distribution
See Below

From: Lesly Tribelhorn, P.E. LT
Highways Engineer

Date: November 7, 2016

Subject: Wetland Coordinates on Plans

Wetland boundaries will be shown on road plans using coordinates for all projects with delineated wetlands. This best practice will help MDT meet the conditions of our U.S. Army Corps of Engineers 404 permits, as well as avoid impacts that aren't permitted during construction. An example sheet is attached. Contractor and field construction personnel can more accurately and consistently flag delineated wetland areas, verify permitted impact areas, and avoid these locations during hauling, staging, stockpiling, and other construction activities when given wetland boundary coordinates.

Include labeled wetland boundaries with associated coordinate tables as detail sheets of the road plans for all projects with delineated wetlands. Boundaries will be detailed regardless of planned impacts or requirements for 404 permits for all projects let to contract after March 30, 2017.

Use the procedures described in the attached guidance for creating these detail sheets. For projects let through March 2017, wetland coordinate tables will be provided to construction personnel upon request. For any questions to this guidance or to request wetland details for projects under construction, please contact Damian Krings (dkrings@mt.gov).

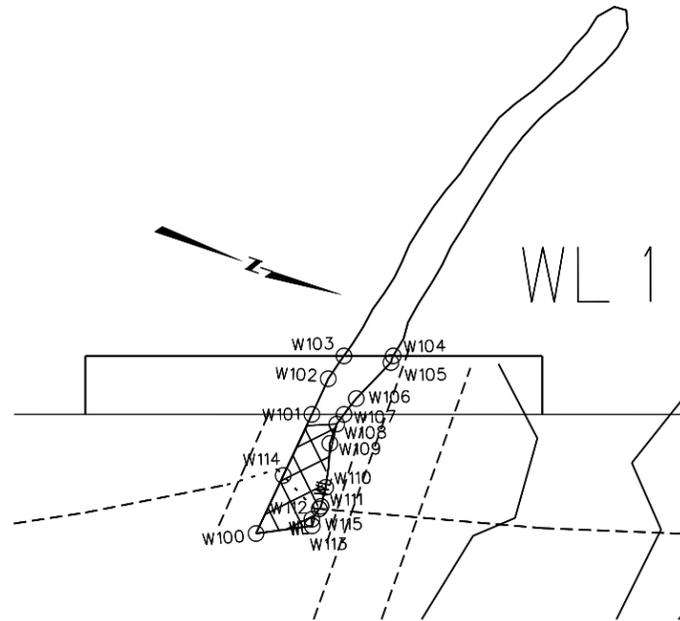
Attachments

e-distribution:
Dustin Rouse, Preconstruction Engineer
Kevin Christensen, Construction Engineer

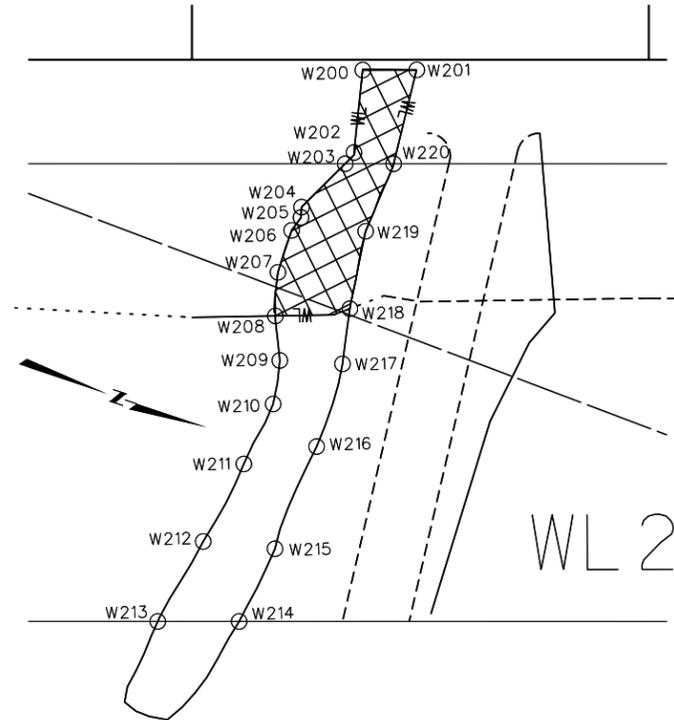
Lesly Tribelhorn,	Highways Engineer
James Combs,	Highways Design Engineer
Damian Krings,	Road Design Engineer
Roy Peterson,	Traffic & Safety Engineer
Ivan Ulberg,	Traffic Design Engineer
Kent Barnes,	Bridge Engineer
Matt Strizich,	Materials Engineer
Ryan Dahlke,	Consultant Design Engineer
Bryan Miller,	Consultant Plans Engineer
Lisa Durbin,	Construction Administration Services Engineer
Paul Jagoda,	Construction Engineering Services Engineer
Suzy Price,	Contract Plans Bureau Chief
Tim Tilton,	Contract Section Supervisor
Jim Frank,	Glendive District Preconstruction Engineer
Gary Neville,	Billings District Preconstruction Engineer
Jen Nelson,	Butte District Preconstruction Engineer
Shane Stack,	Missoula District Preconstruction Engineer
Steve Prinzing,	Great Falls District Preconstruction Engineer
Tom Martin,	Environmental Services Bureau Chief
John Cornell,	Road Plans Checker
Jerry Sabol,	Road Plans Checker

DETAIL

WL 1 ~ 124+42



WL 2 ~ 124+44



WETLAND WL1 COORDINATES

Point	North	East	Station	Offset
W100	1377090.732	1278547.243	124+37.35	-41.229
W101	1377094.075	1278518.696	124+49.58	-67.240
W102	1377095.002	1278510.187	124+53.16	-75.015
W103	1377096.672	1278504.371	124+56.59	-80.000
W104	1377106.900	1278500.949	124+67.37	-80.000
W105	1377106.888	1278502.470	124+66.88	-78.561
W106	1377102.189	1278512.343	124+59.29	-70.690
W107	1377100.732	1278516.470	124+56.60	-67.239
W108	1377099.901	1278518.977	124+55.01	-65.124
W109	1377099.811	1278523.464	124+53.50	-60.898
W110	1377101.983	1278532.858	124+52.58	-51.300
W111	1377102.345	1278537.097	124+51.58	-47.165
W112	1377101.333	1278540.424	124+49.57	-44.331
W113	1377101.872	1278541.751	124+49.66	-42.902
W114	1377092.360	1278533.345	124+43.30	-53.892
W115	1377102.149	1278537.741	124+51.19	-46.617

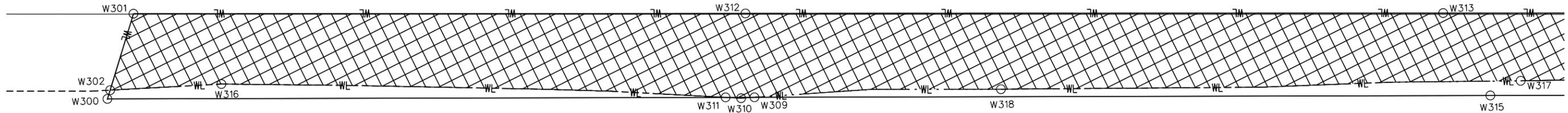
WETLAND WL2 COORDINATES

Point	North	East	Station	Offset
W200	1377104.566	1278588.449	124+37.39	2.238
W201	1377115.766	1278584.666	124+49.22	2.204
W202	1377108.459	1278606.145	124+35.47	20.254
W203	1377107.413	1278609.072	124+33.55	22.698
W204	1377101.355	1278621.078	124+24.00	32.162
W205	1377101.968	1278623.280	124+23.88	34.444
W206	1377100.915	1278626.585	124+21.83	37.244
W207	1377100.974	1278636.229	124+18.83	46.409
W208	1377103.465	1278645.430	124+18.27	55.924
W209	1377107.472	1278654.348	124+19.24	65.653
W210	1377109.095	1278663.819	124+17.77	75.150
W211	1377107.166	1278678.277	124+11.36	88.248
W212	1377104.103	1278697.153	124+02.46	105.177
W213	1377100.215	1278716.855	123+92.52	122.627
W214	1377117.104	1278711.207	124+10.33	122.630
W215	1377119.509	1278693.671	124+18.18	106.764
W216	1377121.079	1278669.615	124+27.30	84.449
W217	1377120.722	1278650.697	124+32.96	66.395
W218	1377118.423	1278638.760	124+34.57	54.345
W219	1377116.329	1278621.630	124+38.02	37.436
W220	1377117.470	1278605.709	124+44.15	22.700

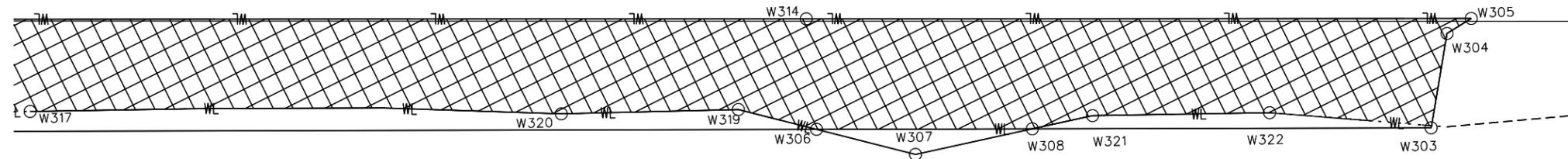
WETLAND WL1 & WL2
DETAIL

DETAIL

WL 3 ~ 131+80



WL 3

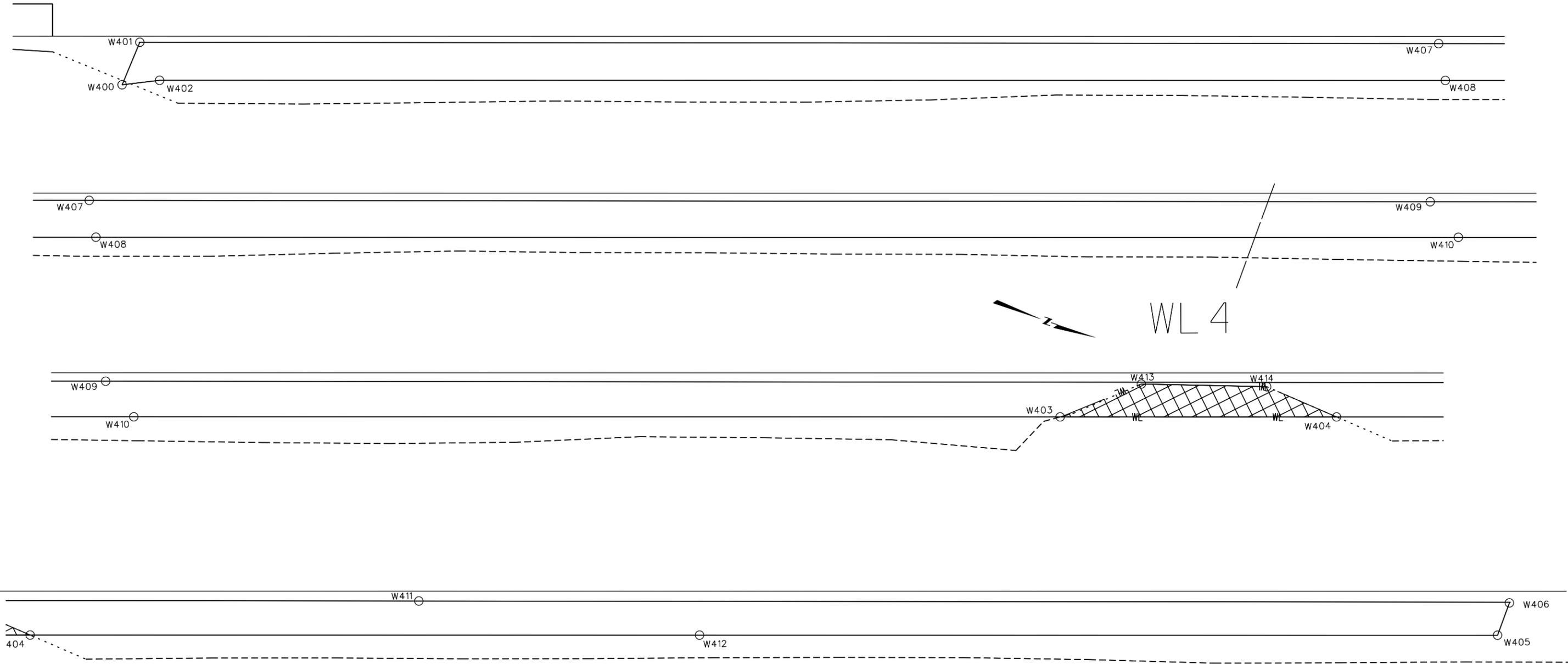


WETLAND WL3 COORDINATES				
Point	North	East	Station	Offset
W300	1377376.216	1278553.362	127+06.14	55.161
W301	1377375.387	1278519.266	127+16.17	22.564
W302	1377376.164	1278549.856	127+07.20	51.820
W303	1378266.405	1278253.068	136+45.61	52.851
W304	1378262.229	1278226.443	136+50.10	26.277
W305	1378267.384	1278220.275	136+56.94	22.063
W306	1378101.977	1278308.536	134+72.08	53.277
W307	1378130.695	1278306.372	135+00.00	60.338
W308	1378159.692	1278289.066	135+32.99	53.128
W309	1377612.142	1278473.776	129+55.13	54.549
W310	1377607.390	1278475.730	129+50.00	54.895
W311	1377601.637	1278477.319	129+44.04	54.576
W312	1377598.690	1278444.449	129+51.67	22.469
W313	1377853.266	1278359.105	132+20.18	22.314
W314	1378089.356	1278279.957	134+69.18	22.171
W315	1377880.495	1278383.250	132+38.34	53.852
W316	1377416.008	1278534.057	127+50.00	49.479
W317	1377889.777	1278374.232	132+50.00	48.246
W318	1377701.130	1278440.734	130+50.00	51.451
W319	1378079.267	1278310.247	134+50.00	47.694
W320	1378032.234	1278327.258	134+00.00	48.901
W321	1378174.643	1278280.143	135+50.00	49.410
W322	1378221.798	1278263.497	136+00.00	48.586

WETLAND WL3
DETAIL

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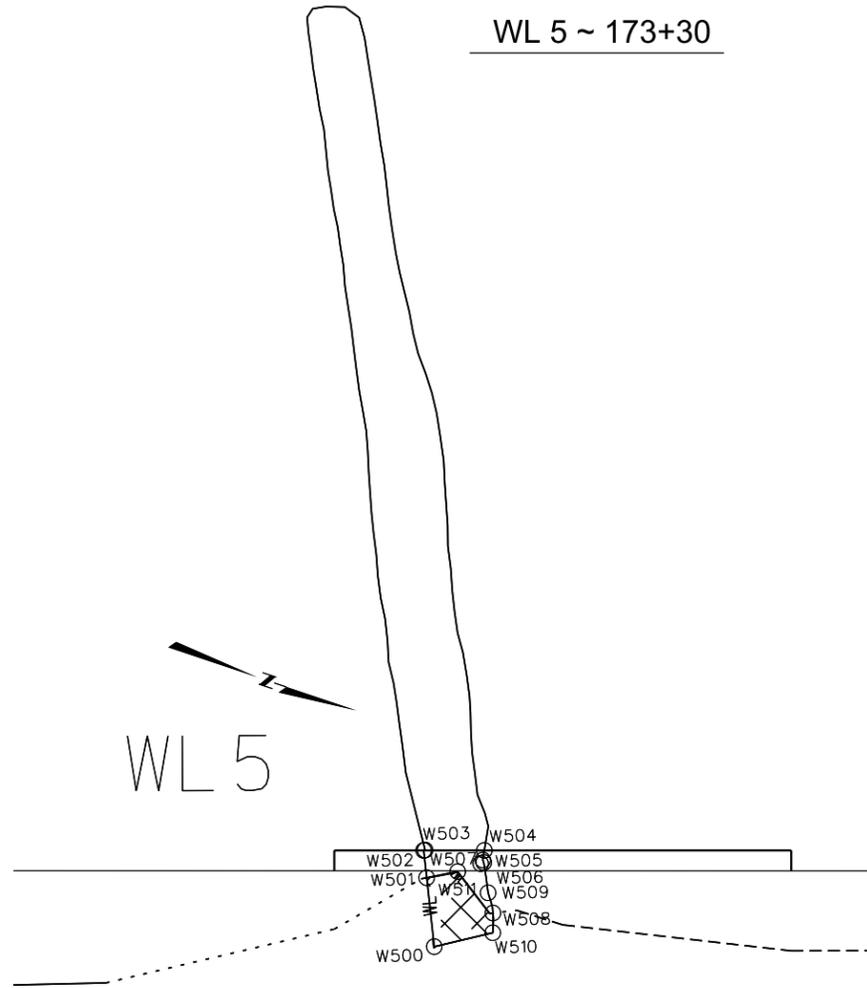
WETLAND WL4 COORDINATES				
Point	North	East	Station	Offset
W400	1377648.495	1278353.637	130+27.72	-47.846
W401	1377649.832	1278335.354	130+34.79	-64.760
W402	1377662.111	1278347.212	130+42.67	-49.619
W403	1379013.478	1277895.190	144+67.63	-49.480
W404	1379117.983	1277860.234	145+77.83	-49.469
W405	1379672.753	1277674.668	151+62.81	-49.412
W406	1379673.155	1277661.008	151+67.53	-62.238
W407	1378141.021	1278171.583	135+52.56	-64.209
W408	1378148.198	1278184.620	135+55.23	-49.569
W409	1378648.145	1278002.476	140+87.14	-63.662
W410	1378663.273	1278012.331	140+98.36	-49.516
W411	1379260.637	1277798.232	147+32.79	-63.001
W412	1379371.051	1277775.585	148+44.68	-49.443
W413	1379040.024	1277872.525	145+00.00	-62.550
W414	1379087.776	1277857.665	145+50.00	-61.490

WL 4 ~ 141+00

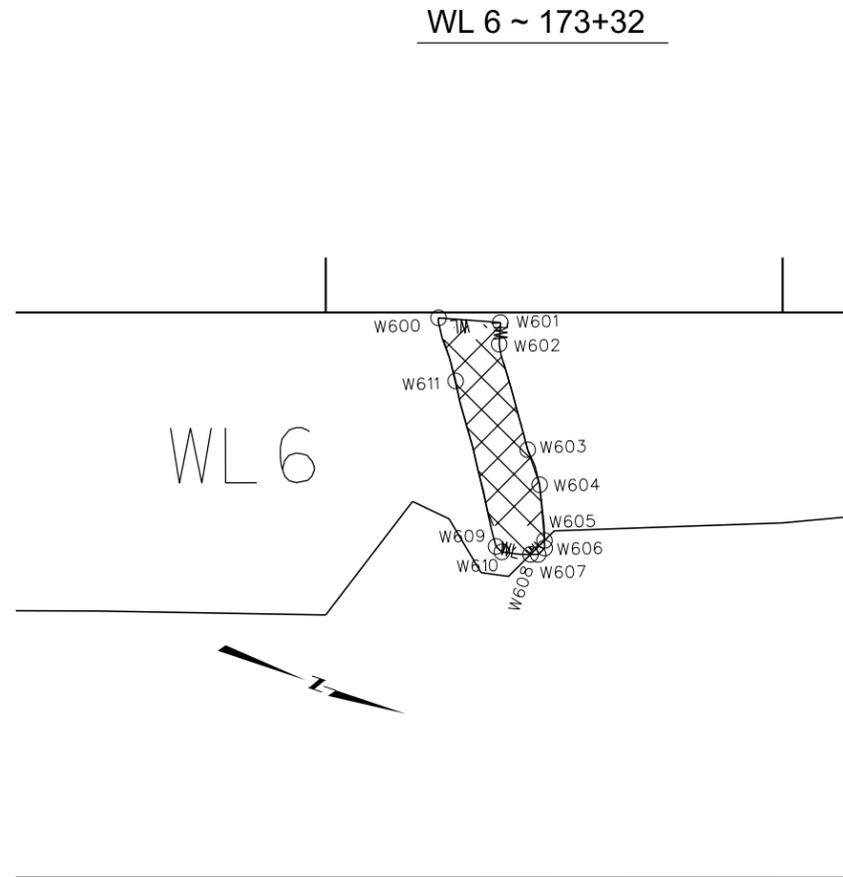
WETLAND WL4
 DETAIL

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WETLAND WL5 COORDINATES				
Point	North	East	Station	Offset
W500	1381723.219	1276998.509	173+21.87	-39.997
W501	1381716.873	1276984.773	173+20.21	-55.036
W502	1381714.357	1276979.326	173+19.55	-61.000
W503	1381714.627	1276979.146	173+19.86	-61.085
W504	1381726.951	1276975.112	173+32.83	-61.000
W505	1381727.291	1276977.213	173+32.49	-58.900
W506	1381727.662	1276977.658	173+32.70	-58.360
W507	1381727.113	1276978.107	173+32.03	-58.108
W508	1381733.073	1276987.469	173+34.71	-47.339
W509	1381730.664	1276983.627	173+33.65	-51.747
W510	1381734.403	1276991.574	173+34.67	-43.024
W511	1381722.886	1276981.337	173+27.00	-56.387

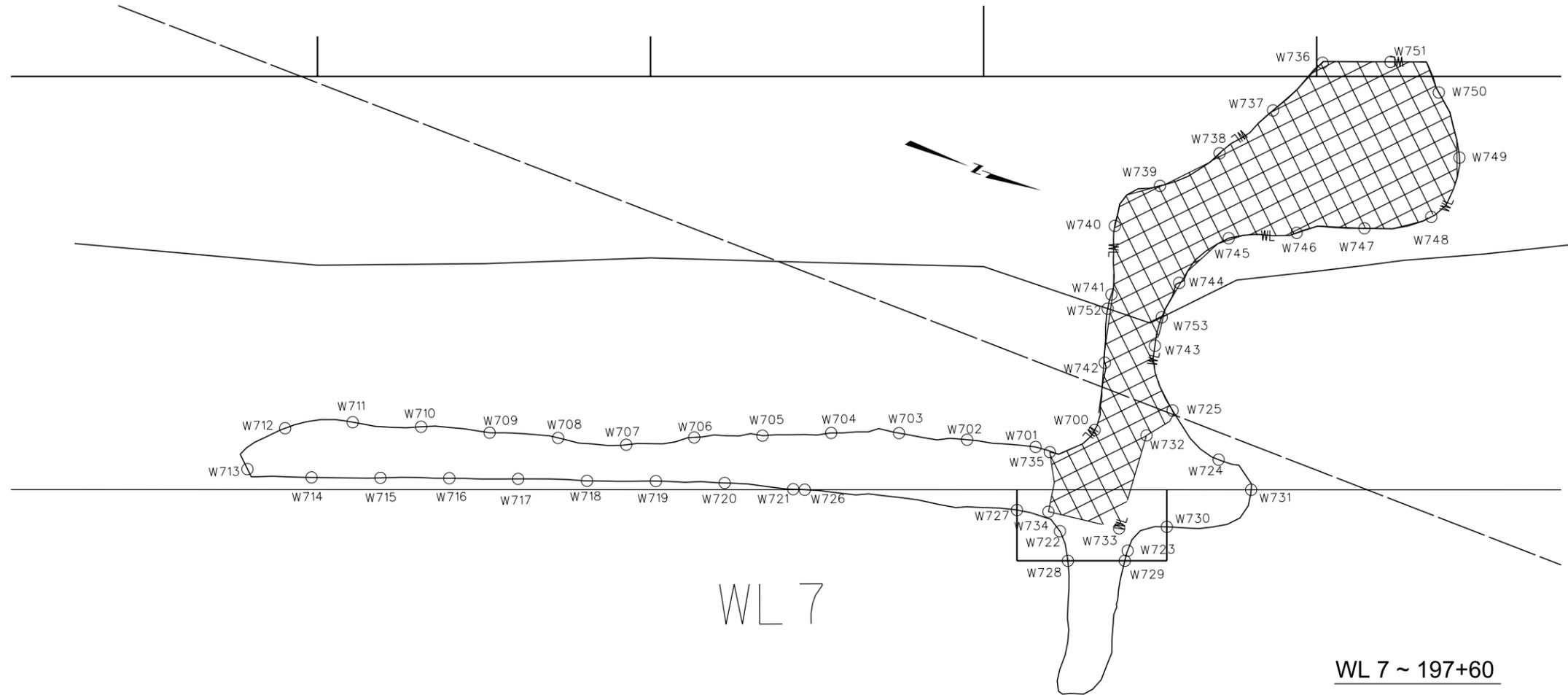


WETLAND WL6 COORDINATES				
Point	North	East	Station	Offset
W600	1381738.968	1277036.669	173+24.69	1.189
W601	1381752.110	1277033.335	173+38.21	2.197
W602	1381753.366	1277037.897	173+37.96	6.922
W603	1381766.605	1277057.779	173+44.20	29.978
W604	1381771.501	1277064.189	173+46.81	37.610
W605	1381776.370	1277075.407	173+47.87	49.793
W606	1381776.933	1277076.950	173+47.92	51.435
W607	1381776.035	1277078.724	173+46.50	52.832
W608	1381774.441	1277079.251	173+44.82	52.827
W609	1381768.329	1277080.731	173+38.56	52.290
W610	1381766.732	1277079.998	173+37.27	51.089
W611	1381746.890	1277048.547	173+28.44	14.967

WETLAND WL6 & WL5
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WETLAND WL7 COORDINATES

Point	North	East	Station	Offset
W700	1384340.838	1276276.437	200+33.33	105.841
W701	1384325.638	1276286.881	200+15.60	110.923
W702	1384305.460	1276291.352	199+95.05	108.759
W703	1384285.427	1276295.958	199+74.59	106.771
W704	1384266.096	1276302.375	199+54.22	106.723
W705	1384246.800	1276309.690	199+33.60	107.537
W706	1384227.526	1276316.693	199+13.10	108.062
W707	1384208.867	1276325.258	198+92.69	110.264
W708	1384188.821	1276329.791	198+72.24	108.202
W709	1384168.817	1276334.851	198+51.67	106.653
W710	1384148.765	1276339.685	198+31.12	104.874
W711	1384128.846	1276344.913	198+10.57	103.512
W712	1384110.183	1276353.057	197+90.29	105.314
W713	1384103.340	1276368.246	197+78.98	117.546
W714	1384122.375	1276364.501	197+98.22	120.034
W715	1384142.029	1276358.065	198+18.90	120.167
W716	1384161.672	1276351.616	198+39.57	120.285
W717	1384181.344	1276345.239	198+60.25	120.479
W718	1384201.125	1276339.230	198+80.92	121.057
W719	1384220.764	1276332.747	199+01.60	121.141
W720	1384240.530	1276326.721	199+22.25	121.698
W721	1384260.641	1276321.975	199+42.83	123.579
W722	1384340.574	1276308.481	200+22.92	136.145
W723	1384361.692	1276307.558	200+43.23	141.971
W724	1384378.963	1276273.043	200+70.56	114.720
W725	1384361.173	1276263.481	200+56.73	100.008
W726	1384263.964	1276321.008	199+46.29	123.716

WETLAND WL7 COORDINATES

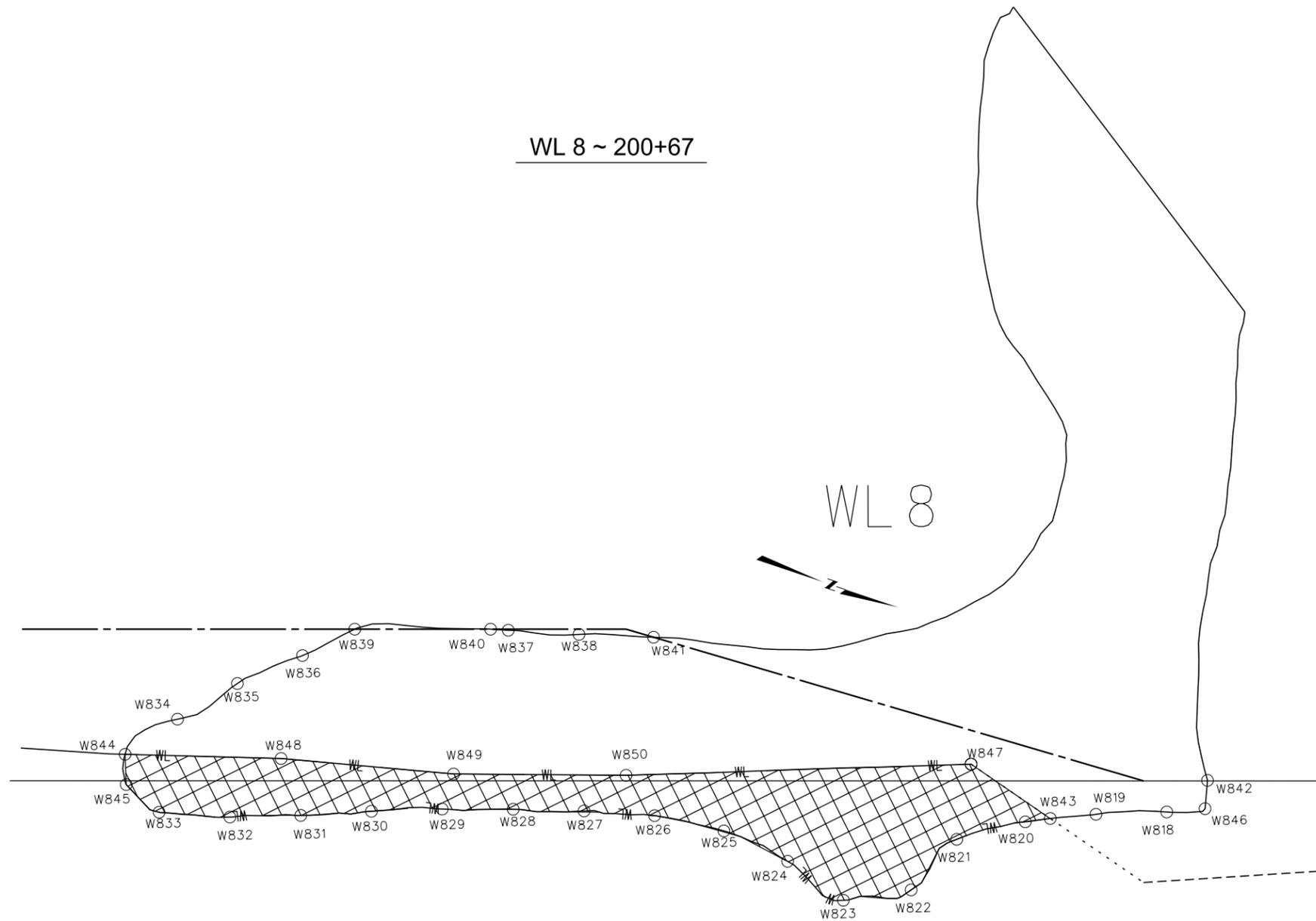
Point	North	East	Station	Offset
W727	1384326.313	1276306.562	200+10.00	129.801
W728	1384345.642	1276316.122	200+25.30	145.000
W729	1384361.847	1276310.700	200+42.38	145.000
W730	1384370.583	1276297.053	200+55.00	134.830
W731	1384391.079	1276278.496	200+80.32	123.736
W732	1384356.110	1276273.035	200+48.90	107.462
W733	1384357.154	1276302.057	200+40.68	135.315
W734	1384335.449	1276304.031	200+19.47	130.300
W735	1384330.170	1276286.995	200+19.87	112.468
W736	1384370.847	1276150.474	201+01.76	-4.090
W737	1384361.268	1276168.715	200+86.89	10.169
W738	1384350.117	1276185.964	200+70.84	22.988
W739	1384336.240	1276200.903	200+52.94	32.751
W740	1384327.178	1276216.583	200+39.37	44.746
W741	1384332.726	1276236.384	200+38.35	65.284
W742	1384337.343	1276256.374	200+36.38	85.706
W743	1384349.988	1276246.777	200+51.42	80.618
W744	1384350.929	1276226.603	200+58.72	61.785
W745	1384360.783	1276209.213	200+73.58	48.420
W746	1384379.626	1276201.205	200+93.99	46.805
W747	1384398.486	1276193.480	201+14.33	45.464
W748	1384416.436	1276183.863	201+34.40	42.039
W749	1384418.826	1276164.352	201+42.86	24.295
W750	1384406.776	1276147.831	201+36.67	4.804
W751	1384390.108	1276143.730	201+22.17	-4.373
W752	1384333.029	1276240.742	200+37.25	69.514
W753	1384349.243	1276238.039	200+53.49	72.095

WETLAND WL7
 DETAIL

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Division

WL 8 ~ 200+67

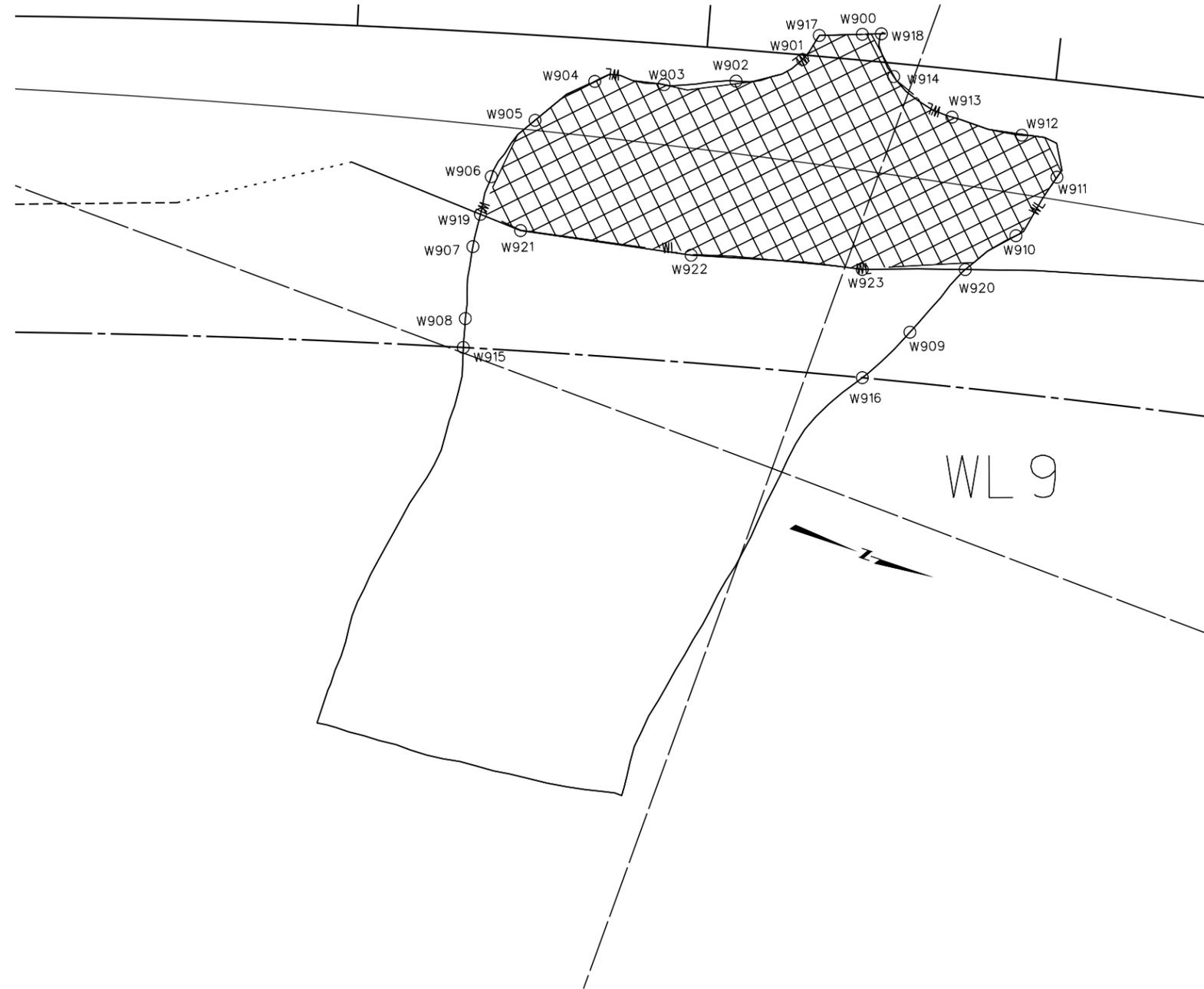


WETLAND WL8 COORDINATES				
Point	North	East	Station	Offset
W818	1384453.566	1276066.866	202+06.73	-57.130
W819	1384434.310	1276074.016	201+86.20	-56.459
W820	1384415.587	1276082.577	201+65.73	-54.282
W821	1384398.338	1276093.673	201+45.85	-49.232
W822	1384390.454	1276111.738	201+32.65	-34.603
W823	1384372.765	1276120.824	201+12.99	-31.599
W824	1384353.867	1276115.265	200+96.83	-42.867
W825	1384333.560	1276112.791	200+78.36	-51.657
W826	1384313.101	1276114.972	200+58.26	-56.080
W827	1384293.292	1276120.180	200+37.83	-57.427
W828	1384273.650	1276126.227	200+17.28	-57.926
W829	1384254.122	1276132.697	199+96.71	-57.986
W830	1384234.872	1276139.818	199+76.19	-57.342
W831	1384215.818	1276147.464	199+55.70	-56.136
W832	1384196.492	1276154.431	199+35.16	-55.662
W833	1384176.588	1276159.614	199+14.64	-57.063
W834	1384173.103	1276132.402	199+19.97	-83.974
W835	1384186.298	1276117.105	199+37.34	-94.294
W836	1384201.616	1276103.456	199+56.19	-102.377
W837	1384255.869	1276077.592	200+15.85	-109.689
W838	1384275.694	1276072.226	200+36.35	-108.488
W839	1384213.571	1276091.417	199+71.35	-110.000
W840	1384250.920	1276078.920	200+10.74	-110.000
W841	1384296.456	1276066.143	200+57.97	-107.668
W842	1384461.871	1276054.451	202+18.55	-66.268
W843	1384422.137	1276079.362	201+72.96	-55.252
W844	1384161.930	1276146.855	199+04.79	-73.813
W845	1384165.010	1276155.060	199+05.11	-65.055
W846	1384463.793	1276062.432	202+17.84	-58.089
W847	1384395.371	1276071.741	201+50.00	-70.972
W848	1384205.190	1276133.659	199+50.00	-72.601
W849	1384254.026	1276122.037	200+00.00	-68.126
W850	1384301.562	1276106.530	200+50.00	-67.748

WETLAND WL8
DETAIL

DETAIL

WL 9 ~ 275+02



WETLAND WL9 COORDINATES				
Point	North	East	Station	Offset
W900	1390680.842	1272406.196	275+43.75	-7.352
W901	1390666.945	1272418.415	275+27.42	1.318
W902	1390650.879	1272430.270	275+08.96	9.025
W903	1390631.725	1272437.749	274+88.50	11.616
W904	1390612.680	1272443.143	274+68.63	12.078
W905	1390600.035	1272459.057	274+52.23	24.227
W906	1390593.287	1272478.238	274+40.60	40.991
W907	1390594.620	1272498.796	274+36.41	61.176
W908	1390599.078	1272518.917	274+35.38	81.760
W909	1390720.638	1272482.339	275+65.61	75.801
W910	1390740.604	1272446.678	275+93.41	45.328
W911	1390746.420	1272427.162	276+03.34	27.479
W912	1390733.125	1272418.989	275+91.99	16.682
W913	1390712.587	1272420.439	275+71.52	13.650
W914	1390693.149	1272414.768	275+53.78	3.792
W915	1390601.144	1272526.894	274+35.26	90.000
W916	1390711.863	1272498.923	275+53.00	90.000
W917	1390669.298	1272410.404	275+31.57	-5.922
W918	1390685.943	1272404.337	275+49.12	-7.999
W919	1390593.762	1272489.394	274+38.09	51.879
W920	1390729.957	1272460.408	275+79.83	56.449
W921	1390606.085	1272490.154	274+50.00	55.830
W922	1390654.461	1272481.344	275+00.00	59.451
W923	1390702.067	1272469.694	275+50.00	59.312

WETLAND WL9
DETAIL

DETAIL

WL 10 ~ 262+80

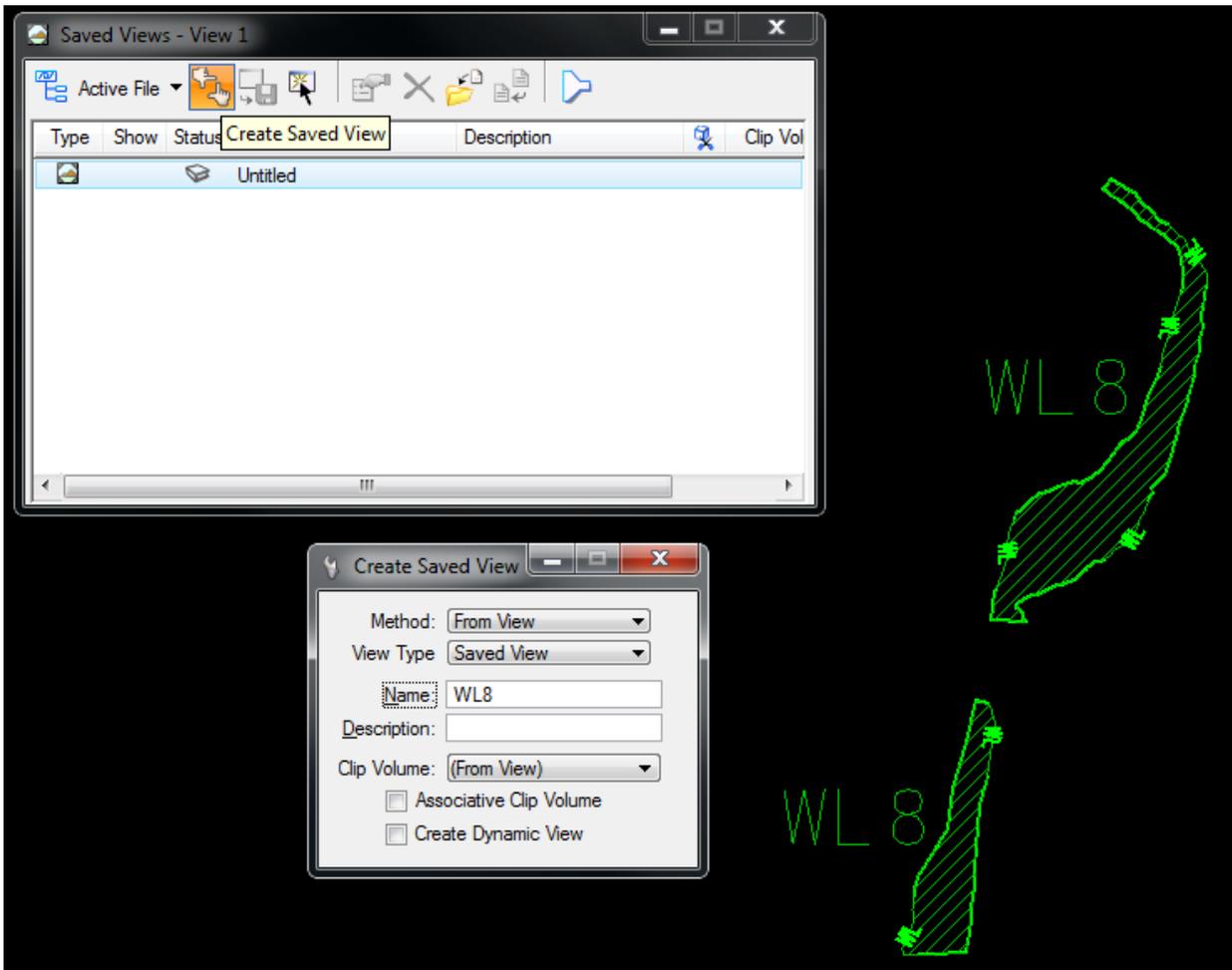
WETLAND WL10 COORDINATES				
Point	North	East	Station	Offset
W1000	1390636.175	1272356.828	275+12.26	-65.802
W1001	1390616.324	1272362.071	274+92.17	-65.525
W1002	1390596.461	1272367.273	274+72.07	-65.429
W1003	1390597.293	1272378.340	274+70.12	-54.510
W1004	1390616.990	1272372.509	274+90.28	-55.243
W1005	1390657.834	1272370.728	275+29.69	-47.178
W1006	1390676.343	1272377.225	275+45.97	-36.585
W1007	1390692.166	1272365.031	275+63.89	-44.901
W1008	1390709.490	1272354.589	275+82.78	-51.291
W1009	1390729.619	1272350.053	276+03.07	-51.438
W1010	1390749.507	1272344.522	276+23.32	-52.748
W1011	1390769.875	1272341.583	276+43.51	-51.560
W1012	1390789.985	1272337.018	276+63.77	-52.157
W1013	1390804.319	1272323.693	276+80.03	-62.565
W1014	1390812.584	1272304.425	276+91.41	-80.000
W1015	1390638.745	1272350.568	275+16.15	-71.268
W1016	1390639.365	1272349.472	275+17.00	-72.185
W1017	1390591.681	1272378.328	274+64.79	-55.945
W1018	1390589.735	1272374.885	274+63.81	-59.770
W1019	1390590.752	1272370.598	274+65.84	-63.657
W1020	1390640.530	1272369.667	275+13.39	-52.294
W1021	1390626.734	1272369.962	275+00.17	-55.330
W1022	1390669.895	1272377.629	275+39.68	-37.669
W1023	1390672.416	1272378.084	275+42.00	-36.647
W1024	1390679.163	1272377.014	275+48.73	-36.148
W1025	1390800.998	1272328.579	276+75.95	-58.379
W1026	1384395.371	1276071.741	201+50.00	-70.972
W1027	1390643.632	1272366.908	275+17.00	-54.235
W1028	1390658.445	1272358.812	275+33.00	-58.624
W1029	1390665.892	1272354.857	275+41.00	-60.751
W1030	1390674.594	1272351.741	275+50.00	-61.798
W1031	1390690.615	1272348.549	275+66.00	-61.316
W1032	1390724.133	1272339.394	276+00.00	-63.012
W1033	1390774.574	1272331.324	276+50.00	-60.705



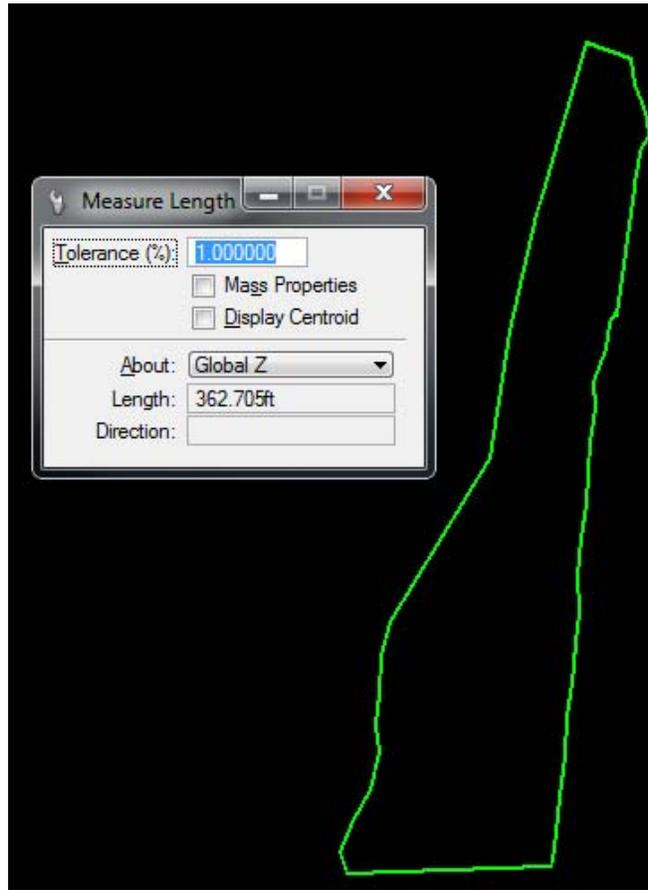
WETLAND WL10
DETAIL

STORING WETLAND COORDINATE POINTS WITHIN STATE R/W

1. Save a copy of the RDMAP file and rename it to XXXXRDMAPWET.dgn.
2. Delete all elements in the file except for the following: Alignment lines & text, Construction limits including approaches, approach delineation, North Arrow and wetlands that are not referenced.
3. If the Environmental Wetland File is attached as a reference file, copy the wetland elements into the newly created map file.
4. Detach all reference files currently attached in XXXXRDMAPWET.dgn except for the R/W map file.
5. Zoom into each wetland area and create a **Saved View** of each area. Name the views such as WL1, WL2 or something similar.



6. Turn off the level for the Wetland Area, so that only the Wetland Boundary is displayed. Leave the line style as E_Natural_Wetland_Boundary.
7. Measure the length of the line string or complex shape.

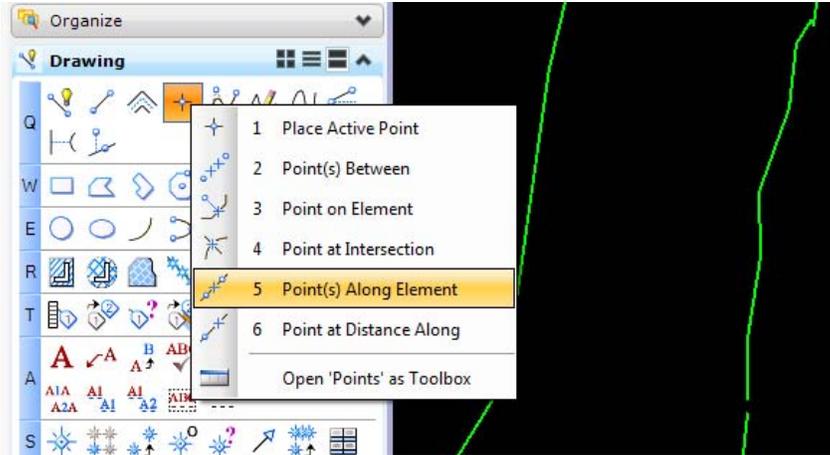


8. Divide the length by 20 to determine how many 20 foot increments are required for the shape. (Note: You can use other increment spacing such as 50' or 100' if desired)

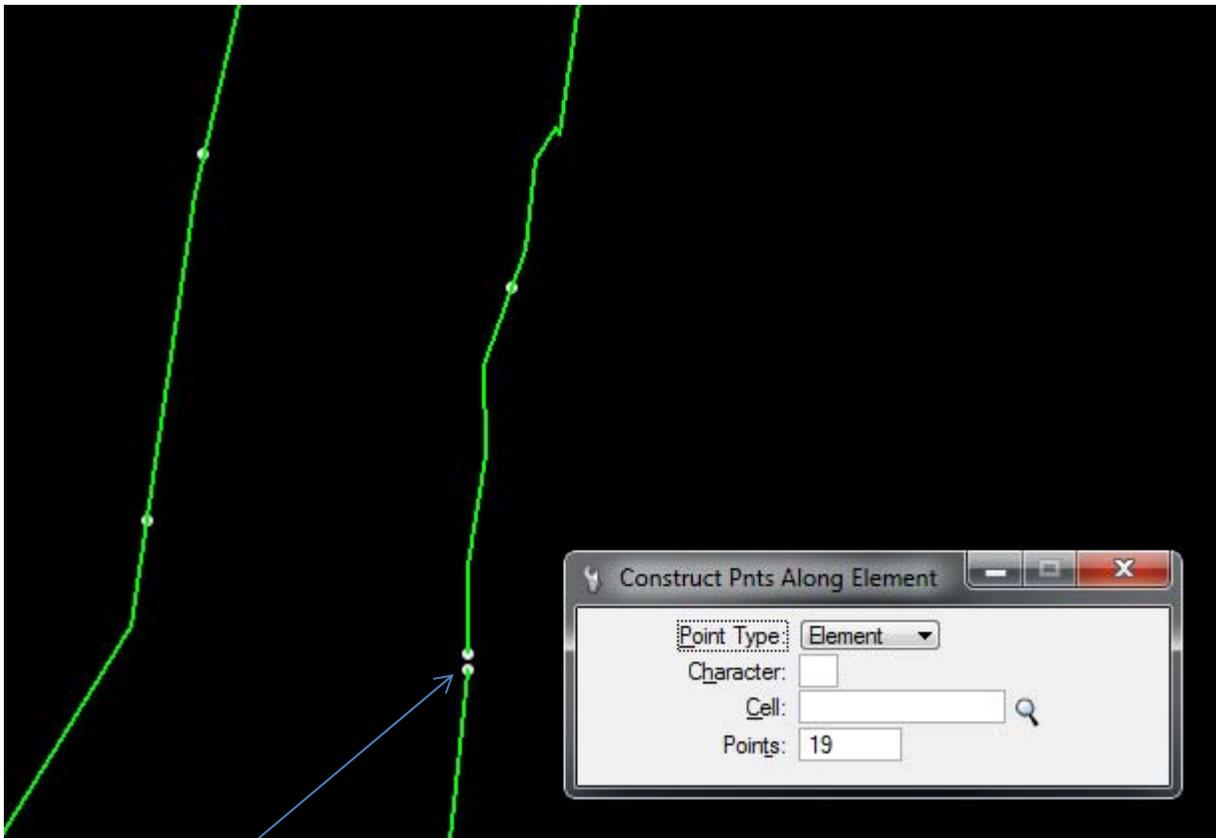
$$363/20 = 18 \text{ spaces.}$$

9. If the shape is still a complex shape, use the Partial Delete command to create a small gap in the chain to represent the beginning and end of the chain.

10. Set the Active Level to Default and the Element weight to 10. Use the **Place Active Point(s) Along Element** command and enter 19 points.



11. Select the beginning of the chain and the end of the chain with Data points to complete the point placements.

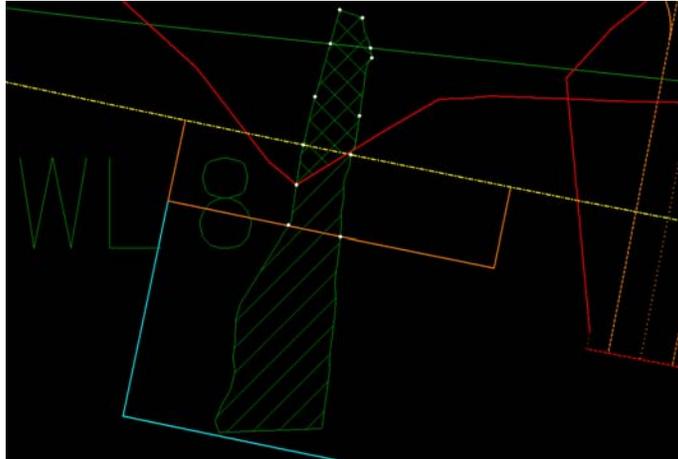


12. Delete one of the extra points at the start and end location.

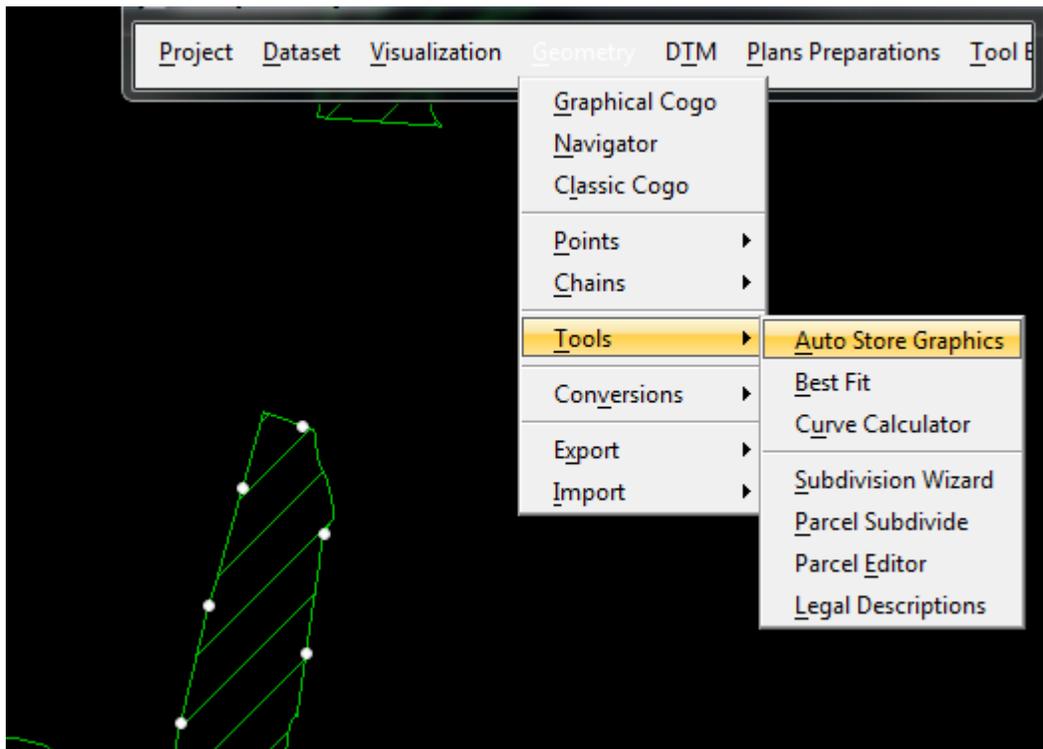
13. Look at the point spacing and where the points are placed. Remove unnecessary points, such as extra points in a straight section or any points outside of our R/W. Add points in locations to help represent the wetlands the best. Key locations to have points placed are:

- a) Where vertices occur

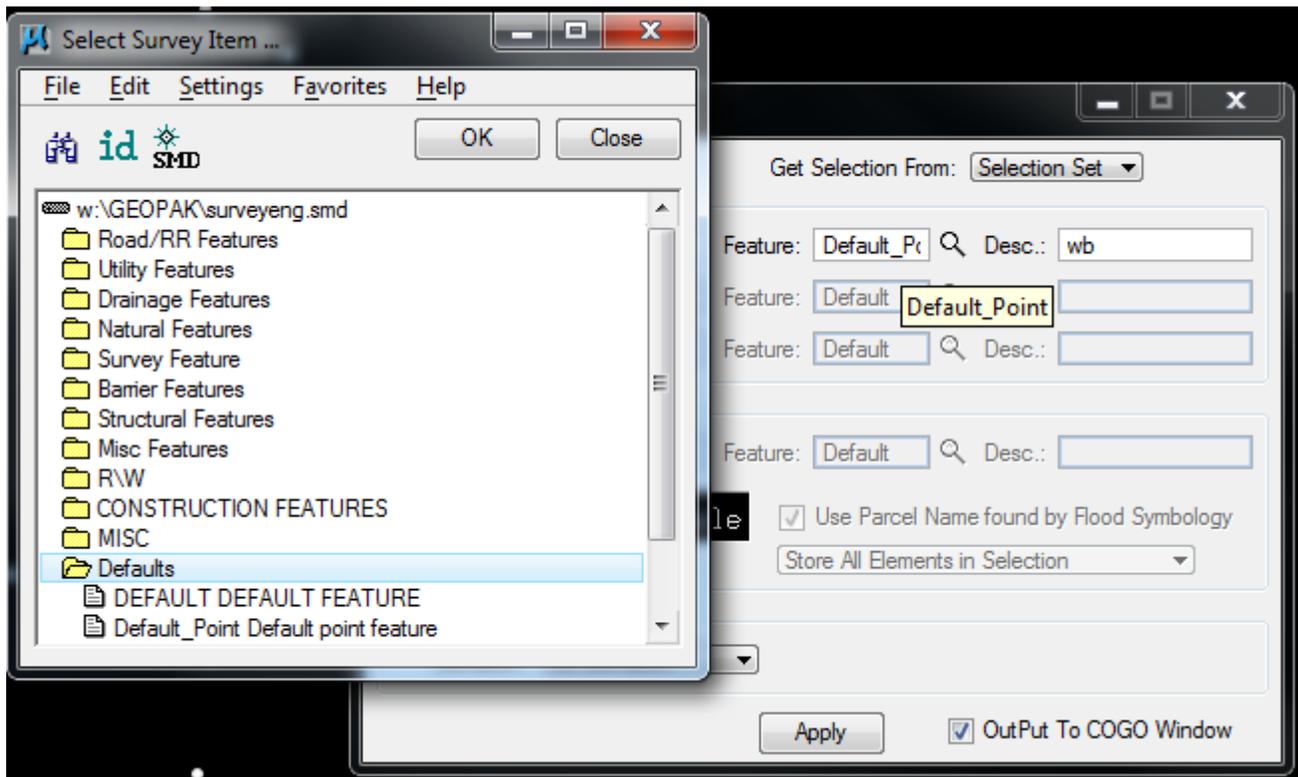
- b) Where the wetland boundary intersects new R/W lines, construction permit lines and construction limits



14. Once the points are in place, Activate Geopak. Select Geopak Survey. From the menu bar, select Geometry>Tools>Auto Store Graphics.

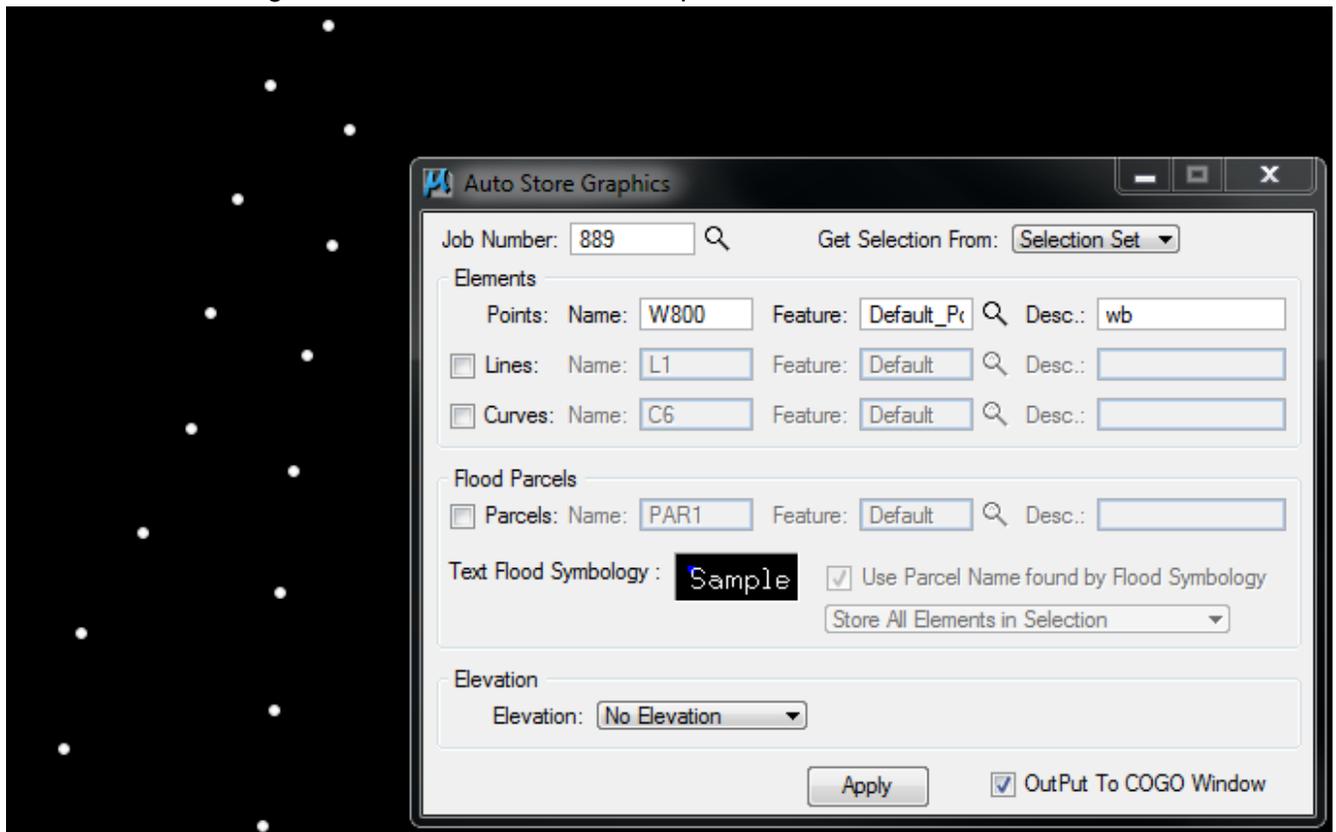


15. **Turn off all levels** except **Default**, so only the points are displayed. Select the **Feature**, using the spy glass, from directory w:\GEOPAK\surveyeng.smd\defaults\Default_point



16. Change the **Description** to “wb” for Wetland boundary.

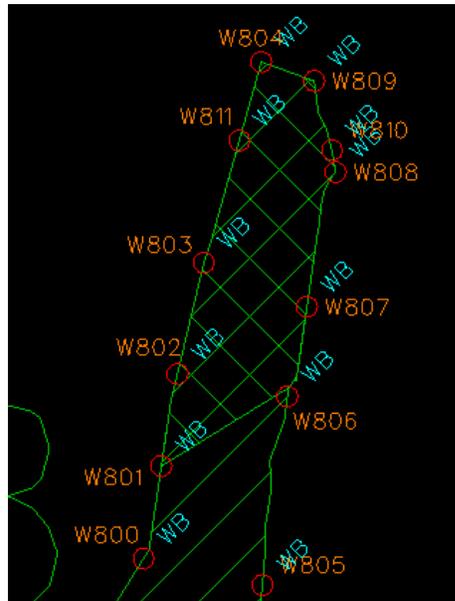
17. Since we are working on Wetland WL-8 in this example, start the **Point Name** series with W800.



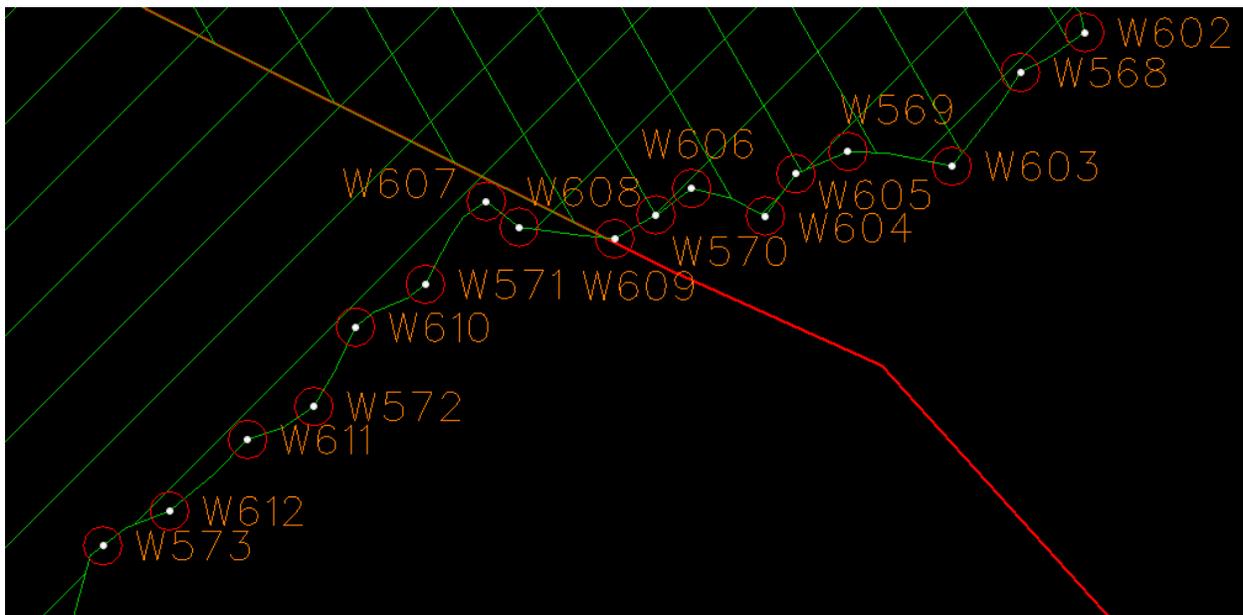
18. Use the **Selection Set** or **Fence** option to select the points. In order for the points to be stored, the Coordinate Geometry window must be open. (Hint: Turn the Redefine Off to avoid accidently

overwriting previously stored points) Once the points are selected using the **Selection Set** or **Fence**, click on **Apply**.

19. The points are now stored in the GPK file. Once the points are stored, you can move and restore the points if necessary by using the Store Point feature in Coordinate Geometry. Make sure Redefine is activated. The points can be deleted using Coordinate Geometry Tools>Navigator.

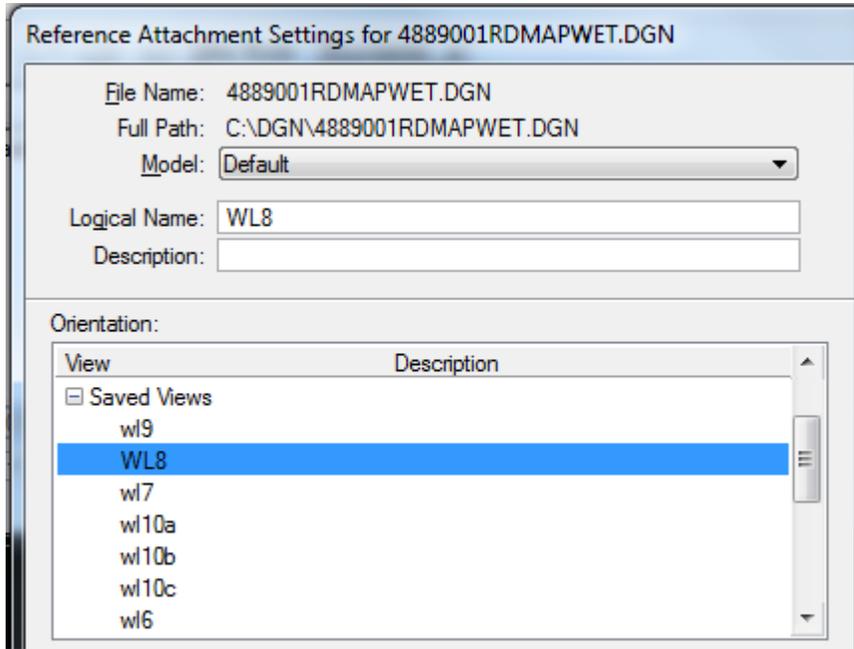


20. The text can be moved to make it legible in the diagram. The WB text level can be shut off and is not necessary to display. Below is an illustration where the WB level is turned off and the labeling text was adjusted to clearly show the numbers. Sometimes you will need to get creative with the numbering because some wetlands may have more than 100 spots. Be sure to take care and not overwrite numbers you wish to keep.

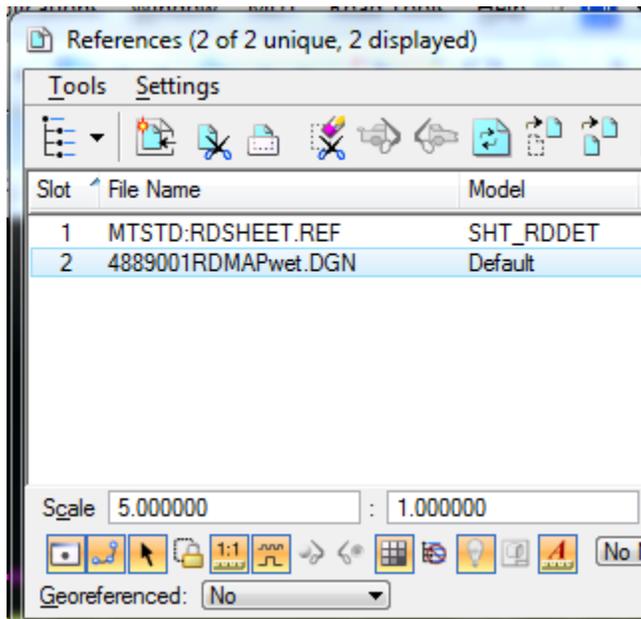


CREATING DETAIL SHEETS

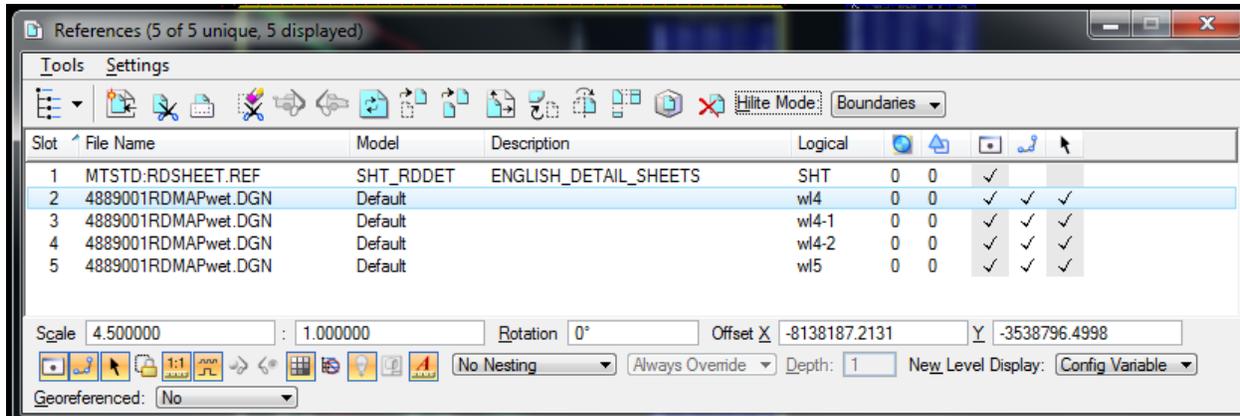
1. Create detail sheet DGN files using the **Road Tools>File Utilities** macro. Name the DGN files XXXXRDDDETWL1.DGN, WL2, WL3, etc.
2. Attach the wetland map file created containing the points using the Reference Attachment, View> Saved View> Orientation. Select the Saved View of the wetland and attach in the sheet.



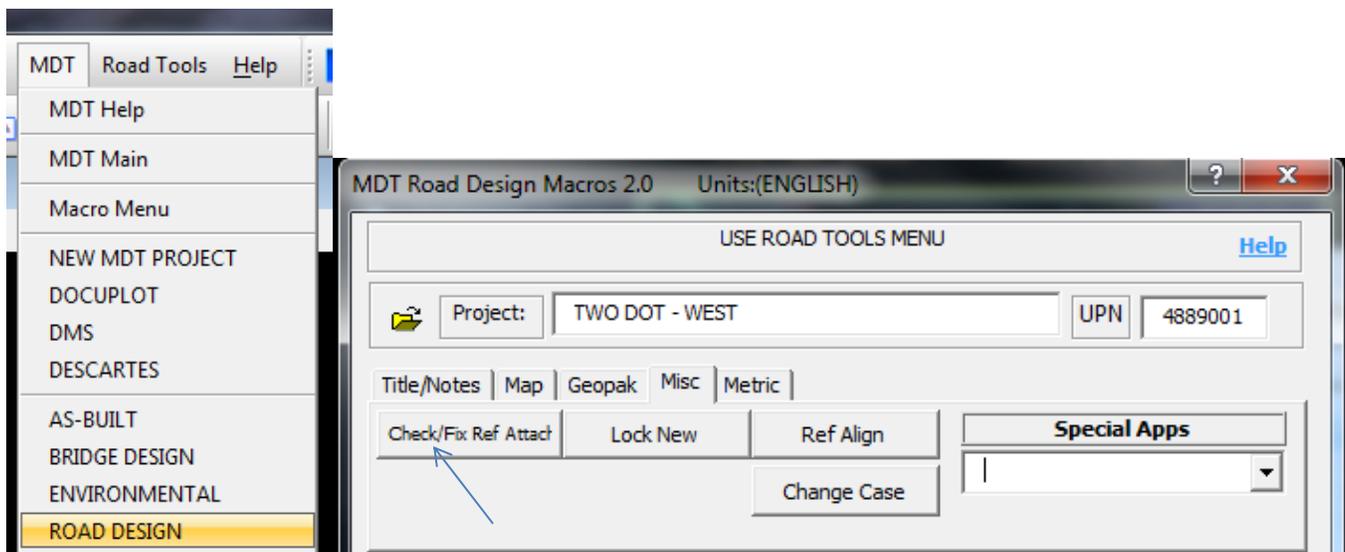
3. Change the Scale to 5.000000:1.000000 to fit in the sheet. You may need to modify this scale setting slightly to work best with the wetland you are working with. Otherwise use several clipped attachments for larger wetlands.



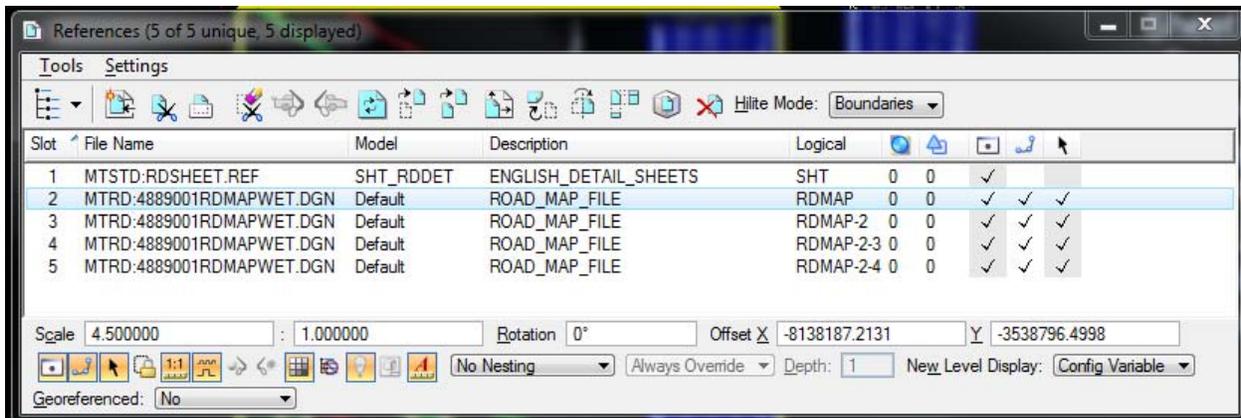
- After attaching the wetland file, make sure the Logical name is correct. The **Logical** names shown below are incorrect. To fix the Logical names, go to step 5.



- Select the MDT>ROAD DESIGN pull down menu and the following menu will display. Select **Check/Fix Ref Attach**.

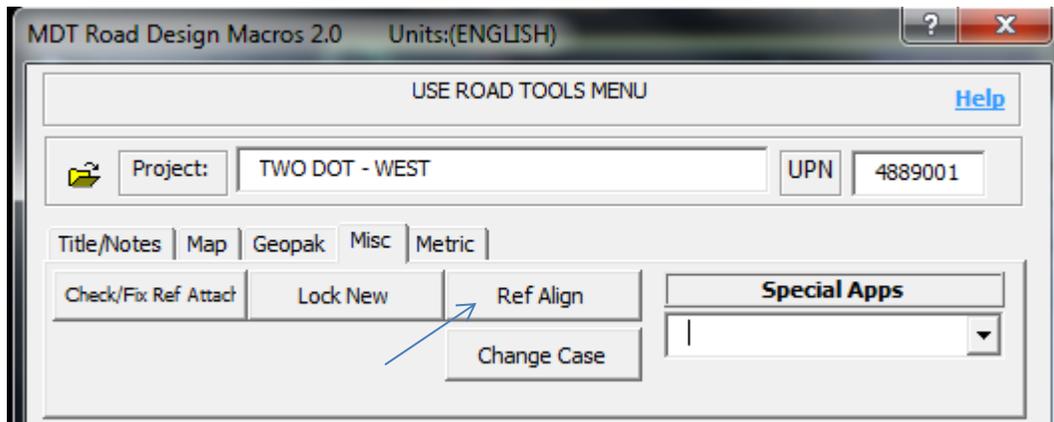


- This will automatically change the Logical & Prefix names on your attached References, similar to as shown below. **IMPORTANT:** If you do not fix the prefix names before the next step, errors may occur.

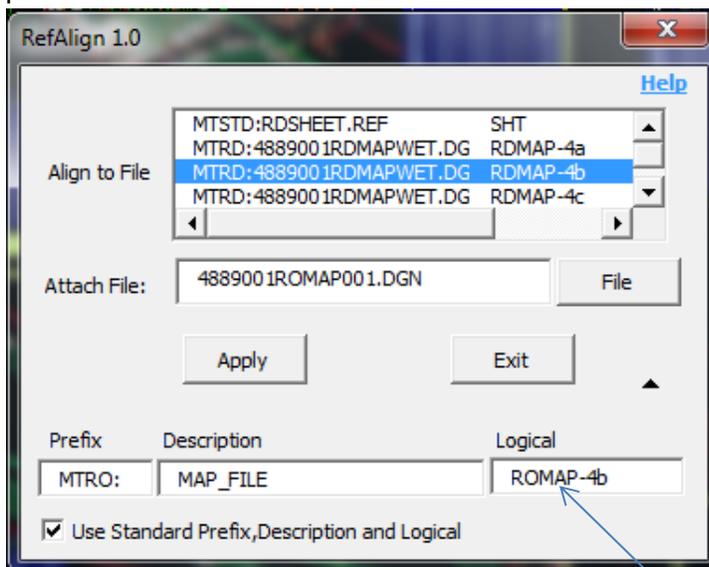


If you want to change the Logical name, just double click on the file name and you can edit the name.

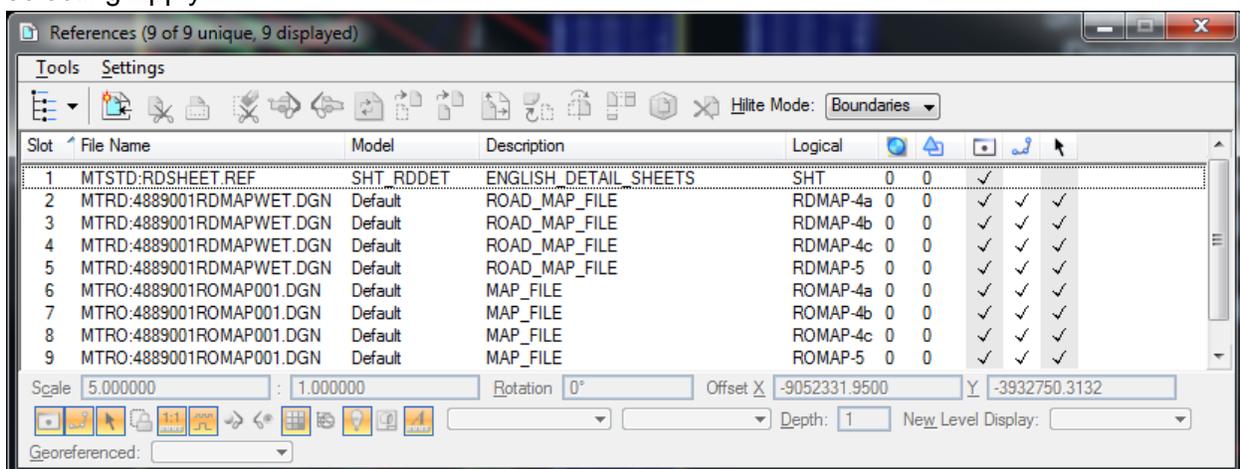
- Now attach the R/W files and any other map files that are necessary. It is possible you will need to attach the wetland file from Environmental. To attach the R/W file to match the wetland attachment, Select the MDT>ROAD DESIGN pull down menu and the following menu will display. Select **Ref Align**.



- Select the map file attached already as the **Align to File**, and choose **File** to select the R/W file you would like to attach. Be sure to click the down arrow on the right to expand the box for the logical and prefix attachment. Be sure to check Use Standard Prefix, Description and Logical.

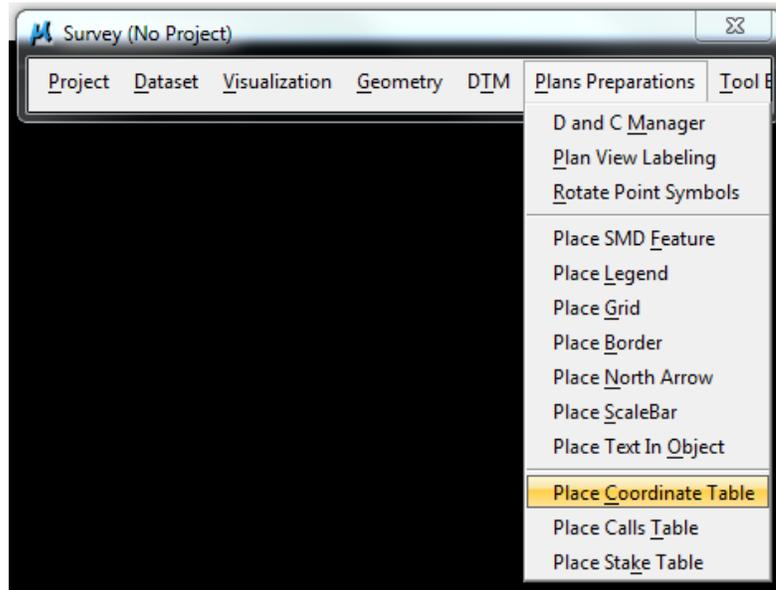


Once again, if you don't like the Logical name displayed, you can edit the name in the box above before selecting Apply.

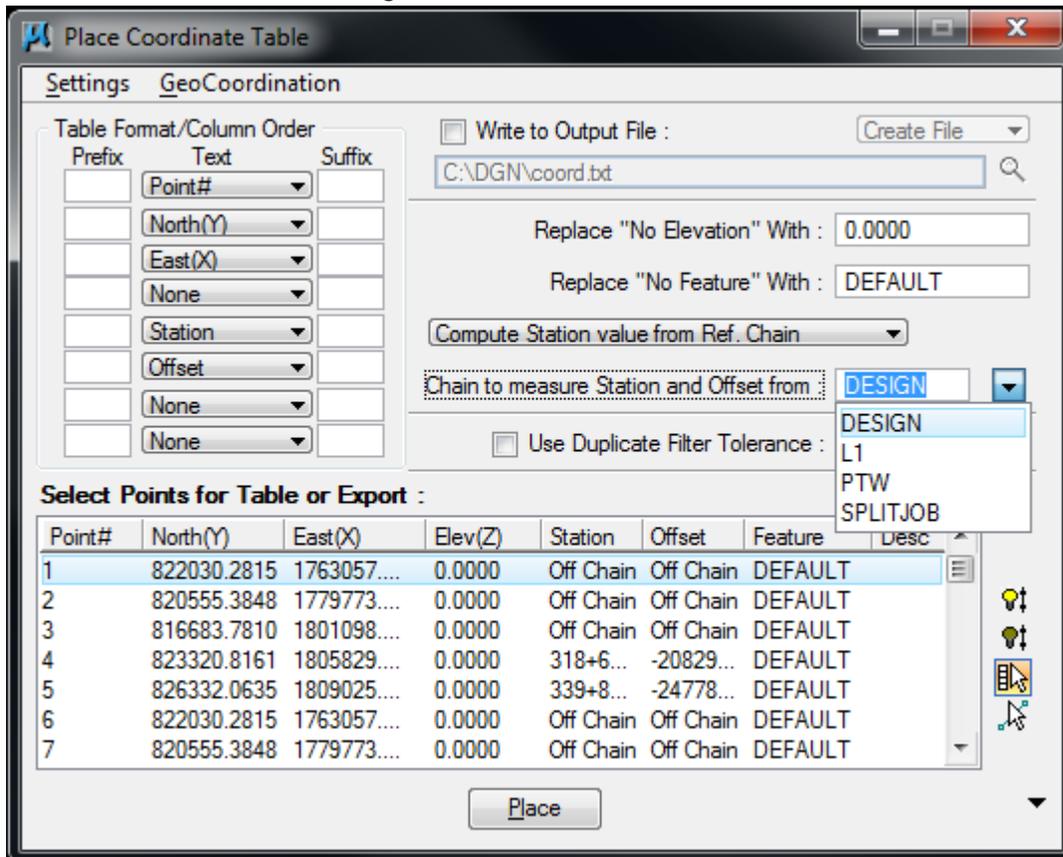


PLACING COORDINATE POINTS IN THE DETAIL SHEETS

1. Using GEOPAK>SURVEY pull down bar, select **Plans Preparations>Place Coordinate Table**.
2. Place the Coordinate Table in the upper right hand corner of the border. It may need to move later.

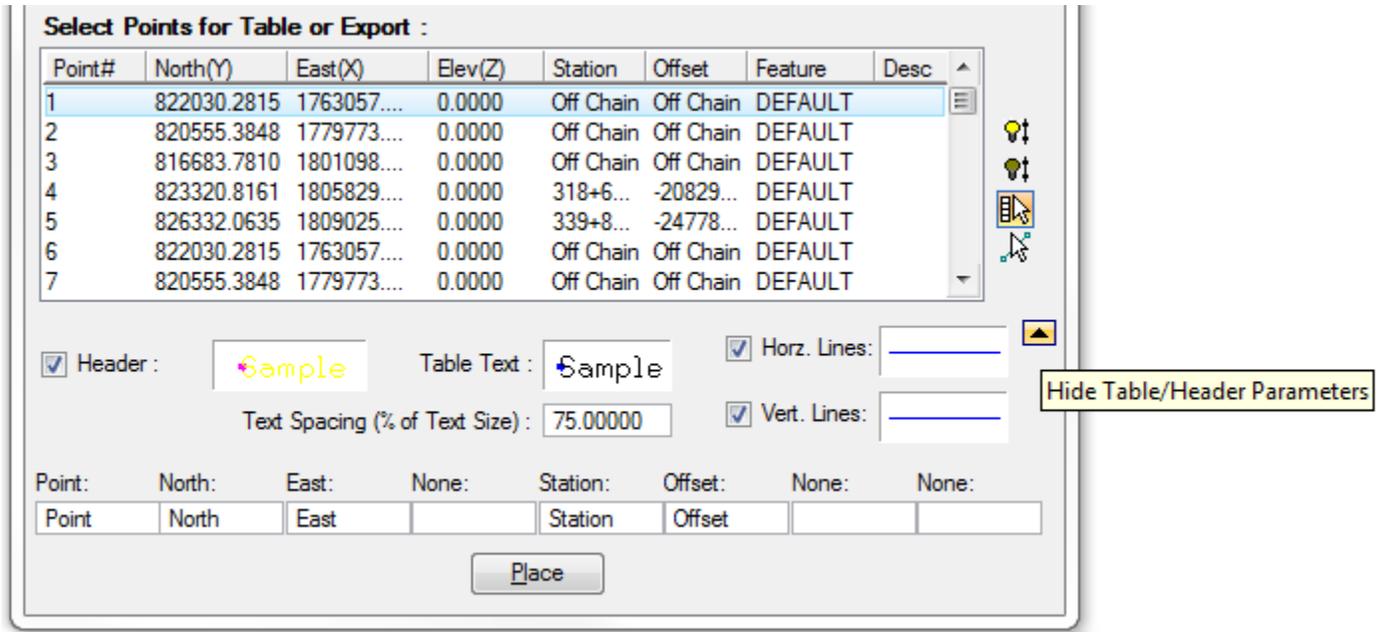


3. In the left hand column, change the Table Format/Column Order as shown below:

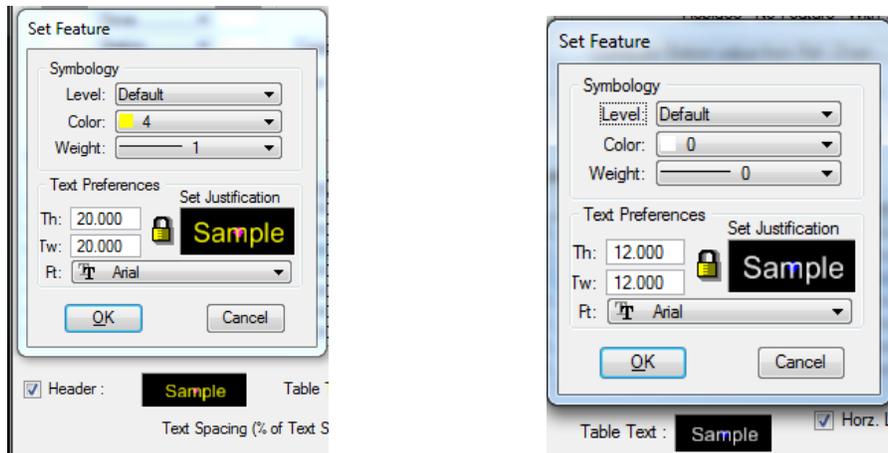


4. Change the Use **GPK Point Station** value stored with **Point** to **Compute Station value from Ref. Chain**. Below that, select the name of the reference chain from the down arrow.

5. Expand the bottom of the dialog box using the Hide Table/Header Parameters arrow.



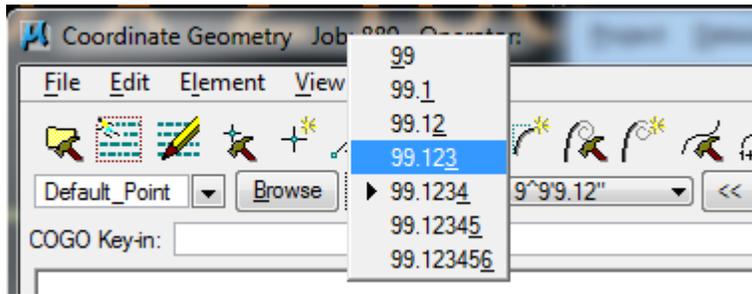
6. Change the Header Text and Table Text by right clicking on the word Sample.



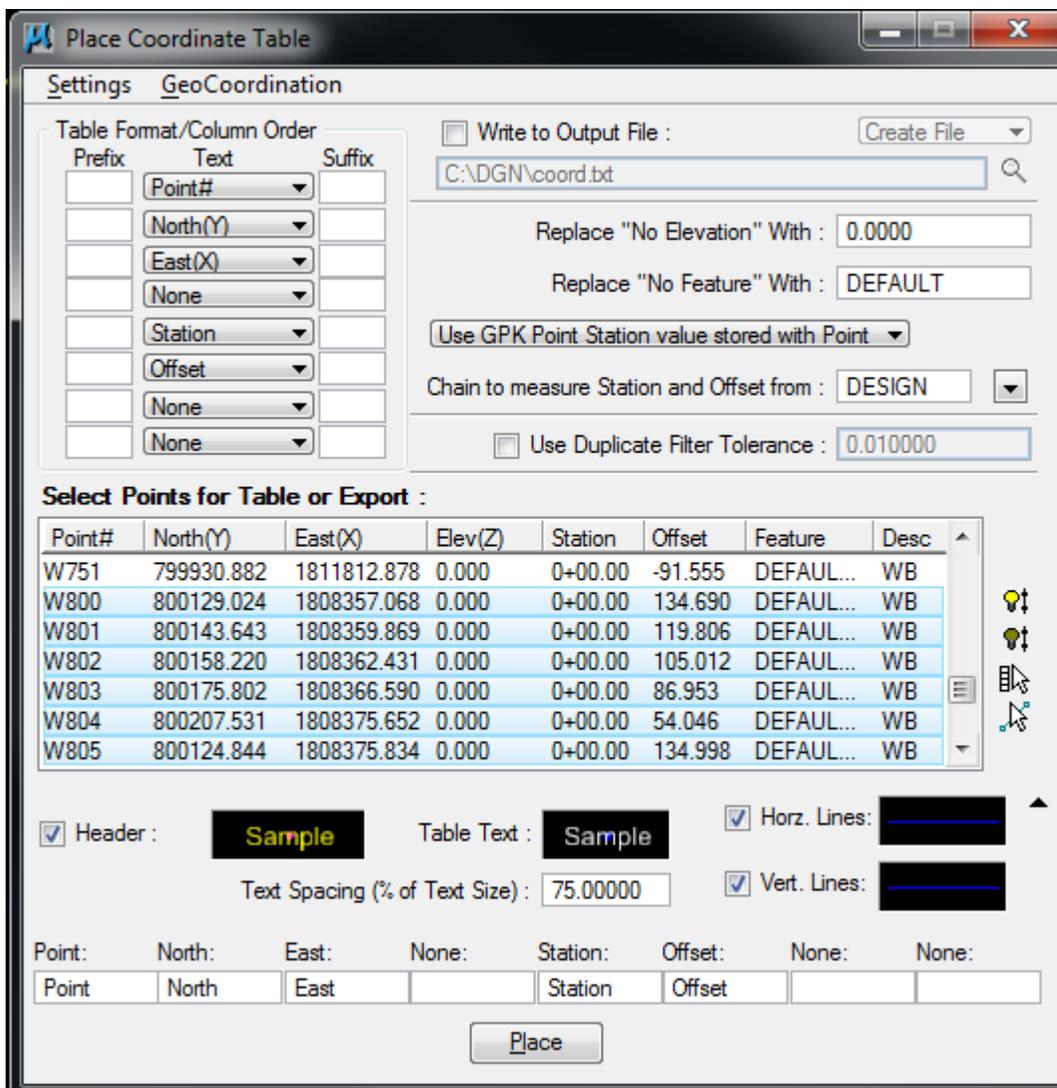
7. Header Text: Font : Arial, Th: 20 & Tw: 20, Set Justification to Center Center

8. Table Text: Font : Arial, Th: 12 & Tw: 12, Set Justification to Center Center

- Before creating the table, make sure the coordinates displayed in the dialog box are shown to 3 decimal places. If they are not, close this box and in the Coordinate Geometry dialog, change the decimal readout to 3 places.



- Highlight all of the points you want to place in the table. In this example, W800 to W832 are selected by holding down the Shift key and scrolling down.



11. Select **Place** when ready and place the table in the DETAIL sheet border. You can move and modify the table.

Point	North	East	Station	Offset
W800	800129.024	1808357.068	425+44.29	134.690
W801	800143.643	1808359.869	425+44.08	119.806
W802	800158.220	1808362.431	425+43.64	105.012
W803	800175.802	1808366.590	425+44.15	86.953
W804	800207.531	1808375.652	425+46.59	54.046
W805	800124.844	1808375.834	425+63.31	134.998
W806	800154.653	1808379.773	425+61.20	105.005
W807	800168.838	1808382.849	425+61.36	90.492
W808	800190.115	1808387.360	425+61.49	68.743
W809	800204.537	1808383.984	425+55.31	55.296
W810	800193.578	1808386.793	425+60.25	65.465
W811	800195.116	1808372.177	425+45.70	66.907
W812	800370.373	1808471.808	426+08.43	-124.729
W813	800341.523	1808443.323	425+66.04	-90.803
W814	800337.018	1808424.485	425+68.36	-82.623
W815	800327.412	1808406.890	425+52.96	-69.674
W816	800311.376	1808395.835	425+45.34	-51.735
W817	800283.619	1808390.673	425+45.90	-23.507
W818	800273.259	1808386.675	425+44.08	-12.552
W819	800256.309	1808384.596	425+45.48	4.467
W820	800256.961	1808403.580	425+63.94	-0.000
W821	800271.504	1808409.981	425+67.29	-15.532
W822	800279.354	1808430.520	425+65.88	-27.330
W823	800365.555	1808496.197	426+33.54	-124.796
W824	800347.495	1808490.405	426+31.37	-105.953
W825	800314.714	1808473.689	426+21.34	-70.531
W826	800300.316	1808462.472	426+13.13	-54.207
W827	800291.233	1808446.612	425+99.33	-42.170
W828	800264.652	1808399.445	425+58.34	-6.701
W829	800254.879	1808404.997	425+65.74	1.755
W830	800293.809	1808394.091	425+47.19	-34.178
W831	800327.325	1808479.283	426+24.37	-83.995
W832	800353.333	1808455.996	425+96.19	-104.897

12. Manually add a title on the top of the box using all capitalized text, TX=20, with Font Arial. Copy parallel the top line of the box 50 units up and extend the side lines. It should look similar to this:

WETLAND WL-8 COORDINATES				
Point	North	East	Station	Offset
W800	800129.024	1808357.068	425+44.29	134.690
W801	800143.643	1808359.869	425+44.08	119.806
W802	800158.220	1808362.431	425+43.64	105.012

13. Fill in the detail sheet information and add a North Arrow.

14. The following levels should be turned on. All others levels should be turned off unless you have a different situation:

XXXXRDEDETWET.DGN file

Default, E_Natural_Wetland_Area, Level 2, Level 3, P_Alignment_Default,

P_Approach_Delineation, P_Construction_Limits_Approach, P_Construction_Limits_Design

XXXXROMAPXXX.DGN file

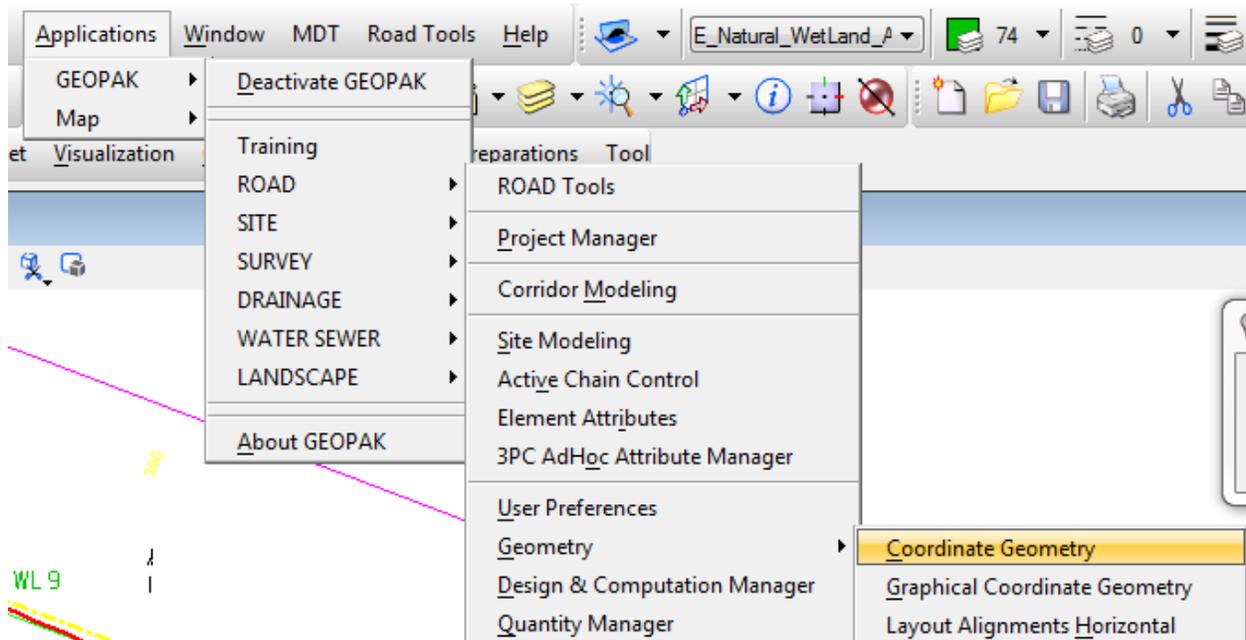
E_RW_EX_And_Ease_Line, P_NewNonHwyEase_Line, P_NewRWandEase_Line

15. These sheets will now become part of our Design Plans. List them in the DETAILS section of the TITLE Table of Contents.

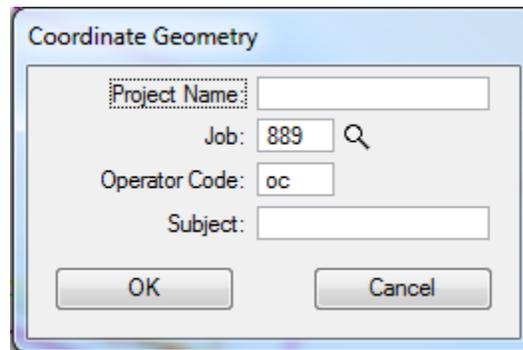
16. Select **File>Save Settings** to hold all of the settings.

EXPORTING WETLAND COORDINATE POINTS TO EXCEL

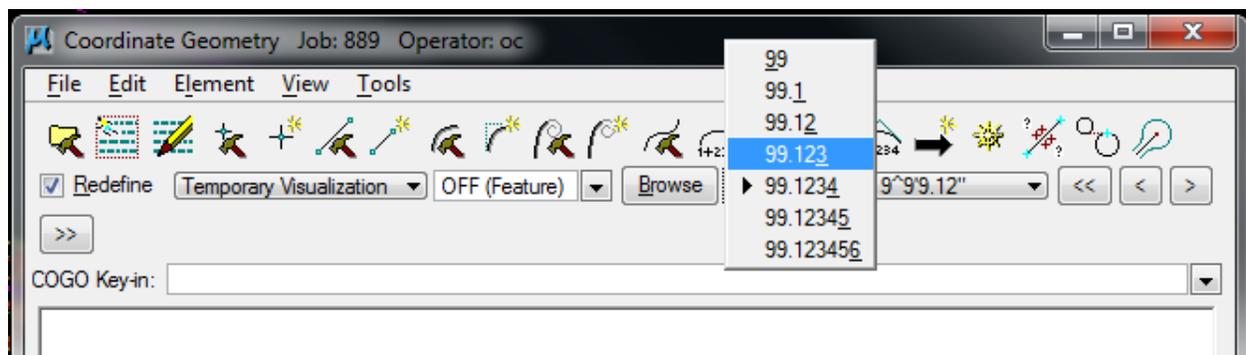
1. If you still have Coordinate Geometry open, proceed to Step 3. Otherwise, Activate Geopak and Load Coordinate Geometry.



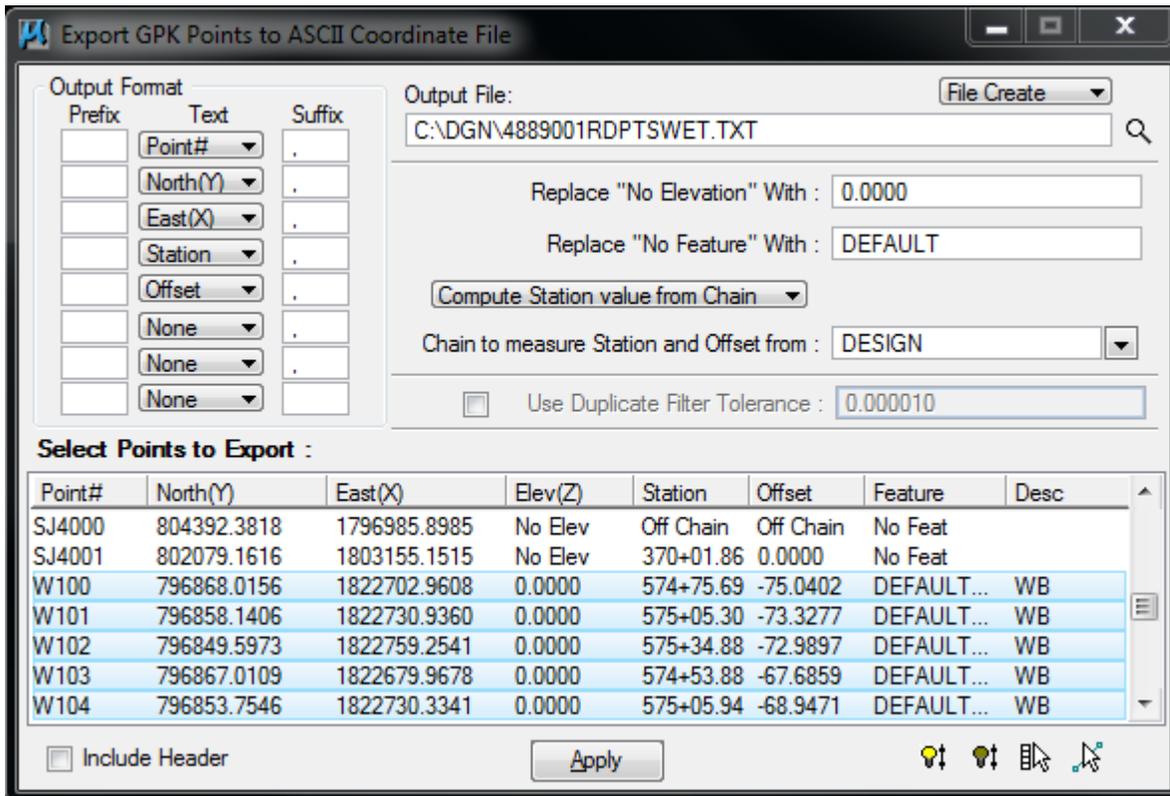
2. Select the Gpk file that contains your Wetland Coordinate points and select OK.



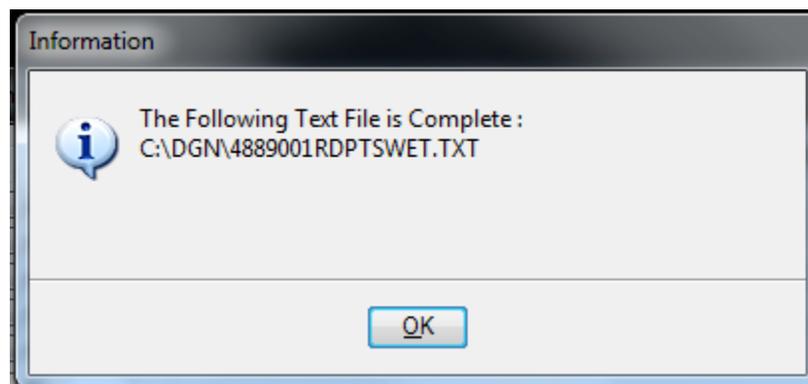
3. Set the decimals to 3 places.



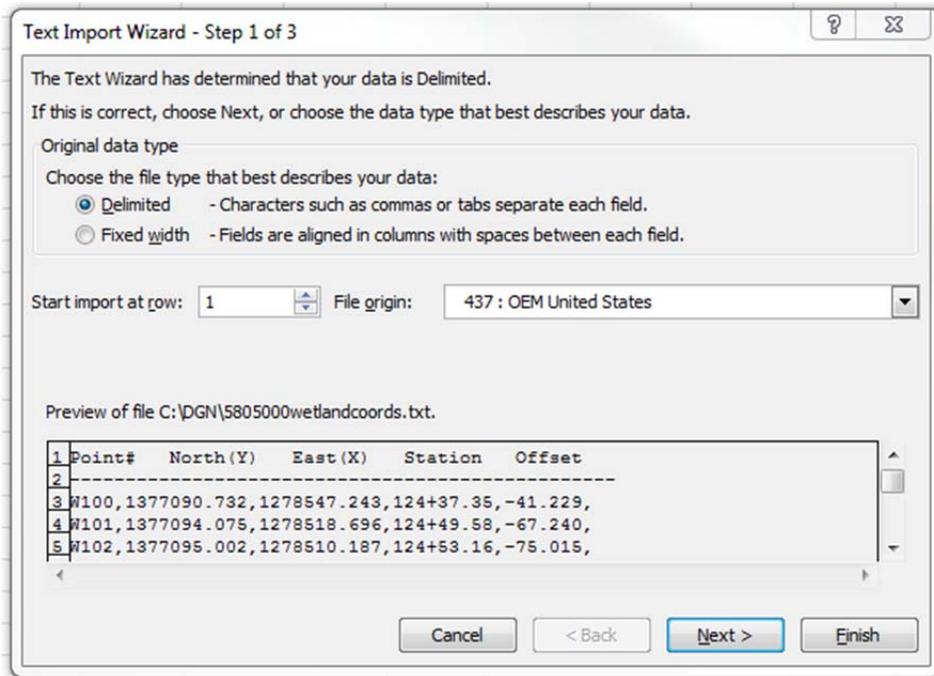
- Select File>Export >ASCII Points. The dialog below should appear.
- Highlight all your wetland points



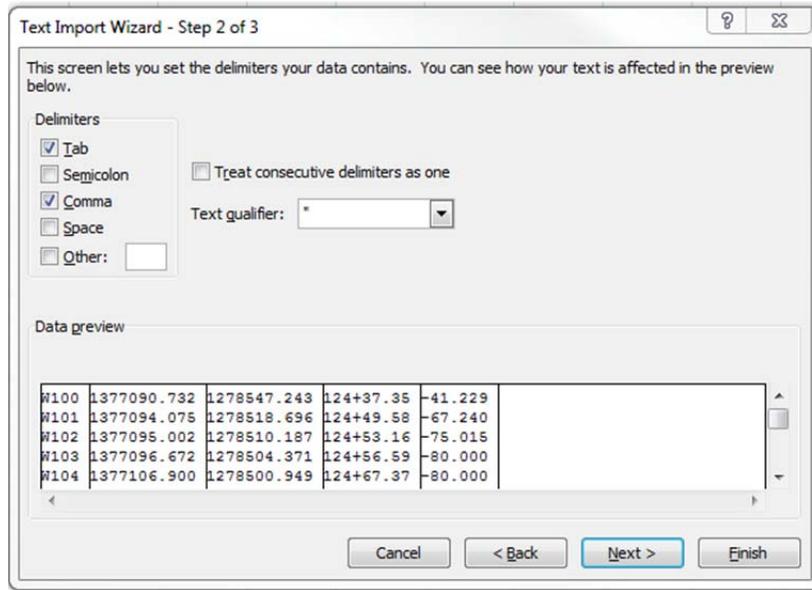
- In the left hand column labeled Output Format, select the text options **Point#**, **North(Y)**, **East(X)**, **Station**, **Offset**, and **None** on the rest, as shown above. Make sure the Prefix column is blank.
- Be sure **Compute Station value from Chain** is selected and the correct chain name is displayed.
- Do not choose "Include Header"**.
- Fill in an **Output File** name with a name that can be stored on DMS. Give it a txt extension.
- Select **Apply**.
- The following box should appear.



12. Open Excel
13. File>Open the XXXRDPTSWET.TXT file
14. Turn on **Delimited**



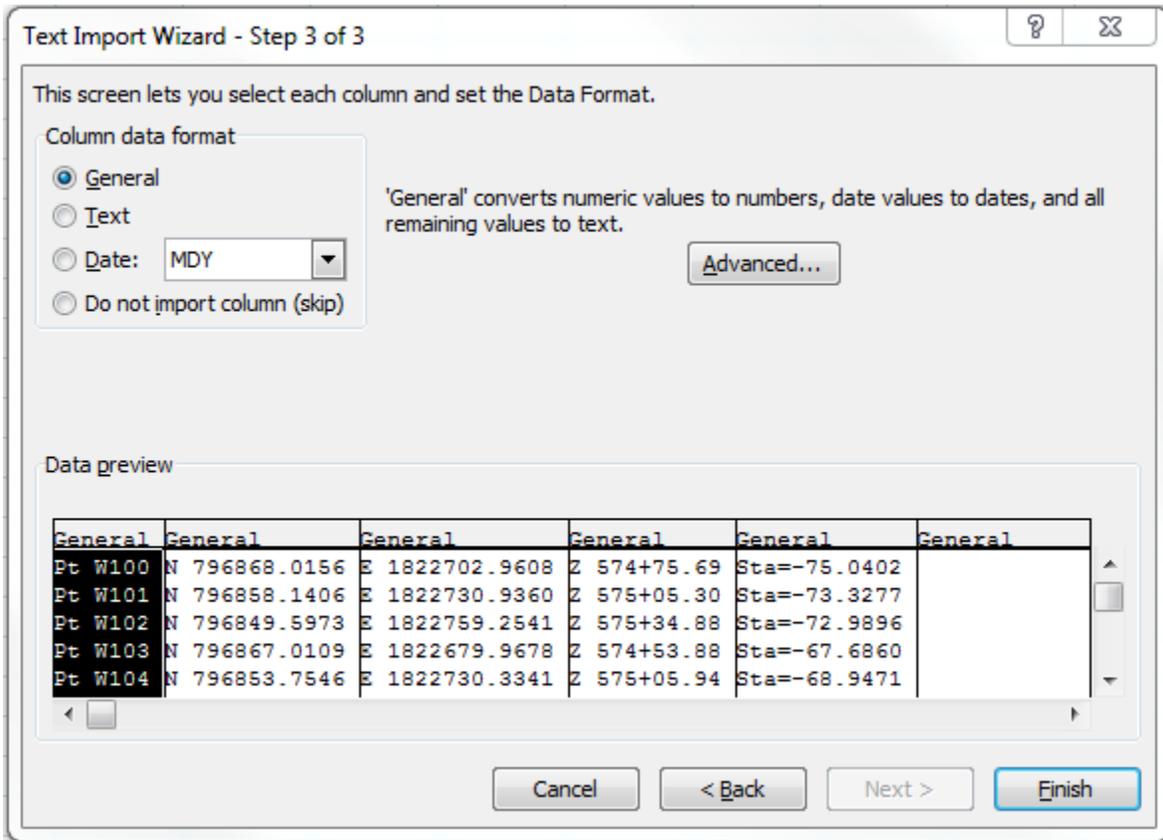
15. Select Next>
16. Turn on Tab and Comma



17. Select Next>

18. Turn on **General**

19. Select **Finish**



20. Insert a line above the first row and Label it POINT, NORTHING,EASTING, STATION and OFFSET

	A	B	C	D	E
1	POINT	NORTHING	EASTING	STATION	OFFSET
2	W100	1377090.732	1278547.243	124+37.35	-41.229

21. Set the column widths to 15 and center justify.

22. Save the file with a name that can be stored on DMS and with the .xlsx extension.

XXXXRDPTSWET.XLSX

23. Store the file on DMS so it will be available to construction and environmental.