Glenn Bragaw Interchange

Project 57179

VOLUME 2 OF 2
WORKING COPY
(REQUEST FOR PROPOSALS WITH ADDENDA)
PART IV – APPENDICES

RFP Date: November 1, 2006
Addenda 1 Date: December 13, 2006
Addenda 2 Date: February 13, 2007
Addenda 3 Date: March 6, 2007

Alaska Department of Transportation and Public Facilities
4111 Aviation Avenue
Anchorage, AK 99502

Glenn Bragaw Interchange Project 57179

REQUEST FOR PROPOSALS PART IV – APPENDICES
TABLE OF CONTENTS

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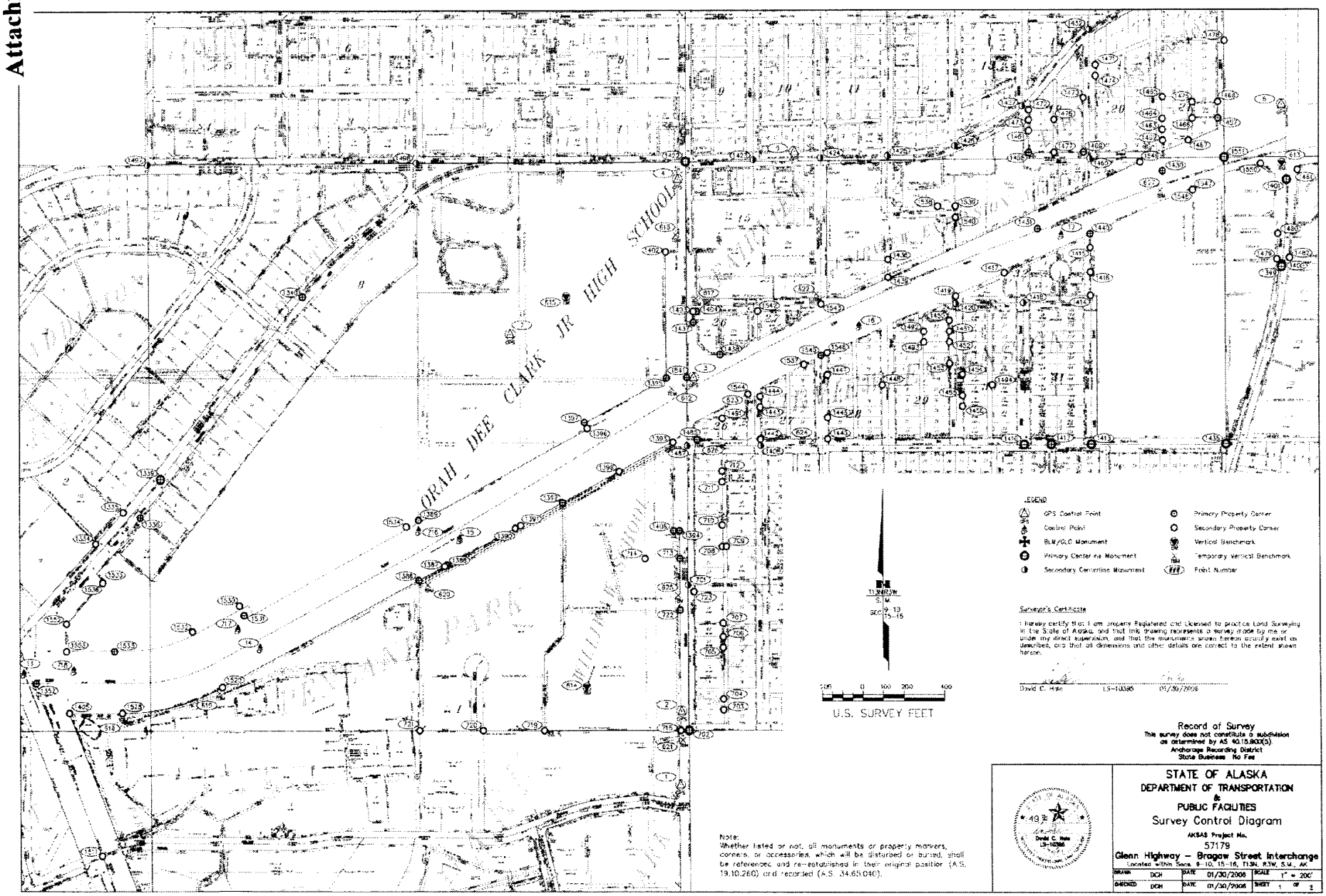
Glenn Bragaw Interchange

Project 57179

APPENDIX 2-1 SURVEY CONTROL DIAGRAM & PUBLIC USE EASEMENT

Addendum No. 1
Attachment No. 4



ANCHORAGE RECORDING DISTRICT PLAT NO. 2006-11

Recovered Boundary Monuments

Number	Northing	Easting	Description
701	340845.2417	361861.9668	Fd AC[TWA] 85+89
702	340170.2260	361864.8218	Fd AM[TWA] 79+14
703	340255.6943	362034.2575	Fd Rbr:SE L11 Blk3 Vanover
704	340315.7041	362033.8666	Fd Rbr:SE L10 Blk3 Vanover
705	340556.7370	362033.2338	Fd Rbr: NE Lot5A Blk3 Vanover
706	340606.9340	362035.1036	Fd Rbr: NE Lot5A Blk3 Vanover
707	340675.1345	362032.8380	Fd Rbr: NE Lot4B Blk3 Vanover
708	341025.5669	362030.4714	Fd Rbr: SW Lot19 Blk2 Vanover
709	341023.7216	362050.5025	Fd Rbr/PC[Lantech] SW Lot4 Blk2 Vanover
710	341126.4563	362029.8740	Fd Rbr: NW Lot18 Blk2 Vanover
711	341325.2034	362029.4877	Fd Rbr: NE Lot14 Blk2 Vanover
712	341373.3163	362028.1001	Fd Rbr: NE Lot13 Blk2 Vanover
713	340969.1292	361821.7001	Fd AM[TWA] SE L2 Brighton Park
714	340968.4037	361651.9850	Fd AC[DOWL] SW L2 Brighton Park
715	340170.1644	361824.7305	Fd Rbr/PC: SE Tr8-28 Willwaw
716	341103.7036	360542.4725	Fd AC[DOWL] MVGC 4
717	340645.6884	359652.3379	Fd AC[DOWL] MVGC 3
718	340453.3471	358846.3951	Fd AC[DOWL] MVGC 2
719	340163.9944	361155.7415	Fd Rbr/PC[DOWL] SW Tr8-26 Willawaw
720	340165.4648	360855.8075	Fd Rebar: S line Tr0-71B Penland Park
721	340157.9010	360546.6850	Fd Rebar: SW L1 Blk1 Penland Park
722	340730.1110	361822.5768	Fd BC[TWA] SE Tr8-2C Willawaw
723	340814.8423	361890.8936	Fd AC[TWA] NW L1A Blk3 Vanover
1334	341036.1898	356958.0766	Fd Rbr/PC[3202LS] NE L10 B2 AK Industrial
1335	341185.3136	359991.7122	Fd AC[5202S] NE L12A B2 AK Industrial
1336	341158.9403	359176.6136	Fd AM N L5A B7 AK Industrial
1339	341337.0425	358275.1471	Fd AM/Bx: PI Mountain View
1340	342191.5528	358973.5622	Fd AM/Bx: PC Mountain View
1362	340384.5533	358660.8218	Fd AM/Bx[DOT] S. 5TH/Airport Heights
1385	340865.4415	360542.6055	Fd BCMon[949] NW L2 B2 Penland Park
1387	340932.8766	360669.7263	Fd Rbr: N most L2 B2 Penland Park
1388	340936.5912	360680.6069	Fd Rbr: NW L3 B2 Sub of D-21 Penland Park
1389	341146.3438	360541.8608	Fd BCMon[C of A] SW Tr A C Oroh Dee Clark
1390	341109.0757	361015.1023	Fd Conc ROW POL N Line Tr D-21B Penland Park
1391	341122.7562	361041.8232	Fd AC[1710] NW Tr B2 Willawaw
1392	341225.9713	361247.5483	Fd AM[6714] NW Tr B-2C Willawaw
1393	341608.6085	361789.4830	Fd Rbr NE Tr E2 Willawaw
1394	341099.0967	361821.0614	Fd BCMon[949] E'ly Most Jog
1395	341815.0771	361758.3210	Fd BCMon[949] SE Tr A Oron Dee Clark
1396	341573.6205	361369.6187	Fd Conc ROW S most jog S Ln
1397	341602.0972	361355.1514	Fd BC[949] N most jog S Ln
1398	341373.1971	361526.9753	Fd AC[6714] NW Tr 2 Brighton Park
1399	342326.5934	364775.2045	Fd BC/Bx[DOT] PC McCarrey
1400	342336.6669	364775.3351	Fd BC SI McCarrey/Chena
1401	342721.7452	364800.3411	Fd BC/Bx[DOT] PT McCarrey
1402	342309.1194	361755.9898	Fd Conc ROW W most jog E ln
1403	342120.5063	361890.5102	Fd Rbr NW L1A B26 Fairview
1404	342120.6254	361905.4114	Fd AM/Bx[953] NW L1 B26 Fairview
1405	340247.2300	358823.3955	Fd Rbr NW Tr E Penland Park
1406	341099.0705	361791.0367	Fd BCMon[949] W most jog E
1408	341492.8773	362219.4343	Fd Rbr SI Jrc/Flower
1410	341497.6824	363516.8755	Fd BC SI 3rd/Bunn
1412	341498.3247	363643.4642	Fd BC[MOA] SI 3rd/Thomas Cr
1413	341498.3721	363849.4638	Fd BC[C of A] SI 3rd/Lane St
1414	342192.9850	363836.0904	Fd AC[5723] SE L10 B32 Fairview
1415	342415.1794	363837.2442	Fd Rbr SE L7 B32/Fairview
1416	342351.4581	363837.7362	Fd Rbr SE L8 B32 Fairview
1417	342298.7701	363415.1792	Fd Iron Peg NE L1 E32 Fairview
1418	342159.3702	363508.0874	Fd PK Nail SI 2nd/Bunn
1419	342153.7848	363177.5112	Fd IP:W most L1 B32 Fairview
1420	342155.3052	363177.6625	Fd Mag Nail SI 2nd/Hoyt
1422	342812.8468	361854.7070	Fd BC/BX[C of A] SI Mt View/Bragaw
1423	342923.8065	362184.3369	Fd AC/BX[MOA] SI N Flower/Mt View
1424	342379.8682	362514.4925	Fd AC[MOA] SI Mt View Dr/Klevin
1425	342836.7980	362544.2087	Fd AC[MOA] SI Mt View Dr/N Park
1426	342880.5711	363173.5060	Fd AC[MOA] SI Mt View Dr/Hoyt
1427	343063.7214	363503.2559	Fd AC SI Mt View Dr/Bunn
1429	342961.3124	365057.6277	Fd BC/BX[DOT] Glenn Hwy PT
1430	342782.8947	364193.7655	Fd BC/BX[DOT] Glenn Hwy PC
1431	342502.1075	363573.0606	Fd AM/BX[DOT] Glenn C/L
1432	343415.4449	363832.6703	Fd AC/BX[MOA] SI Mt View Dr/N Lane
1433	343575.4185	364161.3713	Fd RBR SI Mt View Dr/N Bliss
1434	343588.0703	364491.9125	Fd AC SI Mt View Dr/N Pine
1435	341501.4873	364500.6298	Fd BC 1/16/3rd/Pine
1436	342360.7326	362843.9058	Fd Rbr NE Tr 7A Fairview
1437	342076.5410	361890.5774	Fd BC W most jog W line L1A Fairview
1438	341920.6552	362021.0541	Fd AM[953] SE L1A B26 Fairview
1439	342277.7362	362846.4197	Fnd Rbr SW Tr4 Fairview

Recovered Boundary Monuments

Number	Northing	Easting	Description
1440	342478.1326	363836.9808	Fd BC NE L7 B32 Fairview
1442	341522.4650	362217.8998	Fd Rbr SW L12 B27 Fairview
1443	341672.2429	362216.5483	Fd Rbr SW L9 B27 Fairview
1444	341722.4736	362216.6085	Fd Rbr SW L8 B27 Fairview
1445	341524.1446	362546.0334	Fd Spike SW L12 B28 Fairview
1446	341624.1717	362547.5419	Fd Rbr SW L10 B28 Fairview
1447	341824.4056	362546.2371	Fd Rbr SW L6 B28 Fairview
1448	341775.7719	362817.0367	Fd Rbr SE L16 B28 Fairview
1450	342077.5042	363145.7179	Fd IP SE L24A B29 Fairview
1451	342027.5126	363145.8621	Fd Rbr SW L23 B29 Fairview
1452	341977.6537	363146.1245	Fd Rbr SE L22 B29 Fairview
1453	341877.6943	363146.5610	Fd Rbr SE L20 B29 Fairview
1454	341826.2812	363209.4019	Fd IP SW L6 B30 Fairview
1455	341726.1242	363209.7934	Fd IP SW L8 B30 Fairview
1456	341676.3911	363209.7788	Fd IP SW L9 B30 Fairview
1457	343004.9760	364464.9212	Fd AP[11928] SE L13A B21 Fairview
1458	342849.7620	363535.8580	Fd BC SW L8 B19 Fairview
1460	342822.1826	353836.0311	Fd AC SI Ames/N Lane
1461	342849.5740	363535.9342	Fd Rbr NW L7 B19 Fairview
1462	342903.5749	364195.5185	Fd Rbr SW L14 B21 Fairview
1463	342953.0640	364193.2786	Fd Rbr/PC[6291] SW L13 B21 Fairview
1464	343003.2417	364193.1718	Fd Rbr SW L12 B21 Fairview
1465	343103.4571	364194.5362	Fd Rbr SW L10 B21 Fairview
1466	343004.5371	364339.9374	Fd Rbr SW L19A B21 Fairview
1467	342904.1247	364320.8600	Fd Rbr SE L14 B21 Fairview
1468	343079.8838	364464.5460	Fd AC[11921] NE L19A B21 Fairview
1469	342851.2566	363605.8959	Fd BC SE L9 B19 Fairview
1470	343101.2536	363804.2135	Fd Rbr SE L14 B19 Fairview
1471	343251.6071	363663.0781	Fd AC[6914] NW L6 B20 Fairview
1472	343045.8614	363535.1489	Fd Rbr NW L5 B19 Fairview
1473	342999.5549	363536.2724	Fd Rbr NW L5 B13 Fairview
1474	343201.5641	363853.4638	Fd Rbr PC[6914] NW L7 B20 Fairview
1475	343079.4751	364339.5506	Fd Rbr NW L19A B21 Fairview
1476	343000.5453	363660.0375	Fd Rbr SE L5 B19 Fairview
1477	342850.5059	363660.7551	Fd Rbr SE L8 B19 Fairview
1478	343362.1319	364495.7327	Fd Mag Nail SI N. Pine/Alley
1479	342360.5670	364752.8164	Fd AC[3255] SE Tr B Wonder Park
1480	342477.5598	364757.3297	Fd Spike NE Tr B Wonder Park
1481	342756.9871	354853.5491	Fd Rbr S end NW jog C-5 Wonder Park
1482	342366.3274	364914.7597	Fd Rbr SW C-5 Wonder Park
1485	341520.4126	361908.0943	Fd BC AP S18C
1487	341491.2865	361859.3524	Fd AC SI Bragaw/3rd
1491	341620.3124	362031.8125	Fd Rbr NW L14 B26 Fairview
1492	342026.7315	363020.7532	Fd Iron Peg NW L22 B25 Fairview
1493	341977.0956	363021.1983	Fd Rbr SW COR L22 B29 Fairview
1494	341778.9122	363354.7424	Fd Rbr NW L17 B30 Fairview
1495	345468.0761	364482.2427	Fd AC C 1/4 S10 T13 N3W
1497	342807.4669	356214.9675	Fd AC/BX 1/4 S9\S16 T13N R3
1498	342810.1123	360534.8399	Fd AC/BX[6504] E1/16 S9/S16
1500	342802.5795	356574.4238	Fd AC/BX S8S9/S17S16 T13N
1502	342840.7971	367137.1908	Fd BC/BX[DOT] S10S11/S15S14
1511	339577.2074	358984.0681	Fd Rbr SI Airport Heights/Penland Parkway
1528	340247.2796	359084.7420	Fd Rbr PC NW line Penland Park
1529	340366.8740	359676.0697	Fd Rbr PT NW line Penland Park
1530	340746.4742	359659.5219	Fd Concrete ROW Mon.
1531	340702.8398	359682.5643	Fd BC MOA Lot
1532	340637.7619	359430.6404	Fd Concrete ROW Mon
1533	340534.6852	359046.9859	Fd BC PC MOA Lot
1534	341115.6351	360462.2958	Fd Concrete ROW Mon.
1535	340856.8007	355990.3352	Fd Concrete ROW Mon.
1536	340853.7671	358865.9614	Fd AC[ASCG] Arpa PI MOA Lot
1537	341873.5195	362431.8410	Fd Rbr AP N Line L19 B27 Fairview
1538	342603.7444	363289.4289	Fd Nail S Line Tr5 Fairview
1539	342604.2218	363175.0732	Fd Nail SE Tr5 Fairview
1540	342554.0351	363176.2527	Fd Nail NE Tr10 Fairview
1541	341812.3525	361858.1613	Fd BC[DOT]
1542	342122.2507	362205.4321	Fd Rbr NW L1A B27 Fairview
1543	342153.3720	362516.8657	Fd Rbr SI 2nd/Klevin
1544	341733.3635	362156.9381	Fd Rbr NE L5A B26 Fairview
1545	341916.0979	362515.4075	Fd BC C/L Klevin Inx S.ROW Glenn
1546	341919.0207	362545.9721	Fd Iron Pin NW L4 B28 Fairview
1547	342675.0410	364341.4545	Fd IP PTN NE4NE4NW4
1548	342678.1083	364341.1579	Fd AC[R&M] PTN NE4NE4NW4
1549	342804.5800	364083.7752	Fd IP NE L5A Fairview
1550	342798.1735	364673.5543	Fd IP Tract A Wonder Park
1551	342825.4078	364495.7958	Fd BC/BX[DOT] 1/4 S10/S15 T13N
1552	340664.0919	358909.8990	Fd AC[ASCG] NW MOA Lot
1553	340534.3696	358810.0392	Fd AC[ASCG] SA MOA Lot

Horizontal Control Statement:

Coordinate System:
This project is located entirely within the Anchorage Bowl 2000 adjustment, a U.S. Survey Foot local surface grid coordinate system developed by the Alaska Department of Transportation.

Basis of Coordinates
The Basis of Coordinates is NGS Station O'Malley, located near the intersection of the New Seward Highway and O'Malley Road. Said station has Anchorage Bowl 2000 coordinates of 303,939.2310 N, 353,362.5446 E.

Basis of Bearings:
The Basis of Bearings is a local plane bearing between NGS Station O'Malley and NGS Station Loop 2 USE RM 3 1964. NGS Station Loop 2 USE RM 3 1964 bears N 01°43'26.4"E a distance of 49,488.45 U.S. Survey Feet from NGS Station O'Malley. NGS Station Loop 2 USE RM 3 1964 has Anchorage Bowl 2000 coordinates of 353,405.2778 N, 354,851.3982 E.

Translation Parameters.
To convert the local coordinates to NAD83 (92) State Plane Foot coordinates, translate using +2,296,868.6876 N, +1,312,517.4905 E, and scale using 0.999891C192.

Vertical Control Statement:

MOA GAAB 72, as determined by differential level loops performed by R&M Consultants, Inc. between the following benchmarks;

CB 2C, a brass cap set vertically in the south wall of Clark Jr. High School, having a published elevation of 141.96' above mean sea level.

CB 3A, a brass cap set vertically in the west face of Northern Pacific Academy, having a published elevation of 137.55' above mean sea level.

Vertical Control Points

Number	Northing	Easting	Elevation	Description
612	341760	361784	135.40	Fnd TBM: Top Bolt NW corner Pedestrian Overpass at Bragaw-Glenn Highway
613	342799	364777	173.28	Fnd BC [ADOT], S. Abutment McCarrey Overpass
614	340371	361364	137.55	Fnd BC [CB 3A], W. face Pacific Northern Academy
615	342191	361258	141.96	Fnd BC [CB 2C], S. face Clark Jr. High
616	342478	361806	158.35	Set TBM: N. Bolt Hydrant entrance to Clark Jr. High
617	342181	361903	149.76	Set TBM: N. Bolt Hydrant NE Quad. Bragaw & 2nd
618	340239	358084	120.15	Set TBM: N. Bolt Hydrant NE Frog Lot 1 Penland Park
619	340340	359561	123.14	Set TBM: N. Bolt Hydrant NW Frog Lot 2, Penland Park
620	340843	360588	130.23	Set TBM: N. Bolt Hydrant NE Frog Lot 6 Penland Park
621	340125	361834	146.07	Set TBM: N. Bolt Hydrant S. of Entrance to Pacific Northern Academy
622	342231	362495	153.06	Set TBM: N. Bolt Hydrant NW Quad. Klevin & 2nd
623	341722	362158	141.34	Set TBM: N. Bolt Hydrant N. and Flower
624	341517	362473	143.53	Set TBM: N. Bolt Hydrant NW Quad. Klevin & 3rd
625	340798	361813	139.35	Set TBM: N. Bolt Hydrant S. of entrance to Brighton Park
626	341518	361914	139.19	Set TBM: N. Bolt Hydrant NE Quad. Bragaw & 3rd
627	342672	364182	153.77	Set TBM: NE Bolt Luminaire

Notes:

1. Whether listed or not, all monuments or property markers, corners, or accessories, which will be disturbed or buried, shall be referenced and re-established in their original position (A.S. 19.10.260) and recorded (A.S. 34.65.040).

2. Coordinates are listed in U.S. Survey Feet.

3. Background information taken from Municipality Of Anchorage Tax-Maps is shown for orientation only, and should not be used for any other purpose.

4. GPS Control Points were established using static network GPS techniques and Leica GPS equipment.

5. GPS control points 1 thru 7 were established by R&M Consultants, Inc. Control points 11 thru 17 were provided by the ADOT&PF Survey Section, and were not adjusted.

6. Found monuments 701 thru 723 were surveyed by R&M Consultants, Inc. Found monuments 1334 thru 1553 were provided by the ADOT&PF Survey Section.

7. Vertical control points 612 and 613 were provided by the ADOT&PF Survey Section. Temporary bench marks were set by R&M Consultants, Inc. using differential leveling techniques between known bench marks.

8. This survey was completed between September 19, 2005 and January 10, 2006.

9. Elevations for horizontal control set this survey were determined by differential level loops performed between existing vertical control.

Horizontal Control Points

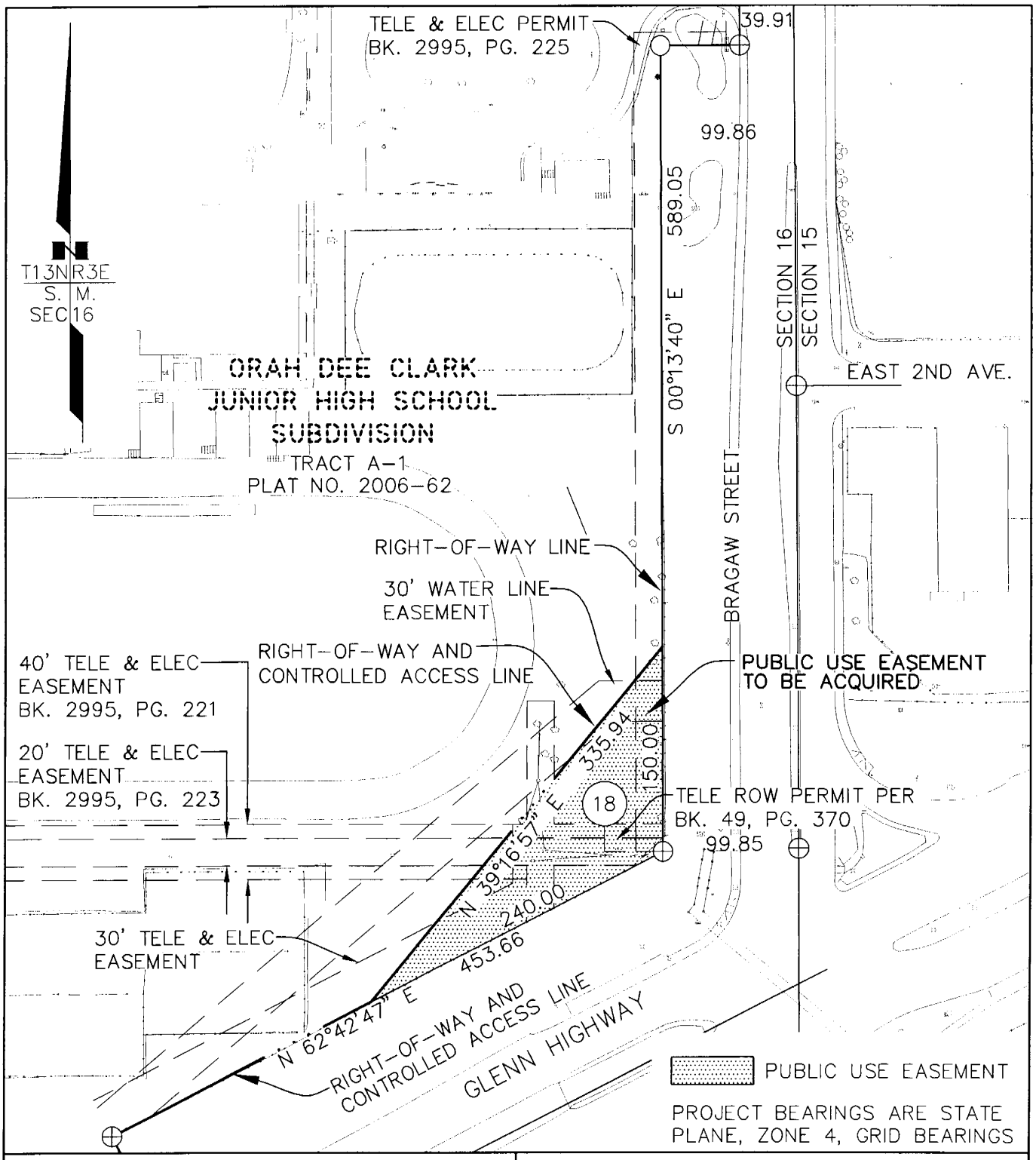
Number	Northing	Easting	Elevation	Description
1	339912.2936	361820.7178	142.47	Set Alcap [R&M] GBI 1
2	340258.7749	361828.8276	146.20	Set Alcap [R&M] GBI 2
3	341813.0647	361891.9375	136.45	Set Alcap [R&M] GBI 3
4	342731.1559	361814.5888	158.35	Set Alcap [R&M] GBI 4
5	342858.1131	362388.5298	163.45	Set Alcap [R&M] GBI 5
6	343067.6211	364775.3808	176.34	Set Alcap [R&M] GBI 6
7	340015.4332	360992.2754	155.81	Set Alcap [R&M] GBI 7
11	340348.1888	357037.4390	134.84	Fd RbrPC [DOT] TS-11
13	340439.1388	358600.0652	130.59	Fd RbrPC [DOT] TS-13
14	340557.1888	359761.6543	125.25	Fd RbrPC [DOT] TS-14
15	341064.8564	360743.7784	130.72	Fd RbrPC [DOT] TS-15
16	342061.0986	362703.5006	146.10	Fd RbrPC [DOT] TS-16
17	342480.7195	363694.5087	152.86	Fd RbrPC [DOT] TS-17

Record of Survey
This survey does not constitute a subdivision as determined by AS 40.15.900(5).
Anchorage Recording District
State Business No Fee

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES
Survey Control Diagram
AKSAS Project No.
57179
Glenn Highway – Bragaw Street Interchange
Located within Secs. 9-10, 15-16, T13N, R3W, S.M., AK

DRAWN	DCH	DATE	01/30/2006	SCALE	1" = 200'
CHECKED	DCH	DATE	01/30/2006	SHEET	2 OF 2

Addendum No. 1
Attachment No. 5



ANCHORAGE SCHOOL DISTRICT MUNICIPALITY OF ANCHORAGE	RIGHT OF WAY REQUIRED FOR GLENN HIGHWAY/BRAGAW ST. INTERCHANGE

OWNER'S INITIALS _____

EXHIBIT _____

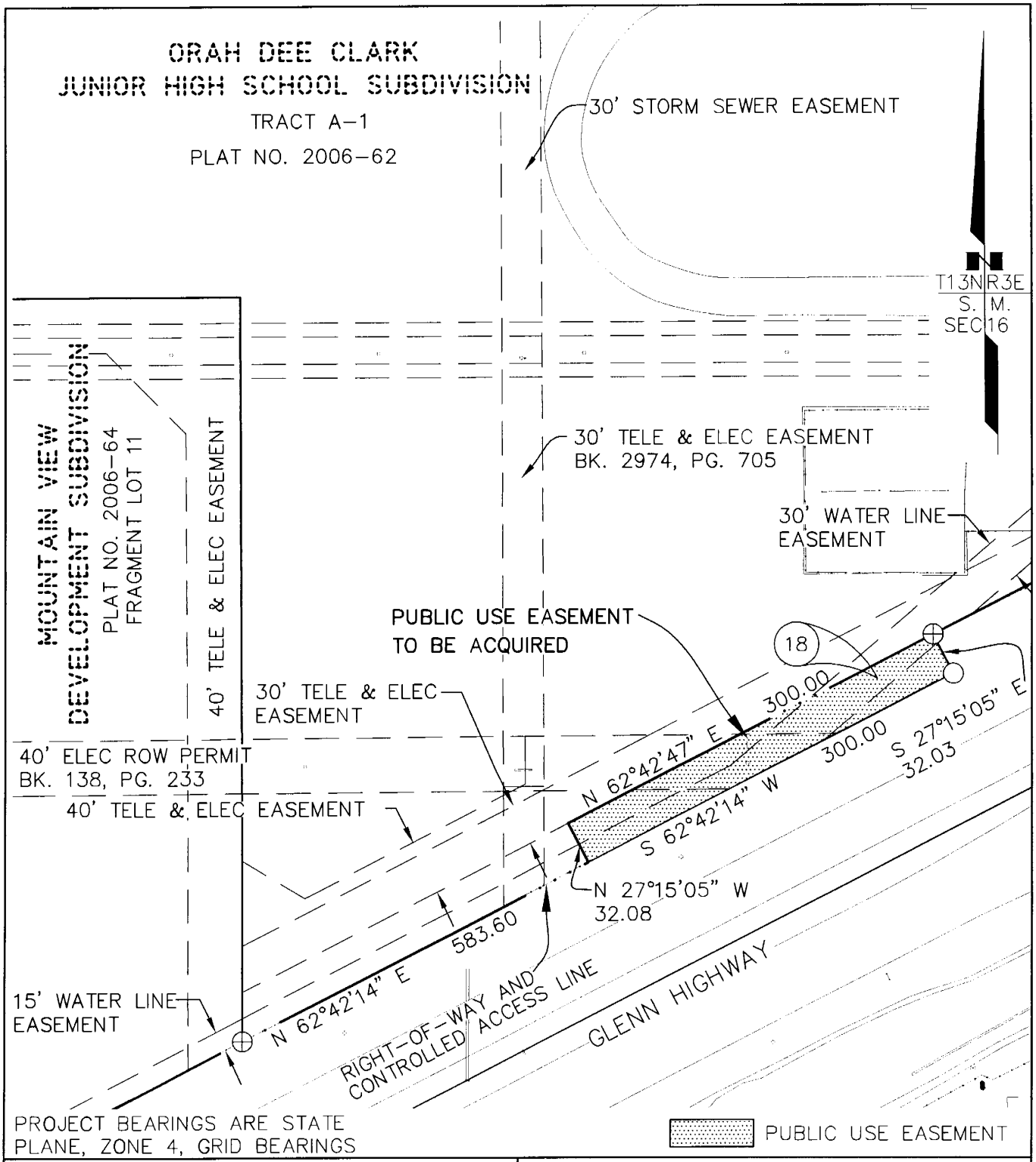
PAGE ___ OF ___ DATED _____

EXHIBIT 3 OF 3

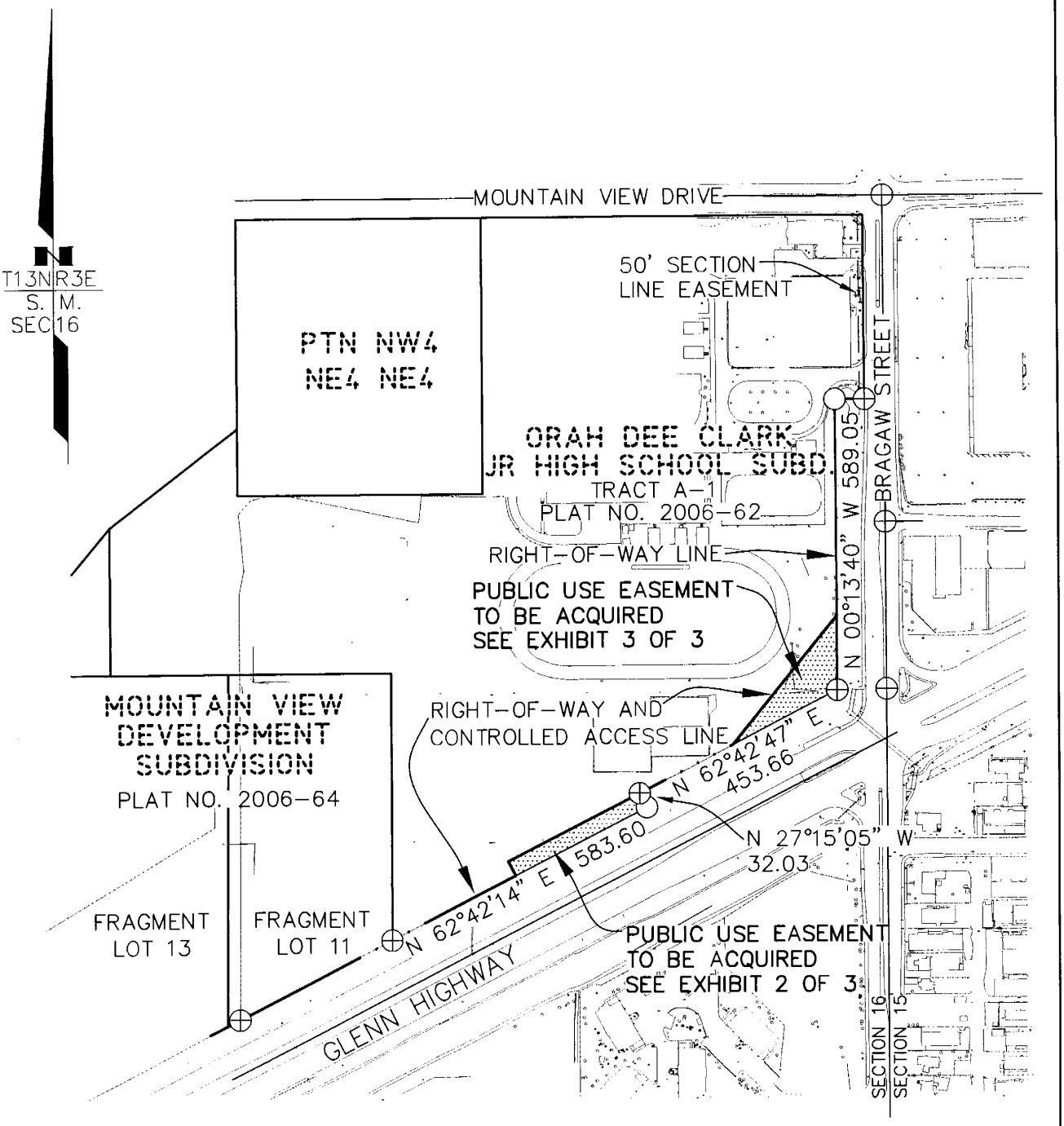
ROW ACQUISITION TYPE PUE

ROW ACQUISITION AREA 16030 S.F.

SCALE 1"=100' DATE 9-15-06 PARCEL NO. 18



ANCHORAGE SCHOOL DISTRICT MUNICIPALITY OF ANCHORAGE	RIGHT OF WAY REQUIRED FOR GLENN HIGHWAY/BRAGAW ST. INTERCHANGE
OWNER'S INITIALS _____ EXHIBIT _____ PAGE ___ OF ___ DATED _____	EXHIBIT 2 OF 3 ROW ACQUISITION TYPE PUE ROW ACQUISITION AREA 9617 S.F. SCALE 1"=100' DATE 9-15-06 PARCEL NO. 18



PROJECT BEARINGS ARE STATE PLANE, ZONE 4, GRID BEARINGS

PUBLIC USE EASEMENT

ANCHORAGE SCHOOL DISTRICT MUNICIPALITY OF ANCHORAGE	RIGHT OF WAY REQUIRED FOR GLENN HIGHWAY/BRAGAW ST. INTERCHANGE

OWNER'S INITIALS _____

EXHIBIT _____

PAGE ___ OF ___ DATED _____

EXHIBIT 1 OF 3

ROW ACQUISITION TYPE PUE

ROW ACQUISITION AREA 25,647 S.F.

SCALE 1"=300' DATE 9-15-06 PARCEL NO. 18

Glenn Bragaw Interchange

Project 57179

APPENDIX 2-2 TRAFFIC DATA

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Memorandum

Date: 10/31/06			**File:**				
Binder: Engineering			**Category:** Proposed Bragaw Interchange Air & Noise Analysis Information				
To:							
From: Michael Trueblood, Kyle Evans							
Routing (initial and pass to next person):	Paul Witt						
	Dan Simpson						
Purpose:	The purpose of this memo is to provide an overview of the required traffic information for use by CH2M Hill for the Air & Noise Analysis of the proposed Glenn Highway/Bragaw interchange. This memo highlights the peak hour traffic volumes as well as the expected level of service for each of the scenarios required for the air & noise analysis.						
Study Area:	In general, the study area focused on the Glenn Highway/Bragaw interchange. It should be noted that travel demand model results, however, covered a much larger study area required to forecast the traffic volumes within Anchorage.						
Assumptions:	• Development of the Year 2027 peak hour traffic volumes is highlighted in the 3/13/06 Traffic Volume Memo. It should be noted that the volumes were based on a freeway-to-freeway connection near 5th Street/Gambell Street/Ingra Avenue. • This analysis incorporates four lanes in each direction along The Glenn Highway in the vicinity of the Bragaw Street Interchange. • Speed limits within the study area are as follows: ❖ Bragaw North of Glenn Highway = 30 mph ❖ Bragaw South of Glenn Highway = 35 mph ❖ Glenn Highway = 55 mph • Data related to vehicle classification for Bragaw Street and the Glenn Highway is attached in a separate document. • This memo documents the results of the following four roadway/volume scenarios: ❖ Year 2006 – Existing geometry and peak hour volumes. ❖ Year 2027 – Existing geometry and No-Build 2027 peak hour volumes. ❖ Year 2009 – Proposed tight urban diamond interchange Year 2009 peak hour volumes. ❖ Year 2027 – Proposed tight urban diamond interchange Build-Out Year 2027 peak hour volumes.						

- Table 1 depicts the AM/PM peak hour traffic volumes developed for this analysis.

Table 1 – Glenn Highway/Bragaw Street Interchange Peak Hour Volumes

Intersection	Scenario	AM Peak Hour											
		Northbound			Southbound			Eastbound			Westbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Bragaw/Glenn Highway	Year 2006 - Existing	114	285	106	37	179	42	40	709	46	502	2984	97
	Year 2027 - No-Build	150	425	140	50	225	60	750	1700	175	100	6800	100
	Year 2009 - Proposed	*Through Volume Along Glenn Highway*						--	804	--	--	3357	--
	Year 2027 - Proposed							--	1700	--	--	6800	--
Bragaw/ WB Glenn Highway Ramps	Year 2006 - Existing	--	--	--	--	--	--	--	--	--	--	--	--
	Year 2009 - Proposed	119	367	--	--	224	44	--	--	--	532	--	106
	Year 2027 - Proposed	150	525	--	--	275	60	--	--	--	750	--	175
Bragaw/ EB Glenn Highway Ramps	Year 2006 - Existing	--	--	--	--	--	--	--	--	--	--	--	--
	Year 2009 - Proposed	--	421	111	39	717	--	45	--	51	--	--	--
	Year 2027 - Proposed	--	575	140	50	975	--	100	--	100	--	--	--

Intersection	Scenario	PM Peak Hour											
		Northbound			Southbound			Eastbound			Westbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Bragaw/Glenn Highway	Year 2006 - Existing	106	360	573	300	459	31	44	2728	127	232	1254	59
	Year 2027 - No-Build	125	400	600	400	600	60	100	6250	225	400	2800	100
	Year 2009 - Proposed	*Through Volume Along Glenn Highway*						--	3071	--	--	1406	--
	Year 2027 - Proposed							--	6250	--	--	2800	--
Bragaw/ WB Glenn Highway Ramps	Year 2006 - Existing	--	--	--	--	--	--	--	--	--	--	--	--
	Year 2009 - Proposed	107	414	--	--	790	34	--	--	--	250	--	64
	Year 2027 - Proposed	125	500	--	--	1000	60	--	--	--	400	--	100
Bragaw/ EB Glenn Highway Ramps	Year 2006 - Existing	--	--	--	--	--	--	--	--	--	--	--	--
	Year 2009 - Proposed	--	473	577	313	727	--	49	--	138	--	--	--
	Year 2027 - Proposed	--	525	600	400	1000	--	100	--	225	--	--	--

Methodology:

CORSIM simulation models were developed for each of the peak hour scenarios listed in Table 1. A set of Synchro PDF files (under separate attachment) have been created that include the geometry and signal timing/phasing that was used for each scenario.

Findings and Conclusions:

Table 2 below includes the average intersection delay for each signalized intersection based on the roadway scenario listed.

Table 2 – Glenn Highway/Bragaw Street Interchange CORSIM LOS Results

Intersection	Year 2006 - Existing				Year 2009 - No-Build				Year 2027 - No-Build			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bragaw/Glenn Highway	79.2	E	170.2	F	209.2	F	205.0	F	268.2	F	185.8	F
Bragaw/ WB Glenn Highway Ramps	–	–	–	–	–	–	–	–				
Bragaw/ EB Glenn Highway Ramps	–	–	–	–	–	–	–	–				

Intersection	Year 2009 - Proposed TUDI				Year 2027 - Proposed TUDI			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bragaw/Glenn Highway	–	–	–	–				
Bragaw/ WB Glenn Highway Ramps	12.2	B	7.9	A	12.3	B	9.9	A
Bragaw/ EB Glenn Highway Ramps	7.8	A	8.1	A	7.6	A	10.4	B

Table 3 below includes the average travel speed of the through traffic at each intersection based on the roadway scenario listed. EB/WB relate to traffic along the Glenn Highway for all scenarios.

Table 3 – Glenn Highway/Bragaw Street Interchange CORSIM Travel Speed Results

Through Vehicle Speeds (mph)	Year 2006 - Existing							
	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Bragaw/Glenn Highway	12.4	8.3	29.7	4.8	10.6	8.8	3.3	20.9
Bragaw/ WB Glenn Highway Ramps	--	--	--	--	--	--	--	--
Bragaw/ EB Glenn Highway Ramps	--	--	--	--	--	--	--	--

Through Vehicle Speeds (mph)	Year 2009 - No-Build							
	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Bragaw/Glenn Highway	9.6	7.4	25.5	5.5	2.6	4.1	4.1	22.9
Bragaw/ WB Glenn Highway Ramps	--	--	--	--	--	--	--	--
Bragaw/ EB Glenn Highway Ramps	--	--	--	--	--	--	--	--

Through Vehicle Speeds (mph)	Year 2027 - No-Build							
	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Bragaw/Glenn Highway	2.3	4.7	11.8	4.6	2.8	5.9	6.0	21.1
Bragaw/ WB Glenn Highway Ramps	--	--	--	--	--	--	--	--
Bragaw/ EB Glenn Highway Ramps	--	--	--	--	--	--	--	--

Through Vehicle Speeds (mph)	Year 2009 - Proposed TUDI							
	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Bragaw/Glenn Highway	--	--	--	--	--	--	--	--
Bragaw/ WB Glenn Highway Ramps	17.6	15.6	54.5	52.8	19.0	17.1	53.3	54.3
Bragaw/ EB Glenn Highway Ramps	10.0	17.1	54.5	52.8	11.4	11.6	53.3	54.3

Through Vehicle Speeds (mph)	Year 2027 - Proposed TUDI							
	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Bragaw/Glenn Highway	--	--	--	--	--	--	--	--
Bragaw/ WB Glenn Highway Ramps	13.4	14.3	54.4	51.2	16.9	14.4	51.8	53.9
Bragaw/ EB Glenn Highway Ramps	10.0	14.7	54.4	51.2	9.1	11.2	51.8	53.9

It should be mentioned that the 2027 No-Build analysis does not include all of the delay incurred by the actual demand due to the capacity constraints of the existing Glenn Highway.

References:	Year 2027 AM/PM Peak hour volumes included in 3/13/06 HDR Memo. Alaska Department of Public Facilities,Central Region Planning Highway Data Section, *Central Region Traffic Volume Report 2002, 2003, & 2004.*

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Glenn Bragaw Interchange

Project 57179

APPENDIX 2-3 ROADWAY CONCEPTUAL DESIGN PLAN

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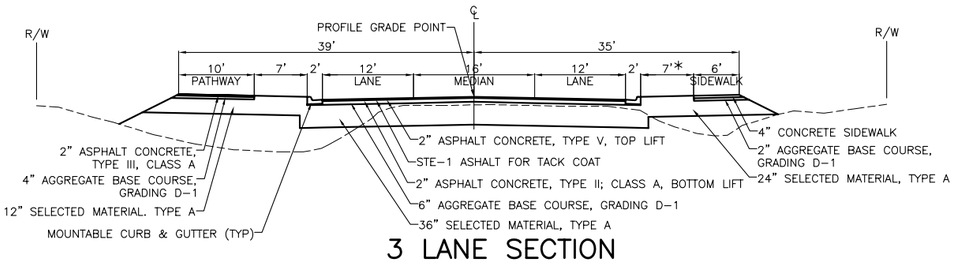
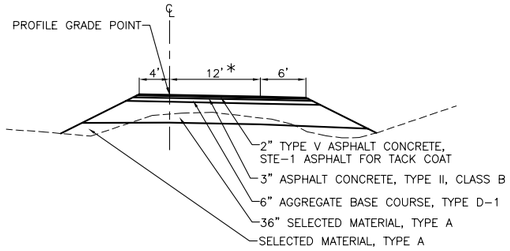


3 LANE SECTION

SCALE: 1"=10'

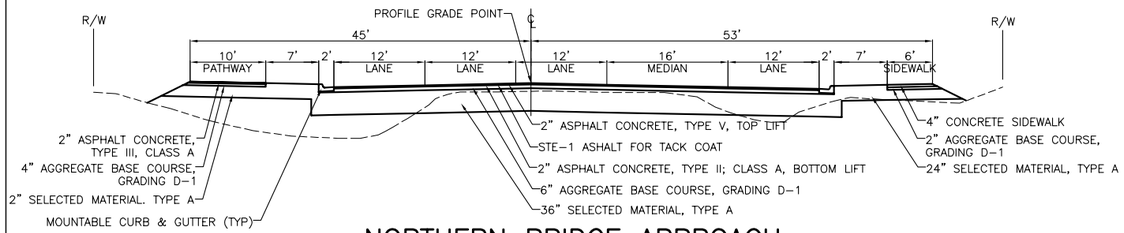
*MAINTAIN 7' SEPARATION, OR THE MAXIMUM POSSIBLE SEPARATION AVAILABLE WITH EXISTING RIGHT-OF-WAY.
STA 10+00 RT TO MTN. VIEW DRIVE MATCH.



RAMP SECTION

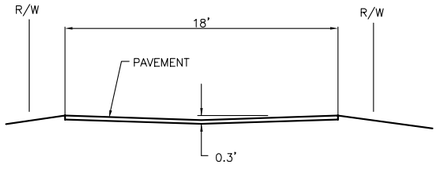
SCALE: 1"=10'

*MAY BE MULTIPLE LANES



NORTHERN BRIDGE APPROACH

SCALE: 1"=10'



TYPICAL ALLEY SECTION

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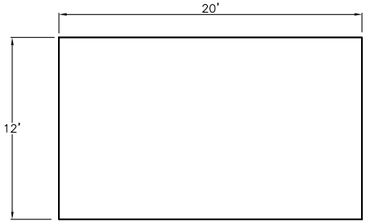
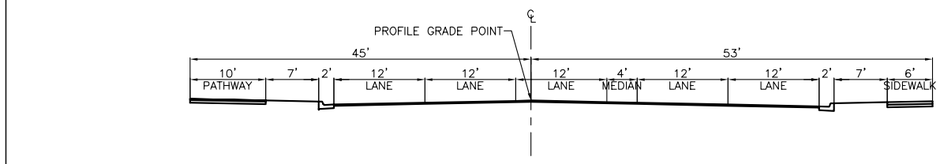


3RD AVENUE PEDESTRIAN UNDERCROSSING CLEARANCE ENVELOPE

NOT TO SCALE



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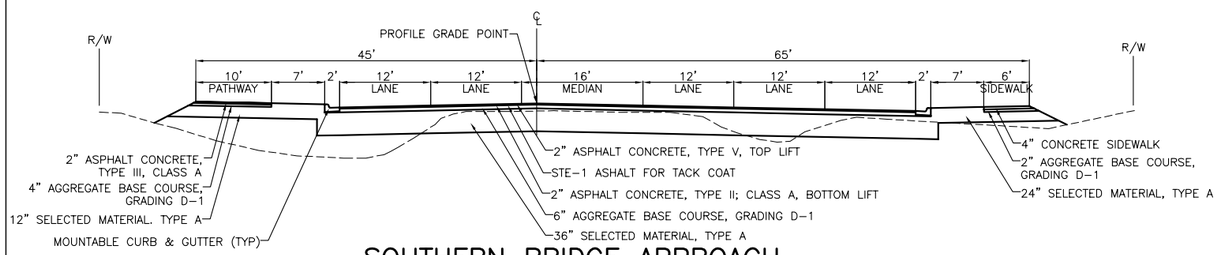
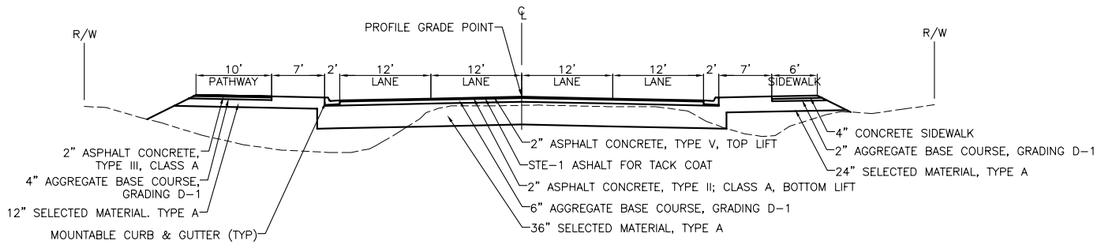


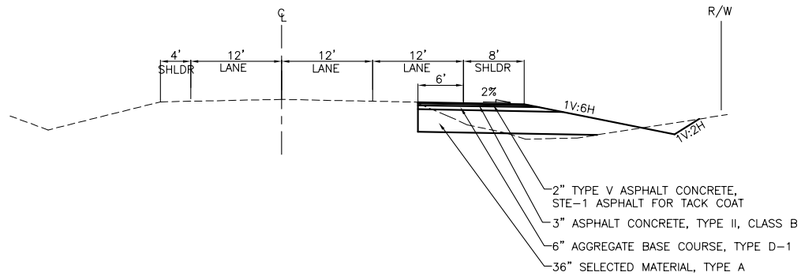
SOUTHERN BRIDGE APPROACH

SCALE: 1"=10'



4 LANE SECTION

SCALE: 1"=10'



INBOUND GLENN HIGHWAY TYPICAL SECTION

SCALE: 1"=10'

NOTE:

CONSTRUCT NUMBER OF LANES SHOWN THROUGHOUT THIS PLAN SET. INTENT IS TO LEAVE EXISTING 3 OUTBOUND AND 2 INBOUND THROUGH LANES AS THEY ARE NOW.

SHEET	OF
1	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

ADDENDUM NO.
–

ATTACHMENT NO.
–

REVISIONS

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1	2/5/07	Revised Addendum 2

DEVELOPED BY:
HDR ALASKA, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORATION
AND PUBLIC FACILITIES

GLENN / BRAGAW INTERCHANGE

TYPICAL SECTIONS

DESIGNED BY: DATE:
CHECKED BY: DATE:
DRAWN BY: DATE:
PLOT DATE:
PLOT SCALE:
SCALE:

FILENAME:
VPORT:
XREF:

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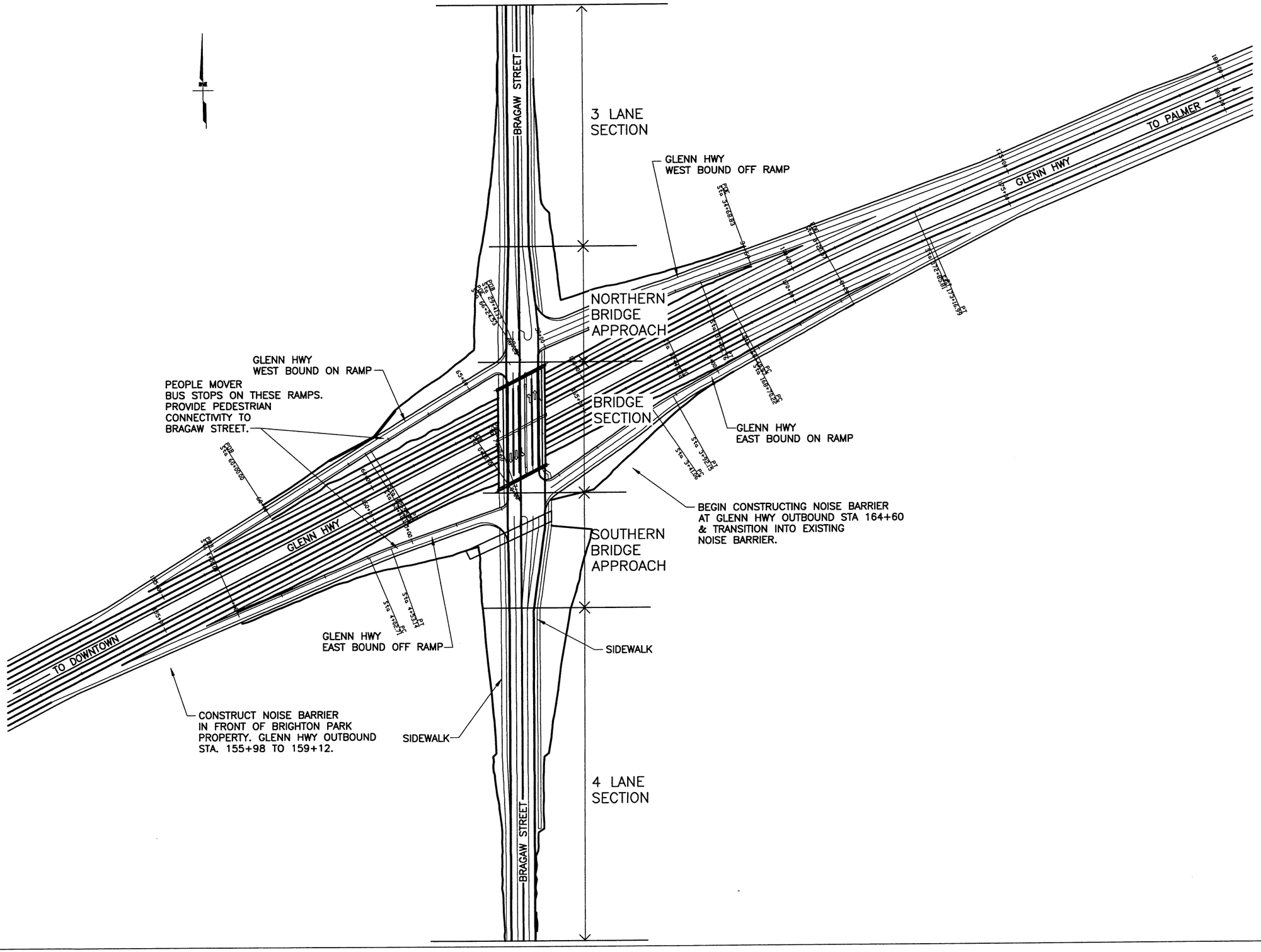

SHEET	OF
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STATE	YEAR
ALASKA	2006

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GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

INTERCHANGE LAYOUT PLAN

DESIGNED BY:
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SHEET	OF
3	8
STATE	YEAR
ALASKA	2006

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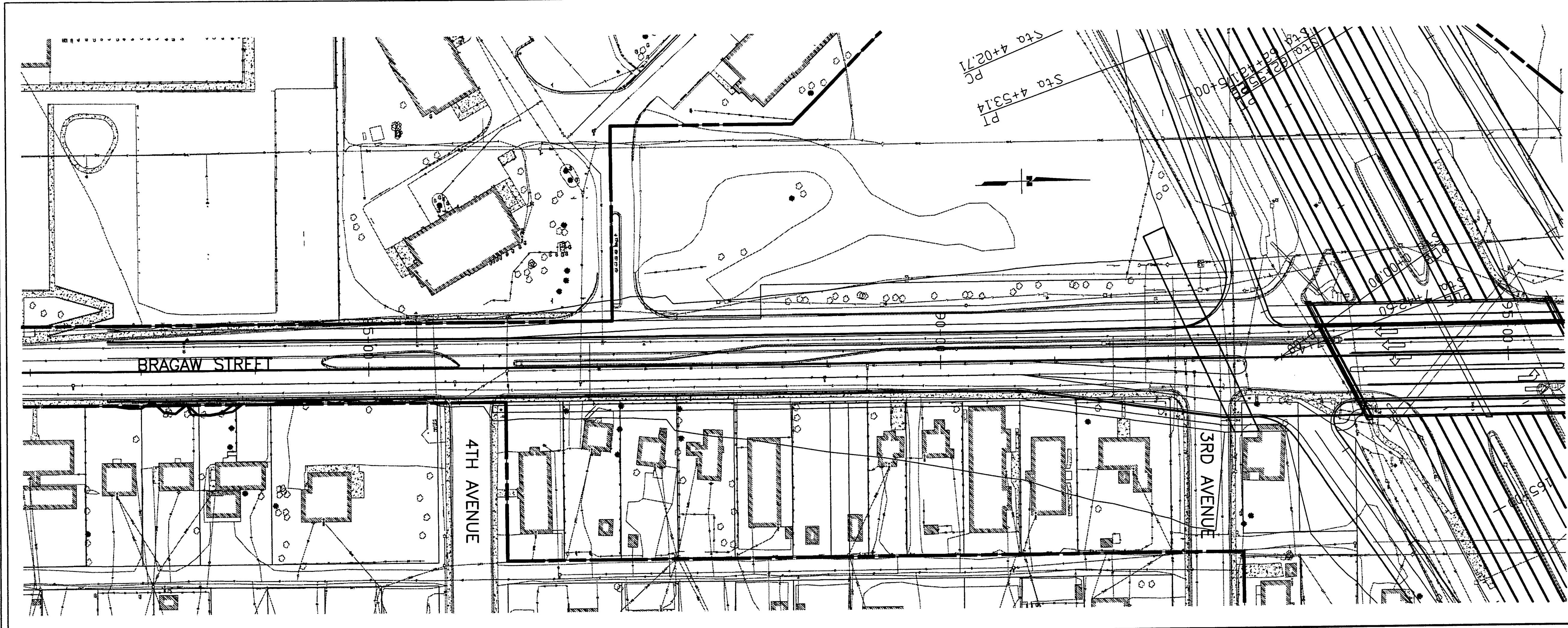

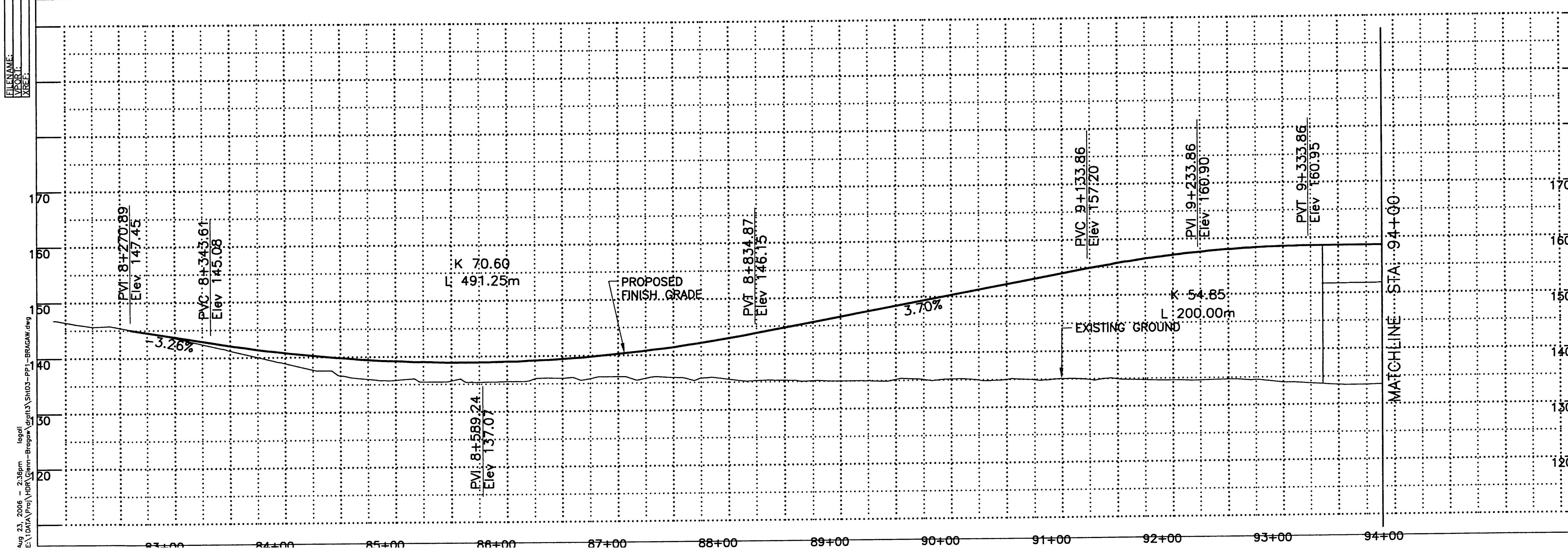

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DEPARTMENT OF TRANSPORATION
AND PUBLIC FACILITIES

GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

BRAGAW STREET PLAN & PROFILE

SHEET	OF
4	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

ADDENDUM NO.

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ATTACHMENT NO.

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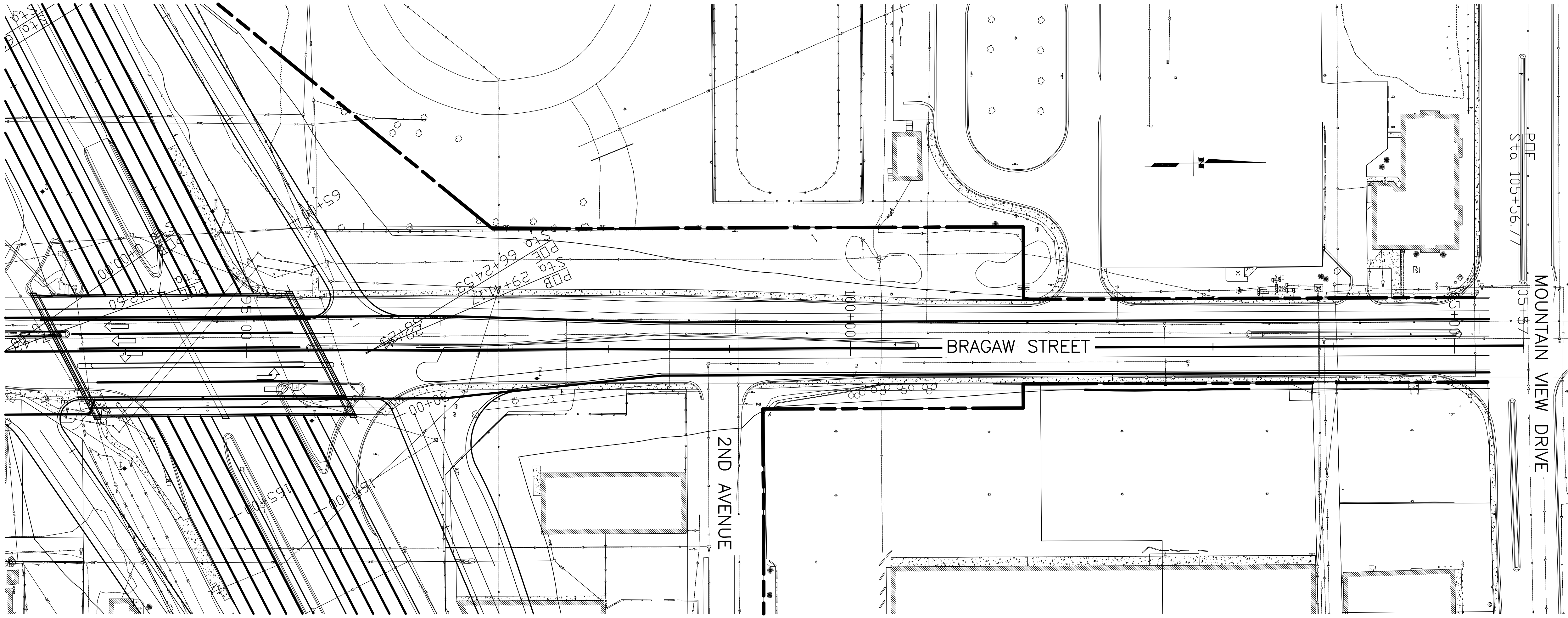

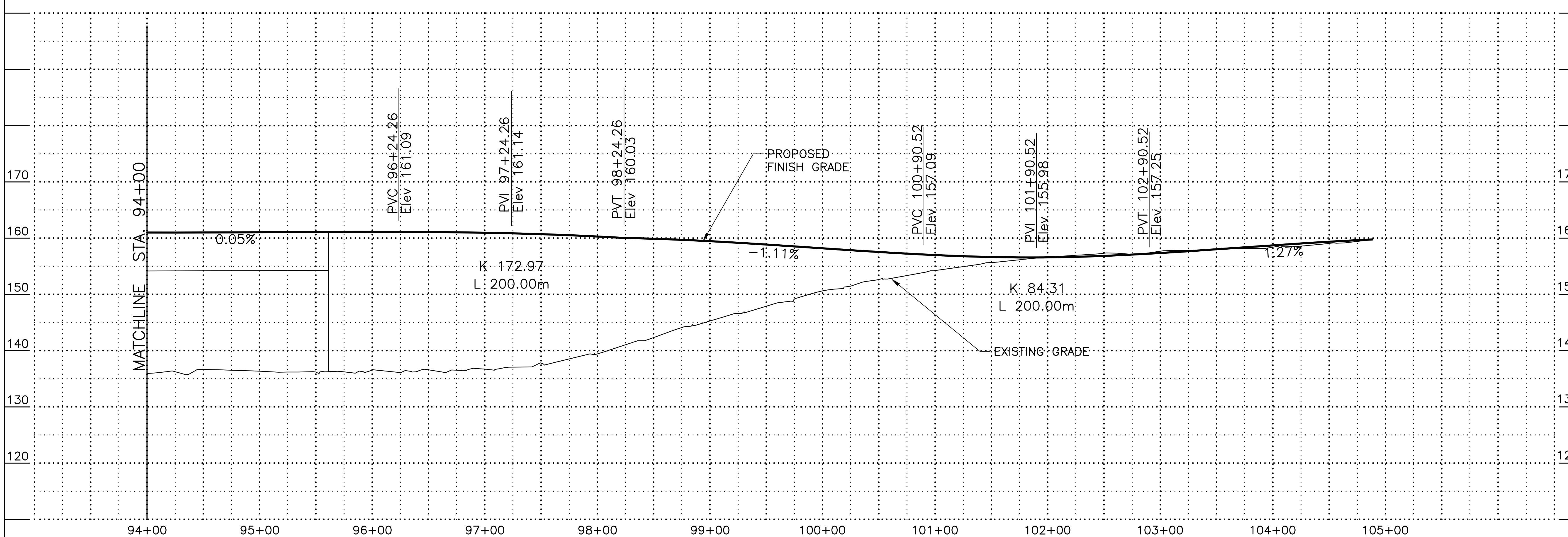

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GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

BRAGAW STREET PLAN & PROFILE

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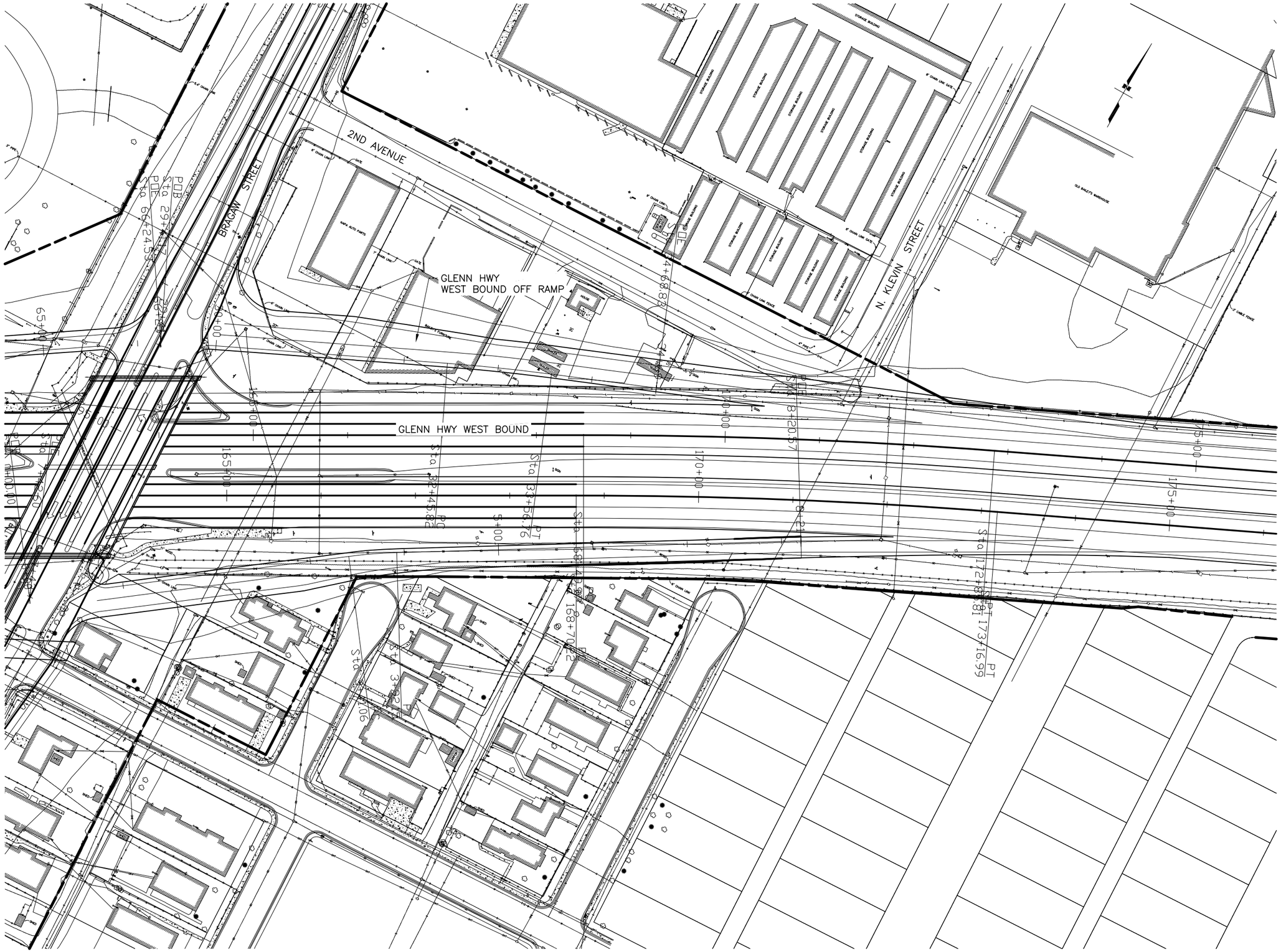

SHEET	OF
5	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

ADDENDUM NO.

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GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

EAST RAMPS PLAN

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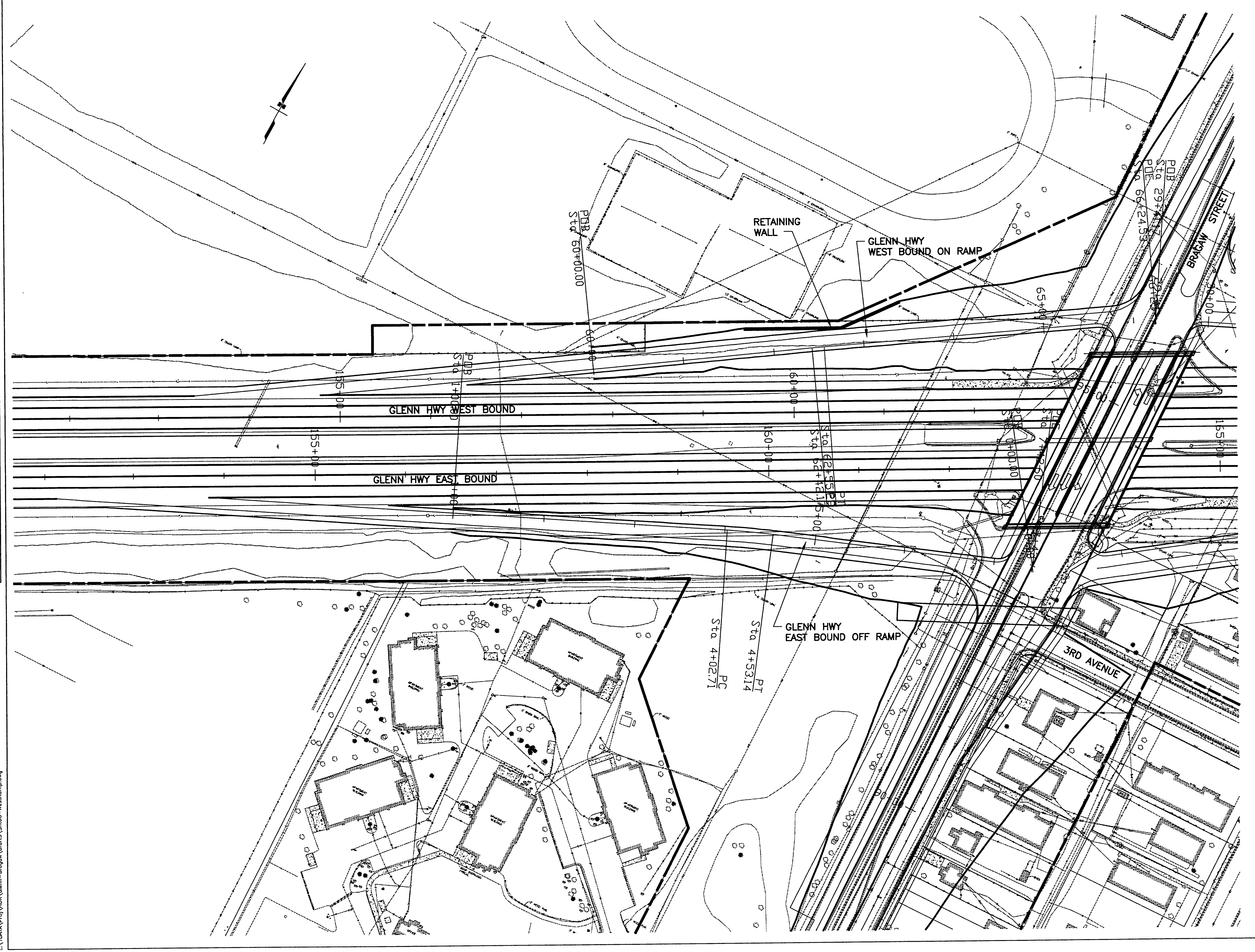

SHEET	OF
6	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

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FILENAME:
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XREF:

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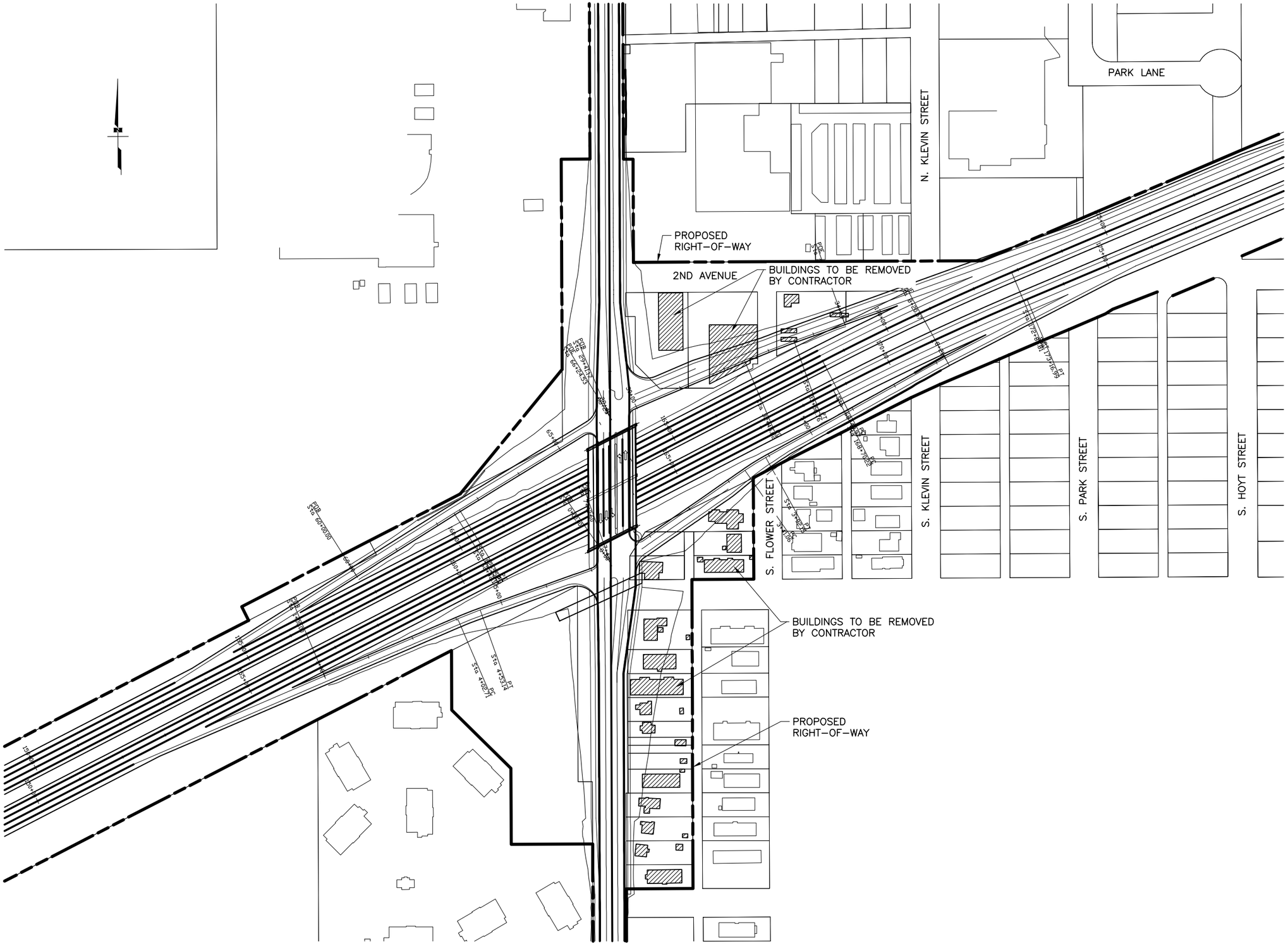
DEPARTMENT OF TRANSPORATION
AND PUBLIC FACILITIES

GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

WEST RAMPS PLAN



SHEET	OF
7	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

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DEPARTMENT OF TRANSPORATION
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GLENN / BRAGAW INTERCHANGE CONCEPT PLAN

PROPOSED RIGHT-OF-WAY

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PLOT DATE:
PLOT SCALE:
SCALE:
FILENAME:
VPORT:
XREF:

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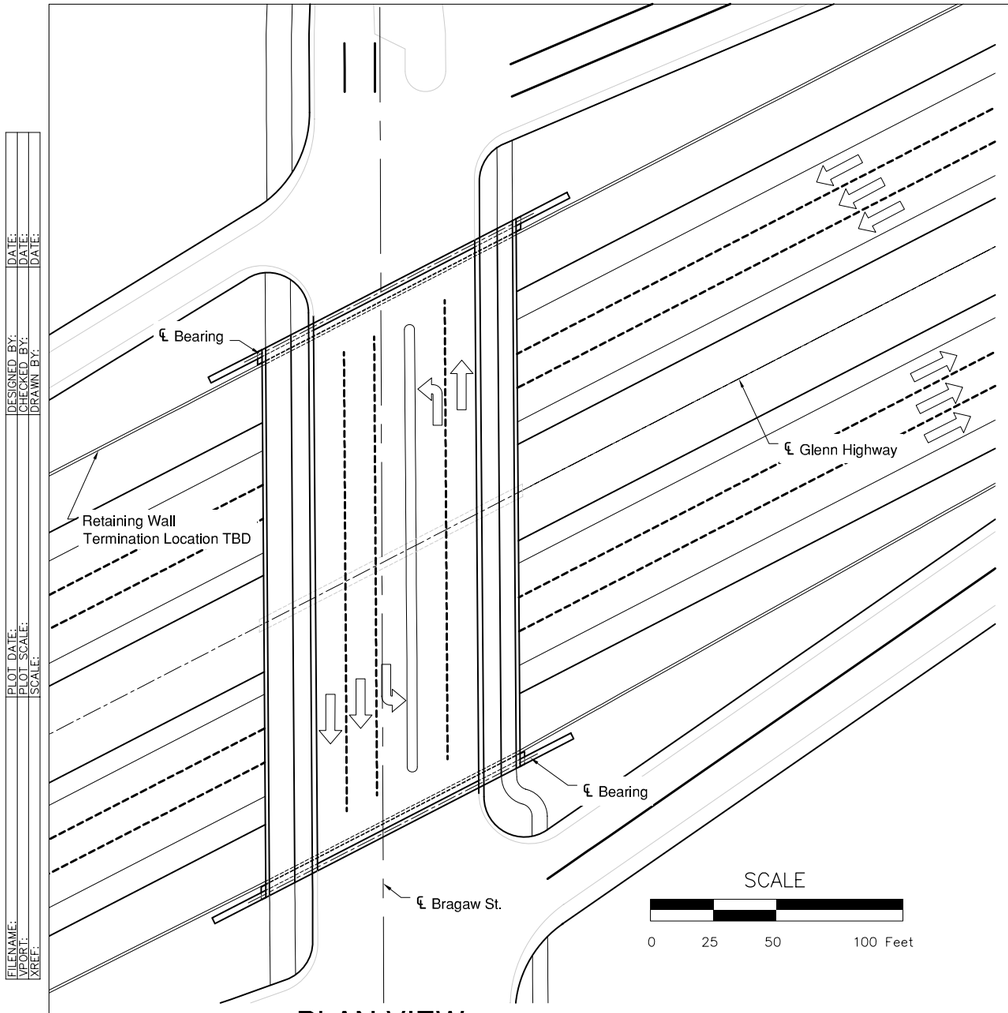
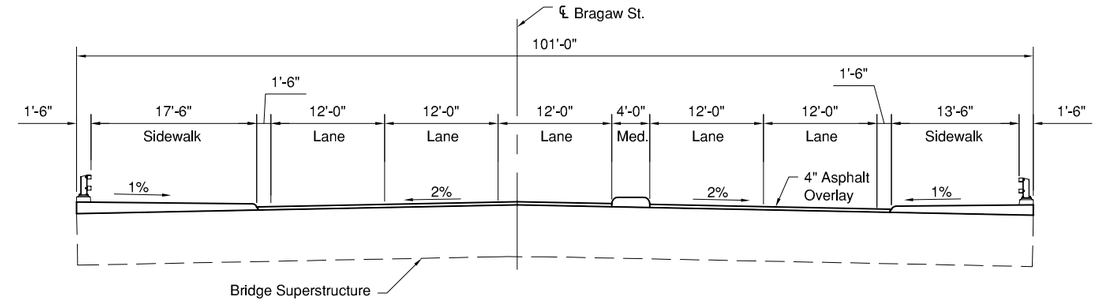
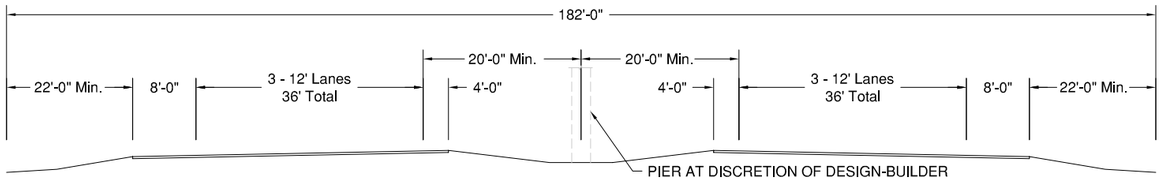


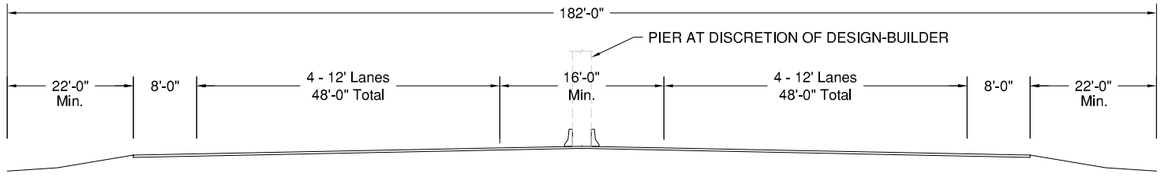
PLAN VIEW



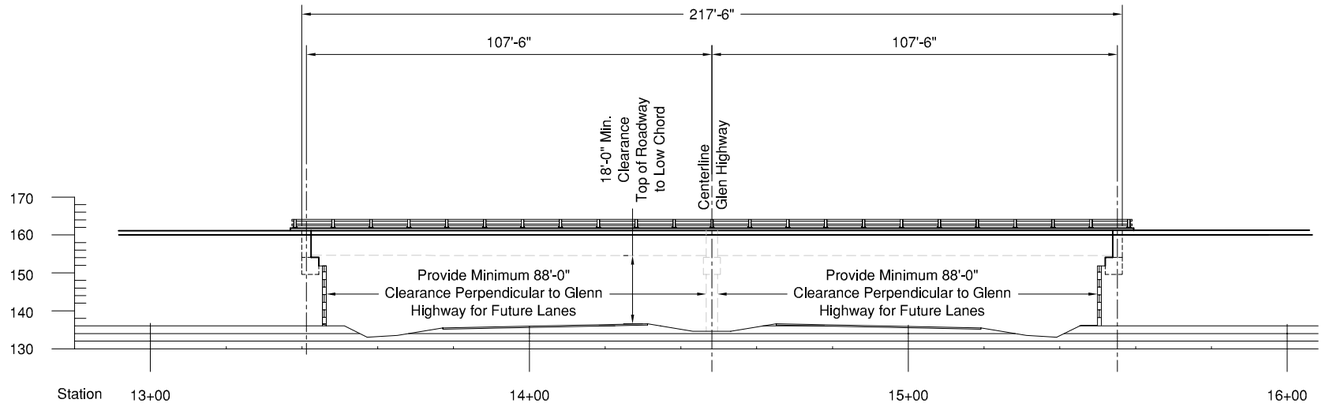
BRAGAW ST. BRIDGE CROSS SECTION



PROPOSED GLENN HWY. CROSS SECTION @ BRAGAW (PERPENDICULAR TO GLENN ALIGNMENT)



FUTURE GLENN HWY. CROSS SECTION @ BRAGAW (PERPENDICULAR TO GLENN ALIGNMENT)



ELEVATION VIEW

SHEET	OF
8	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

ADDENDUM NO.
–

ATTACHMENT NO.
–

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DEVELOPED BY:
HDR ALASKA, Inc.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

GLENN / BRAGAW INTERCHANGE

BRAGAW OVERPASS

DESIGNED BY: DATE:
CHECKED BY: DATE:
DRAWN BY: DATE:
PLOT DATE:
PLOT SCALE:
SCALE:
FILENAME:
VPORT:
XREF:

2/2/2007 3:16 PM
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Glenn Bragaw Interchange

Project 57179

APPENDIX 2-4 SURVEY INFORMATION

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To obtain an electronic copy of the survey information,
contact the COAR.

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Glenn Bragaw Interchange

Project 57179

APPENDIX 2-5 NOISE BARRIER FENCE DETAILS

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REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION					
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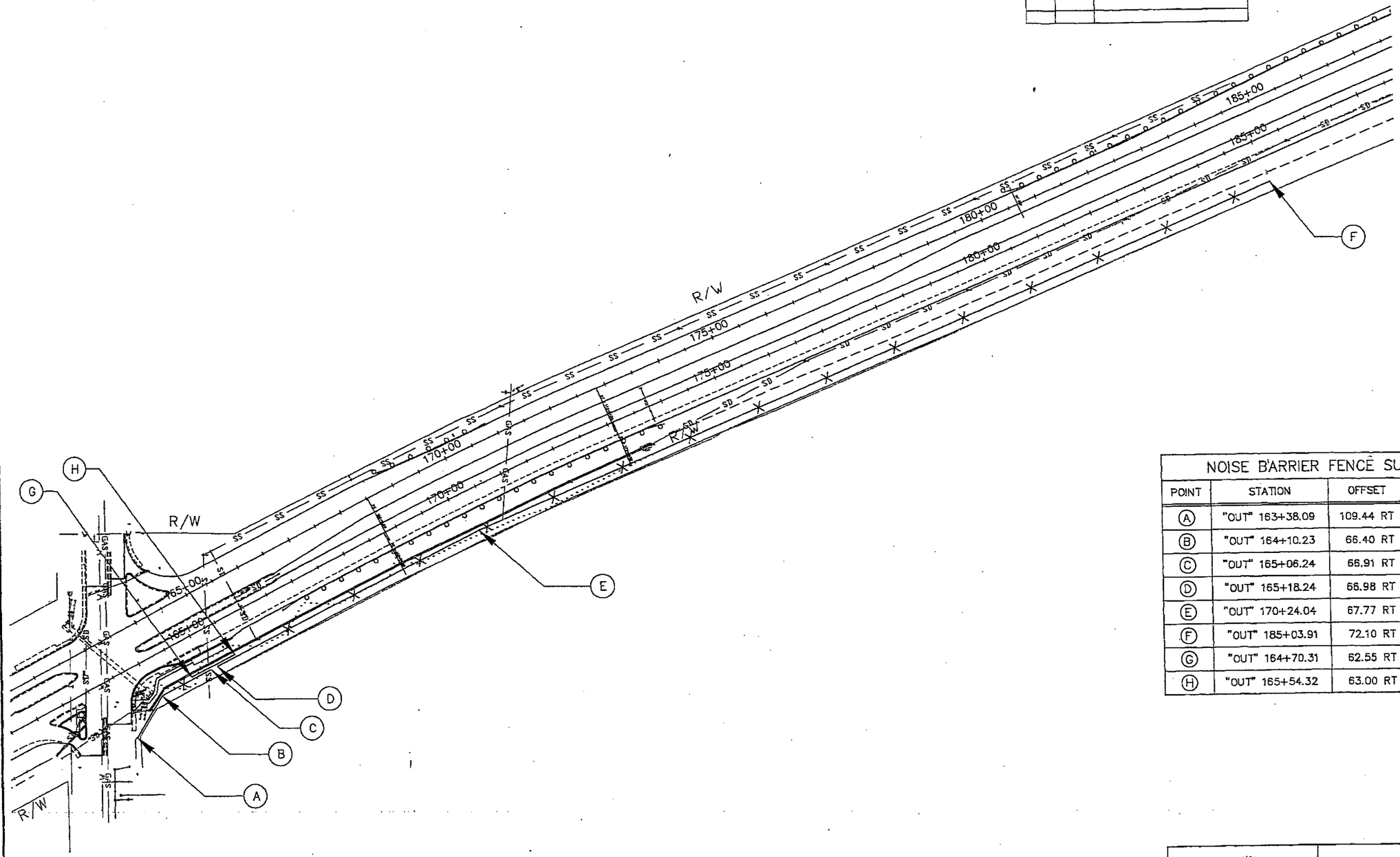


NOISE BARRIER PLAN

NOISE BARRIER FENCE SUMMARY TABLE				
POINT	STATION	OFFSET	ELEVATION @ TOP PLATE	LENGTH(FT)
Ⓐ	"OUT" 163+38.09	109.44 RT	148.93	
Ⓑ	"OUT" 164+10.23	66.40 RT	149.66	84
Ⓒ	"OUT" 165+06.24	66.91 RT	150.42	96
Ⓓ	"OUT" 165+18.24	66.98 RT	150.42	
Ⓔ	"OUT" 170+24.04	67.77 RT	154.18	504
Ⓕ	"OUT" 185+03.91	72.10 RT	164.81	1476
Ⓖ	"OUT" 164+70.31	62.55 RT	149.92	
Ⓗ	"OUT" 165+54.32	63.00 RT	150.74	84

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

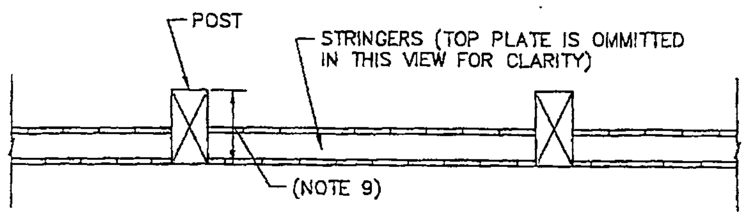
GLENN HIGHWAY
INTERSECTION IMPROVEMENTS
AND RESURFACING
GAMBELL TO McCARREY

NOISE BARRIER FENCE DETAILS

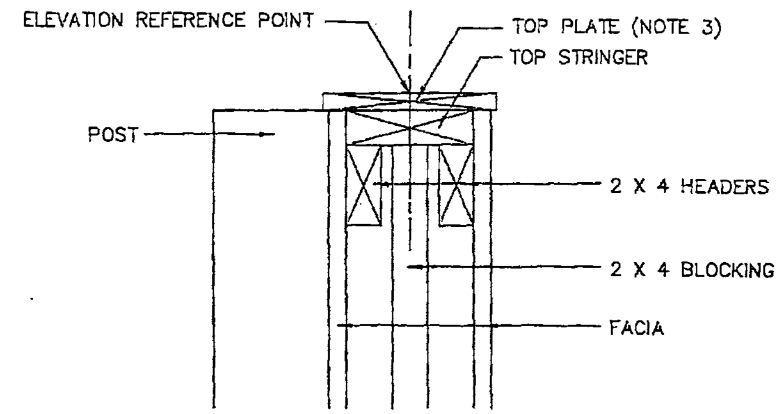
STATE OF ALASKA 49TH
Brad E. Blackstone
CE 9472
4-28-03
REGISTERED PROFESSIONAL ENGINEER

REF: TOP\ROW PLAN PROFILE MAP-REF PLAN\ATE_ROW
PLOT: W:\PROJECTS\55335 NH\0A1\2ADV Plan Sht\ Noise Barrier Plans.dgn
CHECK BY: KH 04/15/2003
DRAWN BY: KMB 03/27/2003

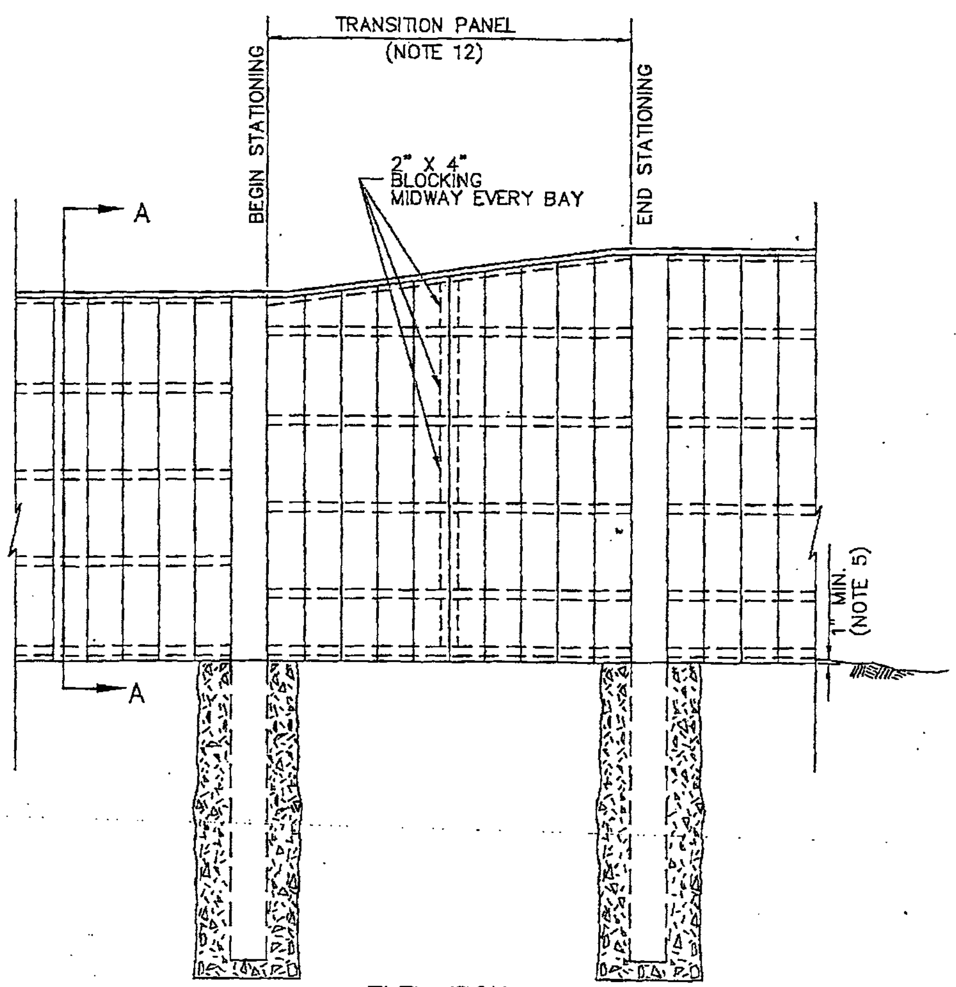
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
No.	DATE	DESCRIPTION	ALASKA	NH-OA1-6(30)/55335	2003	E6	E13



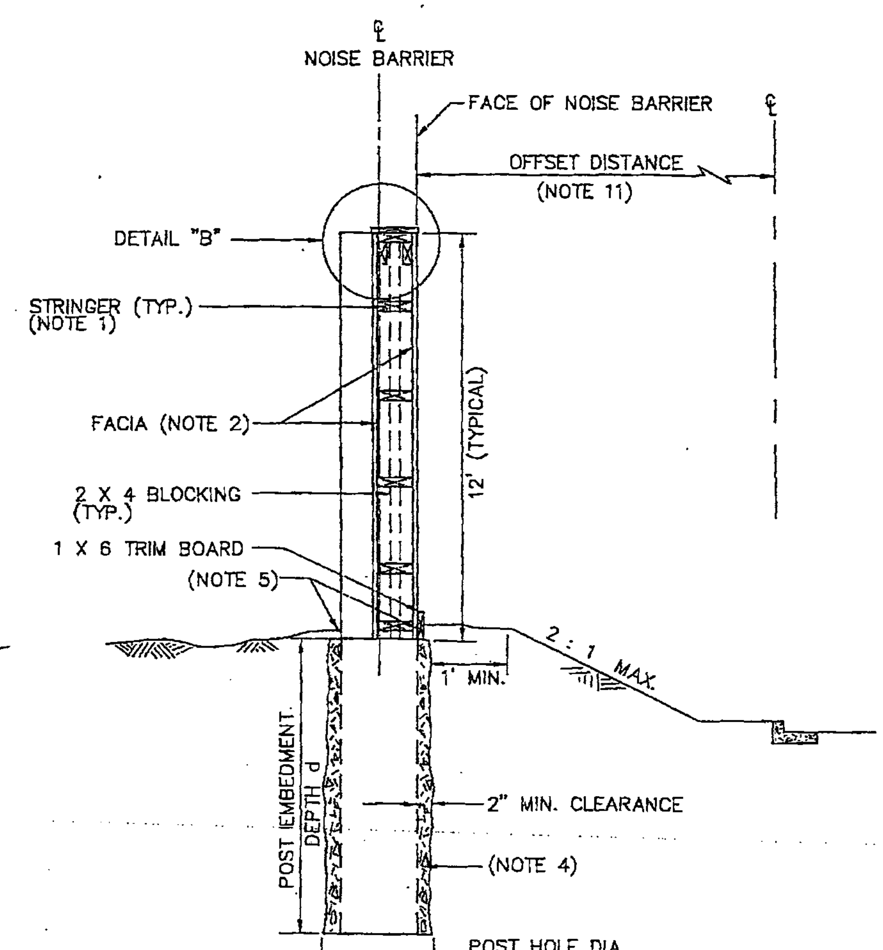
TOP VIEW



DETAIL "B"
(NOTE 14)



ELEVATION



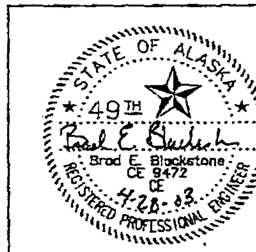
SECTION A-A END VIEW

NOISE BARRIER FENCE NOTES

1. ATTACH STRINGERS TO POST USING 18 GAGE FRAMING ANCHORS AT EACH END, INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. SPACE STRINGERS EVENLY, CENTERED ON POST.
2. VERTICAL FACIA BOARDS SHALL BE 1-INCH X 6-INCH (NOMINAL) CEDAR WITH SHIPLAPPED EDGES. FASTEN TO EACH STRINGER USING 2-10d NAILS.
3. TOP PLATES SHALL BE 1-INCH (NOMINAL) CEDAR. WIDTH SHALL BE 2-INCHES GREATER THAN STRINGER. FASTEN USING 2-10d NAILS AT 24-INCH O.C.
4. CLASS W CONCRETE USED FOR FILLING POST HOLES SHALL BE INCLUDED IN THE PRICE PAID FOR THE FENCE.
5. GRADE THE GROUND AT THE BASE OF THE WALL PANELS SUCH THAT ALL FACIA BOARDS ARE BURIED A MINIMUM OF 1-INCH.
6. LOCATE UTILITIES PRIOR TO POST EXCAVATION.
7. STAKE RIGHT OF WAY AND FENCE LINES FOR INSPECTION BY THE ENGINEER PRIOR TO BEGINNING FENCE CONSTRUCTION.
8. GRADING OF LUMBER AS STATED IN TIMBER CONSTRUCTION MANUAL, 2ND EDITION AMERICAN INSTITUTE OF TIMBER CONSTRUCTION FOR DOUGLAS FIR-LARCH. POSTS SHALL BE GRADED DENSE NO. 1. STRINGERS SHALL BE GRADED NO. 2.
9. INSTALL POSTS WITH LARGE DIMENSION PERPENDICULAR TO FACE OF WALL.
10. INSTALL POSTS AT ALL ANGLE POINTS.
11. REFER TO NOISE BARRIER FENCE SUMMARY TABLE FOR STATION, OFFSET AND HEIGHT. USE DESIGN LOADING B2.
12. TRANSITION PANEL STRINGERS AND POST REQUIREMENTS SHALL BE THOSE OF THE HIGHER FENCE.
13. ALL POSTS AND STRINGERS SHALL BE TREATED IN ACCORDANCE WITH SECTION 714, PRESERVATIVES AND PRESERVATIVE TREATMENT PROCESSES FOR WOOD MATERIALS.
14. FOR 12-FOOT POST SPACING, INSTALL 2-INCH X 4-INCH HEADER BOARDS TO TOP AS SHOWN IN DETAIL "B". USE 16d NAILS 12-INCH O.C. CONNECT ENDS OF 2 X 4 HEADER BOARDS TO POST USING 18 GAGE FRAMING ANCHORS AND 10d NAILS.
15. ALL NAILS AND ANCHOR PLATES SHALL BE HOT DIPPED GALVANIZED.
16. AT "OUT" STA. 170+84.67, 76.25 RT., AVOID PLACING FENCE POST OVER GAS LINE.

NOISE BARRIER FENCE SCHEDULE
(B2 DESIGN LOADING)
(NOTE 11)

POST (NOTE 8)					STRINGER (NOTE 8)	
FENCE HEIGHT H (FT.)	SIZE (IN. X IN.)	SPACING (FT.)	EMBEDMENT DEPTH d (FT.)	HOLE DIAMETER (IN.)	NO. REQ'D	SIZE (IN. X IN.)
6	4 X 8	8	8	16	4	2 X 4
8	4 X 12	12	10	20	5	2 X 6
10	6 X 12	12	10	22	6	2 X 6
12	6 X 14	12	10	26	7	2 X 6
14	6 X 16	12	10	30	8	2 X 6



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

GLENN HIGHWAY
INTERSECTION IMPROVEMENTS
AND RESURFACING
GAMBELL TO McCARREY

NOISE BARRIER FENCE DETAILS

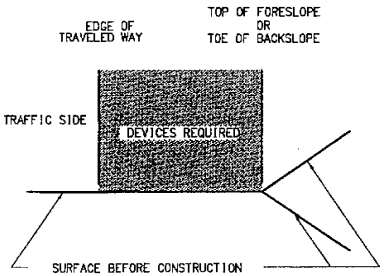
DESIGNED BY
CHECKED BY
DRAFTED BY CAJ/LKH 4/14/03
SPECIFICATIONS
STANDARDS
COMPUTER DESIGNATION W:\PROJECTS\55335 ...\NOISE BARRIER FENCE.DWG

Glenn Bragaw Interchange

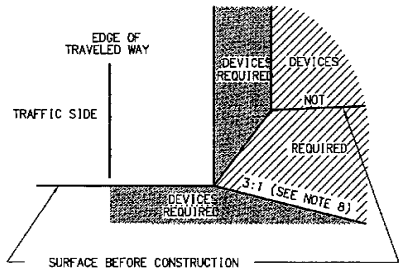
Project 57179

APPENDIX 2-6 TRAFFIC CONTROL DEVICES FOR ROADSIDE

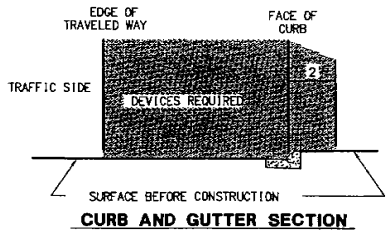
REVISIONS			STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
NO.	DATE	DESCRIPTION	ALASKA	57179	2006		



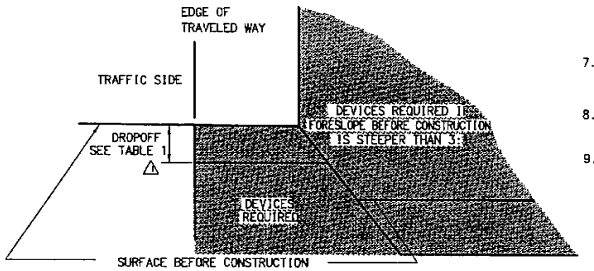
EMBANKMENT SECTION



BACKSLOPE SECTION



CURB AND GUTTER SECTION



FORESLOPE SECTION

LEGEND

- WORK AREA WHERE TRAFFIC CONTROL DEVICES ARE REQUIRED △
- WORK AREA WHERE TRAFFIC CONTROL DEVICES ARE NOT REQUIRED △
- SURFACE BEFORE CONSTRUCTION
- CONSTRUCTION AREA BOUNDARY

TABLE 1
TRAFFIC CONTROL DEVICES REQUIRED FOR VERTICAL DROPOFFS ≤ 4 FEET FROM TRAVELED WAY *△

ROADWAY TYPE	DROPOFF ≤ 2"	2" < DROPOFF < 12"	DROPOFF ≥ 12"
AVERAGE DAILY TRAFFIC > 4000 OR SPEED > 40 MPH	TAPER ASPHALT AT 1:1 OR ~ 45°	TYPE II BARRICADES OR DRUMS	TEMPORARY PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL
ALL OTHER ROADWAYS	NONE REQUIRED	TUBULAR CANDLES OR DELINEATORS	TYPE II BARRICADES OR DRUMS

* SPACE THE DEVICES IN ACCORDANCE WITH REQUIREMENTS FOR SPACING TYPE II BARRICADES AND DRUMS SET FORTH IN THE ALASKA TRAFFIC MANUAL.

NOTES:

1. TRAFFIC CONTROL DEVICES REQUIRED BY THE GUIDELINES ON THIS SHEET ARE INTENDED FOR CONDITIONS WHICH WILL BE IN PLACE LONGER THAN ONE CONTINUOUS WORK SHIFT. AN APPROVED TRAFFIC CONTROL PLAN IS REQUIRED PRIOR TO BEGINNING WORK.
2. THE GROUND CROSS SECTION AT A LOCATION BEFORE CONSTRUCTION DETERMINES WHETHER TRAFFIC CONTROL DEVICES ARE NEEDED AT THE SAME LOCATION DURING CONSTRUCTION.
3. GUARDRAIL EXISTING AT A LOCATION BEFORE CONSTRUCTION SHALL REMAIN IN PLACE DURING CONSTRUCTION OR APPROVED ALTERNATE DEVICES INSTALLED.
4. INSTALL TRAFFIC CONTROL DEVICES BETWEEN THE EDGE OF TRAVELED WAY AND THE WORK AREA ON ANY ROADWAY OPENED TO TRAFFIC WHEN REQUIRED BY THIS DRAWING.
5. EXISTING RDADWAY ALIGNMENTS

   INSTALL TRAFFIC CONTROL DEVICES WHEN WORK OCCURS IN THE DEVICES REQUIRED AREAS SHOWN ON THIS DRAWING.
6. DETOURS, TEMPORARY ROADWAYS, OR NEW ROADWAYS NOT YET COMPLETE

   INSTALL TRAFFIC CONTROL DEVICES WHEN ANY OF THE FOLLOWING CONDITIONS EXIST:

   A. THE HORIZONTAL OR VERTICAL CURVATURE IS MORE SEVERE THAN BEFORE CONSTRUCTION BEGAN.

   B. THE ROADWAY OR SHOULDER WIDTH IS LESS THAN BEFORE CONSTRUCTION BEGAN.

   C. THE BACKSLOPE OR FORESLOPE IS STEEPER THAN BEFORE CONSTRUCTION BEGAN.

   D. THE HEIGHT OF THE FORESLOPE IS GREATER THAN BEFORE CONSTRUCTION BEGAN.
7. DROPOFFS:

   INSTALL TRAFFIC CONTROL OEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION DETAIL AND TABLE 1.
8. ON ANY NEWLY CONSTRUCTED SLOPE STEEPER THAN 4:1 TO 3:1 PROVIDE A TEN FOOT FLAT RECOVERY AREA AT THE TOE OF SLOPE OR INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION DETAIL.
9. TRAFFIC CONTROL DEVICE REQUIREMENTS:

   A. ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 40 MILES PER HOUR OR AVERAGE DAILY TRAFFIC VOLUME GREATER THAN 4000 VEHICLES PER DAY INSTALL TEMPORARY PORTABLE CONCRETE BARRIER OR △ TEMPORARY GUARDRAIL. ON MULTI-LANE ROADWAYS CLOSE THE LANE CLOSEST TO THE WORK AREA AND INSTALL DRUMS.

   TERMINATE RUNS OF TEMPORARY PORTABLE CONCRETE BARRIER USING ONE OF THE FOLLOWING THREE METHODS:

   I.) TEMPORARY CRASH ATTENUATOR.

   II.) RIGID TO SEMI-RIGID GUARDRAIL TRANSITION WITH SLOTTED RAIL TERMINAL OR OTHER APPROVED CRASHWORTHY END TREATMENT.

   III.) FLARE THE ENDS OF THE TEMPORARY BARRIER AWAY FROM THE ROADWAY AT A RATE OF 15:1 ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE AND INSTALL A SLOPING END TREATMENT, PER STANDARD DRAWING G-46.10. △

   TERMINATE RUNS OF TEMPORARY GUARDRAIL USING EITHER OF THE FOLLOWING TWO METHODS:

   I.) SLOTTED RAIL TERMINAL OR OTHER APPROVED CRASHWORTHY END TREATMENT.

   II.) FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 15:1 ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE.

   B. ON ALL OTHER ROADWAYS INSTALL TYPE II BARRICADES, DRUMS OR DELINEATORS WHEN DEVICES ARE REQUIRED. SPACE THE DEVICES IN ACCORDANCE WITH THE REQUIREMENTS FOR SPACING TYPE II BARRICADES AND DRUMS SET FORTH IN THE ALASKA TRAFFIC MANUAL.
10. DO NOT CONSTRUCT VERTICAL DROPOFFS GREATER THAN 1.5" WITHIN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK. PROVIDE 2' OF SHY DISTANCE FROM EDGE OF ALL TRAFFIC CONTROL DEVICES TO THE EDGE OF THE TRAVELED WAY.

STATE OF ALASKA
DEPARTMENT OF TRANSPORATION AND PUBLIC FACILITIES

GLENN BRAGAW INTERCHANGE

TRAFFIC CONTROL DEVICES FOR ROADSIDE

Glenn Bragaw Interchange

Project 57179

APPENDIX 3-1 GLENN HIGHWAY/BRAGAW STREET INTERCHANGE 2005-2006 GEOLOGY DATA

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Glenn Highway/Bragaw Street Interchange

Project No. 57179

2005-2006 GEOLOGY DATA

AKDOT&PF

Statewide Materials

Geology Section

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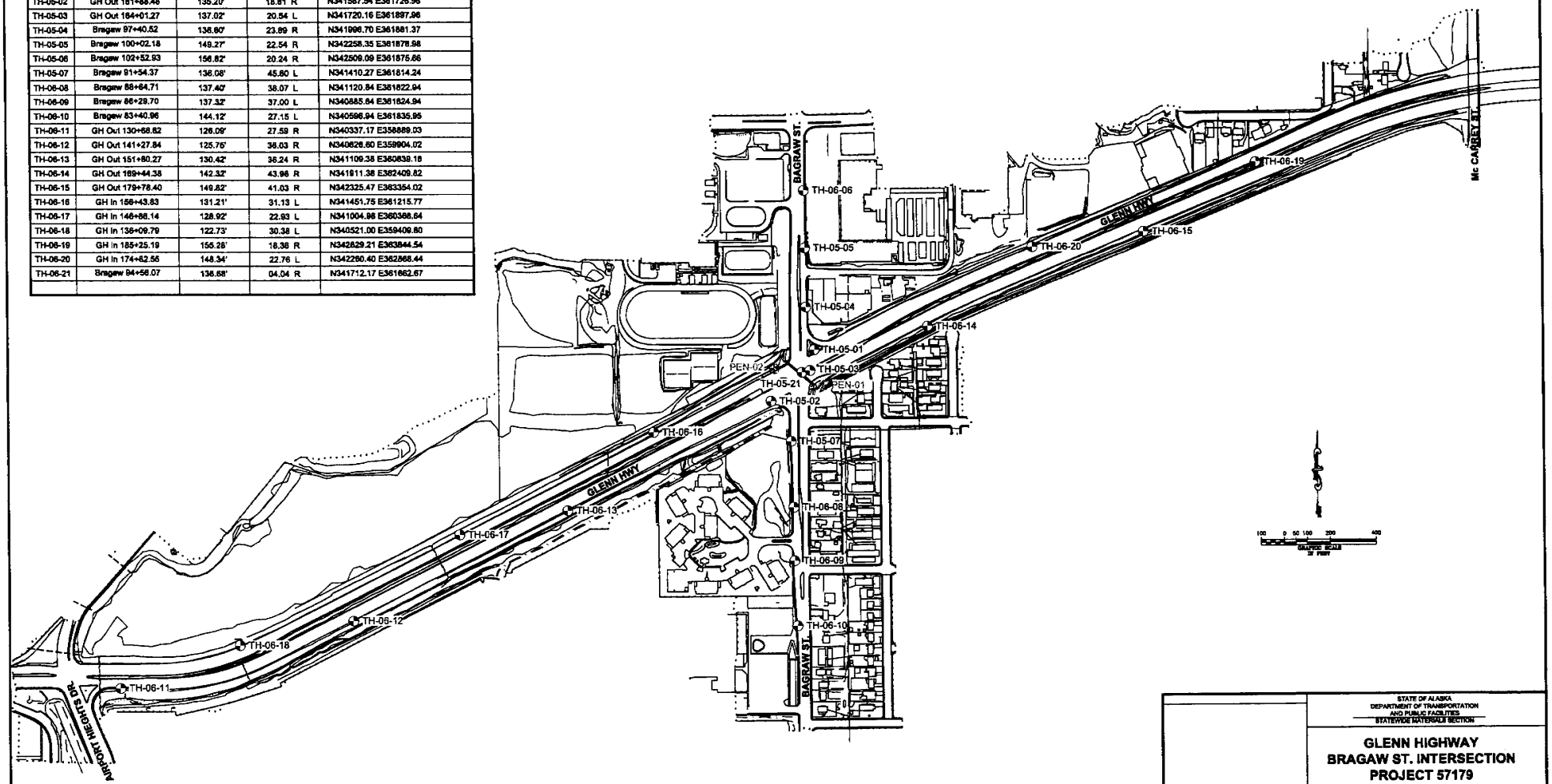
TEST HOLE LOCATION DRAWING

TEST HOLE AND PENETROMETER

TH/PEN	STATION	ELEVATION	OFFSET	REMARKS
PEN-01	GH Out 164+22.92	137.98'	63.54 R	N341856.39 E361956.78
PEN-02	GH Out 162+39.34	136.05'	34.47 L	N341728.01 E361743.34
TH-05-01	GH In 184+30.88	137.89'	28.24 L	N341810.36 E361916.36
TH-05-02	GH Out 161+88.48	135.20'	18.81 R	N341587.54 E361726.96
TH-05-03	GH Out 164+01.27	137.02'	20.54 L	N341720.16 E361897.96
TH-05-04	Bragaw 97+40.52	136.60'	23.89 R	N341996.70 E361881.37
TH-05-05	Bragaw 100+02.18	149.27'	22.54 R	N342258.35 E361878.98
TH-05-06	Bragaw 102+52.93	156.82'	20.24 R	N342509.09 E361875.66
TH-05-07	Bragaw 91+54.37	136.08'	45.80 L	N341410.27 E361814.24
TH-06-08	Bragaw 88+64.71	137.40'	38.07 L	N341120.84 E361822.94
TH-06-09	Bragaw 86+29.70	137.32'	37.00 L	N340885.84 E361824.94
TH-06-10	Bragaw 83+40.96	144.12'	27.15 L	N340596.94 E361835.95
TH-06-11	GH Out 130+56.82	126.09'	27.59 R	N340337.17 E358889.03
TH-06-12	GH Out 141+27.84	125.76'	36.03 R	N340626.60 E359904.02
TH-06-13	GH Out 151+80.27	130.42'	36.24 R	N341109.38 E360838.18
TH-06-14	GH Out 169+44.38	142.32'	43.96 R	N341811.38 E362409.82
TH-06-15	GH Out 179+78.40	149.82'	41.03 R	N342325.47 E363354.02
TH-06-16	GH In 156+43.83	131.21'	31.13 L	N341451.75 E361215.77
TH-06-17	GH In 146+86.14	128.92'	22.93 L	N341004.98 E360368.64
TH-06-18	GH In 136+09.79	122.73'	30.38 L	N340521.00 E359409.80
TH-06-19	GH In 185+25.19	155.28'	18.36 R	N342629.21 E363844.54
TH-06-20	GH In 174+82.55	148.34'	22.76 L	N342260.40 E362868.44
TH-06-21	Bragaw 84+56.07	138.68'	04.04 R	N341712.17 E361662.67



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
STATEWIDE MATERIALS SECTION

GLENN HIGHWAY
BRAGAW ST. INTERSECTION
PROJECT 57179
TEST HOLE AND PENETROMETER LOCATIONS

DRAWN BY: DR DODGE

PATH: H:\PRJ CREG\STRUCTIG\GLENN HWY - BRAGAW ST INTERSECTION 57179\DATA\ACAD\57179_PENETROMETER & TEST HOLE 5-25-06.DWG

REVISIONS		
NO.	DATE	DESCRIPTION

PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
XXX-0000(00)	2006	01	12

TEST HOLE LOG LEGEND

LOG LEGEND

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER:
PROJECT: TEST HOLE EXPLANATION
NORTHING/ EASTING

TEST HOLE #

Station/Location: (Station, Lat./Long.)
Offset: Offset Location if applicable
Elevation: Elevation

Equipment Type: Drill Rig
Drilling Method: Drilling Method
Field Crew: Driller, Helper

Total Depth: 19.0 feet
Date: 5/25/2006 -
Geologist: Geologist

Ground Water Data		
Depth in (ft.)	15	15.5
Time	10:00	15:05
Date	1/1/04	1/2/04
Symbol	▼	▽

Weather: This section is for weather notes

Sample Data: Casing Blows; Drill Method; Blow Count; Number; Recovery; Sample Type; Sample

Depth (Feet); USCS Classification; Frozen Zone; Soil Graphic

Drilling Method: Casing, Auger, Etc.

Sample Number

SUBSURFACE MATERIAL

SOIL GRAPHIC AND SOIL TYPE EXPLANATION:
All graphics are generic representations of soil type and do not match soils as seen in-situ.

GP GRAVEL (GP)
GW GRAVEL (GW)
SP SAND (SP)
SW SAND (SW)
ML SILT (ML)
MH SILT (MH)
CL CLAY (CL)
CH CLAY (CH)
PT ORGANICS OR PEAT (PT)

Cobble or Boulder Location with approximate strata contact

ICE Ice or Frozen Soil Interval

TRANSITIONAL SOIL CHANGE

BEDROCK

NOTES:
Dual symbols (eg., GW-GM) have split soil graphic.
Graphic symbols may be combined (eg. GP + ML=GM)

SAMPLE DATA EXPLANATION

SPT Standard Penetration Test Split Spoon Sample 1.4" ID x 2" OD
SS Split Spoon Sample 2.0" ID x 2.5" OD
MC Split Spoon Sample 2.5" ID x 3" OD
GRAB Grab Sample
AUGER Auger Cuttings Grab Sample
EB Excavator Bucket Grab Sample
CORE Rock Core
ST Shelby Tube thin wall 3" OD
MS Modified Shelby Tube (size)
NR No Recovery
SNT Sample Not Tested or Retained
FLD WT Field Weighted Sample
UNDIST Undisturbed Sample
VANE Vane Shear Test: Vane Radius =X", Vane Height = X", Vane Shear Undisturbed Torque=X in lbs/sq ft, Vane Shear Remoulded Torque=X in lbs/sq ft

Groundwater level while drilling

Groundwater level after drilling

SAMPLE TEST RESULTS EXPLANATION

Boulders = > 12"
Cobbles = 3" to 12"
Gravel = #4 to 3"
Sand = #200 to #4
Silt/Clay (P200) = <#200
Clay = <0.0075 Size
Natural Moisture Content = %
Organic Content = %

Plasticity Index (PI) = % or Nonplastic (NP)
Liquid Limit (LL) = % or No Value (NV)
Degradation = Dimensionless Number
LA Abrasion = % Loss
Sodium Sulfate (Cse or Fine) = % Loss
Max. Dry Density = Pounds Per Cubic Foot
Optimum Moisture = %

19.0 BOH 19

Notes:
This section is for drilling notes and additional equipment descriptions

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop ☒ For Sampler

C:\USCS FOUNDATION LOG OF TEST HOLE 2006\LOGLEGEND.GPJ 2006DATATEMPLATE.GDT 5/25/06

PENETROMETER LOGS

and

TEST HOLE LOGS

PENETROMETER LOG

HOLE # P-1

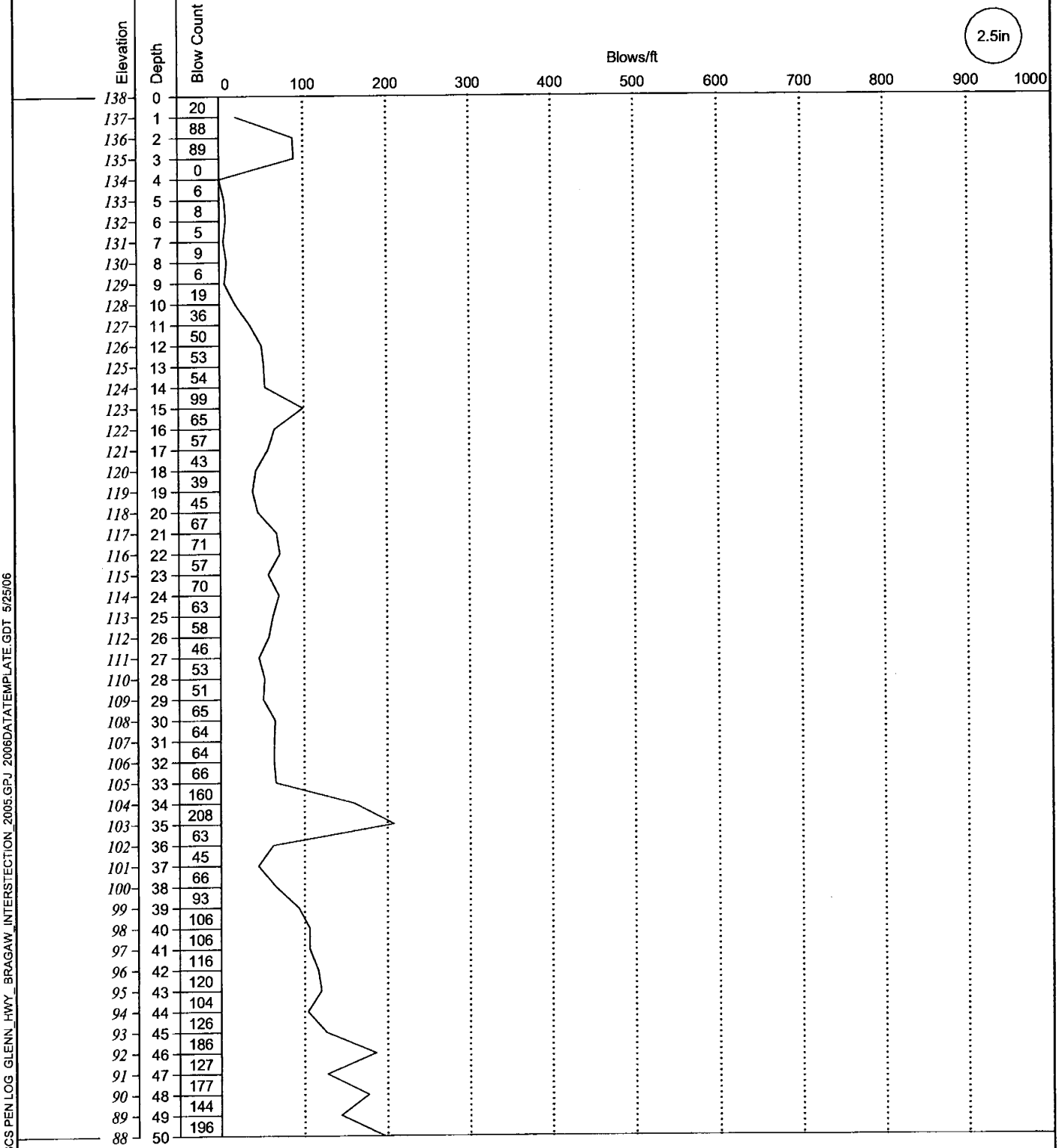
STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341655.3891*, ***EASTING***: *361955.7824*

Station / Location:
Offset:
Elevation: *138.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *2.5" O.D. Penetrometer Rod*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *55.0 feet*
Date: *12/1/2005 - 12/1/2005*
Geologist: *B. Benko*



D USCS PEN LOG GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/25/06

PENETROMETER LOG

HOLE # P-1

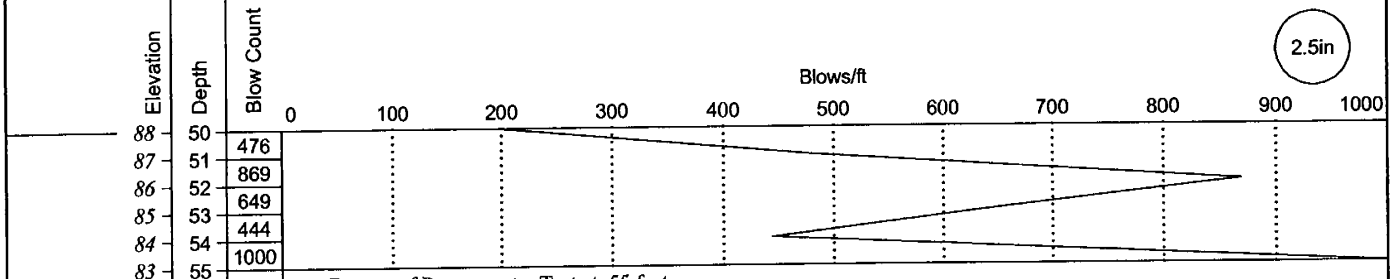
STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341655.3891*, ***EASTING***: *361955.7824*

Station / Location:
Offset:
Elevation: *138.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *2.5" O.D. Penetrometer Rod*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *55.0 feet*
Date: *12/1/2005 - 12/1/2005*
Geologist: *B. Benko*



Bottom of Penetrometer Test at: 55 feet
Notes: Penetrometer pullout breakforce after driving to 55.00' in depth was ~28,000 pounds of force.

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PENETROMETER LOG

HOLE # P-2

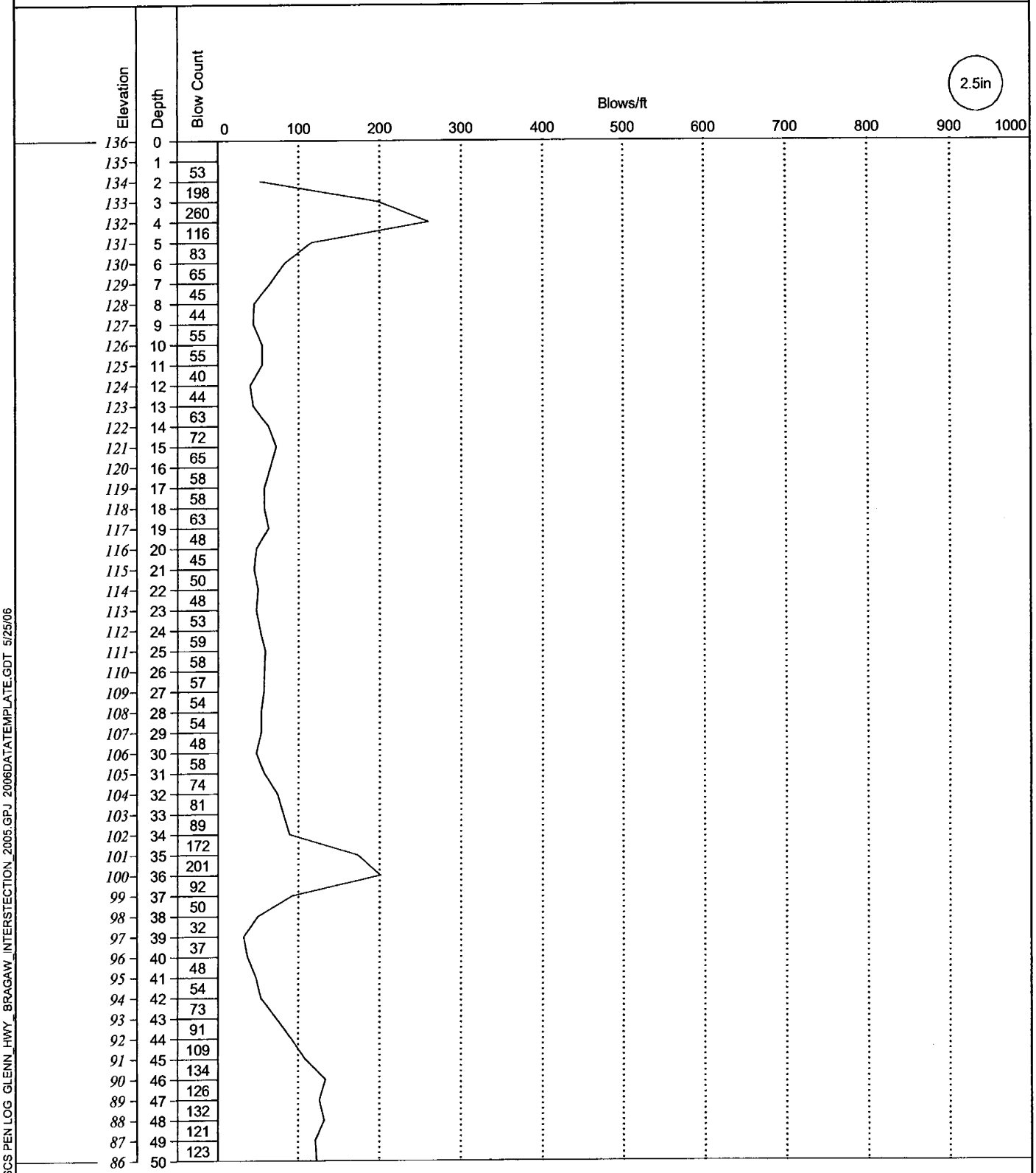
STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341728.0065*, ***EASTING***: *361743.3431*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *2.5" O.D. Pentrometer Rod*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *60.9 feet*
Date: *12/1/2005 - 12/1/2005*
Geologist: *B. Benko*



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PENETROMETER LOG

HOLE # P-2

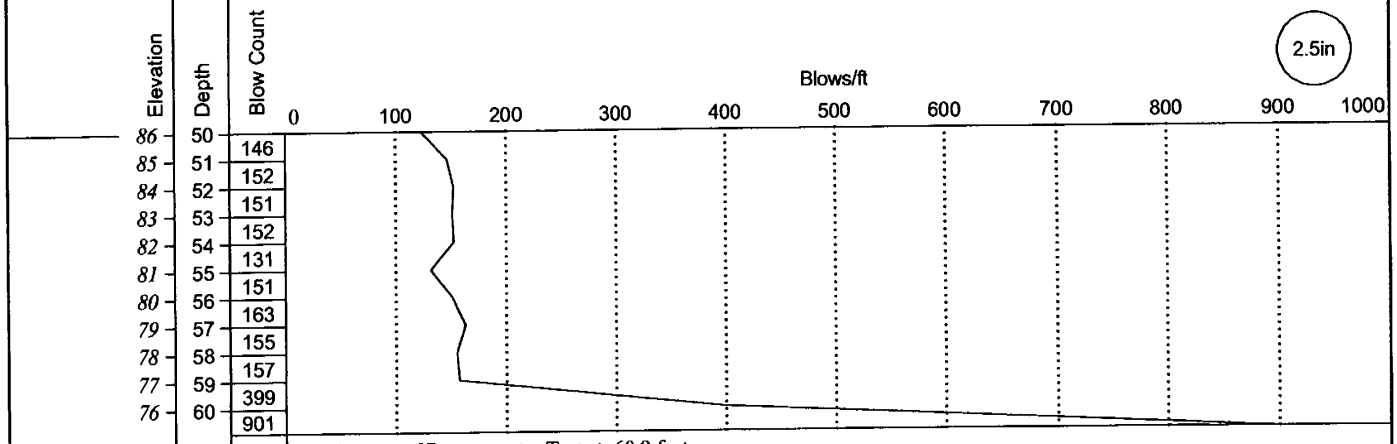
STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341728.0065*, ***EASTING***: *361743.3431*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *2.5" O.D. Pentrometer Rod*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *60.9 feet*
Date: *12/1/2005 - 12/1/2005*
Geologist: *B. Benko*



Bottom of Penetrometer Test at: 60.9 feet
Notes: Penetrometer pullout breakforce after driving to 60.9' in depth was ~25,000 pounds of force.

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LOG OF TEST HOLE

HOLE # TH-05-01

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341810.3584*, ***EASTING***: *361916.3607*

Station / Location:
Offset:
Elevation: *138.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *75.7 feet*
Date: *12/6/2005 - 12/9/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	8.7	10.1
Time	09:00	10:13
Date	12/8/05	12/15/05
Symbol	▼	▽

Weather: [at spud] 30 degree Fahrenheit, cloudy
Bridge Abutment (Artesian/Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0		Driven NW casing-wash rotary 2 7/8" tricone						GM			**SILTY GRAVEL with Sand [FILL]** (GM) Grayish brown, moist, est. 30% fines and 25% fine to coarse-grained sand; fine, subangular to subrounded gravel
1	62										
2	211										
3											
4											
5	23		22 31 29	1		SPT					
6	40										
7	67							GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Brown and gray, moist, est. >7% fines and 15% fine- to coarse-grained sand
8	68										
9								SP-SM			**SAND with Silt and Gravel** (SP-SM) Gray, moist to wet, est. 8% fines and 20% fine gravel
10	86		38 33 30	2		SPT					
11											
12	40							SP			**SAND with Gravel** (SP) Grayish brown, wet, est. 35% fine- to medium-grained sand; gap graded, subrounded gravel to 1 inch diameter recovered.
13	42										
14											
15	31		25 27 24	3		SPT					3Sample (combination 3 + 4):, p200=3.7%, Sa=61%, Gr=35%, PI=NP, LL=NV
16	47										
17	38										
18											
19											
20	40		22 32 36	4		SPT					
21	40										
22	37										
23	33							GP			**GRAVEL with Sand** (GP)
24	28										
25	41		28 29 32	5		SPT					5Sample:, p200=4.2%, Sa=38%, Gr=58%
26	44										
27	96										
28	80										
29	27										
30	40							SP			**SAND with Gravel** (SP) Grayish brown, wet, est. 30% fine gravel, mostly <1/4 inch size; fine- to medium-grained sand, with estimated 20% coarse-grained sand
31	49										
32	48										
33	51										
34	33		24								
35											

0.0
7.0
9.0
12.0
23.0
30.0

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

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LOG OF TEST HOLE

HOLE # TH-05-01

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341810.3584*, ***EASTING***: *361916.3607*

Station / Location:
Offset:
Elevation: *138.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *75.7 feet*
Date: *12/6/2005 - 12/9/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	8.7	10.1
Time	09:00	10:13
Date	12/8/05	12/15/05
Symbol	▼	▽

Weather: [at spud] 30 degree Fahrenheit, cloudy
Bridge Abutment (Artesian/Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
35	32	Driven NW casing-wash rotary 2 7/8" tricone	33	6		SPT				**SAND with Gravel** (SP) Grayish brown, wet, est. 30% fine gravel, mostly <1/4 inch size; fine- to medium-grained sand, with estimated 20% coarse-grained sand (cont.)
36			24							
37	28									
38	39									
39	66									
40	85									
41	98									41.0
42	130							CL-ML		**SILT with Clay** (CL-ML) Gray, dry to moist, slightly plastic
43	147									
44	159									
45			9 13 15	7		SPT				7Sample:, p200=96.5%, Sa=1%, Gr=2%, PI=7, LL=27, CL-ML
46										
47										
48										
49										
50								GM		50.0 **SILTY GRAVEL [TILL]** (GM) Gray, wet, est. 30% nonplastic fines and 10-15% sand; subrounded fine gravel, est. 20% gravel >1.4 inch sampler diameter.
51										
52										52.0 estimated/approximate top of "Lower Aquifer"
53										
54										
55			11 46 41	8		SPT				8Sample (combination 8 + 9):, p200=15.9%, Sa=31%, Gr=53%
56										
57										
58										
59										
60										
61										
62										
63										
64										
65			83/3	9		SPT				9Sample (combination 8 + 9):, p200=15.9%, Sa=31%, Gr=53%
66								SP		66.0 **SAND** (SP) Gray, wet, medium grain, uniformly graded
67										
68										
69										
70										

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

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LOG OF TEST HOLE

HOLE # TH-05-01

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341810.3584,* ***EASTING:*** *361916.3607*

Station / Location:
Offset:
Elevation: *138.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *75.7 feet*
Date: *12/6/2005 - 12/9/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	8.7	10.1
Time	09:00	10:13
Date	12/8/05	12/15/05
Symbol	▼	▽

Weather: [at spud] 30 degree Fahrenheit, cloudy
Bridge Abutment (Artesian/Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
70										**SAND** (SP) Gray, wet, medium grain, uniformly graded (cont.)
71										
72										
73										73.0
74								SM		**SILTY SAND with Gravel** (SM) Gray, wet, est. 35% fines and 30% fine gravel; recovered gravel to 1 inch size
75		Driven NW casing-wash rotary 2 7/8" tricone	35 31 85	10	■	SPT	☒			75.7
									BOH 75.7	Notes:

Casing pullout break force at 75 feet in depth was 7,000 pounds.

1. Gaps in casing blows are intervals pre-drilled before driving casing or SPT intervals ahead of casing.
2. Artesian groundwater conditions noted. Confined groundwater encountered at estimated approximate depth of 50 ft. Noted potentiametric head >1 ft above GS when drilling temporarily suspended at 65 ft. Same level observed following 30-minute pause at 75 ft depth.
3. Casing lost in hole, left in place 15 to 75 feet depth.
4. Installed GW observation well: 1- inch PVC surface to 13', cut-slotted 5-13 ft depth.
5. Casing pullout break force at 75 feet depth was 500 pounds.
5. Hole abandonment: 0-3 ft below ground surface (bgs) - Bentonite (Volclay), 3-11 ft - cuttings, 11-13 ft - pea gravel, 13-15 ft - cuttings, 15-40 ft - Bentonite chips, 40-75 ft - bentonite pellets (coated)

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

LOG OF TEST HOLE

HOLE # TH-05-02

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341587.5377*, ***EASTING***: *361726.9595*

Station / Location:
Offset:
Elevation: *135.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.8 feet*
Date: *12/12/2005 - 12/13/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	7.8	
Time	14:30	
Date	12/13/05	
Symbol	▼	

Weather: 30 degrees, light snow
Bridge Abutment (Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0	216	Driven NW casing-wash rotary 2 7/8" tricone						GM			Asphalt Pavement 0.0
1	201										**SILTY GRAVEL with Sand (FILL)** (GM) Light brown, est. >12% nonplastic fines and gravel to 3/4 inch maximum size recovererd. 0.4
2	146										
3	2		20								
4	27		20	1		SPT					
5	44		30								
6	42										
7	103							GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Greenish gray, wet, est. 10% fines and 25% fine- to coarse-grained sand; subanglular to subrounded gravel to 1" maximum diameter recovered 7.0
8	0										
9	50		32								
10	42		38	2		SPT					
11	54		22								
12	31										
13	46										
14	31		16								
15	32		21	3		SPT					est. 10+% fines and 35% sand 15.0
16	41		20								
17	41										17.5
18	37							SP			**SAND with Gravel** (SP) Greenish gray, wet, interbedded; contains sand layers alternating with Sand with Silt and Gravel; gravel mostly <1/4" diameter
19	23										
20	21		15								
21	37		16	4		SPT					4Sample:, p200=5.7%, Sa=64%, Gr=30%
22	47		22								
23	48							SP			22.5
24	27										**SAND with Gravel** (SP) Grayish green, wet, subrounded gravel, interbedded with medium sand
25	39		19								
26	52		24	5		SPT					5Sample (combination 5 + 6):, p200=4.6%, Sa=67%, Gr=28%, PI=NP, LL=NV, SP
27	56		26								
28	47										
29	49										
30	58										
31	59										
32	69										
33	60										
34	43		24								(cont.)
35											

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-02

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341587.5377*, ***EASTING***: *361726.9595*

Station / Location:
Offset:
Elevation: *135.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.8 feet*
Date: *12/12/2005 - 12/13/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	7.8	
Time	14:30	
Date	12/13/05	
Symbol	▼	

Weather: 30 degrees, light snow
Bridge Abutment (Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
35	66	Driven NW casing-wash rotary 2 7/8" tricone	38 25	6		SPT		CL			35.4 6Sample (combination 5 + 6):, p200=4.6%, Sa=67%, Gr=28%, PI=NP, LL=NV **LEAN CLAY** (CL) Gray, wet
36	0										
37	0										
38	58										
39	66		9								
40	77		11	8		SPT					8Sample:, p200=95.2%, Sa=5%, PI=8, LL=25, CL
41	95		13								
42	89										
43	85										
44	66		16								
45	53		15	9		SPT					45.0 sample slightly less plastic than above
46	47		12								
47	64										
48	90										
49	57		4								
50	62		6	10		SPT					50.0 as at 40 ft in plasticity, but softer
51	70		6								
52	109										
53	94							ML			53.0 **GRAVELLY SILT** (ML) Greenish gray, dry, est. 35% fines and 10% fine- to coarse-grained sand; subrounded to subangular gravel to 1 inch diameter recovered.
54	78		12								
55	96		24	11		SPT					
56	118		39								
57	126										
58	142							GM			58.0 **SILTY GRAVEL (TILL)** (GM) Greenish gray, contains(?) cobbles
59	141										
60	71										
61	82										
62	112										
63	134										
64	146		75/4.5	12		SPT					65.0 sample dry(?)
65	63										66.0 estimated/approximate top of "Lower Aquifer"
66	0										
67	73										68.0
68	124							SP			**SAND with Gravel** (SP) Grayish green, wet, subangular gravel
69	99										
70											

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-02

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341587.5377*, ***EASTING***: *361726.9595*

Station / Location:
Offset:
Elevation: *135.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.8 feet*
Date: *12/12/2005 - 12/13/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	7.8	
Time	14:30	
Date	12/13/05	
Symbol	▼	

Weather: 30 degrees, light snow
Bridge Abutment (Confined groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
70	56	Driven NW casing-wash rotary 2 7/8" tricone								**SAND with Gravel** (SP) Grayish green, wet, subangular gravel (cont.)
71	88									
72	75									
73	85									
74	69		77/5	13		SPT	☒			74.8
									BOH 74.8	13Sample:, p200=2.7%, Sa=81%, Gr=16%

Notes:
1. Artesian groundwater conditions noted. Confined groundwater encountered at estimated approximate depth of 67 ft. Potentiometric surface >3 ft above ground surface.
2. These intervals pre-drilled before driving casing: 60 to 75 ft.
3. Casing pullout break force at 74.5 feet in depth was ~28,000 pounds.
4. Hole abandonment: 0 - 0.5 ft bgs: cold patch asphalt; 0.5 to 15 ft bgs: drill cuttings; 15 to 44 ft bgs: formation materials; 44 to 70 ft bgs: bentonite pellets (1/4 inch, coated); 70 to 75 ft bgs: formation materials.

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

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LOG OF TEST HOLE

HOLE # TH-05-03

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341720.1577*, ***EASTING:*** *361897.9597*

Station / Location:
Offset:
Elevation: *137.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *2.8 feet*
Date: *12/16/2006 - 12/16/2006*
Geologist: *B. Benko*

Depth (Feet)	Sample Data: Casing Blows	Sample Data: Drill Method	Sample Data: Blow Count	Sample Data: Number	Sample Data: Recovery	Sample Data: Sample Type	Sample Data: Sample	USCS Classification / Frozen Zone	Soil Graphic	Ground Water Data	SUBSURFACE MATERIAL
0										Depth in (ft.)	ABANDONED TEST HOLE 0.0
1		Casing								Time	[hit concrete?] 1.0
2										Date	2.8
									BOH 2.75	Symbol	

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

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LOG OF TEST HOLE

HOLE # TH-05-04

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341996.6984*, ***EASTING***: *361881.3748*

Station / Location:
Offset:
Elevation: *137.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *35.5 feet*
Date: *12/15/2005 - 12/15/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	6	
Time	08:30	
Date	12/15/05	
Symbol	▼	

Weather: 28 Degrees F, Cloudy
Bridge Approach

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0											**Asphalt Pavement** 3- 1/4 inches thick total (two layers)	0.0
0								GP-GM			**GRAVEL with Silt and Sand [Base Course]** (GP-GM) Dark gray	0.3
1								GP-GM			**GRAVEL with Silt and Sand [FILL]** (GP-GM) Gray, moist, est. 10% fines and trace +3 inch; coarse gravel.	0.8
2				1		GRAB						
3								GP			**GRAVEL with Sand** (GP) Grayish brown, dry, est. 30-35% fine- to coarse-grained sand.	3.0
4			11								@ 4.3 to 4.5 ft: moist silt interlayer	4.0
4			11	2		SPT		GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Grayish brown, wet, with interbeds of medium to coarse sand (SP), estimated groundwater at about 6 feet in depth	4.5
5			15									
6												
7												
8			15								@ 8 ft sample: subrounded hard gravel with larger pieces (2 in.) of less durable stone	8.0
9			36	3		SPT						
9			31									
10												
11								SP			**SAND** (SP) medium- to coarse-grained, Grayish green, wet	11.0
12												
13			22								@15 ft sample: heave noted	13.0
14			17	4		SPT						
14			17					SP			**SAND with Gravel** (SP) wet, subrounded gravel to plus 1 inches diameter recovered.	14.0
15												
16												
17											sand interbeds	17.0
18												
19			18									
20			16	5		SPT					5Sample (combination 4 + 5):, p200=5%, Sa=54%, Gr=41%	
20			19									
21												
22											sand interbeds	22.0
23												
24			14									
24			23	6		SPT					@ 24 ft sample: trace increase in fines content	24.0
25			32									
26												
27												
28											sand interbeds	28.0
29			33								@29.6 ft: sampler cored 3 inch(+?) gravel clast.	29.0
30			36	7		SPT						
30			41									
31												
32												
33												
34			8									34.0
34			17	8		SPT		ML			(cont.)	
35												

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-04

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341996.6984*, ***EASTING***: *361881.3748*

Station / Location:
Offset:
Elevation: *137.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *35.5 feet*
Date: *12/15/2005 - 12/15/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	6	
Time	08:30	
Date	12/15/05	
Symbol	▼	

Weather: 28 Degrees F, Cloudy
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
35		8" O.D. Hollow Stem Auger	26				☒			BOH 35.5	**SILT with Sand** (ML) Gray, moist, nonplastic fines; homogenous 35.5 8 Sample:, p200=79%, Sa=16%, Gr=5% (cont.)

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-05

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *342258.3501*, ***EASTING***: *361878.9789*

Station / Location:
Offset:
Elevation: *149.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *20.2 feet*
Date: *12/15/2005 - 12/15/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)		
Time		
Date		
Symbol		

Weather: 30-40 degrees F, Cloudy
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0										**Asphalt Pavement** Black, 2.5 inches thick 0.0
1								GM		**SILTY GRAVEL with Sand (Fill)** (GM) Brown, dry, no discernable base course layer; est. 15+% fines. 0.2
2										2.3
3								SP		**SAND with Gravel** (SP) Brown, dry, fine to medium sand, subrounded gravel to 1/2" diameter recovered
4			14	1		SPT				
5			18							
6			27							
7								GP		7.0 **GRAVEL with Sand** (GP) Brown, dry
8		8" O.D. Hollow Stem Auger								
9			50			SPT				9.0 @9 ft sample: cored gravel clast/cobble; dry.
10			50/3							
11										
12										
13										
14			13	2		SPT				14.0 @ 14 ft sample: gray brown; est. 5% fines and 25% fine- to coarse-grained sand; damp.
15			27							
16			39							
17										
18										18.0 @19 ft sample: moist; est. <5% +1-1/2 in. and 30% fine- to coarse-grained sand.
19			11	3		SPT				
20			38							
			37							20.2
								BOH 20.2		Notes: No groundwater observed while drilling.

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD\USCS FOUNDATION\LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-06

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *342509.0856*, ***EASTING***: *361875.6627*

Station / Location:
Offset:
Elevation: *157.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.0 feet*
Date: *12/16/2005 - 12/16/2005*
Geologist: *B. Benko*

Ground Water Data

Depth in (ft.)		
Time		
Date		
Symbol		

Weather: ~ 40 degrees, Partly cloudy
Bridge Approach

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0												0.0
1								SP			**Asphalt Pavement** 4 inches thick (2 x 2-in. lifts), underlain by geotextile fabric	0.3
2				1		GRAB		GM			**SILTY SAND with Gravel (Base Course)** (SP) Brown, dry, est. 20% fines; uncrushed gravel to ~3/8 in. size	1.0
3											**SILTY GRAVEL with Sand (Fill)** (GM) Brown, dry, est. 15+% fines and 50% fine gravel to 1 in. max size	
4												
5			13									
6			16	2		SPT						
7			15					GP				7.0
8											**GRAVEL with Sand** (GP) Gray, dry, est. 5% fines and 25% fine- to coarse-grained sand; subrounded and subangular gravel to ~3/4 in. recovered + est. <5% 1-in. plus in formation	
9			8									
10		8" O.D. Hollow Stem Auger	25	3		SPT						
11			26									
12												
13												
14												
15			8									
16			21	4		SPT						16.0
			25							BOH		
										16	Notes: No groundwater observed while drilling.	

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES\GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-07

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341410.2689*, ***EASTING***: *361814.239*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *45.3 feet*
Date: *12/16/2005 - 12/16/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	11.5	
Time		
Date	12/16/05	
Symbol	▼	

Weather: Cloudy, 40 degrees F
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0										**Asphalt Pavement** 3 -3/4 inches thick	0.0
1								GP-GM		**GRAVEL with Silt and Sand (Base Course)** (GP-GM) Brown, dry	0.3
2								GP-GM		**GRAVEL with Silt (FILL)** (GP-GM) Gray gravel with brown matrix, dry, fine to coarse gravel	1.0
3											
4											
5			15								
6			24 36	1		SPT		GP		**GRAVEL with Sand** (GP) Gray, moist to wet, est. 3% fines and 20% fine- to medium-grained sand; subangular to subrounded gravel to est. 2-in. size	6.0
7											
8											
9											
10			13								
11		8" O.D. Hollow Stem Auger	24 20	2		SPT		SP		**SAND** (SP) medium grained, Greenish gray, moist to wet	10.4
12								GP		**GRAVEL with Sand** (GP) Grayish green, wet, est. 15% fine- to coarse-grained sand; subrounded gravel to 1 in. max diameter recovered	12.0
13											
14			13 14 19	3		SPT					
15											
16											
17											
18										sand interlayer(s)	18.0
19											
20			19 18 20			SPT					
21											
22											
23								SP		**SAND with Gravel** (SP)	23.0
24										@ 25 ft sample: recovered heaved-sand and silt pocket.	24.0
25			20 23 27	4		SPT				4(combination) Sample 4 + 5:, p200=6.9%, Sa=53%, Gr=40%	
26											
27											
28											
29										@30 ft sample: as at 25 ft; recovered 0.4 ft-thick interlayer of fine-grained Silty Sand.	29.0
30			7 16 26	5		SPT					
31											
32											
33											
34											
35											

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-05-07

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341410.2689*, ***EASTING***: *361814.239*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *45.3 feet*
Date: *12/16/2005 - 12/16/2005*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	11.5	
Time		
Date	12/16/05	
Symbol	▼	

Weather: Cloudy, 40 degrees F
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
35										**SAND with Gravel** (SP) (cont.)
36										
37										
38										
39										
40			12 26 37	6		SPT		GP		**GRAVEL with Silt and Sand** (GP) wet, contains silt pockets; gravel to 3/4 in. size recovered — 40.0
41										
42										
43										sand interlayer(s), medium-grained — 43.0
44										44.5
45		8" O.D. Hollow Stem Auger	10 50/3"	7		SPT		ML	BOH 45.3	**SILT with Gravel** (ML) Light brown, moist — 45.3 Notes: Sampler refusal at bottom of test hole.

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C:\DRD\USCS FOUNDATION\LOG OF TEST HOLES\GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-08

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341120.6421*, ***EASTING***: *361822.9383*

Station / Location:
Offset:
Elevation: *137.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *31.3 feet*
Date: *1/3/2006 - 1/3/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	14.5	
Time		
Date	1/3/06	
Symbol	▼	

Weather: Clear and Cold, teens F
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0											**Asphalt Pavement** 4 inches thick	0.0
1								GP-GM			**GRAVEL with Silt and Sand (Fill)** (GP-GM) Grayish brown, dry, est. 0-12% fines; fine to coarse gravel	0.3
2												
3												
4								GP-GM				4.0
5			9								**GRAVEL with Silt (FILL)** (GP-GM) Gray gravel with brown fines, dry, est. <15% sand and 7% fines, nonplastic	
6			16	1		SPT						
7			25					GP				7.0
8											**GRAVEL with Sand** (GP) Grayish brown, moist to wet, est. 25% fine- to coarse-grained sand; gap graded subrounded gravel to ~1.5 inches diameter recovered	
9												
10			16									
11			36	2		SPT						
12			39									
13												
14												
15			7									
16			11	3		SPT						
17			13					SP			**SAND** (SP) Gray, wet, medium to coarse sand	15.9
18												18.0
19								GP			**GRAVEL with Sand** (GP) Gray, wet, interlayered with sand	
20			12									
21			29	4		SPT					@21 ft: increase in fines to est. 5%; poorly graded gravel to > 1.4 in. size; wet.	21.0
22			34									
23												
24											sand interlayers	24.0
25			12									
26			22	5		SPT						
27			28									
28											occasional sand interlayers continue	28.0
29												
30			11									
31			25	6		SPT						
			28									31.3
											BOH 31.3	

Weather: Clear and Cold, teens F
Bridge Approach

SUBSURFACE MATERIAL

Asphalt Pavement 4 inches thick — 0.0
GRAVEL with Silt and Sand (Fill) (GP-GM) Grayish brown, dry, est. 0-12% fines; fine to coarse gravel — 0.3
GRAVEL with Silt (FILL) (GP-GM) Gray gravel with brown fines, dry, est. <15% sand and 7% fines, nonplastic — 4.0
GRAVEL with Sand (GP) Grayish brown, moist to wet, est. 25% fine- to coarse-grained sand; gap graded subrounded gravel to ~1.5 inches diameter recovered — 7.0
SAND (SP) Gray, wet, medium to coarse sand — 15.9
GRAVEL with Sand (GP) Gray, wet, interlayered with sand — 18.0
@21 ft: increase in fines to est. 5%; poorly graded gravel to > 1.4 in. size; wet. — 21.0
sand interlayers — 24.0
occasional sand interlayers continue — 28.0
BOH 31.3 — 31.3

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-09

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *340885.6404*, ***EASTING***: *361824.9437*

Station / Location:
Offset:
Elevation: *137.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *25.9 feet*
Date: *1/3/2006 - 1/3/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)		12.6
Time		12:06
Date		1/3/06
Symbol		▽

Weather: 20 degrees F and mostly clear
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0											**Asphalt Pavement** 4.75 inches thick — 0.0
1								GP-GM			**GRAVEL with Silt and Sand (Fill)** (GP-GM) Grayish brown, dry, subrounded gravel to 1.5 inches diameter — 0.4
2											
3											
4											
5			17								
6			28	1		SPT					
7			34								
8											
9											9.5
10			15					GP			**GRAVEL with Sand** (GP) Grayish brown, dry to moist, fine to coarse sand, subrounded gravel to >1.4 inches recovered
11		8" O.D. Hollow Stem Auger	39	2		SPT					
12			60								
13											
14											
15			14								
16			15	3		SPT		SP			**SAND with Gravel** (SP) Grayish brown, wet, medium to coarse sand, fine gravel to 3/8 inches diameter — 15.7
17			30								
18								GP			**GRAVEL with Sand** (GP) Grayish brown, wet, fine to coarse sand, gravel to 3/4 inches diameter — 18.0
19			6								
20			21	4		SPT					4(occasonal sand interlayers)
21			30								
22											
23											
24											
25			25								
			22	5		SPT					
			22								25.9
											BOH 25.9

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C:\DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-10

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *340596.9406*, ***EASTING***: *361835.9535*

Station / Location:
Offset:
Elevation: *144.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *15.6 feet*
Date: *1/3/2006 - 1/3/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)		
Time		
Date		
Symbol		

Weather: High Thin Clouds, ~20 Degrees F
Bridge Approach

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0											**Asphalt Pavement** - 3 in. lift over 4.25 in. lift	0.0
1								GP-GM			**GRAVEL with Silt and Sand (Base Course)** (GP-GM) Brown, dry, minus 1/2 inch diameter gravel	0.5
2								GP			**GRAVEL with Silt and Sand (FILL)** (GP) Brown, dry, est. 10-12% fines; gravel to est. 2 in. size	2.0
3												
4			15					GW				4.0
5			15	1		SPT					**GRAVEL with Sand** (GW) Grayish brown, dry to moist, est. 20% fine- to coarse-grained sand; subangular to subrounded gravel to 1/2 inches maximum diameter recovered	
6			14									
7												
8												
9		8" O.D. Hollow Stem Auger	9									
10			24	2		SPT					est. gravel size ranges to 1.5 in.; also recovered silt pocket	10.0
11			32									
12												
13												
14			10								subangular to subrounded gravel to 1 in. size recovered	14.0
15			29	3		SPT						
			41									15.6
									BOH 15.6		Notes: No groundwater observed while drilling.	

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-11

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *340337.1699*, ***EASTING***: *358889.029*

Station / Location:
Offset:
Elevation: *126.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.5 feet*
Date: *1/4/2006 - 1/4/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)		
Time		
Date		
Symbol		

Weather: Clear 16 Degrees F

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								ML			**SILT with Organics (FILL)** (ML) Brown, dry — 0.0
1								SM			**SILTY SAND with Gravel (Base Course)** (SM) Brown, dry, minus 1 in. size gravel — 0.3
2								GM			**SILTY GRAVEL with Sand (FILL)** (GM) Brown fines, gray gravel, dry, est. 15% fines and 20% fine- to coarse-grained sand; hard, subrounded gravel to >2 in. size recovered. — 1.1
3											
4											
5			13								
6			28	1		MC					
7			34								
8											
9											
10			5								
11		8" O.D. Hollow Stem Auger	6	2		MC					est. 12+% fines — 10.5
12											
13								ML			**GRAVELLY SILT (FILL)** (ML) Grayish brown, dry to moist, est. 40% fine, round to subrounded gravel and <10% sand and trace organics — 12.9
14											
15			3								
16			6	3		MC					— 16.5
			6								BOH 16.5

Notes:
No groundwater observed while drilling.

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD USCS FOUNDATION LOG OF TEST HOLES_GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-12

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *340626.596*, ***EASTING***: *359904.0154*

Station / Location:
Offset:
Elevation: *126.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.5 feet*
Date: *1/4/2006 - 1/4/2006*
Geologist: *B. Benko*

Weather: Clear ~10 Degrees F

Ground Water Data		
Depth in (ft.)		
Time		
Date		
Symbol		

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								GP-GM		**GRAVEL with Silt and Sand (FILL)** (GP-GM) Brown, dry, est. 10% fines and 30% sand; recovered gravel to 3 in. size — 0.0
5		8" O.D. Hollow Stem Auger	14 10 9	1		MC				
10			6 12 11	2		MC		GW		**GRAVEL with Sand** (GW) Brown, dry, est. 3-5% fines and 20% fine- to coarse-grained sand ; subrounded, hard gravel to 2.5 in. diameter recovered. — 10.1
15			8 10 11	3		MC		SP		**SAND** (SP) Brown, moist, medium- to coarse-grained sand — 14.9 at bottom: near groundwater table (?) - increased moisture. — 16.0 BOH 16.5 — 16.5

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-13

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341109.3755*, ***EASTING***: *360839.1803*

Station / Location:
Offset:
Elevation: *131.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.2 feet*
Date: *1/4/2006 - 1/4/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	12	
Time		
Date	1/4/06	
Symbol	▼	

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								GM		**SILTY GRAVEL with Sand (FILL)** (GM) Brown, dry, est. 12+% fines and 30% fine- to coarse-grained sand — 0.0
1										
2								GP-GM		**GRAVEL with Silt and Sand (FILL)** (GP-GM) Brown, dry, est. 10% fines and 20% fine- to coarse-grained sand; subrounded to rounded, hard gravel to >2 in. size recovered — 1.9
3										
4										
5		8" O.D. Hollow Stem Auger	17 11	1		MC				
6			11							
7										
8										
9										
10			50/4.5	2		MC				cobble; dry. — 10.0
11								GP-GM		**GRAVEL with Silt** (GP-GM) Brown, wet, est. 7% fines and 10-15% fine- to coarse-grained sand; hard and moderately hard, subrounded to subangular gravel to 1.5 in. size recovered. — 10.5
12										
13										
14										
15			9 13	3		MC				@15.1-15.4 ft: sand interlayer, medium-grained. — 15.0
16			21							— 16.2
								BOH 16.2		

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-14

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341911.3819*, ***EASTING:*** *362409.8226*

Station / Location:
Offset:
Elevation: *142.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.3 feet*
Date: *1/4/2006 - 1/4/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	12	
Time		
Date	1/4/06	
Symbol	▼	

Weather: Clear, 10 Degrees F

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								GM			**SILTY GRAVEL with Sand (FILL)** (GM) Brown, dry, est. 12-15% fines and 15% fine- to coarse-grained sand; subrounded gravel to 2.5 in. size recovered. 0.0
5		8" O.D. Hollow Stem Auger	14, 16, 19	1		MC					
7.5								GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Brown, dry to moist, est. 10% fines; fine gravel. 7.5
9.0								SP			**SAND with Gravel** (SP) Brown, dry to moist, est. 30% hard, subrounded to round gravel 9.0
10			11, 12, 15	2		MC					
13.0								GP			**GRAVEL with Sand** (GP) Brown and grey, wet, est. 5% nonplastic fines and 35% fine- to coarse-grained sand; gap graded gravel to 2 in. size recovered. 13.0
15			12, 13, 15	3		MC					
16.3										BOH 16.3	16.3

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-15

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *342325.4727*, ***EASTING***: *363354.0182*

Station / Location:
Offset:
Elevation: *150.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *15.8 feet*
Date: *1/4/2006 - 1/4/2006*
Geologist: *B. Benko*

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic
0								GP-GM		
1										
2										
3										
4										
5		8" O.D. Hollow Stem Auger	11 15 10	1		MC				
6										
7										
8										
9										
10			7 6 5	2		MC				
11								GW-GM		
12										
13										
14										
15			6 9 12	3		MC				
										BOH 15.8

Ground Water Data		
Depth in (ft.)		
Time		
Date		
Symbol		

SUBSURFACE MATERIAL

GRAVEL with Silt and Sand (FILL) (GP-GM) Gray gravel, brown matrix, dry, est. 10-12% fines and 30% fine- to coarse-grained sand. 0.0

GRAVEL with Silt and Sand (GW-GM) Gray and brown, wet, est. 5-7% fines and 20% fine- to coarse-grained sand; hard, subrounded gravel to 1 in. diameter recovered. 11.3

15.8

Notes:

1. No groundwater observed.
2. Boring penetrated abandoned culvert at about 10 ft bgs, hole plugged with wood @ 7', then backfilled with crushed rock and sealed at surface with cement.

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD_USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-16

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341451.7541*, ***EASTING***: *361215.7716*

Station / Location:
Offset:
Elevation: *132.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *R. Ruth*

Total Depth: *16.0 feet*
Date: *1/5/2006 - 1/5/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	11.75	
Time		
Date	1/5/06	
Symbol	▼	

Weather: Clear, 5 to 10 Degrees F

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0								ML		**SANDY SILT with Gravel (FILL)** (ML) Grayish brown, dry	0.0
1								GM		**SILTY GRAVEL with Sand (FILL)** (GM) Grayish brown, moist to wet, est. 15-20% fines and 15% sand and trace organics; recovered soft and moderately hard gravel to est. 2 in. size;	0.7
2											
3											
4										occasional(?) 3-in.-plus material	4.0
5			4 14 23	1		MC					
6											
7											
8											
9											
10		8" O.D. Hollow Stem Auger	24 19 21	2		MC		GP-GM		**GRAVEL with Silt and Sand** (GP-GM) Grayish brown, est. 5-10% fines and 35% fine- to coarse-grained sand; fine gravel, mostly 1/4 in.-minus recovered; @ 10-ft sample: fine gravel, mostly 1/4 in. minus	10.0 10.5
11											
12											
13											
14											
15			19 17 18	3		MC				@ 15-ft sample: wet; fines vary, interlayers with est. 10-15% fines.	15.0
16											16.0
									BOH 16		

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-17

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341004.9767*, ***EASTING***: *360368.6426*

Station / Location:
Offset:
Elevation: *129.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.4 feet*
Date: *1/5/2006 - 1/5/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	13.45	
Time	10:10	
Date	1/5/06	
Symbol	▼	

Weather: Cold and Clear

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								GM			**SILTY GRAVEL with Sand (FILL)** (GM) Brown matrix, gray gravel, dry, est. 15% fines and 15% sand;, poorly graded gravel to 3 inches maximum diameter recovered. 0.0
1											
2		8" O.D. Hollow Stem Auger	13 44/4.5	1		MC					
3											
4											
5			15 20	2		MC					
6			22								
7											
8											
9											
10			19 6	3		MC		SM			**SILTY SAND with Gravel (FILL)** (SM) Brown, moist to wet 10.3
11			5								
12								GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Grayish brown, wet, est. 10% fines and 20% fine- to coarse-grained sand; subangular to subrounded gravel to > 2 inches diameter recovered. 11.3
13											
14											
15			8	4		MC					
16			15 18								16.4
										BOH 16.4	

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-18

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *340521.0032*, ***EASTING***: *359409.8017*

Station / Location:
Offset:
Elevation: *123.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.3 feet*
Date: *1/5/2006 - 1/5/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	11	
Time	11:20	
Date	1/5/06	
Symbol	▼	

Weather: Clear and Cold, 10 to 15 Degrees F

Depth (Feet)	Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
0								ML			**SILT with Gravel (FILL)** (ML) Brown, dry — 0.0
2								GM			**SILTY GRAVEL with Sand (FILL)** (GM) Brown matrix, gray gravel, dry, est. 15% fines — 2.0
5		8" O.D. Hollow Stem Auger	8 9 7	1		MC					
10			5 8 7	2		MC		GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Gray, moist to wet, est. 5-10% fines and 30% fine- to coarse-grained sand; subrounded and subangular gravel to 1.5 inches diameter recovered. — 10.0
15			12 10 11	3		MC					
16										BOH 16.3	16.3

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-19

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *342629.2091*, ***EASTING***: *363844.5402*

Station / Location:
Offset:
Elevation: *155.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.3 feet*
Date: *1/5/2006 - 1/5/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	15.5	
Time		
Date	1/5/06	
Symbol	▼	

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0								ML			**GRAVELLY SILT (FILL)** (ML) Brown, dry	0.0
1												
2								GP-GM			**GRAVEL with Silt and Sand (FILL)** (GP-GM) Brown, dry to moist, est. 10-12% nonplastic fines and 25% fine- to coarse-grained sand; subrounded gravel to >2.5 inches diameter recovered.	1.5
3												
4												
5			6									
6			5 7	1		MC						
7												
8								GP			**GRAVEL with Sand** (GP) Brown matrix, gray gravel, dry to moist, est. 3-4% fines and 25% sand; gap graded, subrounded gravel to >2.5 inches diameter recovered.	8.0
9												
10			6									
11			8 9	2		MC						
12												
13												
14								GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Brown, moist to wet	14.0
15												15.5
16			8 15 15	3		MC		GW			**GRAVEL with Sand** (GW) Grayish brown, wet, hard, subrounded gravel to 1 -1/2 inches diameter recovered	16.3
										BOH 16.3		

8" O.D. Hollow Stem Auger

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-20

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *342260.398*, ***EASTING***: *362868.4423*

Station / Location:
Offset:
Elevation: *148.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *3.75" ID x 8" OD Hollow Auger*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *16.3 feet*
Date: *1/5/2006 - 1/5/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)		13.6
Time		13:06
Date		1/5/06
Symbol		▽

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0								GM			**SILTY GRAVEL (FILL)** (GM) Brown, dry	0.0
2			23 50/2	1		MC						
5			11 15 14	2		MC		SP			**SAND with Gravel** (SP) Gray and brown, moist, est. 3% fines and 35% sand; fine gravel to 1/2 in. size recovered.	5.1
8								GP-GM			**GRAVEL with Silt and Sand** (GP-GM) Gray and brown, dry, est. 10% slightly plastic fines and 20% sand.	8.0
10		8" O.D. Hollow Stem Auger	13 22 32	3		MC						
13								GW			**GRAVEL with Sand** (GW) Brown, moist to wet, est. 3-5% fines and 20% sand; subrounded gravel to 3/4 in. diameter recovered.	13.0
15			9 13 17	4		MC						
16										BOH 16.3		16.3

☒ CME Auto Hammer ☐ Cathead Rope Method ☐ 140 lb. hammer with 30 in. drop ☒ 340 lb. hammer with 30 in. drop

Sheet Number 1 of 1

C:\DRD\USCS FOUNDATION\LOG OF TEST HOLES\GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-21

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341712.1725,* ***EASTING:*** *361862.6663*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.5 feet*
Date: *1/7/2006 - 1/7/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	6.4	
Time	13:30	
Date	1/7/06	
Symbol	▼	

Weather: Partly Cloudy, ~15 Degrees F
Bridge site
(Confined/Artesian groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification	Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL	
0											**Asphalt Pavement** 6 inches thick	0.0
1								SM			**SILTY SAND with Gravel (FILL)** (SM) Gray, moist, est. 20% fines and 15% fine gravel to 1/4 in. size	0.5
2												
3												
4	63		63	1		SPT						
5	87		39/2									
6	81											
7	80											7.0
8	61							GM			**SILTY GRAVEL with Sand (FILL)** (GM) mixed grn and gry, moist, gravel to 1 in. size recovered	
9	45		25	2		SPT						
10	44		72									
11	66		30									
12	78											
13	42											12.5
14	35		22	3		SPT		SW-SM			**SAND with Silt and Gravel** (SW-SM) Gray, wet, fine to coarse sand, subrounded gravel to 3/4 inches diameter recovered	
15	38		29								3Sample:, p200=7.3%, Sa=51%, Gr=42%	
16	44		28									
17	43										trace remnant coal pieces	16.0
18	55											
19	45		29	4		SPT						19.0
20	38		28								4Sample:, p200=6.4%, Sa=56%, Gr=38%, PI=NP, LL=NV, SW-SM	
21	46		27								@18.5 ft sample: less well graded; mostly fine gravel to 5/8 in. diameter	
22	51											
23	48							SW			**SAND with Gravel** (SW) Grayish brown, wet, fine to coarse sand, subrounded gravel to 1/2 inches maximum diameter recovered	22.0
24	41		25	5		SPT						
25	54		25								5Sample:, p200=4.8%, Sa=49%, Gr=46%	
26	59		29									
27	64											
28	62											
29	40		16	6		SPT						29.0
30	46		19								@28.5 ft sample: as @ 24 ft, but recovered broken gravel to 1.5 in. size and piece of coal.	
31	63		20									
32	63											
33	65											
34	40		13	7		SPT		SW			**SAND** (SW) Grayish green, wet, fine to medium sand; est. 10% fine gravel	33.0
35	37		22									
			27									

NW casing-rotary wash 2 7/8" tricone

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-21

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341712.1725*, ***EASTING***: *361862.6663*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.5 feet*
Date: *1/7/2006 - 1/7/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	6.4	
Time	13:30	
Date	1/7/06	
Symbol	▼	

Weather: Partly Cloudy, ~15 Degrees F
Bridge site
(Confined/Artesian groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
35	54	NW casing-rotary wash 2 7/8" tricone								**SAND** (SW) Grayish green, wet, fine to medium sand; est. 10% fine gravel (cont.)
36	61							GP-GM		36.0 **GRAVEL with Silt and Sand** (GP-GM) Grayish green, wet, fine to coarse sand, subrounded gravel to 1 inches diameter recovered
37	70									
38	78									
39	70									
40	70									
41	63									
42	64									
43	50		24							
44	58		20	8		SPT				
45	72		20							
46	53							ML		46.0 **SILT with Gravel** (ML) Gray, recovered plastic(?) silt in cuttings return
47	65									
48	99									
49	120									
50	102									
51	90									
52	137							GM		52.0 **SILTY GRAVEL with Sand (Till)** (GM) Grayish green, moist to wet, fine to coarse sand, subrounded to subangular gravel to 1 inches diameter recovered
53										53.0 estimated/approximate top of "Lower Aquifer"
54			29							9Sample:, p200=23.5%, Sa=36%, Gr=40%
55			46	9		SPT				
56			62							
57										
58										
59										
60										
61										
62										
63						SPT				63.5
64								GP		64.0 sampler refusal
65										**GRAVEL with Sand** (GP) Light gray, wet, cobble/boulder? at 64 feet in depth, cobbley drill action between ~63.5 and 68 feet in depth
66										
67										
68										68.0 @68 ft: observe piezometric groundwater level at >3 ft above ground surface.
69										
70										

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C DRD USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

LOG OF TEST HOLE

HOLE # TH-06-21

STATE OF ALASKA DOT&PF
Statewide Materials
Geology Section

PROJECT NUMBER: *57179*
PROJECT: *Glenn Highway and Bragaw St. Intersection*
NORTHING: *341712.1725*, ***EASTING***: *361862.6663*

Station / Location:
Offset:
Elevation: *136.0 feet*

Equipment Type: *CME 75 Truck*
Drilling Method: *Casing Size NW*
Field Crew: *E. Carman and R. Ruth*

Total Depth: *74.5 feet*
Date: *1/7/2006 - 1/7/2006*
Geologist: *B. Benko*

Ground Water Data		
Depth in (ft.)	6.4	
Time	13:30	
Date	1/7/06	
Symbol	▼	

Weather: Partly Cloudy, ~15 Degrees F
Bridge site
(Confined/Artesian groundwater encountered -- see drilling notes.)

Depth (Feet)	Sample Data: Casing Blows	Drill Method	Blow Count	Number	Recovery	Sample Type	Sample	USCS Classification / Frozen Zone	Soil Graphic	SUBSURFACE MATERIAL
70										**GRAVEL with Sand** (GP) Light gray, wet, cobble/boulder? at 64 feet in depth, cobbley drill action between ~63.5 and 68 feet in depth (cont.) interbeds fine, Silty Sand (SM) — 71.0
71										
72								GM		**SILTY GRAVEL with Sand** (GM) Light gray, wet, fine to coarse sand,; hard, subrounded gravel to 5/8 inches diameter — 72.0
73										
74		NW casing-rotary wash 2 7/8" tricone	68 90	10	■	SPT	☒		BOH 74.5	— 74.5

Notes:

1. These intervals pre-drilled before driving casing: 0-3 ft and 53 - 74.5 (bottom).
2. Artesian groundwater conditions noted. Confined groundwater encountered at estimated approximate depth of 52 ft. At drill-depth of about 68 ft, observed potentiometric groundwater level at >3 ft above ground surface.

☒ CME Auto Hammer ☐ Cathead Rope Method ☒ 140 lb. hammer with 30 in. drop ☐ 340 lb. hammer with 30 in. drop

C:\DRD\USCS FOUNDATION LOG OF TEST HOLES GLENN_HWY_BRAGAW_INTERSTECTION_2005.GPJ 2006DATATEMPLATE.GDT 5/31/06

PRECONSTRUCTION SAMPLE SUMMARY SHEETS

PRECONSTRUCTION SAMPLE SUMMARY

Project Name Glenn Hwy & Bragaw St. Interchange

Project No. 57179 Sampled By B. Benko Structure Glenn-Bragaw Interchange

Station							
Offset (feet)							
Depth (feet)		14.5'-20.4'	24.5'-25.5'	44.5'-45.7'	54.5'-64.7'	19.5'-20.5'	24.4'-35.4'
Test Hole No.		TH 05-01	TH 05-01	TH 05-01	TH 05-01	TH 05-02	TH 05-02
Field No.		57179-01-3/01-4	57179-01-5	57179-01-7	57179-01-8/01-9	57179-02-4	57179-02-5/02-6
Date Sampled		12/06/2005	12/06/2005	12/06/2005	12/06/2005	12/12/2005	12/12/2005
Lab No.		06A-0114	06A-0115	06A-0116	06A-0117	06A-0118	06A-0119
	3"						
	2"		100				100
	1"	100	81	100	100	100	96
Percent	3/4"	90	72	98	84	95	91
	1/2"	83	59		69	89	86
Passing	3/8"	79	54		63	85	72
	#4	65	42	98	47	70	60
Sieve	#10	53	32	97	37	56	28
	#40	27	12	97	27	32	4.6
Size	#80					5.7	
	#200	3.7	4.2	96.5	15.9		
	.02mm						
	.002mm						
AASHTO Class		A-1-b(0)		A-4(6)			A-1-b(0)
FSV Class							
Unified Class		SP		CL-ML			SP
Liquid Limit		NV		27			NV
Plastic Index		NP		7			NP
Moisture Content %							
Organic Content %							
% Gravel		47	68	3	63	44	40
% Sand		49	28	0	21	50	55
% Silt & Clay		4	4	97	16	6	5
Max. Dry Density							
Opt. Moisture %							
Degradation Value							
L.A. Abrasion Loss							
Sulfate Soundness		/	/	/	/	/	/

Note: Gradation test based on minus 3 inch material. AASHTO class may be inappropriate if organic content >5%. The sampler used to take the above samples had an inside diameter of 1.4 inches of sampler, therefore soils particles with a diameter larger than 1.4 inches were not recovered in sample. See test hole logs for a field description and sampler size used of the tested material.

PRECONSTRUCTION SAMPLE SUMMARY

Project Name Glenn Hwy & Bragaw St. Interchange

Project No. 57179 Sampled By B. Benko Structure Glenn-Bragaw Interchange

Station							
Offset (feet)							
Depth (feet)		39.5'-40.8	74.5'-74.8'	14'-20'	34'-35'	24.5'-30.7'	13.5'-14.5'
Test Hole No.		TH 05-02	TH 05-02	TH 05-04	TH 05-04	TH 05-07	TH 06-21
Field No.		57197-02-8	57179-02-13	57179-04-4/04-5	57179-04-8	57179-07-4/07-5	57179-21-3
Date Sampled		12/13/2005	12/13/2005	12/15/2005	12/15/2005	12/16/2005	01/07/2006
Lab No.		06A-0120	06A-0121	06A-0122	06A-0123	06A-0124	06A-0125
Percent Passing Sieve Size	3"						
	2"			100			
	1"			93	100	100	100
	3/4"			88	98	96	88
	1/2"	100	100	79	97	86	83
	3/8"	100	99	74		77	75
	#4	100	84	59	95	60	58
	#10	99	37	42	93	46	43
	#40	99	8	18	88	24	21
	#80						
	#200	95.2	2.7	5.4	79.2	6.9	7.3
	.02mm						
	.002mm						
AASHTO Class		A-4(6)					
FSV Class							
Unified Class		CL					
Liquid Limit		25					
Plastic Index		8					
Moisture Content %							
Organic Content %					7		
% Gravel		1	63	58		54	57
% Sand		4	34	37	14	39	36
% Silt & Clay		95	3	5	79	7	7
Max. Dry Density							
Opt. Moisture %							
Degradation Value							
L.A. Abrasion Loss							
Sulfate Soundness		/	/	/	/	/	/

Note: Gradation test based on minus 3 inch material. AASHTO class may be inappropriate if organic content >5%. The sampler used to take the above samples had an inside diameter of 1.4 inches of sampler, therefore soils particles with a diameter larger than 1.4 inches were not recovered in sample. See test hole logs for a field description and sampler size used of the tested material.

PRECONSTRUCTION SAMPLE SUMMARY

Project Name Glenn Hwy & Bragaw St. Interchange

Project No. 57179 Sampled By B. Benko Structure Glenn-Bragaw Interchange

Station							
Offset (feet)							
Depth (feet)		18.5'-19.5'	23.5'-29.5'	53.5'-54.3'			
Test Hole No.		TH 06-21	TH 06-21	TH 06-21			
Field No.		5717997-21-4	57179-21-5/21-6	57179-21-9			
Date Sampled		01/07/2006	01/07/2006	01/07/2006			
Lab No.		06A-0126	06A-0127	06A-0128			
	3"						
	2"						
	1"	100	100	100			
Percent	3/4"	98	94	94			
	1/2"	91	81	80			
Passing	3/8"	85	74	74			
	#4	62	54	60			
Sieve	#10	44	36	49			
	#40	20	14	38			
Size	#80						
	#200	6.4	4.8	23.5			
	.02mm						
	.002mm						
AASHTO Class		A-1-a(0)					
FSV Class							
Unified Class		SW-SM					
Liquid Limit		NV					
Plastic Index		NP					
Moisture Content %							
Organic Content %							
% Gravel		56	64	51			
% Sand		38	31	25			
% Silt & Clay		6	5	24			
Max. Dry Density							
Opt. Moisture %							
Degradation Value							
L.A. Abrasion Loss							
Sulfate Soundness		/	/	/	/	/	/

Note: Gradation test based on minus 3 inch material. AASHTO class may be inappropriate if organic content >5%. The sampler used to take the above samples had an inside diameter of 1.4 inches of sampler, therefore soils particles with a diameter larger than 1.4 inches were not recovered in sample. See test hole logs for a field description and sampler size used of the tested material.

Glenn Bragaw Interchange

Project 57179

APPENDIX 4-1 BRIDGE CONCEPTUAL DESIGN PLAN

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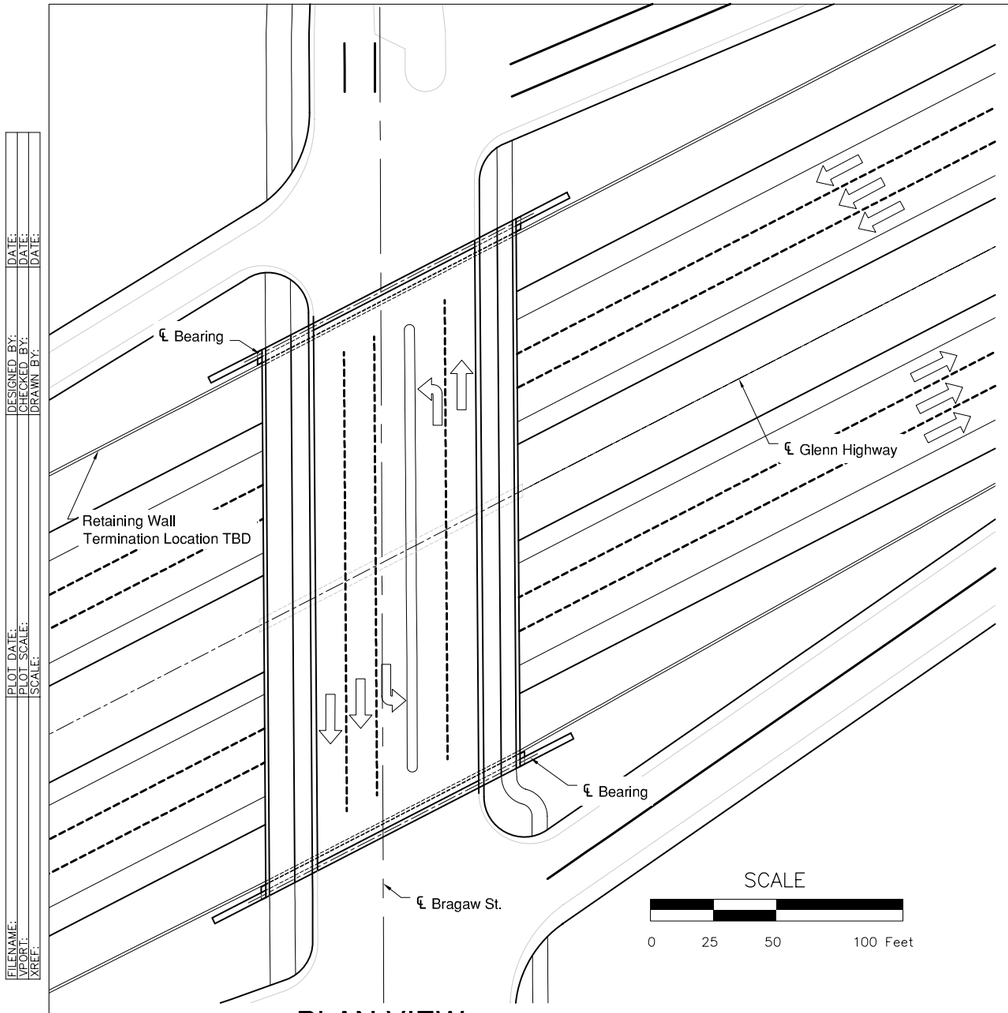
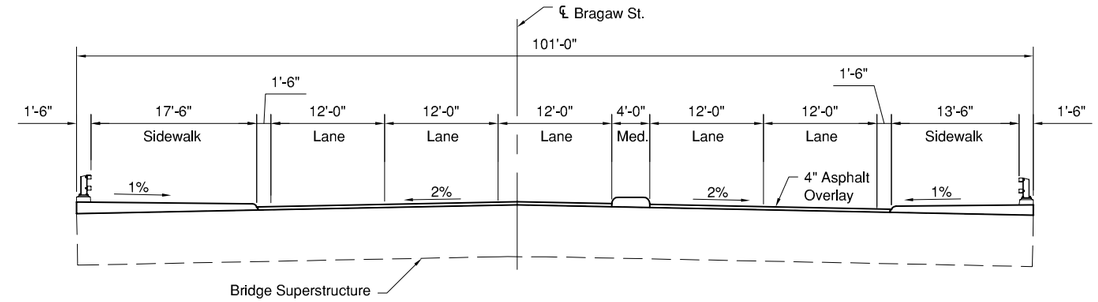
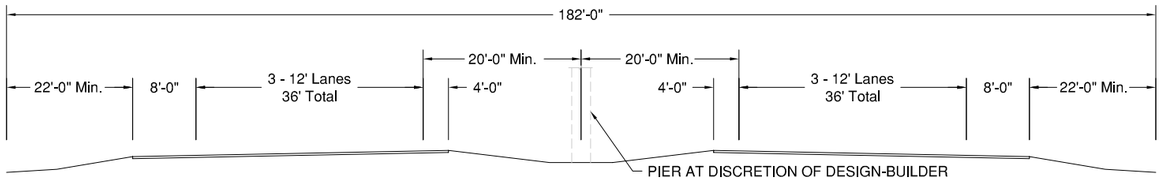


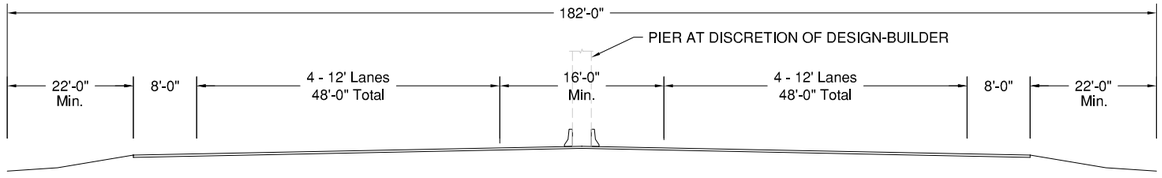
PLAN VIEW



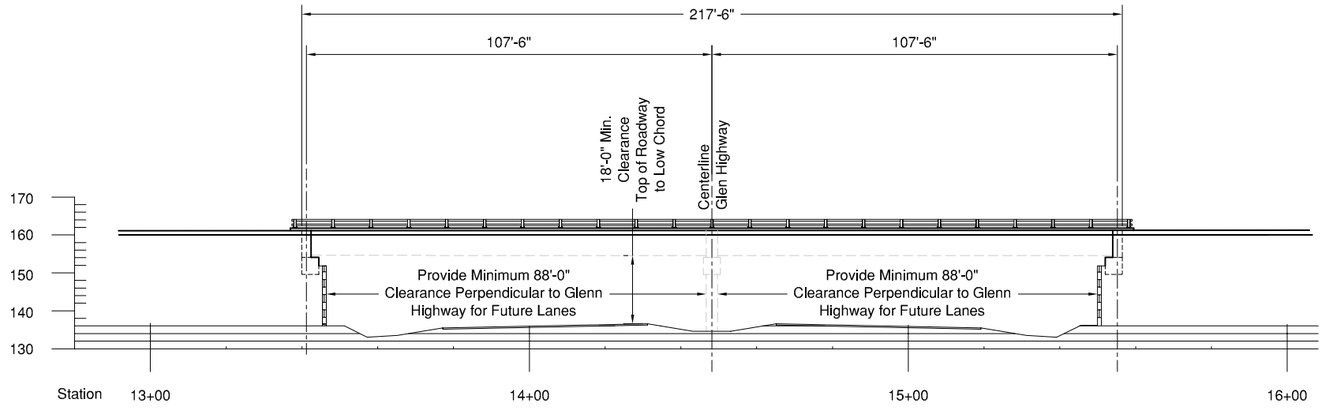
BRAGAW ST. BRIDGE CROSS SECTION



PROPOSED GLENN HWY. CROSS SECTION @ BRAGAW (PERPENDICULAR TO GLENN ALIGNMENT)



FUTURE GLENN HWY. CROSS SECTION @ BRAGAW (PERPENDICULAR TO GLENN ALIGNMENT)



ELEVATION VIEW

SHEET	OF
8	8
STATE	YEAR
ALASKA	2006

PROJECT DESIGNATION

ADDENDUM NO.
–

ATTACHMENT NO.
–

REVISIONS

NO.	DATE	DESCRIPTION
1	2/5/07	Revised Addendum 2

DEVELOPED BY:
HDR ALASKA, Inc.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

GLENN / BRAGAW INTERCHANGE

BRAGAW OVERPASS

DESIGNED BY: DATE:
CHECKED BY: DATE:
DRAWN BY: DATE:
PLOT DATE:
PLOT SCALE:
SCALE:
FILENAME:
VPORT:
XREF:

2/2/2007 3:16 PM
Z:\07072 DOT&PF\161 Glenn Hwy Rehab\Bragaw Work Products\2006 CAD\RFP Addendum 2\Sht08-Bridge layout for DB.dwg

Glenn Bragaw Interchange

Project 57179

APPENDIX 4-2 BRIDGE AND STRUCTURES – EXISTING STRUCTURES

The as-built plans of the existing pedestrian bridge are offered FOR INFORMATION ONLY and are available for inspection by contacting the COAR

Glenn Bragaw Interchange

Project 57179

APPENDIX 8-1 PUBLIC INTEREST FINDING- STERNBERG DECORATIVE LIGHTING

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PUBLIC INTEREST FINDING

STATE of ALASKA
DEPARTMENT of TRANSPORTATION and PUBLIC FACILITIES
CENTRAL REGION, CONSTRUCTION BRANCH
HIGHWAY CONSTRUCTION

Sternberg Decorative Lighting

Glenn-Bragaw Interchange

Project 57179

BACKGROUND

The Municipality of Anchorage (MOA) has been promoting enhancement projects for the Mountain View Community for the past few years. They are currently constructing the 2nd of four planned phases in order to upgrade Mountain View Drive. These projects are aimed at enhancing the pedestrian access and the overall look of the facility. They are using a distinct decorative luminaire for all of the Mountain View Drive projects. This is the Sternberg pole model 33XX-P5-.250 with double banner hangers and double basket hangers, green in color with light fixture 1730-250-MH-3 Type 3 Optics. The XX refers to the pole height that is from 12 to 20 feet depending on the design (see attachment).

The Glenn-Bragaw Interchange Project will reconstruct Bragaw Street to pass over the Glenn Highway. The MOA will continue to own and maintain Bragaw Street. Bragaw Street intersects Mountain View Drive at the northern project limit. There are extensive pedestrian enhancements associated with the interchange project. The project is 100% State Funded.

The MOA has requested that the same lighting fixtures be used for the Glenn-Bragaw Interchange project.

PUBLIC INTEREST FINDING

In accordance with **P&P 10.02.013** and **23CFR635.411**, a finding that it is in the public's best interest to allow the Department to specify *Sternberg pole model 33XX-P5-.250 with double banner hangers and double basket hangers, green in color with light fixture 1730-250-MH-3 Type 3 Optics* for the Bragaw Street lighting for the current project is hereby requested.

By specifying this particular luminaire, the neighborhood enhancement theme will be maintained. In addition, the maintenance and operations for the lighting system will be made easier by staying with a single type of luminaire.

RECOMMENDED:

Gordon C. Keith GCK — Date 8/29/06
Regional Director
Central Region

APPROVAL:

Mark A. O'Brien — Date 9-5-06
Chief Contracts Officer
Office of the Commissioner

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Glenn Bragaw Interchange

Project 57179

APPENDIX 10-1 UTILITY MEMORANDA OF UNDERSTANDING

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57179
Glenn Bragaw Interchange

UTILITY NAME:
Alaska Communications Systems
(ACS)

ACS Contract Audit
601182

Glenn Bragaw Interchange
MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU), entered into this _____ day of _____, 2006, by and between the State of Alaska Department of Transportation and Public Facilities, hereinafter referred to as the Department, and Alaska Communications Systems, hereinafter referred to as the Utility,

MUTUALLY UNDERSTAND

The Department has determined the need for a highway grade-separated interchange at the intersection of the Glenn Highway and Bragaw Street, located in Anchorage Grid 1235 NE ¼ of Section 16 and Anchorage Grid 1236 NW ¼ of Section 15, Township 13 north, Range 3 west, Seward Meridian, Alaska, hereinafter referred to as the Project; and

The Department will advertise for bids for the design and construction of the Project, using the design-build method of Project development with a Request for Proposals (RFP). The successful contract bidder, hereinafter referred to as the Design-Builder, shall complete the design and construct the Project; and

The Department is engaged in preparing preliminary Project plans, conducting some Project surveys, and assembling other background information for the Project. Preliminary investigations within and near the Project area have identified some Utility-owned facilities which may necessitate relocation, removal, adjustment, protection, or construction and which hereinafter shall be referred to as Utility Work; and

This MOU establishes the basis for reimbursement through the Department for preliminary engineering activities by the Utility for a replacement-in-kind relocation in accordance with provisions of Alaska Statue (AS) 19.25.020 and Alaska Administrative Code (AAC) Title 17, Chapter 15, Title 3 Utility Relocation and Adjustment; and

The Department shall reimburse the Utility for preliminary engineering associated with the Project in accordance with the Department's audited utility rates. The Utility shall be eligible for reimbursement for its preliminary engineering activities associated with this Project from April 14, 2006 to the earlier of the date of award of the Project or cancellation of the Project. Preliminary engineering shall consist of coordinating with the Department; responding to Department requests for information on possibly affected utilities; preparing preliminary "one-line" diagrams of proposed utility relocations; and responding to prospective proposers during the RFP stage of the Project, which includes preparation of conceptual designs, preliminary schedules, cost estimates of proposed utility relocations and responding in a reasonable time frame to prospective proposers during the RFP stage of the Project, through a single point of contact with each prospective Design-Builder team.

C.A.A.D.
Reviewed

Further compensation to the Utility will be in accordance with agreements executed between the Utility and the Design-Builder. This shall include compensation of the Utility's time and expenses to negotiate the utility agreement, and any other requested preliminary engineering between the time of contract award and the execution of the utility agreement. After award of the design-build contract, the Design-Builder shall act in the Department's stead to negotiate and execute such agreements, and to compensate the Utility for Utility Work under the agreements; and

The Design-Builder shall negotiate with the Utility for the relocation, removal, adjustment or protection of the utility in conformance with the laws and regulations cited above. The Design-Builder will be responsible for preparing a specific and detailed utility agreement referred to as the Utility Agreement, for performing the required Utility Work. The Utility Agreement will identify specific Utility Work items, amount, schedule, and methods for compensation for the Utility Work, as well as a schedule for the Utility Work. In the event of a breakdown in negotiations or a dispute between the Design-Builder and the Utility, either the Utility or the Design-Builder can refer the dispute to the Department's Project Contracting Officer for resolution; and

The Department has the authority to order relocations, and the Utility has the right to be compensated for that Utility Work based on eligibility regulations under AS 19.25. It is expected that the Utility and the Design-Builder shall come to mutually agreeable terms for the Utility WORK in conformance with those regulations; and

The Design-Builder will compensate the Utility for its work under the negotiated Utility Agreement in accordance with the most current rate structure agreed to between the Utility and the Department. If this rate changes during the project, the most recent rates will be used; and

The Department will include provisions in the RFP stating that the Department has the ability to withhold portions of progress payments from the Design-Builder if it is determined that the Design-Builder is not reimbursing the Utility for the Utility Work or not in a timely manner as agreed upon in the Utility Agreement. The Department will use these withheld funds to compensate the Utility for the cost of the Utility Work if the Utility has not been compensated by the Design-Builder; and

The Design-Builder shall determine which utility work has been previously permitted and shall obtain additional permits or modifications of existing permits as may be required by the Design-Builder's or the Utility's final plans to cover the Utility Work in its final position. It is the Design-Builder's responsibility to coordinate between the Utility and the Department's utility section to provide the affected Utility with permit information and permit commitments that will be acceptable based on the requirements of AAC Title 17, and the Department's Pre-Construction and Utilities Manuals. The Department will review and have responsibility for final acceptance of the placement of the relocated facilities for the final utility permit; and

The Department will issue a utility permit based on the submissions of the Design-Builder, at the completion of the Utility Work, and the permit will contain the appropriate maintenance and other provisions as required by regulations under the AAC Title 17; and

This MOU, once executed, will be incorporated into the RFP and thus will become part of the Design-Builder's contract, and the Design-Builder will be required to abide by its requirements; and

The Utility and the Department will follow the procedures set forth below during the construction of the Project:

C.A.A.D.
Reviewed

1. All Utility Work and all work incidental to the Utility Work shall be performed by the Utility, unless the Utility chooses to have the Design-Builder do a portion or all of the Utility Work, and this is mutually agreed upon and stated in the Utility Agreement.

2. If the Utility chooses to have the Design-Builder perform the Utility Work, the Design-Builder shall provide to the Utility a copy of the contract with all subcontractors working on the Utility's facilities. The subcontractors' actions shall be the responsibility of the Design-Builder.

3. A signed Utility Agreement shall be on record with the Department prior to any exchange of funds for the performance of any Utility Work other than preliminary engineering reimbursement. The Utility Agreement shall be prepared by the Design-Builder and approved by the Utility and the Department following the regulations established under AAC Title 17, Chapter 15. The scope of work as described in the Utility Agreement shall describe the proposed utility relocation in comparative terms to an in-kind replica, including betterments and non-reimbursable work.

4. The Design-Builder shall notify the Utility in writing of the facilities in conflict and shall schedule and meet as necessary with the Utility to review its design, construction, costs, coordination, and schedule concerns.

5. The Utility agrees to use all reasonable efforts to diligently prosecute its work, including the planning, design reviewing, constructing, coordination, inspection, and placing of new or relocated facilities in service, within a reasonable time and maintain the Design-Builder's schedule as outlined in the Utility Agreement. The Utility Agreement shall include a schedule for completion of the Utility Work based on the time to complete various segments of the proposed utility relocation and to transfer services from the old to the new system, allowing the existing system to be abandoned.

6. The Design-Builder and the Utility shall consult as necessary to decide whether an impact can be avoided by relocation of the utility or by the Design-Builder changing its design, or by a combination of these actions. Both shall confer until each relocation is acceptable to all parties.

7. It is not anticipated that relocations will be necessary outside the right-of-way (ROW), and the parties shall make every effort to remain within existing ROW or easements. If the Utility and the Design-Builder decide that a utility relocation outside the ROW is required after the consultations undertaken in item 6 above, then the Design-Builder shall submit this proposed action to the Department for review. This proposal shall be accompanied by sufficient documentation supporting the need to acquire additional ROW for the proposed utility relocation. Any decision to relocate utilities outside the ROW must be made in consultation with the Department and must be made on a cost-effective and timely schedule basis. If the proposal is acceptable, the Department will use information and documentation supplied by the Design-Builder to complete the acquisition of the required ROW, all costs for delay associated with acquiring the additional ROW shall be borne by the Design-Builder.

8. The Department will protect any of the Utility's vested rights after relocation of the Utility facilities to public ROW in cases where such facilities are currently on a Utility-owned easement. The Department shall issue no-cost utility permits to utilities relocated within the Department's ROW under terms of the Utility Agreement.

9. The Utility shall provide the necessary approved specifications and design standards to the Design-Builder for all Utility Work required by the Utility.

10. If the Design-Builder is performing the design for the Utility's facilities, the Utility shall have the opportunity to review and have approval authority of the design including the disposition of the Utility's facilities. If the Design-Builder's roadway and bridge design is revised so that it affects the Utility's facilities, the Utility will have the opportunity to review the design including the proposed disposition of the Utility's facilities. Unless otherwise stated in the utility agreement, the review process for utility construction plans and specifications produced by the Design-Builder shall be the same as other project plans and specifications with the exception of the Utility having the review and approval authority.

11. The Utility shall have the right to inspect all work affecting its facilities and may request changes in the Design-Builder's work procedures where safety and continuity of utility service are at risk.

12. The Design-Builder shall perform the following work to support the Utility's facilities.

    (a) Support, protect, and maintain in place, permanent and temporary utility facilities in accordance with approved plans and specifications. The Utility has the right to advise the Design-Builder promptly of any work that does not meet the Utility's requirements or standards

    (b) Take appropriate precautionary measures to avoid damage to the Utility's facilities during construction. Any damage that may occur shall be reported immediately to the Design-Builder and the Utility's representative.

13. Material changes to the Utility Work set forth in the executed Utility Agreement shall require an amendment to the Utility Agreement that states the nature of the changes, the method of compensation and the amount of additional time allowed for the Utility. All parties shall execute amendments to the Utility Agreement.

Notices and communications concerning this MOU shall be addressed to:

Alaska Department of Transportation
Public Facilities
Contact: Ken Morton
Telephone: 907-269-0686
Mailing Address: PO Box 196900
Anchorage, Alaska 99519-6900
Delivery Address: 4111 Aviation Ave.
Anchorage Alaska

Alaska Communications Systems

Contact: Greg Schmid,
OSP Engineering Foreman
Telephone: 907-564-1820
Address: 600 Telephone Avenue, MS 14
Anchorage, Alaska 99503

Or their designees; notices and communications regarding the forthcoming Utility Agreement shall be as set forth in that agreement; and

The Department has determined that payment for Utility Work on public ROW is not in violation of the laws of the State of Alaska or any legal contract with the Utility; and

C.A.A.D.
Reviewed

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding as of the dates written below:

DATED: October 13, 2006

BY: _____

Kenneth M. Morton P.E.
Utility Section Chief
Alaska Department of Transportation
and Public Facilities

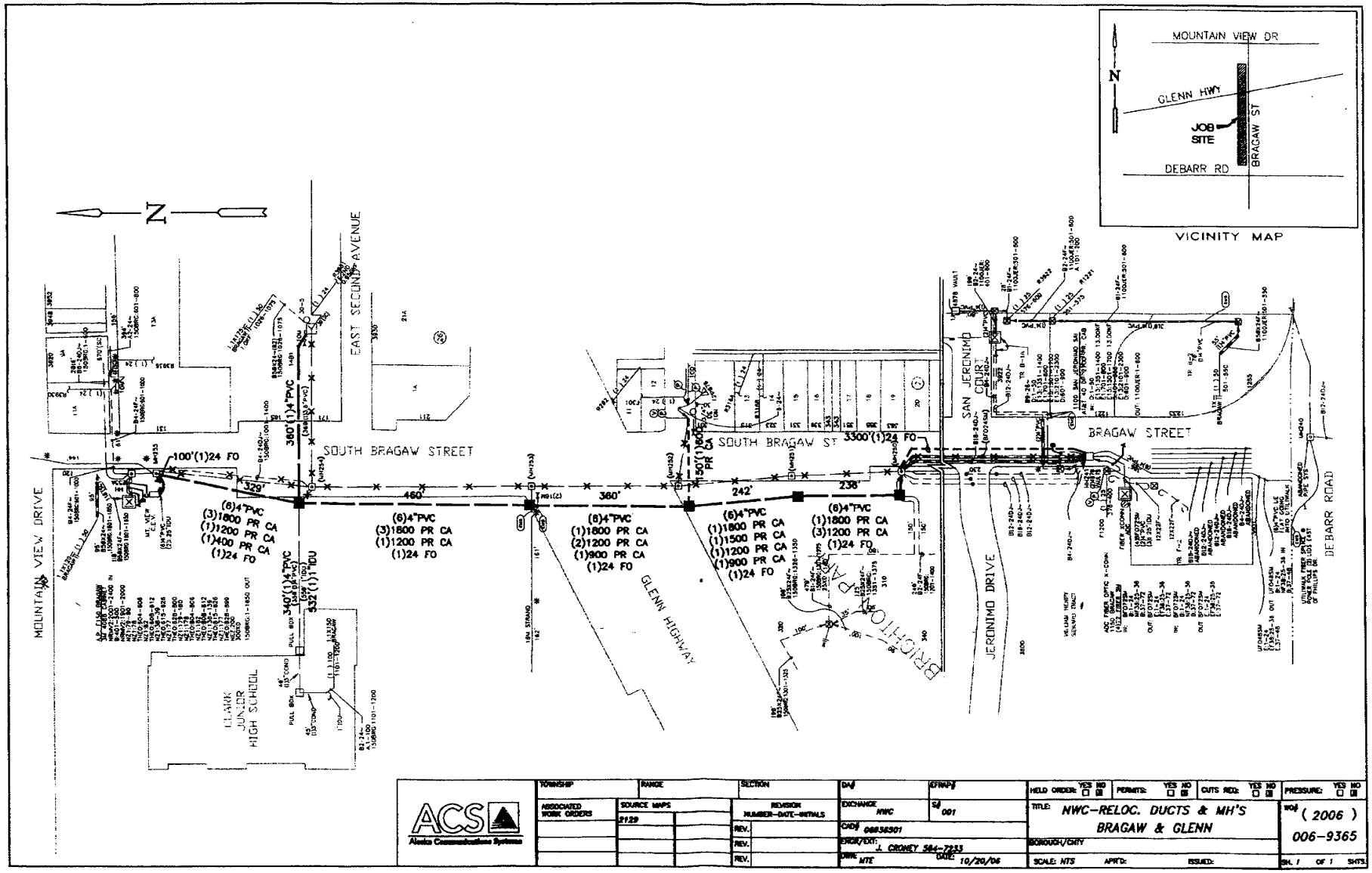
DATED: 11/13/06

BY: _____

Title: Attorney in Fact
SR VP Network & IT

C.A.A.D.
APPROVED

Reviewed



TOWNSHIP	RANGE	SECTION	DA#	ESTIMATE#	HELD ORDER: YES NO	PERMITS: YES NO	CUTS REQ: YES NO	PRESSURE: YES NO	
ASSOCIATED WORK ORDERS	SOURCE MAPS 2129	REVISION NUMBER–DATE–INITIALS	EXCHANGE NWC	SA 001	TITLE: NWC–RELOC. DUCTS & MH'S BRAGAW & GLENN			WO# (2006) 006–9365	
		REV.	CAD# 06836501						
		REV.	ERGR/EXT: J. CROMEY 564–7233		BOROUGH/CITY				
		REV.	DRN: MTE DATE: 10/20/06		SCALE: NTS APR'D: ISSUED:			SH. 1 OF 1 SHTS.	

ACS Alaska Communications Systems

57179
Glenn Bragaw Interchange

UTILITY NAME:
Anchorage Water & Wastewater Utility

Glenn Bragaw Interchange
MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU), entered into this 27th day of October, 2006, by and between the State of **Alaska Department of Transportation and Public Facilities**, hereinafter referred to as the Department, and **Anchorage Water & Wastewater Utility**, hereinafter referred to as the Utility,

MUTUALLY UNDERSTAND

The Department has determined the need for a highway grade-separated interchange at the intersection of the Glenn Highway and Bragaw Street, located in Anchorage Grid 1235 NE ¼ of Section 16 and Anchorage Grid 1236 NW ¼ of Section 15, Township 13 north, Range 3 west, Seward Meridian, Alaska, hereinafter referred to as the Project; and

The Department will advertise for bids for the design and construction of the Project, using the design-build method of project development with a Request for Proposals (RFP). The successful contract bidder, hereinafter referred to as the Design-Builder, shall complete the design and construct the Project; and

The Department is engaged in preparing preliminary Project plans, conducting some Project surveys, and assembling other background information for the Project. Preliminary investigations within and near the Project area have identified some Utility-owned facilities which may necessitate relocation, removal, adjustment, protection, or construction and which hereinafter shall be referred to as Utility Work; and

This MOU establishes the basis for reimbursement through the Department for preliminary engineering activities by the Utility for a replacement-in-kind relocation in accordance with provisions of Alaska Statue (AS) 19.25.020 and Alaska Administrative Code (AAC) Title 17, Chapter 15, Title 3 Utility Relocation and Adjustment; and

The Department shall reimburse the Utility for preliminary engineering associated with the Project in accordance with the Department's audited utility rates. The Utility shall be eligible for reimbursement for its preliminary engineering activities associated with this Project from April 14, 2006 to the earlier of the date of award of the Project or cancellation of the Project. Preliminary engineering shall consist of coordinating with the Department; responding to Department requests for information on possibly affected utilities; preparing preliminary "one-line" diagrams of proposed utility relocations; and responding to prospective proposers during the RFP stage of the Project, which includes preparation of conceptual designs, preliminary schedules, and cost estimates of proposed utility relocations.

Further compensation to the Utility will be in accordance with agreements executed between the Utility and the Design-Builder. This shall include compensation of the Utility's time and expenses to negotiate the utility agreement, and any other requested preliminary engineering between the time of contract award and the execution of the utility agreement. After award of the design-build contract,

the Design-Builder shall act in the Department's stead to negotiate and execute such agreements, and to compensate the Utility for Utility Work under the agreements; and

The Design-Builder shall negotiate with the Utility for the relocation, removal, adjustment or protection of the utility in conformance with the laws and regulations cited above. The Design-Builder will be responsible for preparing a specific and detailed utility agreement referred to as the Utility Agreement, for performing the required Utility Work. The Utility Agreement will identify specific Utility Work items, amount, schedule, and methods for compensation for the Utility Work, as well as a schedule for the Utility Work. In the event of a breakdown in negotiations or a dispute between the Design-Builder and the Utility, either the Utility or the Design-Builder can refer the dispute to the Department's Project Contracting Officer for resolution; and

The Department has the authority to order relocations, and the Utility has the right to be compensated for that Utility Work based on eligibility regulations under AS 19.25. It is expected that the Utility and the Design-Builder shall come to mutually agreeable terms for the Utility WORK in conformance with those regulations; and

The Design-Builder will compensate the Utility for its work under the negotiated Utility Agreement in accordance with the most current rate structure agreed to between the Utility and the Department. If this rate changes during the project, the most recent rates will be used; and

The Department will include provisions in the RFP stating that the Department has the ability to withhold portions of progress payments from the Design-Builder if it is determined that the Design-Builder is not reimbursing the Utility for the Utility Work or not in a timely manner as agreed upon in the Utility Agreement. The Department will use these withheld funds to compensate the Utility for the cost of the Utility Work if the Utility has not been compensated by the Design-Builder; and

The Design-Builder shall determine which utility work has been previously permitted and shall obtain additional permits or modifications of existing permits as may be required by the Design-Builder's or the Utility's final plans to cover the Utility Work in its final position. It is the Design-Builder's responsibility to coordinate between the Utility and the Department's utility section to provide the affected Utility with permit information and permit commitments that will be acceptable based on the requirements of AAC Title 17, and the Department's Pre-Construction and Utilities Manuals. The Department will review and have responsibility for final acceptance of the placement of the relocated facilities for the final utility permit; and

The Department will issue a utility permit based on the submissions of the Design-Builder, at the completion of the Utility Work, and the permit will contain the appropriate maintenance and other provisions as required by regulations under the AAC Title 17; and

This MOU, once executed, will be incorporated into the RFP and thus will become part of the Design-Builder's contract, and the Design-Builder will be required to abide by its requirements; and

The Utility and the Department will follow the procedures set forth below during the construction of the Project:

1. It is anticipated that the majority of the Utility Work will be accomplished by the Design-Builder's forces; however the Utility reserves the right to perform certain portions of the Utility Work, to be determined by the Utility. The division of Utility Work will be as set forth in the Utility Agreement, and any amendments to the Utility Agreement..

2. If the Utility chooses to have the Design-Builder perform the Utility Work, the Design-Builder shall provide to the Utility a copy of the contract with all subcontractors working on the

Utility's facilities. The subcontractors' actions shall be the responsibility of the Design-Builder.

3. A signed Utility Agreement shall be on record with the Department prior to any exchange of funds for the performance of any Utility Work other than preliminary engineering reimbursement. The Utility Agreement shall be prepared by the Design-Builder following the regulations established under AAC Title 17, Chapter 15. The scope of work as described in the Utility Agreement shall describe the proposed utility relocation in comparative terms to an in-kind replica, including betterments and non-reimbursable work.

4. The Design-Builder shall notify the Utility in writing of the facilities in conflict, and shall schedule and meet as necessary with the Utility to review its design, construction, costs, coordination, and schedule concerns.

5. The Utility agrees to use its best efforts to diligently prosecute its work, including the planning, design reviewing, constructing, coordination, inspection, and placing of new or relocated facilities in service, so as to complete the Utility Work in such time as to not delay the Design-Builder's schedule. The Utility Agreement shall include a schedule for completion of the Utility Work based on the time to complete various segments of the proposed utility relocation and to transfer services from the old to the new system, allowing the existing system to be abandoned.

6. The Design-Builder and the Utility shall consult as necessary to decide whether an impact can be avoided by relocation of the utility or by the Design-Builder changing its design, or by a combination of these actions. Both shall confer until each relocation is acceptable to both parties.

7. It is not anticipated that relocations will be necessary outside the right-of-way (ROW), and the parties shall make every effort to remain within existing ROW or easements. If the Utility and the Design-Builder decide that a utility relocation outside the ROW is required after the consultations undertaken in item 6 above, then the Design-Builder shall submit this proposed action to the Department for review. This proposal shall be accompanied by sufficient documentation supporting the need to acquire additional ROW for the proposed utility relocation. Any decision to relocate utilities outside the ROW must be made in consultation with the Department and must be made on a cost-effective and timely schedule basis. If the proposal is acceptable, the Department will use information and documentation supplied by the Design-Builder to complete the acquisition of the required ROW, all costs for delay associated with acquiring the additional ROW shall be borne by the Design-Builder.

8. The Department will protect any of the Utility's vested rights after relocation of the Utility facilities to public ROW in cases where such facilities are currently on a Utility-owned easement. The Department shall issue no-cost utility permits to utilities relocated within the Department's ROW under terms of the Utility Agreement and any amendments to the Utility Agreement.

9. The Utility shall provide the necessary approved specifications and design standards to the Design-Builder for all Utility Work required by the Utility.

10. The Utility shall review and approve of Release for Construction Plans and Specifications regarding the Utility Work. The submittal and review process shall have the same requirements as plan reviews as identified in the RFP for the for other portions of the Project. The utility plans will be submitted to the utility rather than the ADOT&PF. Copies of all submissions and review responses should also be sent to ADOT&PF

11. The Utility shall have the right to inspect all work affecting its facilities and may request changes in the Design-Builder's work procedures where safety and continuity of utility service are at risk.

12. The Design-Builder shall perform the following work to support the Utility's facilities.

    (a) Support, protect, and maintain in place, permanent and temporary utility facilities in accordance with approved plans and specifications. The Utility has the right to advise the Design-Builder promptly of any work that does not meet the Utility's requirements or standards.

    (b) Take appropriate precautionary measures to avoid damage to the Utility's facilities during construction. Any damage that may occur shall be reported immediately to the Design-Builder and the Utility's representative.

13. Material changes to the Utility Work set forth in the executed Utility Agreement shall require an amendment to the Utility Agreement that states the nature of the changes, the method of compensation and the amount of additional time allowed for the Utility. Amendments to the Utility Agreement shall be executed by all parties.

Notices and communications concerning this MOU shall be addressed to:

Alaska Department of Transportation
Public Facilities
Contact: Ken Morton, P.E.
telephone: 907-269-0686
Mailing Address: PO Box 196900
Anchorage, Alaska 99519-6900
Delivery Address: 4111 Aviation Ave.
Anchorage Alaska

Anchorage Water & Wastewater Utility

Todd L. Carroll, P.E.
Address (delivery and mailing):
Anchorage Water & Wastewater Utility
3000 Arctic Blvd.
Anchorage, Alaska 99503-3898

Tel: 907-564-2753
Fax: 907-562-0824
E-mail: Todd.Carroll@awwu.biz

Or their designees; notices and communications regarding the forthcoming Utility Agreement shall be as set forth in that agreement; and

The Department has determined that payment for Utility Work on public ROW is not in violation of the laws of the State of Alaska or any legal contract with the Utility; and

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding as of the dates written below:

DATED: October 13, 2006

BY: _____

Ken Morton, P.E.
Utility Section Chief
Central Region
Alaska Department of Transportation
and Public Facilities

DATED: _____

BY: 10/27/06

Mark Premo, P.E.
General Manager
Anchorage Water & Wastewater Utility

GENERAL NOTES

1. ALL DESIGN AND CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE AWWU 2004 DESIGN & CONSTRUCTION PRACTICES MANUAL, THE CURRENT AWWU TARIFF, THE MEMORANDUM OF AGREEMENT BETWEEN AWWU AND ADOT&PF, AND THE NEGOTIATED UTILITY AGREEMENT.

2. THE ALIGNMENTS AND PROPOSED PIPE DIAMETERS SHOWN ON THE DRAWINGS ARE FOR PLANNING PURPOSES ONLY. ALL FINAL ALIGNMENTS TO BE AGREED UPON BY AWWU AND ADOT&PF.

3. ALL DESIGNS WILL REQUIRE AWWU APPROVAL PRIOR TO CONSTRUCTION.

4. ALL WATER AND SEWER MAINS TO BE ABANDONED IN-PLACE SHALL BE GROUT FILLED.

5. WATER AND SEWER SERVICE MUST BE MAINTAINED TO THOSE PROPERTIES IMPACTED AS A RESULT OF CONSTRUCTION.

6. DESIGN-BUILDER SHALL PERFORM A CORROSION ANALYSIS PRIOR TO SELECTION OF NEW PIPE MATERIALS. NEW WATER AND SEWER MAINS SHALL BE DESIGNED FOR A 70-YEAR LIFE.

SANITARY SEWER NOTES

1. DESIGN-BUILDER SHALL VERIFY ALL SERVICE LOCATIONS, BASEMENT ELEVATIONS, AND CLEANOUTS FOR PROPERTIES WITHIN THE AFFECTED BASIN DRAINAGE AREA.

2. ALL EXISTING SEWER MAINS SHALL BE SURVEYED FOR EXISTING LOCATION, BURIAL DEPTH AND INVERT ELEVATIONS. DESIGN-BUILDER TO PERFORM CCTV INSPECTION OF ALL MAINS ANTICIPATED TO BE IMPACTED TO VERIFY SERVICE CONNECTIONS AND MAIN CONDITIONS.

3. PORTIONS OF THE WORK MAY REQUIRE REMOVAL OF EXISTING MAINS AND REPLACEMENT WITH LARGER DIAMETER MAINS. SEWER SERVICE SHALL BE MAINTAINED TO EXISTING CUSTOMERS CONNECTED TO THOSE MAINS.

4. WHEN THE WORK REQUIRES THE MAIN BE REMOVED AND REPLACED, THE DESIGN-BUILDER SHALL ALSO REPLACE THE SANITARY SEWER SERVICE FROM THE MAIN TO THE PROPERTY LINE.

5. MAXIMUM ALLOWABLE DEPTH OF MANHOLES SHALL BE 15-FEET UNLESS AGREED UPON BY AWWU.

6. SEWER MAINS CONSTRUCTED UNDER DEEP FEELS SHALL BE EXCAVATED. DESIGN-BUILDER TO PROVIDE AWWU WITH EXCAVATION DESIGN FOR APPROVAL.

WATER NOTES

1. THE EXISTING 48" CYLINDRICAL CONCRETE PIPE TRANSMISSION MAIN SUPPLIES THE MAJORITY OF THE WATER TO DOWNTOWN ANCHORAGE. AS SUCH, THIS MAIN CAN NOT BE TAKEN OUT OF SERVICE FOR EXTENDED PERIODS OF TIME OR DURING SEASONALLY HIGH DEMAND. AWWU REQUIRES THAT ANY OUT OF SERVICE TIME FOR THIS MAIN BE PERFORMED BETWEEN SEPTEMBER 15TH AND APRIL 15TH. THE ALLOWABLE DURATION OF A SHUTDOWN WILL DEPEND UPON FINAL DESIGN.

2. AWWU IS UNDERTAKING ALLOWABLE LOADING CONDITIONS FOR THE EXISTING 48" TRANSMISSION MAIN. DEPENDING UPON ALLOWABLE LOADING CONDITIONS, ALL OR PORTIONS OF THE IMPACTED MAIN WILL REQUIRE ENCASEMENT AND/OR RELOCATION.

3. WHEN THE WORK REQUIRES A WATER MAIN BE REMOVED AND REPLACED, THE DESIGN-BUILDER SHALL ALSO REPLACE THE WATER SERVICE FROM THE MAIN TO THE PROPERTY LINE TO INCLUDE A NEW KEY BOX AND CURB STOP.

4. DESIGN-BUILDER SHALL CONSTRUCT VALVES AND FIRE HYDRANTS IN ACCORDANCE WITH THE 2004 DESIGN & CONSTRUCTION PRACTICES MANUAL.

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: _____
This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: _____
BY: _____ TITLE: _____
DATE: _____
2. DATA TRANSFERRED BY: _____
COMPANY: _____
DATE: _____

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: _____
COMPANY: _____
BY: _____ TITLE: _____
DATE: _____

CONSULTANT

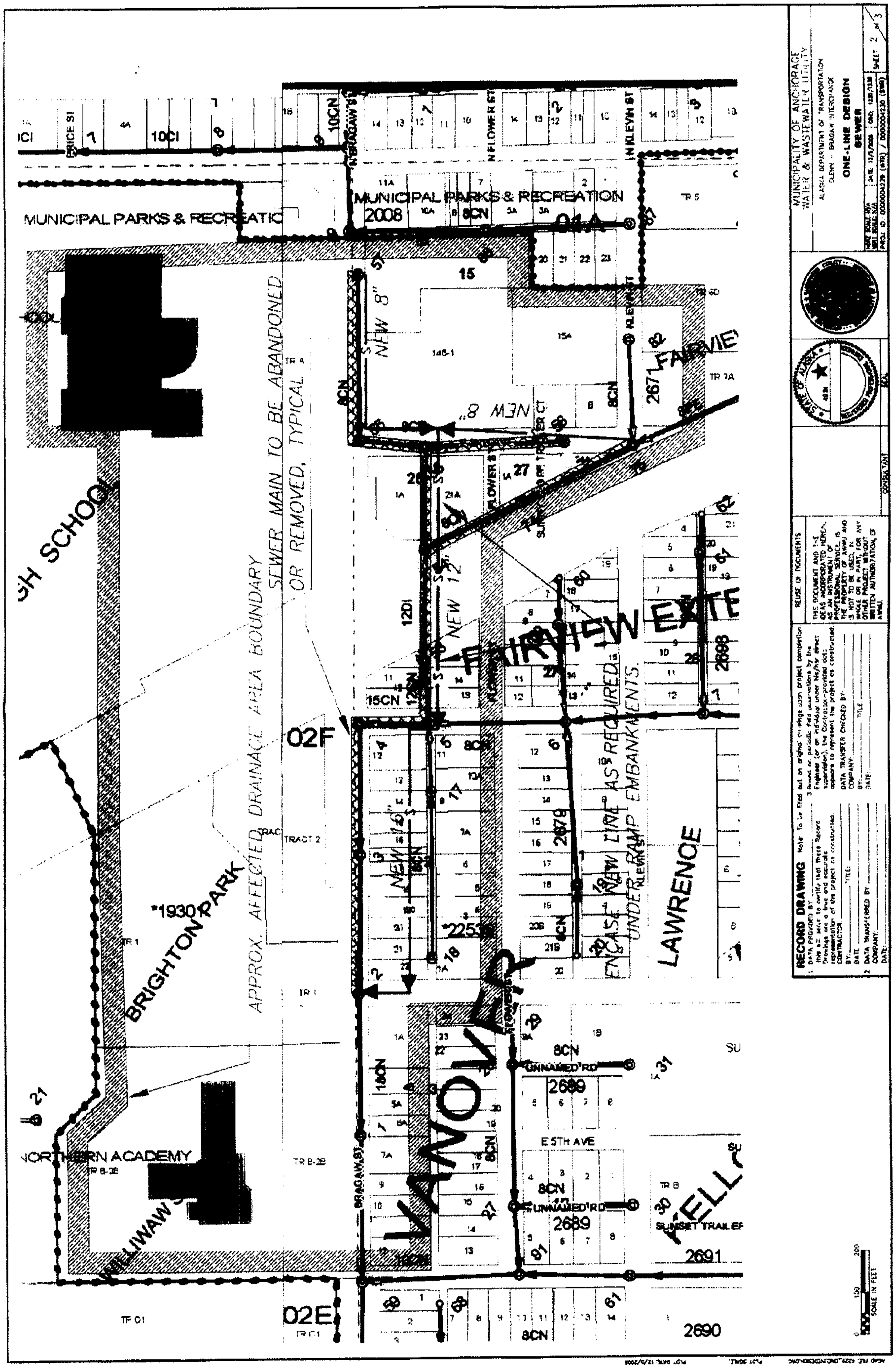
STATE OF ALASKA
49TH
REGISTERED ENGINEER
SEAL

MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY
ALASKA DEPARTMENT OF TRANSPORTATION
GLENN - BRAGAW INTERCHANGE

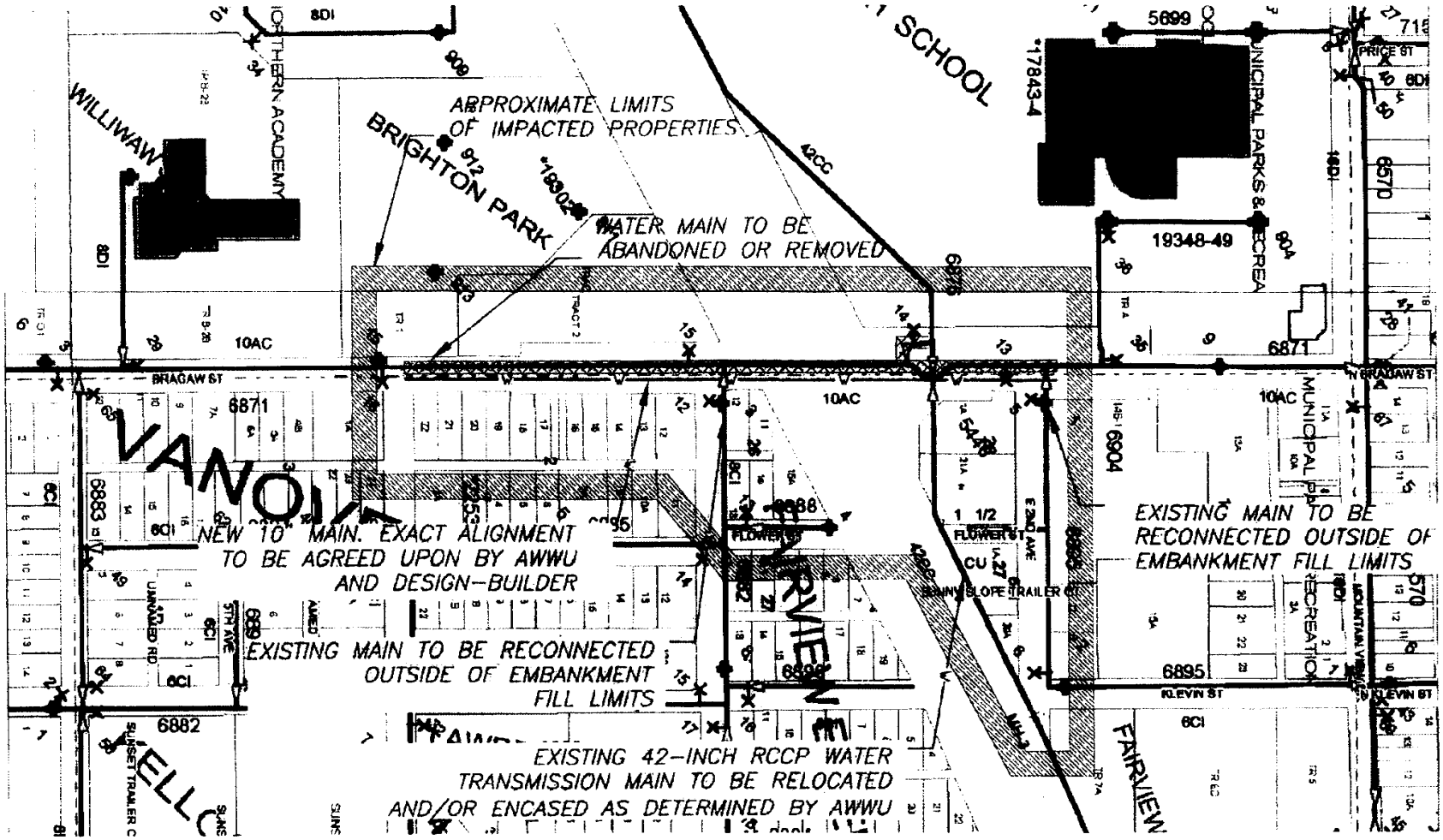
ONE-LINE DESIGN
GENERAL NOTES

HORZ SCALE: N/A VERT SCALE: N/A	DATE: 11/21/06	ORIG: 1338/1238	SHEET 1 of 3
PROJ. #: 8000004239 (WTR) / 8000004230 (SWR)			

PLOT DATE: 11/21/06
PLOT SCALE:
ACAD FILE: G:\T_ENGINEERING



MUNICIPAL PARKS & RECREATION
2008
PRICE ST
10CI
10CN
N BRAGAW ST
N FLOWER ST
N KLEVIN ST
8CN
01A
15
NEW 8"
SEWER MAIN TO BE ABANDONED OR REMOVED, TYPICAL
APPROX. AFFECTED DRAINAGE AREA BOUNDARY
HIGH SCHOOL
2671
FAIRVIEW
FAIRVIEW EXTE
NEW 12"
12DI
15CN
02F
NEW 10"
ENCASE NEW LINE AS REQUIRED UNDER RAMP EMBANKMENTS.
LAWRENCE
2678
2688
*2253
*1930
BRIGHTON PARK
TRACT 2
NORTHERN ACADEMY
WILLIWAW ST
BRAGAW ST
18CN
UNNAMED RD
2689
E 5TH AVE
SUNSET TRAILER
2691
2690
02E
MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY
ALASKA DEPARTMENT OF TRANSPORTATION
GLENN - BRAGAW INTERCHANGE
ONE-LINE DESIGN
SEWER
SHEET 2 of 3
RECORD DRAWING
REUSE OF DOCUMENTS
THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.
SCALE IN FEET



RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: I/We will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
   CONTRACTOR _____ BY: _____ TITLE: _____ DATE: _____
2. DATA TRANSFERRED BY: _____ COMPANY: _____ DATE: _____
3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
   DATA TRANSFER CHECKED BY: _____ COMPANY: _____ BY: _____ TITLE: _____ DATE: _____

REUSE OF DOCUMENTS

THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.

CONSULTANT

SEAL

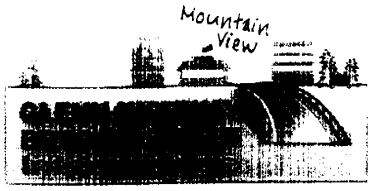
MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY

ALASKA DEPARTMENT OF TRANSPORTATION
GLENN - BRAGAW INTERCHANGE

ONE-LINE DESIGN WATER

HORZ SCALE/N/A	DATE: 12/5/2008	DRG: 1338/1238	SHEET 3 of 3
VERT SCALE N/A			
PROJ. ID.: 0000004229 (ATR) / 0000004230 (GBW)			

57179



57179
Glenn Bragaw Interchange

UTILITY NAME:
ENSTAR Natural Gas Company,
A division of SEMCO Energy, Inc.

Glenn Bragaw Interchange
MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU), entered into this 20th day of OCTOBER, 2006, by and between the State of Alaska Department of Transportation and Public Facilities, hereinafter referred to as the Department, and ENSTAR Natural Gas Company, a Division of SEMCO Energy, Inc., hereinafter referred to as the Utility,

MUTUALLY UNDERSTAND

The Department has determined the need for a highway grade-separated interchange at the intersection of the Glenn Highway and Bragaw Street, located in Anchorage Grid 1235 NE ¼ of Section 16 and Anchorage Grid 1236 NW ¼ of Section 15, Township 13 north, Range 3 west, Seward Meridian, Alaska, hereinafter referred to as the Project; and

The Department will advertise for bids for the design and construction of the Project, using the design-build method of Project development with a Request for Proposals (RFP). The successful contract bidder, hereinafter referred to as the Design-Builder, shall complete the design and construct the Project; and

The Department is engaged in preparing preliminary Project plans, conducting some Project surveys, and assembling other background information for the Project. Preliminary investigations within and near the Project area have identified some Utility-owned facilities which may necessitate relocation, removal, adjustment, protection, or construction and which hereinafter shall be referred to as Utility Work ;and

This MOU establishes the basis for reimbursement through the Department for preliminary engineering activities by the Utility for a replacement-in-kind relocation in accordance with provisions of Alaska Statue (AS) 19.25.020 and Alaska Administrative Code (AAC) Title 17, Chapter 15, Title 3 Utility Relocation and Adjustment; and

The Department shall reimburse the Utility for preliminary engineering associated with the Project in accordance with the Department's audited utility rates. The Utility shall be eligible for reimbursement for its preliminary engineering activities associated with this Project from April 14, 2006 to the earlier of the date of award of the Project or cancellation of the Project. Preliminary engineering shall consist of coordinating with the Department; responding to Department requests for information on possibly affected utilities; preparing preliminary "one-line" diagrams of proposed utility relocations; and responding to prospective proposers during the RFP stage of the Project, which includes preparation of conceptual designs, preliminary schedules, cost estimates of proposed utility relocations and responding in a reasonable time frame to prospective proposers during the RFP stage of the Project, through a single point of contact with each prospective Design-Builder team.

Further compensation to the Utility will be in accordance with agreements executed between the Utility and the Design-Builder. This shall include compensation of the Utility's time and expenses to negotiate the utility agreement, and any other requested preliminary engineering between the time of contract award and the execution of the utility agreement. After award of the design-build contract, the Design-Builder shall act in the Department's stead to negotiate and execute such agreements, and to compensate the Utility for Utility Work under the agreements; and

The Design-Builder shall negotiate with the Utility for the relocation, removal, adjustment or protection of the utility in conformance with the laws and regulations cited above The Design-Builder will be responsible for preparing a specific and detailed utility agreement referred to as the Utility Agreement, for performing the required Utility Work. The Utility Agreement will identify specific Utility Work items, amount, schedule, and methods for compensation for the Utility Work, as well as a schedule for the Utility Work. In the event of a breakdown in negotiations or a dispute between the Design-Builder and the Utility, either the Utility or the Design-Builder can refer the dispute to the Department's Project Contracting Officer for resolution; and

The Department has the authority to order relocations, and the Utility has the right to be compensated for that Utility Work based on eligibility regulations under AS 19.25. It is expected that the Utility and the Design-Builder shall come to mutually agreeable terms for the Utility WORK in conformance with those regulations; and

The Design-Builder will compensate the Utility for its work under the negotiated Utility Agreement in accordance with the most current rate structure agreed to between the Utility and the Department. If this rate changes during the project, the most recent rates will be used; and

The Department will include provisions in the RFP stating that the Department has the ability to withhold portions of progress payments from the Design-Builder if it is determined that the Design-Builder is not reimbursing the Utility for the Utility Work or not in a timely manner as agreed upon in the Utility Agreement. The Department will use these withheld funds to compensate the Utility for the cost of the Utility Work if the Utility has not been compensated by the Design-Builder; and

The Design-Builder shall determine which utility work has been previously permitted, including existing non-permitted utilities that are determined to have relocation rights, and shall obtain additional permits or modifications of existing permits as may be required by the Design-Builder's or the Utility's final plans to cover the Utility Work in its final position. It is the Design-Builder's responsibility to coordinate between the Utility and the Department's utility section to provide the affected Utility with permit information and permit commitments that will be acceptable based on the requirements of AAC Title 17, and the Department's Pre-Construction and Utilities Manuals. The Department will review and have responsibility for final acceptance of the placement of the relocated facilities for the final utility permit; and

The Department will issue a utility permit based on the submissions of the Design-Builder, at the completion of the Utility Work, and the permit will contain the appropriate maintenance and other provisions as required by regulations under the AAC Title 17; and

This MOU, once executed, will be incorporated into the RFP and thus will become part of the Design-Builder's contract, and the Design-Builder will be required to abide by its requirements; and

The Utility and the Department will follow the procedures set forth below during the construction of the Project:

1. All Utility Work and all work incidental to the Utility Work shall be performed by the Utility,

unless the Utility chooses to have the Design-Builder do a portion or all of the Utility Work, and this is mutually agreed upon in the Utility Agreement.

2. If the Utility chooses to have the Design-Builder perform the Utility Work, the Design-Builder shall provide to the Utility a copy of the contract with all subcontractors working on the Utility's facilities. The subcontractors' actions shall be the responsibility of the Design-Builder.

3. A signed Utility Agreement shall be on record with the Department prior to any exchange of funds for the performance of any Utility Work other than preliminary engineering reimbursement. The Utility Agreement shall be prepared by the Design-Builder and approved by the Utility and the Department following the regulations established under AAC Title 17, Chapter 15. The scope of work as described in the Utility Agreement shall describe the proposed utility relocation in comparative terms to an in-kind replica, including betterments and non-reimbursable work.

4. The Design-Builder shall notify the Utility in writing of the facilities in conflict determined by examining the Design-Builder's proposed design in conjunction with the Utility's standard constraints and practices for acceptable Utility locations, and shall schedule and meet as necessary with the Utility to review its design, construction, costs, coordination, and schedule concerns.

5. The Utility agrees to use all reasonable efforts to diligently prosecute its work, including the planning, design reviewing, constructing, coordination, inspection, and placing of new or relocated facilities in service, within a reasonable time and maintain the Design-Builder's schedule as outlined in the Utility Agreement. The Utility Agreement shall include a schedule for completion of the Utility Work based on the time to complete various segments of the proposed utility relocation and to transfer services from the old to the new system, allowing the existing system to be abandoned.

6. The Design-Builder and the Utility shall consult as necessary to decide whether an impact can be avoided by a relocation of the utility or by the Design-Builder changing its design, or by a combination of these actions. Both shall confer until each relocation is acceptable to all parties.

7. It is not anticipated that relocations will be necessary outside the right-of-way (ROW), and the parties shall make every effort to remain within existing ROW or easements. If the Utility and the Design-Builder decide that a utility relocation outside the ROW is required after the consultations undertaken in item 6 above, then the Design-Builder shall submit this proposed action to the Department for review. This proposal shall be accompanied by sufficient documentation supporting the need to acquire additional ROW for the proposed utility relocation. Any decision to relocate utilities outside the ROW must be made in consultation with the Department and must be made on a cost-effective and timely schedule basis. If the proposal is acceptable, the Department will use information and documentation supplied by the Design-Builder to complete the acquisition of the required ROW, all costs for delay associated with acquiring the additional ROW shall be borne by the Design-Builder, and not passed on to the Utility.

8. The Department will protect any of the Utility's vested rights after relocation of the Utility facilities to public ROW in cases where such facilities are currently on a Utility-owned easement. The Department shall issue no-cost utility permits with relocation rights to utilities relocated within the Department's ROW under terms of the Utility Agreement and any amendments to the Utility Agreement.

9. The Utility shall provide the necessary approved specifications and design standards to the Design-Builder for all Utility Work required by the Utility.

10. If the Design-Builder is performing the design for the Utility's facilities, the Utility shall have the opportunity to review and have approval authority of the design including the disposition of the Utility's facilities. If the Design-Builder's roadway and bridge design is revised so that it affects the Utility's facilities, the Utility will have the opportunity to review the design including the proposed disposition of the Utility's facilities. Unless otherwise stated in the utility agreement, the review process for utility construction plans and specifications produced by the Design-Builder shall be the same as other project plans and specifications with the exception of the Utility having the review and approval authority.

11. The Utility shall have the right to inspect all work affecting its facilities and may request changes in the Design-Builder's work procedures where safety and continuity of utility service are at risk.

12. The Design-Builder shall perform the following work to support the Utility's facilities.

    (a) Support, protect, and maintain in place, permanent and temporary utility facilities in accordance with approved plans and specifications. The Utility has the right to advise the Design-Builder promptly of any work that does not meet the Utility's requirements or standards

    (b) Take appropriate precautionary measures to avoid damage to the Utility's facilities during construction. Any damage that may occur shall be reported immediately to the Utility's representative.

13. Material changes to the Utility Work set forth in the executed Utility Agreement shall require an amendment to the Utility Agreement that states the nature of the changes, the method of compensation and the amount of additional time allowed for the Utility. All parties shall execute amendments to the Utility Agreement.

Notices and communications concerning this MOU shall be addressed to:

Alaska Department of Transportation
& Public Facilities
Contact: Ken Morton
Telephone: 907-269-0686
Fax:_____
Email _____
Mailing Address: PO Box 196900
Anchorage, Alaska 99519-6900
Delivery Address: 4111 Aviation Ave.
Anchorage Alaska

ENSTAR Natural Gas Company
A DIVISION OF SEMCO ENERGY INC.
Contact:: John J. Lau
Telephone: 261-3736
Fax: 907-562-0053
Email: john.lau@enstarnaturalgas.com
Mailing Address: PO Box 190288
Anchorage, Alaska 99519-0288
Delivery Address: 3000 Spenard Rd
Anchorage, AK

Or their designees; notices and communications regarding the forthcoming Utility Agreement shall be as set forth in that agreement; and

The Department has determined that payment for Utility Work on public ROW is not in violation of the laws of the State of Alaska or any legal contract with the Utility; and

IN WITNESS WHEREOF, the parties hereto nave executed this Memorandum of Understanding as of the dates written below:

DATED: October 13, 2006

BY: _____

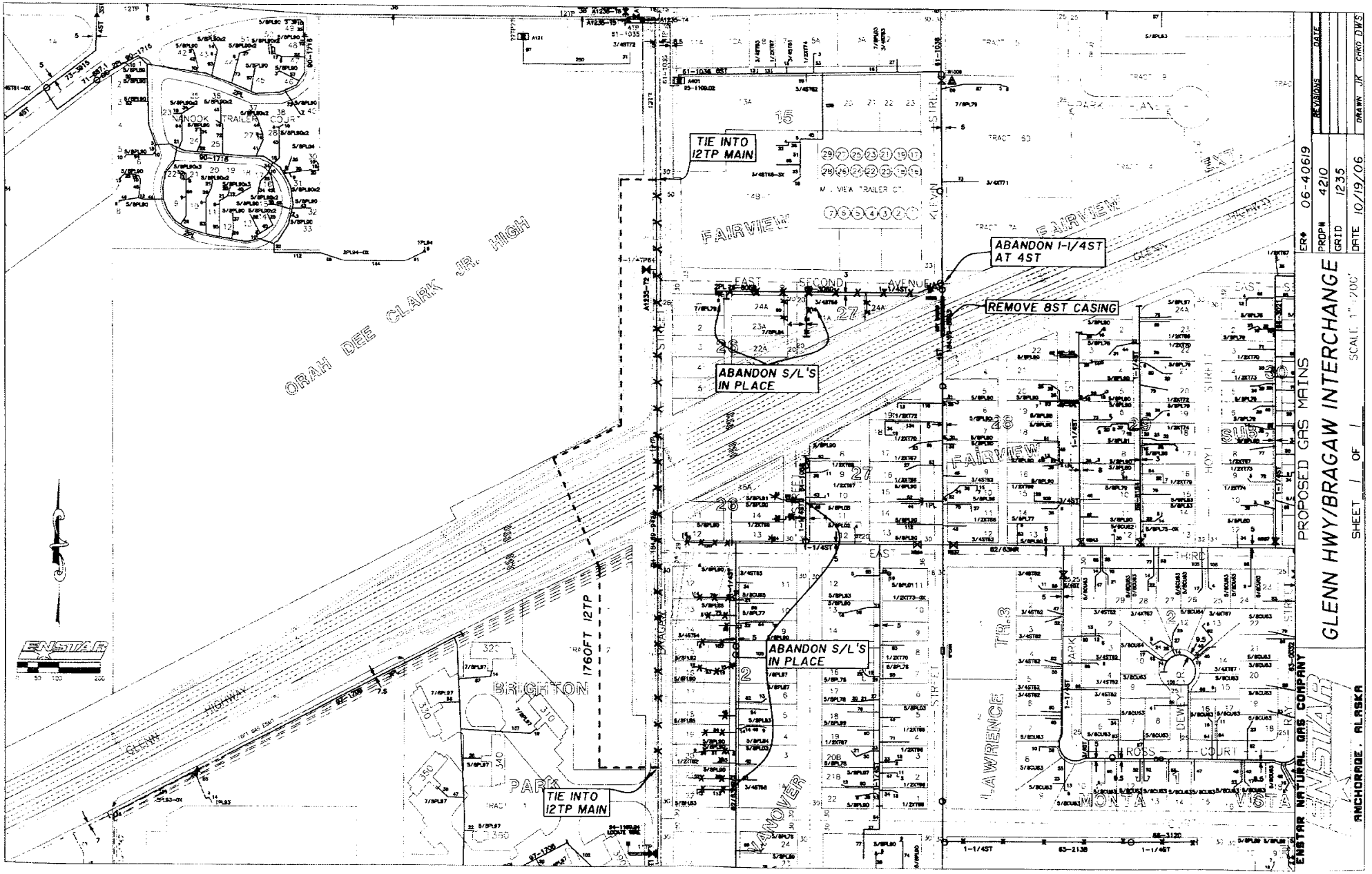
Kenneth M. Morton P.E.
Utility Section Chief
Alaska Department of Transportation
and Public Facilities

DATED: 10/20/06

BY: John Lau

Title: Director Trans. Operations

_____


TIE INTO 12TP MAIN
ABANDON 1-1/4ST AT 4ST
REMOVE 8ST CASING
ABANDON S/L'S IN PLACE
ABANDON S/L'S IN PLACE
TIE INTO 12TP MAIN
1760FT 12TP
ORAH DEE CLARK JR. HIGH
GLENN HIGHWAY
BRIGHTON PARK
FAIRVIEW
LAWRENCE STREET
DEWEY CIR
ROSS COURT
MONTANA VISTA
HOYT STREET
NANOOK TRAILER COURT
M. VIEW TRAILER CT
ENSTAR
ENSTAR NATURAL GAS COMPANY
ANCHORAGE, ALASKA
PROPOSED GAS MAINS
GLENN HWY/BRAGAW INTERCHANGE
SHEET 1 OF 1
SCALE 1" = 200'
ER# 06-40619
PROP# 4210
GRID 1235
DATE 10/19/06
REVISIONS
DATE
DRAWN JK CHKD DWS

Glenn Bragaw Interchange

Project 57179

APPENDIX 11-1 RESOLUTION OF THE MOUNTAIN VIEW COMMUNITY COUNCIL APRIL 10, 2006

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Resolution of the Mountain View Community Council

Regarding the Glenn Highway / Bragaw Street Interchange Project Presented at the Mountain View Community Council on Monday, April 10, 2006

We, the members of the Mountain View Community Council, fully support the following:

1.) The design features discussed, delineated, and requested as priorities by the Glenn-Bragaw task force.

2.) The "Request for Qualification" or RFQ process to select an artist(s) to assist in the design of the interchange, and that the State Department of Transportation (DOT) require the competing design firms to include work with the selected artist(s) in their proposals. Finally and most importantly, that the winning design firm include the artist(s) in an integral, fundamental, and substantial way in the design of the interchange, under the watchful eye and enforcement by DOT Project Manager Tom Dougherty.

3.) The input of the Glenn-Bragaw task force, acting as a citizens' advisory group, will continue to be sought and included in the process in a meaningful way. This would involve meetings as often as necessary and at critical junctures of the process from today until project completion, to be determined by the project manager and the task force.

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Glenn Bragaw Interchange

Project 57179

APPENDIX 11-2 MOUNTAIN VIEW AND RUSSIAN JACK COMMUNITY PRIORITIES

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Glenn Highway / Bragaw Street Interchange

Mountain View and Russian Jack Community Requests and Feedback to the Alaska Department of Transportation and Public Facilities, and the Municipality of Anchorage

APRIL 10, 2006

Summary:
"The Glenn Highway is the major link to Anchorage from the north, with more than 50,000 vehicles passing through the Bragaw intersection toward downtown Anchorage each day. The high demand and bottlenecked condition results in severe congestion, excessive delay, and many rear-end collisions.

ADOT&PF has a positive vision for improving the Bragaw Street / Glenn Highway Interchange to accommodate future traffic levels while also:
Reconnection communities currently cut in half by the highway,
Protecting neighborhoods by elminating cut-through traffic,
Providing walkers and bikers with better paths, and
Involving the community early in the design process.

ADOT&PF wants your ideas on community preferences for street lighting, public art, trails and pedestrian access, and landscaping. " (from February 22 Mountain View Planning Meeting flyer: www.theglennhighway.com/interchange, Anne Brooks, Public Involvement Coordinator, 272 1877)

This project is the first stage in the highway-to-highway corridor, eventually connecting the Glenn with the New Seward. The Bragaw overpass becomes a "gateway" to Anchorage, and between Russian Jack and Mountain View neighborhoods. We, in the two neighborhoods listed above, have a grand opportunity to set a theme that may reoccur throughout many Anchorage communities' respective overpasses. We plan to take advantage of this opportunity and to involve ourselves in the process, clearly identifying our priorities and our sincerest requests for a community-approved bridge, while working with AKDOT&PF to make this project a success, within budget, highly functional, and a beautiful welcome to Anchorage via the Glenn and to our communities via Bragaw.

Prioritization of design elements:
(see pages 3-5 for definitions / expansion of priorities)

- Well-lit, safe pedestrian walkway / non-motorized path along the west side of overpass
- Noise-control berm at Bragaw, on south side of Glenn
- Trees, green-space, landscaping - and necessary utilities to maintain
- Additional safety features at Bragaw: traffic calming / slowing techniques, larger crosswalks, varying crosswalk surface color treatment
- Public art: yes, and integral to the project (no "plunk - art.")
- Embankment treatment: scaled for auto traffic, 50 mph experience.
- Safety features for pedestrian tunnel on south side of Glenn, under Bragaw
- Winter City: adequate space for snow removal / temp storage

History:

After meeting five times over a period of nearly two months in early 2006, this community group consisting of and lead by residents of Mountain View, Russian Jack, and Fairview areas, has developed a sort of "laundry list" of desired features of the proposed Bragaw - Glenn Interchange. With input from D.O.T. officials and engineers and guidance from local artists, project managers, maintenance staff and community council members, the group has explored options for this major feature joining / re-joining our neighborhoods.

Initially the option of discussing the project as a whole was rather overwhelming. It was suggested that we examine the project by dividing our attention into two major elements:

- *the "gateways" (or signature pieces of art, symbolizing the entry into the neighborhoods --and the city of Anchorage--and a celebration of the MV and RJ people and cultures), and*
- *"everything else": design elements of the interchange including light fixtures, bike paths, pedestrian walkways, hard-scape, landscape, the Bragaw- south of the Glenn-tunnel and its features, colors, and textures of the embankment, decorative fencing, pavement, etc.*

The group has discussed design elements found in neighborhoods throughout Anchorage: pedestrian-scale street lights with cross-poles for flower baskets / banners (Spenard); colors with a mind to neighborhood identity (Fairview's fireweed-inspired purple and magenta painted metal accent fencing); traffic-slowing and -calming techniques used on 15th Avenue in Fairview (undulating roads both on the horizontal and vertical planes, 'bulbs' at street corners). A champion of public art, Jocelyn Young, presented the group with visuals of 1% for Art projects in Anchorage and bridge treatments (ala art form) in the Lower 48 (decorative fencing using various metal colors / textures / patterns, bridge as grasshopper....oh, those Outsiders!)

One topic that occasionally flummoxed our little group was the "gateway" itself--or, what do we mean when we say "gateway"? Not that we need interpret the term gateway in the literal sense (and install imposing physical structures with strobe lights at either end of the bridge, charge a toll, etc.), but what else is this bridge but an opening or entryway, through which thousands of people in their autos cross under and at its surface, daily? Should we focus on public art on the Bragaw Street areas, to be viewed at the pedestrian scale and 30 mph auto traffic?

Or, as local sculpture artist / activist Sheila Wyne suggested, shall we consider traffic from the north of the city, from Eagle River or the Mat-Su Valley commuters, Denali, Fairbanks, and people stumbling into the urban center after multiple days on the Alaskan Highway and its stark, lonely beauty? Traffic, we know, which from the north speeds along at 60 mph and which would be viewing this feature, this "front entrance" to Anchorage, with a momentary glimpse...

All the more reason to have a succinct message, an immediate impression. Perhaps we can, without words, without an emblematic or symbolic representation of our community, without typecasted Alaskana decorations or obscure devices signaling a very un-Alaska-like pretension, perhaps we can invite visitors and community members alike in a beautiful, memorable, graceful welcome? Can we think of our bridge as equal in importance to any feature touching the Anchorage skyline, and one of its first along the road into (and out of) the heart of the city?

This we struggle with, the heady responsibility of being "the first." We have faith in our city's planners and engineers to design the best possible and most funtional interchange--this goes without saying--but we are, after all is done and all

is said, the individuals who will experience this project every day, possible multiple times a day, while we live these neighborhoods. In some ways, we think of the "art" of the interchange as being of singular importance, and above any other feature that has been offered to our group to comment upon.

Therefore, the Mountain View and Russian Jack communities have assumed somewhat high expectations of special treatment for this project. We sense we are about to give permission for a project with dimensions that might reverberate throughout our city, and we recognize this honor and responsibility.

The result is a realization that we need an experienced artist (and landscape architect, and engineer, etc.) to help guide us and present us with options, re: both public "gateway" art features and regarding the design elements listed above. We've tackled a few of the design elements--more of the functional aspects and plan of the interchange as a whole--but we've left many elements to the selected design team (including artist (s) selected by our group) with respect for a more integrated, artistic vision.

Our list of priorities includes items that reflect our vision for the future of our community; the safety of our bikers, pedestrians, and drivers; the importance of green space and good design; concern regarding noise pollution; and future maintenance of the project. (Not surprisingly, most of the above concerns were also expressed by those residents and business owners attending the community-wide MV Neighborhood Planning Meeting February 22, 2006, and also throughout the MV Neighborhood Plan Land Use / Housing Task Force meetings in 2006.)

We appreciate the opportunity to gather and discuss design features both functional and decorative. The time and experience shared by municipal and state employees is also much appreciated. Our concern for our built environment and mobility of individuals through it is genuine and deeply felt. We who live in the communities to be altered so significantly and impacted in ways we might not yet imagine, hope our requests and suggestions may be considered with this perspective.

Definitions of priorities:

1. Pedestrian walkway / non-motorized path along the west side of the overpass, and features such as lighting and safety elements of the walkway, are overwhelmingly a top priority for the group, with fourteen entries. Specific requests include:

- elevated pedestrian facility on bridge (6 requests, four of which were individuals' number one priority)
- bike lane, either separate from pedestrian walkway (as in two requests), or aligned with pedestrian walkway (four requests).
- pedestrian (with and without aligned bike lane) path on west side of Bragaw (elevated or non-elevated) to be buffered from parallel route of auto traffic
- pedestrian and bike path (along west side of bridge) to be physically separate from auto traffic, including intersections

Lighting:

- pedestrian and bike path to be well-lit
- bridge to have distinctive lighting at a pedestrian-scale

Views:

-protect viewshed to the east / Chugach mountains
-landscaped and viewing areas at pedestrian route, including benches

2. In second place, with seven entries of second to fourth priority, is a concern with noise from the interchange. Four suggestions included a request for a berm on both

sides of Bragaw, south of the Glenn, as noise-control feature; and three mention landscaping / trees as an integral part of noise control to be included with a berm. Three suggestions were for fencing both as noise control and also as through-traffic prevention (outside of designated pedestrian walkway).

3. Tied for third in importance for interchange design are green space and safety. Safety elements included the complete physical separation of the pedestrian / bike route and auto traffic, and this item was included also in no. 1. Others mentioned a desire for traffic - slowing or - calming elements at crosswalks, minimizing crosswalk length, maximizing crosswalk width, varying the road surface material at crosswalks, and eliminating southbound ramp to westbound Glenn altogether.

"Green" items to be considered (as individuals' first, second, third and fourth priorities) included:

- trees, shrubs
- environmental-green space design process to include local artists' input
- landscaping in areas at the berm, embankment, and all around the overpass
- water utilities and power drops available along the route for landscape maintenance

4. Tied for fourth in importance were embankment features and art. Embankment design is requested to have varied texture, color, relief, and even bridge 'screening' so that concrete walls are made to 'dissappear' or have a minimal impact altogether. A request to maximize the length of the bridge, thereby allowing more sunlight into the underpass, was made in tandem with a suggestion to cut back embankments as much as possible.

ART suggestions:

- a request to have public art budget identified
- a request to have (local only?) artists experienced in public installations be a member of the design team
- a request to keep in mind the goal of identifying MV as an arts and cultural district
- two requests for representation of ethnic groups in MV (this also under the category of embankment and pedestrian walkway)
- a request to ask local artists (integral to design team) to participate not only in gateway / bridge signature pieces but also design elements including fence, lighting, embankment, surface material treatment / color, etc.

5. Tunnel design requests were as follows:

- lighting, maximized and including a light well from Bragaw surface
- maximized width with visability to either end
- safety of pedestrians through maximum width, as open as possible, maximized lighting

6. And finally, true to a Winter City, a concern for adequate snow removal space and temporary storage was voiced, and also adequate, "human-scale" lighting, and having pedestrian walkways a distance from auto traffic for safety from sliding cars and splashing run-off during break-up season.

Glenn Bragaw Interchange

Project 57179

APPENDIX 12-1 STATE ENVIRONMENTAL CHECKLIST

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To obtain an electronic copy of the State Projects Environmental Checklist, dated October 20, 2006, contact the COAR.

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Glenn Bragaw Interchange

Project 57179

APPENDIX 14-1 ROW BASE MAP

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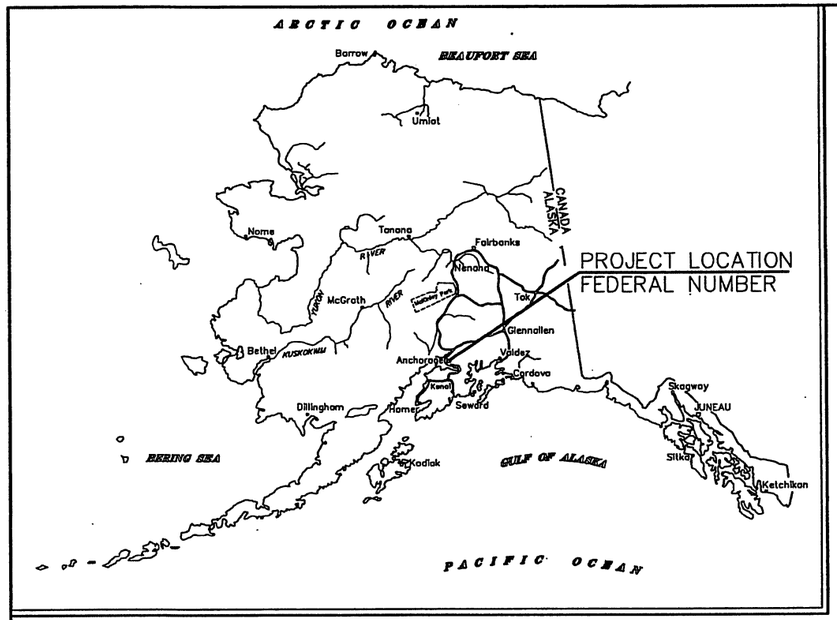
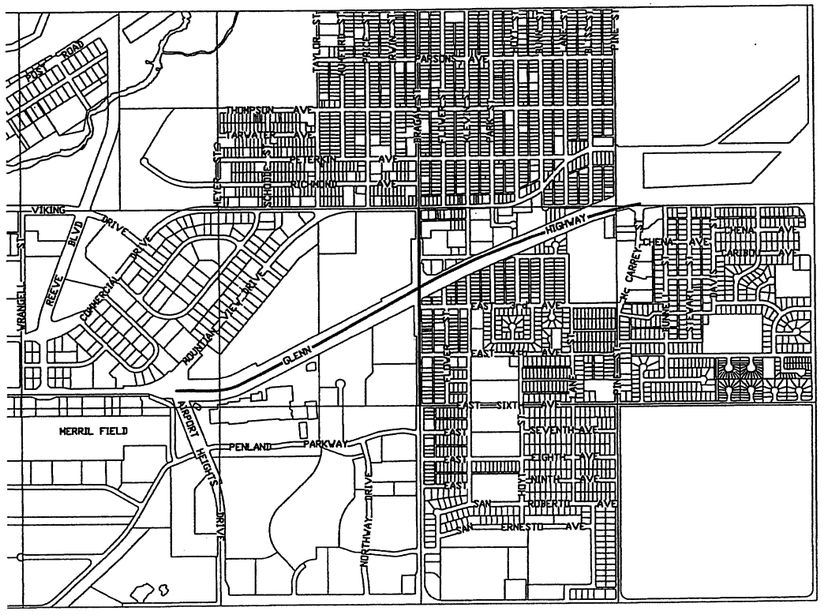


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT
GLENN HIGHWAY & BRAGAW ST
AIRPORT HEIGHTS DR.
TO McCARREY ST. RECONSTRUCTION
FEDERAL NUMBER
57179



T13N R3W
S.M.

0 500 1000 2000
Scale in Feet

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NUMBER		

PLAT APPROVAL

PLAT APPROVED BY THE MUNICIPAL SURVEYOR THIS_____ DAY OF _____, 20___.

MUNICIPAL SURVEYOR

_____

THOMAS W. KNOX

PLAT APPROVED BY THE MUNICIPAL PLATTING AUTHORITY THIS_____DAY OF_____, 20___.

PLATTING OFFICER

_____

JERRY T. WEAVER

DEPARTMENT LOCATIONS SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA AND THAT ALL RIGHT-OF-WAY CENTERLINE MONUMENT LOCATIONS HAVE BEEN ESTABLISHED AS INDICATED ON THE RIGHT-OF-WAY PLANS, ALL EXISTING FOUND SUBDIVISION MONUMENTS, PROPERTY CORNERS AND SECTION LINE MONUMENTATION AS INDICATED ON THE RIGHT-OF-WAY PLANS HAVE BEEN REFERENCED TO PROJECT SURVEY CONTROLS BY ME OR UNDER MY SUPERVISION.

_____ _____

DATE REGISTRATION NUMBER

_____

MICHAEL E. MILLER

CONSULTANT RIGHT-OF-WAY SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA AND THAT THIS PLAT WAS MADE BY ME OR UNDER MY SUPERVISION. THIS PLAT WAS BASED UPON THE MONUMENTS RECOVERED DURING THE LOCATIONS SURVEY FOR THIS PROJECT.

_____ _____

DATE REGISTRATION NUMBER

_____

DAVID C. HALE

DEPARTMENT OF
TRANSPORTATION & PUBLIC FACILITIES

APPROVED_____
Date

_____

REGIONAL CHIEF R/W AGENT

ANCHORAGE RECORDING DISTRICT

STATE BUSINESS - NO FEE

project\1301.01_ROW-BASE\1301-COVER, 1:1, 02/28/06 at 16:04 by jim

	RECOVERED	TO BE SET THIS PROJECT
FED. GOV'T SECTION CORNER	6 5 7 8 Sec. Cor.	
FED. GOV'T 1/4 SECTION CORNER	6 5 1/4 Cor.	
FED. GOV'T 1/16 SECTION CORNER	1/16 Cor.	
FED. GOV'T SURVEY MONUMENT		
FED. GOV'T SURVEY CORNER		
GOV'T CONTROL STA.		
PRIMARY MONUMENT [BRASS/AL CAP]		
MISC. SECONDARY CORNER		
PRIMARY CENTERLINE MOMUMENT		
SECONDARY CENTERLINE MONUMENT		
CONTROL POINT	CP	

INTERNATIONAL BOUNDARY LINE — ALASKA / CANADA

TOWNSHIP & RANGE LINE — T. 13 N. / T. 12 N. ; R. 2 W. / R. 3 W.

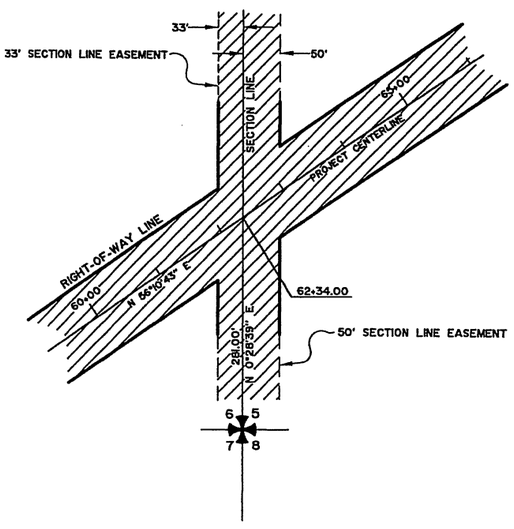
SECTION LINE

1/4 SECTION LINE

1/16 SECTION LINE

CORPORATE or CITY LIMITS

SECTION LINE EASEMENT AND
SECTION LINE-CENTERLINE INTERSECTION



HIGHWAY MILEPOST — 45 / 15-2500

RAILROAD MILEPOST — R.R. 2580+60 / HWY. 126+33 — 842

EXISTING RIGHT-OF-WAY

RIGHT-OF-WAY REQUIRED

STATION EQUATION — STA. 14+33.22 BK. = STA. 16+90.17 AHD.

27+00

PROJECT CENTERLINE

EXISTING CENTERLINE

RAILROAD CENTERLINE

PROJECT RIGHT-OF-WAY LINE

EXISTING PROPERTY LINE

CONTROLLED ACCESS LINE

PERMIT LINE

EXISTING EASEMENT LINE

LIMIT OF CUT SLOPE

LIMIT OF FILL SLOPE

PROPOSED ROADWAY

EXISTING ROADWAY

NOISE BARRIER

FENCE

STONE FENCE

HEAD & WINGWALL

GUARD RAIL

RETAINING WALL

TUNNEL

INTERMITTENT DRAINAGE

INTERCEPTOR DITCH

MARSHLAND

CREEK

RIVER

LAKE

RESERVOIR

CHANNEL CHANGE

	EXISTING	PROPOSED
PIPELINES:		
SANITARY SEWER	SS	SS
OIL	O	O
GAS	G	G
WATER	W	W
STORM DRAIN	SD	SD
SIDEWALK		
CONCRETE CURB		
CONCRETE CURB & GUTTER		
DRIVEWAY, APPROACH, & SIDEDRAIN		
BRIDGE		
RIPRAP		

EXISTING	
U.G. TELEPHONE (DIRECT BURY)	U.G. TELE
U.G. ELECTRIC (DIRECT BURY)	U.G. ELECT
U.G. DUCT	
TELEPHONE MANHOLE	T
ELECTRIC MANHOLE	E
FOUNDATION	
BUILDING	

	EXISTING	PROPOSED
MANHOLE	M.H.	M.H.
FIRE HYDRANT		
ELECTRIC METER		
PIPE CULVERT		
UTILITY POLE		
ELECTROLIER		
UTILITY POLE WITH LUMINAIRE		
POLE ANCHOR		
TRANSMISSION TOWER [WOOD]		
TRANSMISSION TOWER [STEEL]		
ELECTRICAL PEDESTAL	E	E
TELEPHONE PEDESTAL	T	T
CABLE T.V. PEDESTAL	TV	TV

PROJECT DESIGNATION	SHEET NO.	SHEETS
FED. PROJ. NO.		

	EXISTING
PLANTER	P
VENT	
TANK VENT	
WELL	W
SEPTIC	S
TANKS	
Above Ground	
Below Ground	
SATELLITE DISH	
ELECTRICAL OUTLET	
PRIVATE SIGN	
GAS PUMP	GP
POST	
BOULDER OR BOULDERS	
LANDSCAPE LIGHT	
DECIDUOUS TREE	
CONIFEROUS TREE	
SHRUB OR SHRUBS	

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179

AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE MARCH 2006	SCALE NTS
CHECKED	RPB/DCH	DATE MARCH 2006	SHEET 2 OF 11

project\1301.01_ROW-BASE\1301-LEGEND, l=50, 02/28/06 at 13:54 by jjm

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

SHEET 11
SHEET 6
SHEET 10
SHEET 5
SHEET 9
SHEET 7
SHEET 8
SHEET 4

MOUNTAIN VIEW DRIVE
SECTION 10
SECTION 15
AMES AVENUE
FAIRVIEW SUBDIVISION EXTENSION
FAIRVIEW SUBDIVISION
PARK LANE
LOT 6D
LOT 7A
TR 4
TR 10
TR 1
REMAINDER OF TRACT A
REMAINDER OF TRACT B
PORTION OF BOOK 357, PAGE 13 NE1/4 NE1/4 NW1/4
PORTION OF NE1/4 NE1/4 NW1/4 BOOK 357, PAGE 13
MUNICIPALITY OF ANCHORAGE BOOK 569, PAGE 487
CONIFER PARK BOOK 450, PAGE 526
TRACT A
WONDERLAND PARK SUBDIVISION
McCARREY ST.
NORTH BLISS ST.
NORTH PINE ST.
LANE ST.
EAST 2ND AVE
EAST 3RD AVE
GLENN HIGHWAY
ORAH DEE CLARK JR. HIGH SCHOOL
TRACT A
PARK ST.
HOYT ST.
DUNN ST.
AVE ST.
FAIRVIEW SUBDIVISION EXTENSION
BLOCK 29
BLOCK 30
BLOCK 31
BLOCK 32
BRAGAW ST.
FLOWER ST.
KELLEY ST.
VANDYKE SUBD
SECTION 16
SECTION 21
TRACT 2
BRIGHTON PARK SUBDIVISION
TRACT 1
PENLAND PARK
TRACT D-21B
TRACT B-2B
WILLIWAW SCHOOL SITE
RODEO PLACE
PORCUPINE DR.
ALASKA INDUSTRIAL SUBDIVISION
MOUNTAIN VIEW DRIVE
ALASKA INDUSTRIAL
REMAINDER SW1/4 NE1/4 SECTION 16 PAT. NO. 4535
REMAINDER SE1/4 NW1/4 SECTION 16
GLENN HIGHWAY
TR 2
TR 6
AIRPORT HEIGHTS
PENLAND PARK

T13N R3W S.M.

0 100 200 400
Scale in Feet

DATE	REVISIONS	BY

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO
McCARREY ST. RECONSTRUCTION

DRAWN JJM	DATE MARCH 2006	SCALE 1"=200'	
CHECKED RPB/DCH	DATE MARCH 2006	SHEET 3	OF 11

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

MATCH LINE SHEET 5

MATCH LINE SHEET 9

BRIGHTON PARK SUBDIVISION
TRACT 1
PLAT NO. 2004-27

BRIGHTON PARK SUBDIVISION
TRACT 2
PLAT NO. 2004-27

TRACT B-2B
WILLIWAW SCHOOL SITE

VANOVER SUBDIVISION
BLOCK 2

VANOVER SUBDIVISION
BLOCK 3

EAST 4TH AVENUE

EAST 5TH AVENUE

BRAGAW STREET

FLOWER STREET

RIGHT-OF-WAY LINE

REMAINDER LOT 18

N 89°54'44" E 30.00

STREET LIGHT ELECTRIC EASEMENT

15' UNDERGROUND TELECOMMUNICATION EASEMENT

N 89°45'20" E 169.92

STREET LIGHT ELECTRIC EASEMENT

10' TELECOM. & ELEC. EASEMENT

60' JOINT USE DRIVEWAY EASEMENT

40' ELECTRIC EASEMENT

50' SECTION LINE EASEMENT

10' DEVELOPMENT SETBACK & 8 BUFFER LANDSCAPE EASEMENT

FIRE HYDRANT EASEMENT

10' ML&P ELECTRIC & ATU TELECOMMUNICATION EASEMENT

10' TELEPHONE & ELECTRIC EASEMENT

N 89°46'35" E 572.83

10' NATURAL GAS EASEMENT

10'x30' ELECTRIC EASEMENT

50' SECTION LINE EASEMENT

10' UTILITY EASEMENT

40' WIDE ELECTRIC EASEMENT

10' ML&P ELECTRIC & ATU EASEMENT

10' ELECTRIC EASEMENT

N 89°53'59" E 668.94

SECTION 16
SECTION 15

T13NR3W
S.M.
SEC16

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO
McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	4 OF 11

DATE	REVISIONS	BY

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

MATCH LINE SHEET 6

MATCH LINE SHEET 10

MATCH LINE SHEET 9

MATCH LINE SHEET 4

ORAH DEE CLARK JR. HIGH SCHOOL
TRACT A
PLAT NO. 71-257

20' C.E.A. TRANSMISSION LINE EASEMENT

RIGHT-OF-WAY LINE

BRAGAW STREET

CONTROLLED ACCESS LINE

SECTION 16

SECTION 15

PLAT NO. 81-266
BLOCK 26
1A

2IA

FAIRVIEW SUBDIVISION
EXTENSION
PLAT NO. 68-43
BLOCK 27
1A

5' UNDERGROUND ATU EASEMENT

9' WATER EASEMENT

10' UTILITY EASEMENT

10' SEWER EASEMENT

10' SEWER AND GEA EASEMENT

10' GEA EASEMENT

FLOWER STREET

10' WATER EASEMENT

GLENN HIGHWAY

EXISTING CENTERLINE

BLOCK 27
PLAT NO. P-34A

20' UTILITY EASEMENT

PLAT NO. 77-182

BLOCK 26
PLAT NO. P-34A

FAIRVIEW SUBDIVISION
EXTENSION

EAST 3RD AVENUE

5'x20' UTILITY EASEMENT

REMAINDER OF LOT 12

5' SEWER EASEMENT

REMAINDER OF LOT 13

10' R.O.W. EASEMENT

REMAINDER OF LOT 14

REMAINDER OF LOT 15

VANOVER SUBDIVISION
BLOCK 2
7A

REMAINDER N2/3 LOT 16

REMAINDER SI/3 LOT 16

REMAINDER NI/3 LOT 17

REMAINDER S2/3 LOT 17

10' ELECTRIC EASEMENT
10A

10' VEGETATIVE SCREENING EASEMENT

12' BIKE TRAIL EASEMENT

10' ELECTRIC R.O.W. PERMIT & TELECOMM. & ELEC. EASEMENTS

BRIGHTON PARK SUBDIVISION
PLAT NO. 2004-27
TRACT 2

20' DRAINAGE EASEMENT

40' WIDE ELECTRIC EASEMENT

10' UNDERGROUND TELEPHONE AND BUFFER LANDSCAPE EASEMENT

ELEC. R.O.W. PERMIT

T13N R3W
S.M.
SEC 15 & 16

STATE OF ALASKA
49TH
DAVID C. HALE
LS 10395
Registered Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

DATE	REVISIONS	BY

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	5 OF 11

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PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

T13N R3W S.M. SEC 15 & 16

N 89°52'55" E 1319.37
N 89°52'55" E 779.30
N 89°43'39" E 2641.62
N 88°36'34" E 400.15
N 88°36'34" E 100.03
N 88°36'34" E 77.54
N 00°14'13" W 5.00
N 00°12'55" W 5.00
33' SECTION LINE EASEMENT
33' SECTION LINE EASEMENT
33' SECTION LINE EASEMENT
R=22.50 L=34.88
50' SECTION LINE EASEMENT
GAS REGULATOR STATION
10' RIGHT OF WAY EASEMENT
10' ELECTRIC & TELEPHONE EASEMENT
5' UNDERGROUND ELECTRIC EASEMENT
RIGHT-OF-WAY LINE
RIGHT-OF-WAY LINE
BRAGAW STREET
FAIRVIEW SUBDIVISION EXTENSION
PLAT NO. 83-369
PLAT NO. 68-158
BLOCK 15
DEED BK.920 PG.668
EAST 2ND AVENUE
N 89°46'23" E 20.00
N 89°53'37" E 59.94
N 89°44'16" E 380.07
N 89°44'16" E 199.99
N 89°41'14" E 660.04
N 89°41'16" E 275.09
N 89°46'57" E 275.30
MATCH LINE SHEET 5

IIA	10A	8	7	5A	3A	2	1	13A	20	21	22	23	15A
14 B-1	C	B											

STATE OF ALASKA 49TH
DAVID C. HALE LS 10395
Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

DATE	REVISIONS	BY

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES
RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	6 OF 11

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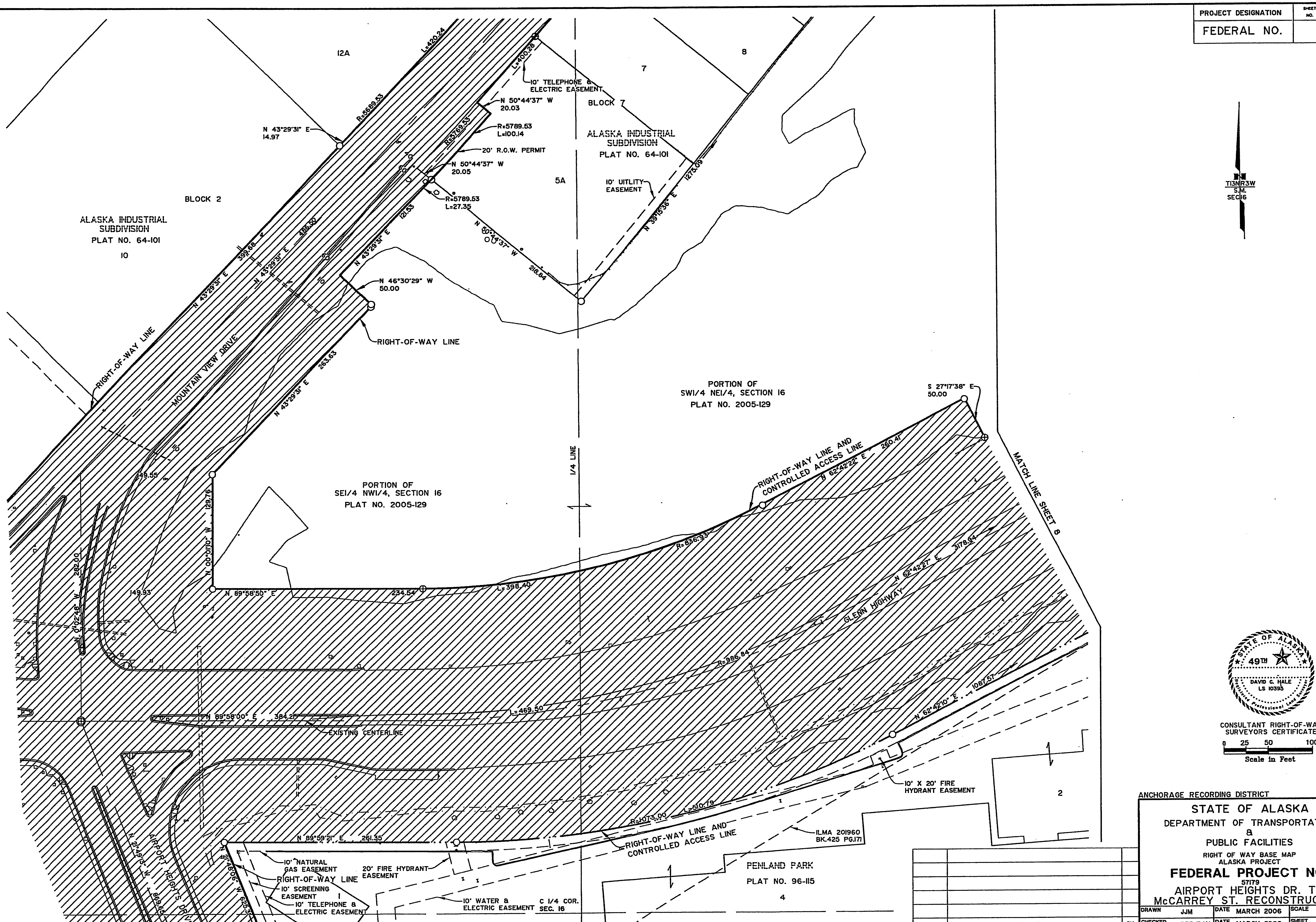
FEDERAL NO.		



ANCHORAGE RECORDING DISTRICT

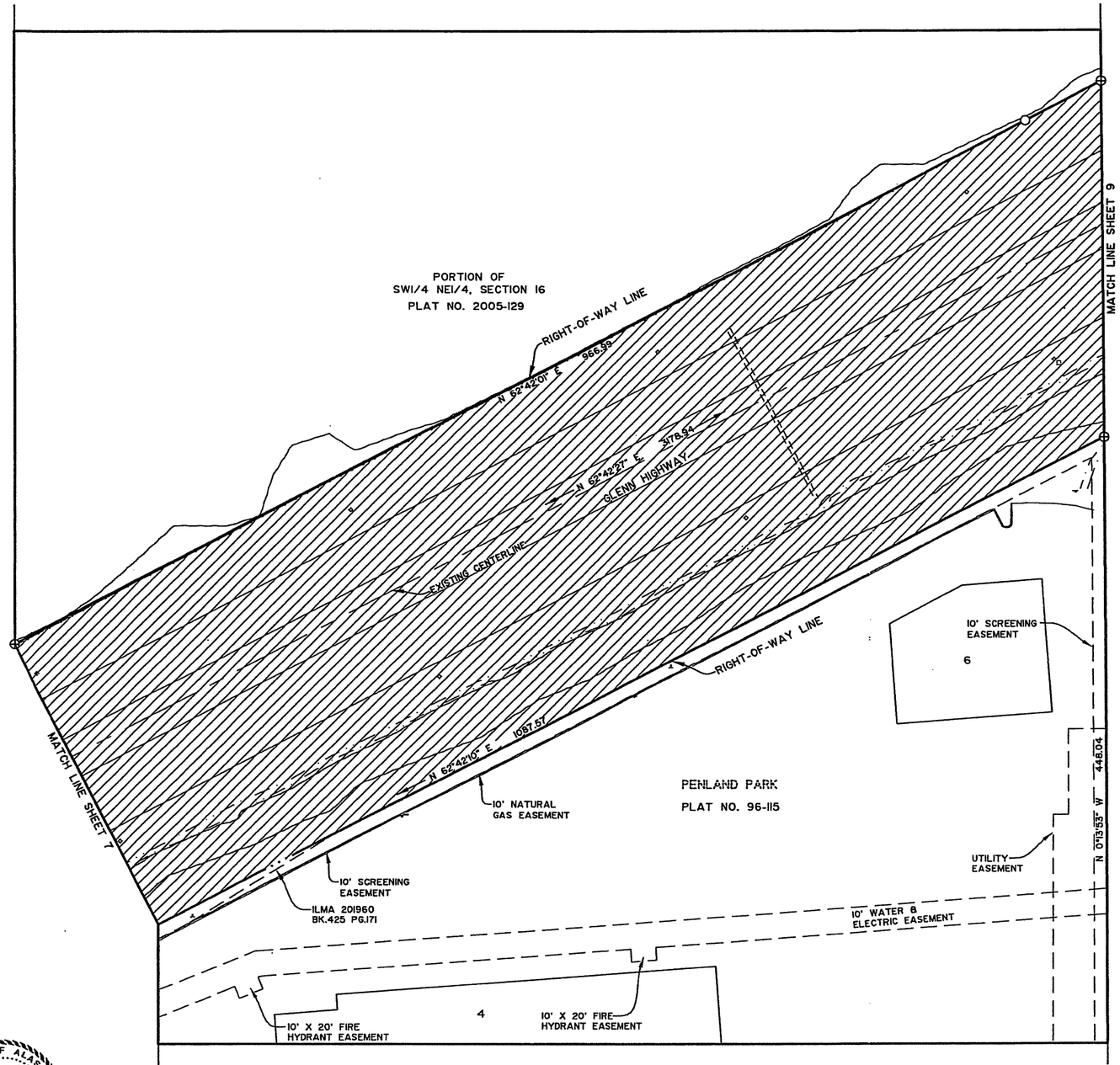
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
RIGHT OF WAY BASE MAP
ALASKA PROJECT
FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DATE	REVISIONS	BY

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	7 OF 11

project\1301.01_ROW-BASE\1301-SHEET7, 1=50, 03/01/06 at 09:25 by jjm

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		



T13N R3W
S.M.
SEC 16

STATE OF ALASKA
49TH
DAVID C. HALE
LS 10395
Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

DATE	REVISIONS	BY

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

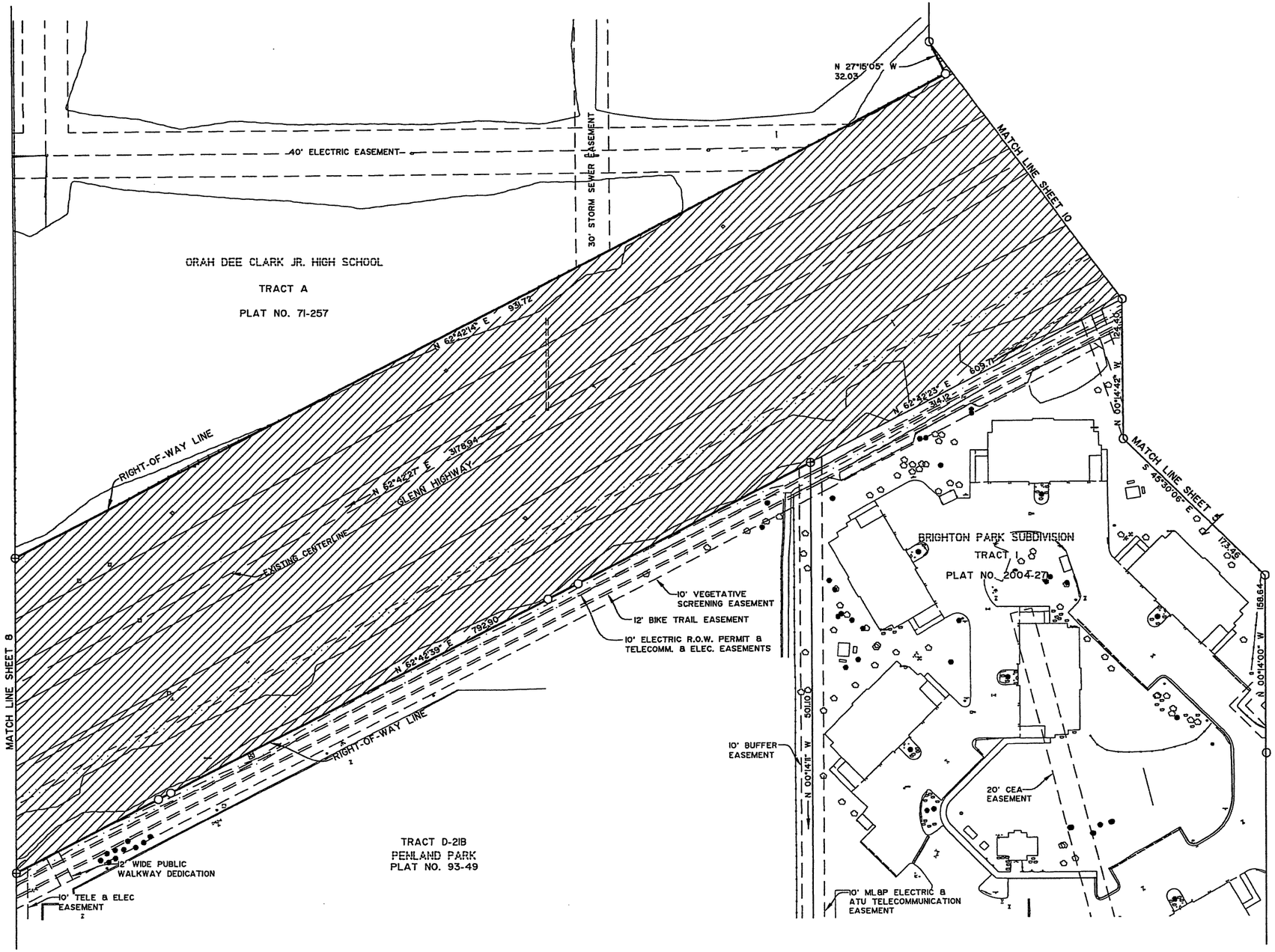
FEDERAL PROJECT NO.
57179

AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	8 OF 11

project\1301.01_ROW-BASE\1301-SHEET8, l=50, 03/01/06 at 09:27 by jjm

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		



T13N R3W
S.M.
SEC 16

STATE OF ALASKA
49TH
DAVID C. HALE
LS 10395
Registered Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

DATE	REVISIONS	BY

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179

AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DRAWN JJM	DATE MARCH 2006	SCALE 1"=50'	
CHECKED RPB/DCH	DATE MARCH 2006	SHEET 9	OF 11

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

PARK LANE
20' SEWER EASEMENT
10' TELEPHONE EASEMENT
FAIRVIEW SUBDIVISION EXTENSION
PLAT NO. P-640
TR 1
PLAT NO. 73-23
TRACT 6D
10' TELEPHONE AND ELECTRIC EASEMENT
5' UTILITY EASEMENT
TRACT 10
PLAT NO. 67-1
TRACT 4
7' WATER EASEMENT
N 66°58'06" E 984.73'
MATCH LINE SHEET 11
20' SEWER EASEMENT
14' RIGHT OF WAY EASEMENT
RIGHT-OF-WAY LINE
N 67°02'40" E 937.74'
N 00°12'08" W 874.90'
KLEVIN STREET
5'X10' ANCHOR EASEMENT
PLAT NO. 71-71
TRACT 7A
N 00°12'50" W 612.86'
589.78
EXISTING CENTERLINE
N 66°54'19" E
30' DRIVEWAY EASEMENT
10' ELECTRIC & TELEPHONE EASEMENT
N 68°55'36" E 716.84'
PLAT NO. 65-157
1
2
BLOCK 32
FAIRVIEW SUBDIVISION EXTENSION
RIGHT-OF-WAY LINE
10' UTILITY PLANTING AND SCREENING EASEMENT
N 89°53'49" E 87.46'
N 67°38'57" E 165.83'
GLENN HIGHWAY
N 00°12'13" W 7.91'
EAST 2ND AVENUE
N 56°59'07" E 192.26'
N 56°56'45" E 92.23'
L=39.36 R=20.00
L=23.47 R=20.00
24A
PLAT NO. 63-94
N 68°41'36" E 99.93'
N 57°11'36" E 17.67'
N 67°02'26" E 18.30'
N 66°55'16" E 65.10'
L=433.77' R=5729.60'
MATCH LINE SHEET 9
HOYT STREET
BLOCK 30
PLAT NO. P-300B
PLAT NO. 65-157
BLOCK 29
PLAT NO. P-34A
N 66°56'39" E 135.70'
N 66°38'54" E 21.74'
N 66°56'04" E 135.25'
RIGHT-OF-WAY LINE
N 65°25'23" E 66.05'
BLOCK 28
PLAT NO. P-34A
5' UTILITY EASEMENT
PLAT NO. P-300A
KLEVIN STREET
PARK STREET
N 00°13'17" W 377.64'
N 00°12'45" W 304.86'
N 00°16'21" W 466.91'
N 00°14'45" W 517.91'
N 00°14'45" W 543.10'
N 00°14'45" W 595.41'
N 00°14'45" W 568.75'
N 00°14'45" W 604.33'

1	24	1	24	1	24
2	23	2	23	2	23
3	22	3	22	3	22
4	21	4	21	4	21
5	20	5	20	5	20
6	19	6	19	6	19
7	18	7	18	7	18
8	17	8	17	8	17

T13NR3W
S.M.
SEC15

STATE OF ALASKA
49TH
DAVID C. HALE
LS 10395
Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO
McCARREY ST. RECONSTRUCTION

DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	10 OF 11

DATE	REVISIONS	BY

PROJECT DESIGNATION	SHEET NO.	TOTAL SHEETS
FEDERAL NO.		

MOUNTAIN VIEW DRIVE
AMES AVENUE
LANE STREET
NORTH BLISS STREET
NORTH PINE STREET
McCARREY STREET
FAIRVIEW SUBDIVISION EXTENSION
PLAT NO. P-34A
BLOCK 19
BLOCK 20
BLOCK 21
PLAT NO. 93-135
N1/2 20
19A
33' SECTION LINE EASEMENT
AMES AVENUE
N 89°43'39" E 2641.62
N 89°43'39" E 458.20'
N 66°06'28" E 123.17'
N 67°57'43" E 134.17'
N 69°27'31" E 20.75'
N 70°38'29" E 132.31'
L=890.90 R=2546.48
1/4 COR. SECTION 10 SECTION 15
N 89°39'58" E 2641.43
20' UTILITY EASEMENT
20' SEWER EASEMENT
PLAT NO. 69-66
FAIRVIEW SUBDIVISION EXTENSION
PLAT NO. P-640
TR 1
1A
2A
3A
4A
5A
EXISTING CENTERLINE
N 67°05'40" E 568.78
N 66°58'06" E 364.73
7' WATER EASEMENT
RIGHT-OF-WAY LINE
GLENN HIGHWAY
N 66°59'48" E 371.01
RIGHT-OF-WAY LINE
MATCH LINE SHEET 10
N 66°55'36" E 716.84
20' UTILITY EASEMENT
30' UTILITY EASEMENT
285.16
10' UTILITY EASEMENT
10' UTILITY EASEMENT
CONIFER PARK
BOOK 450, PAGE 526
PORTION OF NE1/4 NE1/4 NW1/4 BK.311, PG.164
PORTION OF NE1/4 NE1/4 NW1/4 BK.357, PG.13
S 00°12'33" E 1323.93
PLAT NO. P-217C PORTION OF TRACT A
MUNICIPALITY OF ANCHORAGE BOOK 569, PAGE 487
PLAT NO. P-217C PORTION OF TRACT B
N 75°58'50" E 181.05
S 52°49'09" W 88.27
L=160.55 R=3930.00
L=171.05 R=3927.55
443.01
199.89
249.89
N 00°20'15" W
N 00°18'49" W
S 00°17'33" W 359.79
S 00°17'33" E 2640.70
1/4 LINE
T13N R3W S.M. SEC 10 & 15

STATE OF ALASKA
49TH
DAVID C. HALE
LS 10395
Registered Professional Land Surveyor

CONSULTANT RIGHT-OF-WAY SURVEYORS CERTIFICATE

0 25 50 100
Scale in Feet

ANCHORAGE RECORDING DISTRICT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

RIGHT OF WAY BASE MAP
ALASKA PROJECT

FEDERAL PROJECT NO.
57179
AIRPORT HEIGHTS DR. TO McCARREY ST. RECONSTRUCTION

DATE	REVISIONS	BY

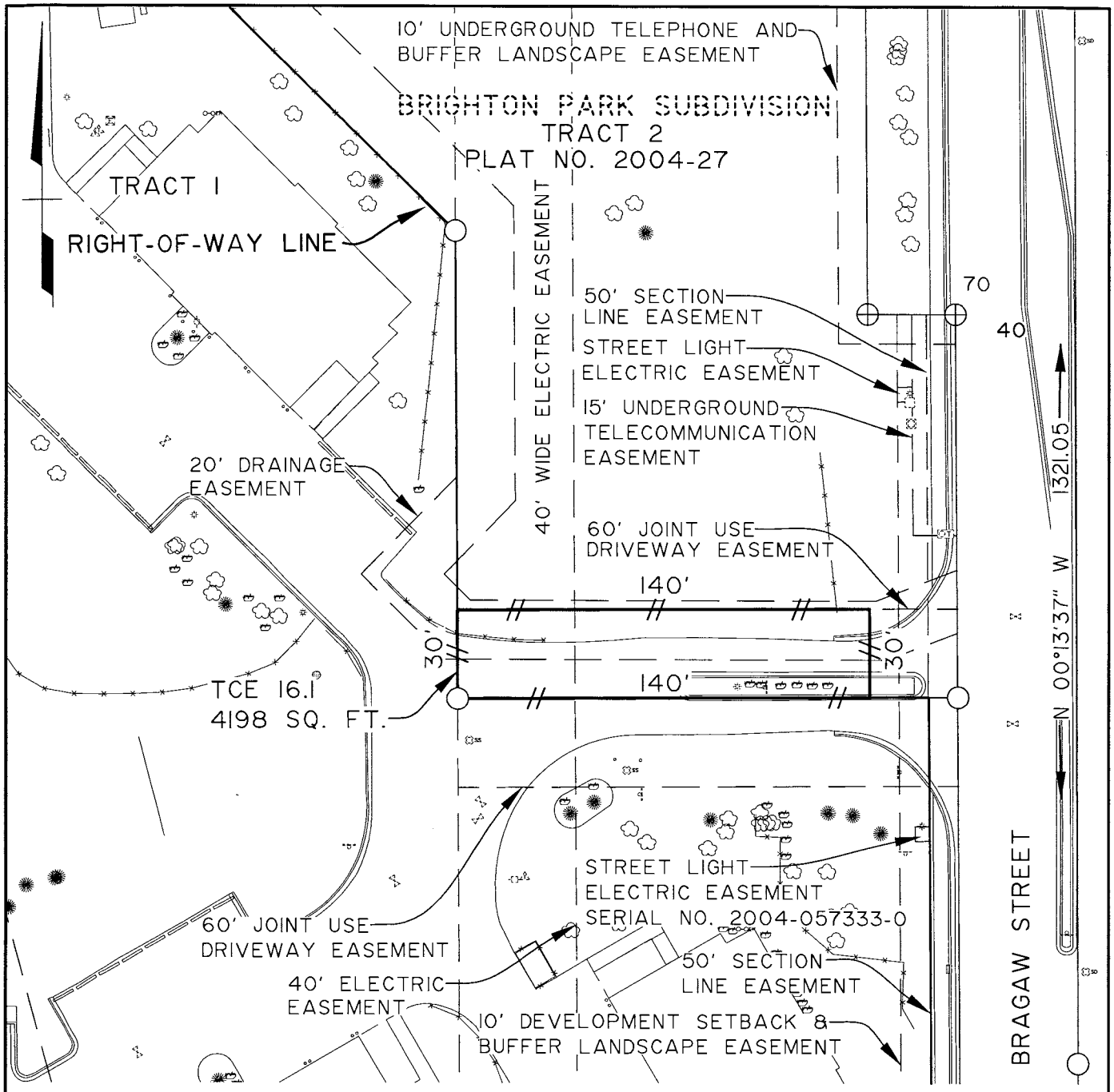
DRAWN	JJM	DATE	MARCH 2006	SCALE	1"=50'
CHECKED	RPB/DCH	DATE	MARCH 2006	SHEET	II OF II

project\1301.01_ROW-BASE\1301-SHEET11, 1=50, 03/01/06 at 09:37 by jjm

Glenn Bragaw Interchange

Project 57179

APPENDIX 14-2 TEMPORARY CONSTRUCTION EASEMENT



BEARINGS ARE STATE PLANE, ZONE 4

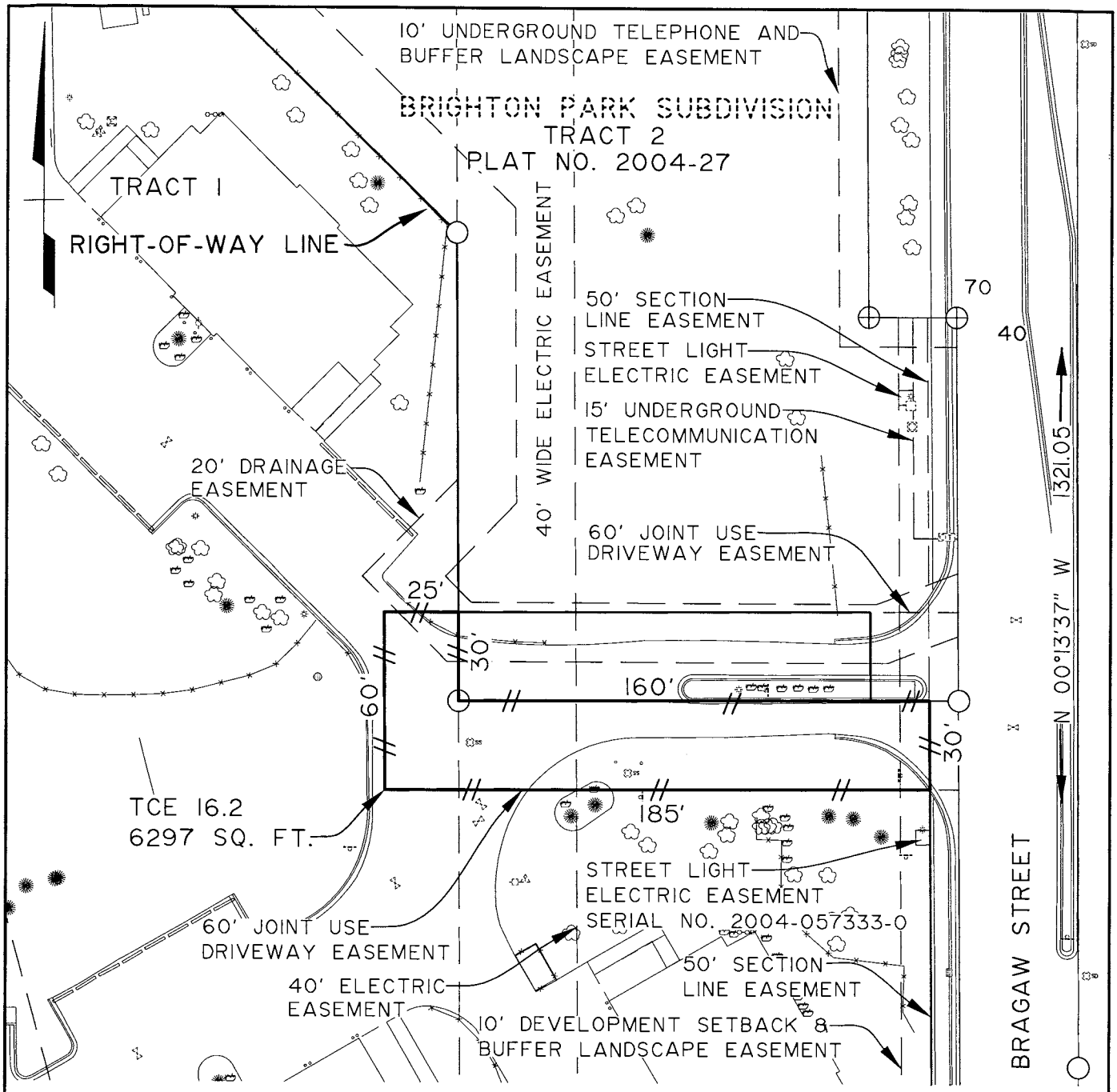
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

TEMPORARY CONSTRUCTION EASEMENT
GLENN HIGHWAY / BRAGAW STREET INTERCHANGE
57179

OWNER'S INITIAL _____
ATTACHED TO _____
PAGE ___ OF ___ DATED _____

TCE AREA 4198 Sq. Ft.

DRAWN BY JJM
SCALE 1"=50' DATE 01/02/07 **TCE NO. 16.1**



BEARINGS ARE STATE PLANE, ZONE 4

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

TEMPORARY CONSTRUCTION EASEMENT
GLENN HIGHWAY / BRAGAW STREET INTERCHANGE
57179

OWNER'S INITIAL _____
ATTACHED TO _____
PAGE ___ OF ___ DATED _____

TCE AREA 6297 SQ. FT.

DRAWN BY JJM
SCALE 1"=50' DATE 01/02/07 **TCE NO. 16.2**

Glenn Bragaw Interchange

Project 57179

APPENDIX 16-1 MATERIALS SAMPLING AND TESTING FREQUENCY TABLE

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Table IX, Materials, Sampling & Testing Frequency, Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Excavation	Acceptance	(6)	Gradation, P.I., Moisture (or visual organic content)	1 per 5,000 C.Y. waste	Number consecutively EX-W-1. No need to test, if waste is designated on plans.
Embankment (4)	Acceptance	(6)	Standard Density	As required by changes in material	Number consecutively BX-SD-1 or EX-SD-1.
			Field Density (1) (4)	1 per 5,000 C.Y. or 1 per 10,000 Tons	Number consecutively BX-D-1 or EX-D-1.
			Gradation, P.I. (5), Deleterious (visual)		Number consecutively BX-G-1 or EX-G-1.
	Independent Assurance	(6)	Standard Density (2)	1 per source	Numbers correspond to acceptance samples
			Field Density, Gradation P.I., Deleterious (visual)	1 per 50,000 C.Y. or 1 per 100,000 Tons	
Bedding & Backfill for Structures: Foundations Fill and Filter Material	Acceptance	(6)	Standard Density	As required by changes in material	
			Field Density (1)	See Note (3)	
			Gradation, P.I. (5), Deleterious (visual)	1 per source or 1 per 500 lineal feet of pipe	

General: Independent Assurance Testing may be waived when Acceptance Testing is performed in DOT&PF Regional Laboratories accredited in the acceptance test method. When DOT&PF Regional Laboratories perform Acceptance Testing, they may also perform the Independent Assurance Testing provided different personnel and equipment is used from that used for the Acceptance Testing.

(1) If material is impractical to test for field density, document quantity and/or area by reporting percent oversize and compactive effort used on a proper density acceptance form.
(2) Required when Standard Density test is run in the field. Copy of field worksheet to be submitted with sample.
(3) One density per concrete structure (manhole, catch basin, inlet, utility vault, abutments, etc.) or pipe and minimum of one density per 100 lineal feet of pipe (i.e. water, sewer, culvert, conduit, etc.) installed. Pipe densities will be taken within 18 inches of the outside diameter of the pipe.
(4) For large unclassified embankments, a field density testing frequency of 1/10,000 C.Y. or 1/20,000 Tons is acceptable subject to the approval of the Regional Materials Engineer.
(5) P.I. tests shall be performed on the first five samples at the start of production from any source. If these tests indicate the material to be non-plastic, additional tests need only be performed on the assurance samples.
(6) Size of samples for gradation testing is determined by nominal maximum size. See WAQTC FOP for AASHTO T 27/T 11 for minimum sample size. Size of samples for Standard Densities should be four times the size required for gradation testing.

Table IX, Materials, Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Aggregate Base Course and Aggregate Surface Course	Quality	150 lbs.	Quality	1 per source prior to use	Allow minimum of 14 day for testing and transport. Number consecutively Q-BC-1 or Q-SC-1
	Acceptance	(5)	Standard Density	As required by changes in material	Number consecutively BC-SD-1 or SC-SD-1
			Field Density	1 per 1,000 C.Y. or 1 per 2,000 Tons	Number consecutively BC-D-1 or SC-D-1
			Gradation, P.I. (3), Fracture (4)		Number consecutively BC-G-1 or SC-G-1
	Independent Assurance	(5)	Standard Density (2)	1 per source	Numbers correspond to Acceptance samples
			Field Density	1 per 10,000 C.Y. or 1 per 20,000 Tons	
			Gradation, P.I., Fracture		
Subbase	Quality	150 lbs.	Quality	1 per source prior to use	Allow minimum 14 days for testing and transport
	Acceptance	(5)	Standard Density	1 per source and as required based on changes in material	Number consecutively SB-SD-1
			Field Density (1)	1 per 2,500 C.Y. or 5,000 Tons	Number consecutively SB-D-1
			Gradation, P.I. (3), Fracture (4)		Number consecutively SB-G-1
	Independent Assurance	(5)	Standard Density (2)	1 per source	Numbers correspond to Acceptance samples
			Field Density	1 per 25,000 C.Y. or 1 per 50,000 Tons	
			Gradation, P.I., Fracture		

(1) If material is impractical to test for field density, document quantity and/or area by reporting percent oversize and compactive effort used on a proper density acceptance form.
(2) Required when Standard Density is run in the field. Copy of the field worksheet to be submitted with sample.
(3) P.I. tests will be performed on the first five samples at the start of production from any source. If these tests indicate the material to be non-plastic, additional tests need only be performed on the assurance samples.
(4) Fracture tests will be performed on the first ten samples at the start of production and after each change in material. If these tests indicate the fracture to be 5% or more above specification, additional tests need only be performed on the assurance samples.
(5) Size of samples for gradation testing is determined by nominal maximum size. See WAQTC FOP for AASHTO T 27/T11 for minimum sample size. Size of samples for Standard Densities should be four times the size required for gradation testing.

Table IX, Materials, Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Asphalt Treated Base Course	Quality	150 lbs. Aggregate	Quality	1 per source prior to use	Allow minimum of 14 days for testing and transport
	Mix Design (if required)	300 lbs. (4) Aggregate	Mix Design (1)	As required by changes in material	Allow 15 days or contract specified time for design and testing after receiving proposed gradation from contractor
		5 one gal. Cans of AC (5)	0.25 L of Anti-strip to be included (5)		
	Acceptance	(6)	Gradation, Density, Oil Content, P.I., (2) Fracture (3)	1 per 1,000 Tons	See the contract special provisions
	Independent Assurance	(6)	Gradation, Density, Oil Content, Fracture, P.I.	1 per 10,000 Tons	
Emulsified Asphalt Base	See Asphalt Treated Base Course for Submittals and Tests				
Crushed Asphalt Base Course	Acceptance	(6)	Gradation, Density	1 per 5,000 sy	
Asphalt Concrete Pavement and Stone Mastic Asphalt	Quality	150 lbs. Aggregate	Quality	1 per source prior to use	Allow 25 days for testing and transport
	Mix Design	500 lbs. (4) Aggregate	Mix Design (1)	As required by changes in material	Allow 15 days or contract specified time for design and testing after receiving contractor's proposed gradation
		5 one gal. Cans of AC (5)	1 pint of Anti Strip to be included (5)		

(1) Recommendations regarding stripping must be determined for each project.
(2) P.I. tests will be performed on the first five samples at the start of production from any source. If these tests indicate the material to be non-plastic, additional tests need only be performed on the assurance samples.
(3) Fracture tests will be performed on the first ten samples at the start of production and after each change in material. If these tests indicate the fracture to be 5% or more above specification, additional tests need only performed on the assurance samples.
(4) Proportion coarse and fine aggregates to the proposed Job Mix Design blend ratio.
(5) Contact the Regional Materials Laboratory to see if submitting the Asphalt Cement or Anti-Strip is necessary.
(6) Size of samples for gradation testing is determined by nominal maximum size. See WAQTC FOP for AASHTO T 27/T 11 for minimum sample size.

Table IX, Materials Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Asphalt Concrete Pavement and Stone Mastic Asphalt (continued)	Acceptance	(6)	Gradation, Oil Content, P.I. (4), Fracture (5), Density (3)	1 / 500 Tons (7)	Coating test (AASHTO T-195) required for batch plants
	Independent Assurance	(6)	Gradation, Oil Content P.I., Fracture, Density (3)	1 / 5,000 Tons (8)	
	Information	30 lbs.	3-Marshall Biscuits	1 / Mix Design Minimum	
Asphalt Cement	Quality		Quality		Supplier certification required
	Acceptance	1 Quart	(1)	1 / 50,000 gals. or 1 per 200 Tons	Sampled on project. Test for anti-strip if required by QAE/ME
Liquid Asphalt for: e. Tack coat f. Prime coat g. Seal coat h. Surface Treatment	Quality		Quality		Supplier certification required
	Acceptance	1 Gal. in plastic or glass jug	(1)	1 / 50,000 gals. or 1 per 200 Tons	Sample must be tested by Lab that did not test material for Quality. Material sampled prior to dilution
Cover coat material for surface treatment	Quality	65 lbs. Aggregate	Quality (2)	1 per source prior to use	Allow 25 days for testing and transport
	Acceptance	(6)	Gradation, Fracture (5)	1 / 500 Tons	May be taken from stockpile or production
	Independent Assurance	(6)	Gradation, Fracture	1 / 5,000 Tons	

(1) Refer to project specifications.

(2) Recommendations regarding aggregate stripping will be included on this report.

(3) Refer to project Special Provisions to determine the frequency of density testing. (Assurance test at 1 per 10 Acceptance tests.)

(4) P.I. tests will be performed on the first five samples at the start of production from any source. If these tests indicate the material to be non-plastic, additional tests need only be performed on the assurance samples.

(5) Fracture tests will be performed on the first ten samples at the start of production and after each change in material. If these tests indicate the fracture to be 5% or more above specification, additional tests need only be performed on the assurance samples.

(6) Size of samples for gradation testing is determined by nominal maximum size. See the specified test method for minimum sample size.

(7) For sidewalks, medians, and other untrafficed areas the hot asphalt acceptance sampling and testing frequency will be 1 per 1,000 Tons or 1 per 10,000 sy.

(8) For sidewalks, medians, and other untrafficed areas the hot asphalt concrete independent assurance sampling and testing frequency will be 1 per 10,000 Tons or 1 per 100,000 sy.

Table IX, Materials, Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Open Graded Asphalt Pavement	See Hot Asphalt Pavement for Submittals and Tests				
Concrete (i) Cement (j) Water (k) Coarse Aggregate (l) Fine Aggregate (m) Air entraining agent (n) Joint Sealer (o) Joint Filler (p) Curing materials	Quality (a thru h)	(a) 10 lbs. in can	Quality	Approved manufacturer or 1 per shipment	Allow 40 days for testing and transport. Manufacturer's certification required. (1)
		(c) ½ gal. in glass jar	Quality	1 per source	Allow 20 days for testing or potable water accepted by Project Engineer
		(c) 100 lbs.	Quality	1 per source	Allow 25 days for testing and transport
		(d) 25 lbs.	Quality	1 per source	Allow 25 days for testing and transport
		(e) 1 Quart	Quality	1 per shipment	Project Engineer documentation if approved brand in lieu of testing.
		(f) See remarks	Quality		Approved certification in lieu of testing.
		(g,h) 1 Quart for each liquid component. If solid see remarks	Quality	1 per type	Project Engineer documentation if an approved brand. If an unapproved brand, manufacturer's certification required or sample for testing.
	Mix Design (2)	Aggregate: Coarse: 330 lbs. Fine: 110 lbs. Cement: 1 sack	Mix Design	1 per source prior to use	Contractor furnished material. Allow 45 days for testing and transport

(1) Cement stored in silos or bins over six months, or in bags over two months, will require re-testing.
(2) Concrete Plant inspection must be completed prior to production.

Table IX, Materials, Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Concrete Continued:					
Coarse Aggregate	Acceptance (5)	(4)	Gradation	1 per 100 Cubic Yards	Number consecutively CA-G-1
Fine Aggregate		(4)	Gradation, Fineness Modulus	1 per 100 Cubic Yards	Number consecutively FA-G-1
Mix		As required	Yield, Cement factor, Slump, Water cement Ratio, % air	1 per ½ days pour (1) or 1 per 50 Cubic Yards	(2)
		2 cylinders or beams	Compressive strength or Flexural strength (3)	1 per ½ days pour (1) or 1 per 50 Cubic Yards	Test at 28 days. (2) (6)
	Information	Cylinders or beams	Compressive strength or Flexural strength (3)	As required (e.g. for 7 day break)	
Coarse Aggregate	Independent Assurance	(4)	Gradation, all Deleterious	1 per 1,000 Cubic Yards with minimum of 1 per project if over 100 Cubic Yards is placed	Numbers correspond to acceptance samples
Fine Aggregate		(4)	Gradation, all Deleterious, Fineness Modulus		
Mix		As required	Yield, Cement factor, Slump, Water cement Ratio, % air	1 per 1,000 Cubic Yards	
		2 cylinders or beams	Compressive strength or Flexural strength (3)	1 per 1,000 Cubic Yards	
Prestressed Concrete Girder	Quality	Refer to Concrete for approval of specific components			
Grout		To be submitted by the contractor for approval. See standard contract specifications.			

(1) Half day's pour considered to be 6 hours or less.
(2) Commercial sources, which are periodically inspected, do not have to be tested if total quantity of concrete placement is less than 5 cubic yards as determined by the Project Engineer. Placement reports summarizing all minor pours will be completed.
(3) Only required when strength criteria is included for the item.
(4) Size of samples for gradation testing is determined by nominal maximum size. See WAQTC FOP for AASHTO T 27/T11 for minimum sample size.
(5) Truck inspections are required for each pour.
(6) Non-structural or minor concrete construction, 1 set minimum per project is recommended.

Table IX, Materials, Sampling & Testing Frequency for Highways in US Customary Units

Material	Type of Sample	Sample Size	Type of Tests	Frequency	Remarks
Misc. Hardware	Quality	See contract special provisions, Project Engineer's inspection and acceptance			Certs/Mill reports approved by QA/ME or SME
Concrete Reinforcing Steel	Quality	2 pieces 1 yard long per size and grade		1 per 20 Tons minimum 1 per project when a pay item	Mill reports approved by QA/ME or SME in lieu of testing or APL
Structural Steel	Quality	Inspection, mill reports, and certifications approved by SME. (1)			
Piling	Quality	Inspection test reports and/or certificates approved by SME. (1)			
Porous backfill	Quality		Standard Density	As required by changes in material	Number consecutively PB-SD-1
	Acceptance		Density	1 per installation	Number consecutively PB-D-1
		(2)	Gradation	1 per source	Number consecutively PB-G-1
Riprap	Quality	125 lbs.	Quality	1 per source prior to use	Allow 25 days for testing and transport
	Acceptance	5 cy min.	Gradation count	1 per source for each class	
Topsoil	Quality	15 lbs.	Organic content, Gradation, pH	1 per source prior to use	Allow 15 days for testing and transport
	Acceptance	(2)	Gradation	1 per 2,500 Cubic Yards	Number consecutively TS-G-1
Signals and Lighting		Within 30 days following award of the contract, the contractor shall submit to the Project Engineer for approval a complete list of material and equipment that is proposed to be used for this item. The data shall include catalogue cuts, diagrams, test reports, manufacturers' certifications, etc. The above data shall be submitted in eight sets. Any proposed deviation from the plans shall also be submitted.			

(1) Reports to include heat numbers, fabrication date, physical and chemical properties.
(2) Size of samples for gradation testing is determined by nominal maximum size. See WAQTC FOP for AASHTO T 27/T11 for minimum sample size. Size of samples for Standard Densities should be four times the size required for gradation testing.

Minor Quantities

C. **Portland Cement Concrete.** Concrete for the following items may be accepted on the basis of an approved mix design and placement reports documenting batch information and pour location, time, and quantity. Under this system arrangements should be made for the producer to state on the delivery ticket accompanying each load of concrete, the class of concrete being furnished, the weights of cement, aggregates and water used in the batch, and the time of batching. Only State-tested aggregates and cement, or supplier certified cement, approved by the State Materials Engineer, may be used. Each pour must be documented on a Concrete Placement Report.

1. Sidewalks—Not to exceed approximately 150 Square Yards per day.
2. Curb and gutter not to exceed approximately 250 lineal feet per day.
3. Slope paving and headers.
4. Paved ditch.
5. Guardrail anchorages.
6. Small culvert headwalls.
7. Fence post footings.
8. Catch basins, manhole bases, and inlets.

D. **Small Quantities of Miscellaneous Materials.** The primary documentation of delivery and placement may be the Project Materials Report.

1. Aggregates—Not to exceed 500 Tons per item per project.
2. Asphalt/Aggregate Mixtures—Not to exceed 1,500 Tons per approved mix design.
3. Bituminous Material—Not to exceed 85 Tons per project.
4. Paint—Not to exceed 20 Gallons per project. Acceptance to be based on weights and analysis on the container label.
5. Lumber—(Recognized commercial grades only may be used) Not to exceed 5,000 Board Feet per project.
6. Masonry Items—Subject to checking of nominal size and visual inspection. Not to exceed 100 pieces.
7. Plain concrete or clay pipe—100 lineal feet.
8. Hardware—When a minor component to other small quantities of work.
9. Topsoil—Not to exceed 6,000 square feet.

Glenn Bragaw Interchange

Project 57179

APPENDIX 16-2 APPROVED PRODUCTS LIST

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State of Alaska
Department of Transportation & Public Facilities

2003

APPROVED PRODUCTS LIST

CONTENTS

State of Alaska
Department of Transportation & Public Facilities

INTRODUCTION

The Approved Products List (APL) is a list of products that have been tested and/or evaluated for conformance to State of Alaska, Department of Transportation & Public Facilities (DOT&PF) Standard Specifications.

The APL is administered by the Statewide Materials Section located in Anchorage and is published annually. Copies are available for purchase for $25.00 at DOT&PF Northern, Central, and Southeast Region Plan Rooms. The APL is also available at the following website:

http://www.dot.state.ak.us/stwddes/materialsnew/index.html

Questions concerning the APL may be addressed to the Quality Control Manager, Statewide Materials Laboratory, 5750 E. Tudor Rd., Anchorage, AK 99507, Phone (907) 269-6200, Fax (907) 269-6201.

Products that are not on the APL may be accepted for use on individual DOT&PF projects by providing test results and certification to each project that the product meets specifications. Products that are listed on the APL do not require submittal of test results and certification. DOT&PF reserves the option of inspecting and/or testing any product at any time to verify conformance to the specifications.

The "Buy America" requirement for all steel and iron materials applies. FHWA 23 CFR 635.410 requires that all manufacturing processes, including application of a coating, for steel and iron materials occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.

PRODUCT CATEGORIES

The APL contains three basic product categories.

1. Products that are tested.
2. Products that are evaluated.
3. Products that are certified annually.

1. Product Testing.

   Products are routinely solicited for testing in January, February and March of each year for inclusion into the APL. Successful test results allow products to remain on the APL for four years before re-testing is required.

   If a product fails testing, the Statewide Quality Assurance Engineer will notify the supplier of the failing test results in writing. Two additional samples of the same product may be submitted within 10 working days, if desired. Both samples must pass to be placed on the APL. If the supplier does not respond with new samples within 10 working days, or either of the second submitted samples fail testing, the product will be listed on the APL as failing. The Statewide Quality Assurance Engineer will also notify the supplier and the Regional Quality Assurance/Materials Engineers in writing of the failing product.

Samples submitted for APL testing must include a Materials Safety Data Sheet (MSDS), if appropriate. Submit samples to the Quality Control Manager, Statewide Materials Laboratory, 5750 E. Tudor Rd., Anchorage, AK 99507.

The following products are currently tested for inclusion on the APL:

Product	Minimum Sample	Specification
Concrete Grout	25 Pounds	Cement based, non-shrink, non-metallic, non-corrosive conforming to ASTM C1107, Type C. 28-day compressive strength of 9,000 psi and meet ATM 520.
Expanded Polyethylene Material	2 Pieces, 2'x 2' each	Closed cell with a density of 2.2 pcf (± 0.2) and maximum water absorption of 10% by Weight. Maximum compressive deflection of 50% at 15 psi (± 3) and compression set of less than 15% of plank thickness after maintaining 50% compression deflection for 22 hrs. with a 24 hour recovery period.
Insulation Board	2 Pieces, 2'x 2' each	Conform to AASHTO M 230, Type VI except extrusion is not required. Maximum water absorption of 10% by Weight.

2. Product Evaluation.

Waterproofing Membrane and Expansion Joint Materials for concrete bridge decks are the only products currently accepted by evaluation. The acceptance process is a joint review by Statewide Materials and Bridge Design. The review includes the manufacturer's product literature, product samples, and supplier or manufacturer's list of other State DOTs that have used or evaluated the membrane. Referenced State DOTs will be contacted regarding experiences, use, limiting conditions, problems, and results.

If a submitted product does not pass the review process, the Statewide Quality Assurance Engineer will notify the supplier in writing. If a submitted product passes the review process, it will be subject to testing. The Statewide Quality Assurance Engineer will notify the supplier of acceptable test results which allow the product to be utilized on a project on a trial basis. Satisfactory performance in the field on a project makes the product acceptable for placement on the APL.

In the event a product fails testing, or fails and/or performs poorly in the field, the Statewide Quality Assurance Engineer will notify the supplier and the Regional Quality Assurance/Materials Engineers in writing listing the suspected failure mode(s), including field reports and/or test results. The product will not be included on the APL.

3. Product Annual Certification.

A product meeting specifications and used successfully on five projects within a period of four consecutive years is automatically eligible for placement on the APL. An annual certification by the Manufacturer that the product meets the appropriate specifications is required for placement on the APL.

The annual manufacturer certification statement shall include:

- All plant locations.
- The following certification statement:

  "For (applicable year) all (description of items) supplied to State Of Alaska DOT&PF projects shall meet (list appropriate AASHTO, ASTM, etc. specification) as required by DOT&PF Standard Specifications, Standard Modifications, Special Provisions, Plans, or Standard Drawings."

- Signature and title of Manufacturer's representative.

DOT&PF reserves the option of inspecting and/or testing products at any time to verify conformance to the specifications.

2003 APPROVED PRODUCTS LIST
Products Tested

General Description	Product Brand Name	Mix Consistency	Status	Manufacturer	Laboratory Number	Remarks
Concrete Grout:	CRYSTEX Structural Grout	Plastic Fluid	Pass Pass	L&M Construction Chemicals Inc. 14851 Calhoun Rd. Omaha, NE 68152	01A-0549	Not Recommended for dry pack applications or temperatures below 45° F.
	FIVE STAR FLUID GROUT 100		Pass	Five Star Products, Inc. 425 Stillson Rd. Fairfield, CT 06430	01A-2001	Placement temperature between 40-90° F.
	CG200 PC Cementitious Grout	Plastic Fluid	Pass Fail	HILTI Inc. 5400 S. 122nd E. Ave. Tulsa, OK 74146	01A-0878	
	PREMIER Structural Grout	Dry Pack Fluid	Fail Pass	L&M Construction Chemicals Inc. 14851 Calhoun Rd. Omaha, NE 68152	01A-0550	Maintain between 45°F-95°F.
	SURE-GRIP Grout	Plastic Flowable Pourable	Fail Pass Pass	Dayton Superior Corp. 402 S. First ST. Oregon, IL 61061	01A-0552	
	FIVE STAR STRUCTURAL CONCRETE		Pass	Five Star Products, Inc. 425 Stillson Rd. Fairfield, CT 06430	00A-0549	Place Between 35°F-90°F.
	DURAPATCH HIWAY Grout		Pass	L&M Construction Chemicals Inc. 14851 Calhoun Rd. Omaha, NE 68152	00A-0551	

2003 APPROVED PRODUCTS LIST
Products Tested

General Description	Product Brand Name	Mix Consistency	Status	Manufacturer	Laboratory Number	Remarks
Concrete Grout (cont'd):	TRAFFIC PATCH		Pass	Target Products LTD 7550 Conrad St. Burnaby, BC V5A2H7 Canada	00A-0554	
Expanded Polyethylene Material:	Ethafoam #220		Pass	Dow Chemical Co. 2020 Dow Center Midland, MI 48874	01A-0556	
Insulation Board:	Insulation Board		Pass	Nunavik LLC P.O.Box 528 Kotzebue, AK 99752	002A-0061	
	60 PSI Insulfoam		Pass	Premier Industries, Inc. 628 Western Drive Anchorage, AK 99501	01A-0553	
	40 PSI Insulfoam		Pass	Premier Industries, Inc. 628 Western Drive Anchorage, AK 99501	01A-0554	
	ROOFMATE Insulfoam		Pass	Dow Chemical Co. 2020 Dow Center Midland, MI 48874	01A-0555	

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Aircraft Tie-downs	DuckBill Ground Anchor	DuckBill Ground Anchor Systems 21 Phoenix Place Industrial Estate Lewes East Sussex, Great Britain BN7 2QJ Tel: 01273 479764 Fax: 01273 479765	Certification
Bridge Elastomeric Bearing Pad Epoxy	Sikadur 32 Hi-Mod	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 Tel: (800) 933-7452 Fax: (201) 507-7107	Certification
Bridge Elastomeric Bearing Pad		Scougal Rubber 6239 Corson Avenue S Seattle, WA 98108 Tel: (206) 763-2650 Fax: (206) 764-4984	Certification
		Seismic Energy Products 518 Progress Way Athens, TX 75771 Tel: (903) 675-8571 Fax: (903) 677-3993	Certification
Bridge Deck Expansion Joint Strip Seals	Wabo Strip Seal	Watson Bowman Acme 95 Pineview Drive Amherst, NY 14228 Tel: (716) 691-7568 Fax: (716) 891-9239	Evaluation
Bridge Deck Expansion Joint Compression Seals	Wabo Compression Seal	Watson Bowman Acme 95 Pineview Drive Amherst, NY 14228 Tel: (716) 691-7568 Fax: (716) 891-9239	Evaluation

2003 Approved Products List Products Certified/Evaluated			
General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Bridge Deck Expansion Joint Elastomeric Concrete	Delcrete Elastomeric Concrete	D.S Brown Company 300 East Cherry Street North Baltimore, OH Tel: (419) 257-3561 Fax: (419) 257-2200	Evaluation
	Silspec 900 Polymer Nosing System *Use only where Elastomeric Concrete is in contact with Dow/Corning/SSI "X.J.S Expansion Joint System" (Expansion Joint Seal).	Dow Corning/SSI 430 South Rockford Tulsa, OK 74150 Tel: (800) 888-8909 Fax: (918) 582-7510	Evaluation
Bridge Deck Expansion Joint Pourable Seals	902 RCS Joint Sealant	Dow Corning/SSI 430 South Rockford Tulsa, OK 74150 Tel: (800) 888-8909 Fax: (918) 582-7510	Evaluation
	"UREASEAL" Joint Sealant	Roadware Inc. 2100 Wentworth Ave. S. St. Paul, MN 55075 Tel: (800) 522-7623 Fax: (918)587-5567	Evaluation
Bridge Deck Waterproofing Membrane	Protecto Wrap M400 AR, Cold Applied	Protecto Wrap Co. 2255 S. Delaware St. Denver, CO 80223 Tel: (800) 759-9727 Fax: (303) 777-9273	Evaluation
	Royston Bridge Membrane No. 10AN, Cold Applied	Chase Corporation 128 First Street Pittsburgh, PA 15238 Tel: (412) 828-1500 Fax: (412) 828-4826	Evaluation
Bridge High Strength Rods		Dywidag Systems 2154 South Street Long Beach, CA 90805 – 4421 Tel: (562) 531-6161 Fax: (562) 531-32366	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Bridge Railing		Universal Industrial Sales, Inc. P.O. Box 699 Pleasant Grove, UT 84062 Tel: (801) 785-0505 Fax: (801) 785-1710	Certification
		SYRO, Inc. P.O. Box 99 Centerville, UT 84014	Certification
Concrete Joint Filler	SealTight Fibre Expansion Joint	W.R. Meadows, Inc. P.O. Box 338 Hampshire, IL 60140 Tel: (800) 825-5976 Fax: (847) 683-4544	Certification
Concrete Silicone Joint Sealant	Sikaflex 15 LM	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 Tel: (201) 933-8800 Fax: (201) 933-6225	Certification
Concrete, Steel Reinforcing Rod		Cascade Steel Rolling Mills, Inc 3200 N. Highway 99 West McMinnville, OR 97128 Tel: (503) 472-4181 Fax: (503) 434-5739	Certification
		Graham Steel Corporation 11241 Slater Avenue N.E. Suite 100 Kirkland, WA 98033 Tel: (425) 823-5656 Fax: (425) 821-3810	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Concrete, Steel Reinforcing Rod (cont'd)		NUCOR 2424 SW Andover Street Seattle, WA 98106-1100 Tel: (206) 933-2222 Fax: (206) 933 2207	Certification
Concrete, Steel Reinforcing Rod-Epoxy Coated		Western Coating, Inc. P.O. Box1348 Auburn, WA 98071 Tel: (253) 735-1070 Fax (253) 735-1075	Certification
Concrete, Steel Reinforcing Wire		Davis Wire Corporation 19411 80th Avenue So. Kent, WA 98032-1190 Tel: (800) 872-8920 Fax: (253) 395-3729	Certification
Epoxy Adhesive	Sikadur 21 Lo-Mod LV, 22 Lo-Mod, 23 Lo-Mod Gel, 30, 31 Hi-Mod Gel, 32 Hi-Mod, 33, 35 Hi-Mod LV, 52, 55 SLV, Sikadur Injection Gel 300/306, 330	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 Tel: (800) 933-7452 Fax: (201) 507-7107	Certification
Flexible Delineator Posts		Carsonite International 10 Bob Gifford Blvd. Early Branch, SC 29916 Tel: (800) 648-7974 Fax: (803) 943-3375	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Glass Beads for Pavement Markings		Potters Industries, Inc. 350 NW Baker Drive Canby, OR 97013 Tel: (503) 266-7814 Fax: (503) 266-7407	Certification
		CATAPHOTE, Inc. P.O. Box 2369 Jackson, MS 39225 Tel: (601) 939-4612 Fax: (601) 932-6339	Certification
Guardrail Posts		Universal Industrial Sales, Inc. P.O. Box 699 Pleasant Grove, UT 84062 Tel: (801) 785-0505 Fax: (801) 785-1710	Certification
Iron, Gray and Malleable Castings		Neenah Foundry Co. 2121 Brooks Avenue Neenah, WI Tel: (920) 725-7000	Certification
Mailboxes		Steel City Corporation 190 North Meridian Rd. P.O. Box 1227 Youngstown, OH 44501 Tel: (800) 321-0350 Fax: (330) 792-7951	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Paint for Galvanized Coating Repair	Model 7007 Galvanizing Repair Paint	AERVOE Industries, Inc. 1198 Mark Circle Gardnerville, NV 89410 Tel: (775) 782-0100 Fax: (775) 782-4027	Certification
Paint for Steel Structures	Primer: MC-Zinc Intermediate: MC Ferrox B Top Coat: MC-Ferrox A	Wasser High-Tech Coatings 1004 W. James St. Ste 100 Kent, WA 98032 Tel: (253) 850-2967 Fax: (253) 850-3098	Certification
Paint for Traffic Markings (Low VOC)	Columbia Synthetic Fast Dry Traffic Paint: 17-270-CC Yellow, and 17-270-WW White	Columbia Paint & Arch. & Ind. Coatings North 112 Haven Spokane, WA 99202 Tel: (509) 536-1326 Fax: (509) 543-5112	Certification
Pipe, Corrugated Metal Culvert & Storm Drain (Coated & Uncoated)	Galvanized Steel, Aluminized Steel Type 2, Polymer-Coated Steel and Metal Pipe, Welded Seam Culvert, and Aluminum	CONTECH / CULFABCO 111 East 100th Ave. Anchorage, AK 99515 Tel: (907) 344-1144 Fax: (907) 344-1174	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Pipe, Corrugated Metal Culvert & Storm Drain End Sections (Coated & Uncoated)	Aluminized Steel Type 2 and Aluminum	CONTECH / CULFABCO 111 East 100th Ave. Anchorage, AK 99515 Tel: (907) 344-1144 Fax: (907) 344-1174	Certification
	Galvanized Steel, and Aluminum	J&J Drainage Prod. Co. P.O. Box 829 Hutchison, KS 67504 Tel: (316) 663-1575 Fax: (316) 663-1701	Certification
Pipe, Corrugated Polyethylene	Hancor Sure-Lok F477	Hancor 1807 19th Ave. Milton, WA 98354 Tel: (888) FOR-PIPE Fax: (888) FAX-PIPE	Certification
	ADS N-12 Polyethylene Pipe Corrugated and Smooth Interior	Advanced Drainage Systems, Inc. 4640 Trueman Blvd. Hilliard, OH 43026 Tel: (800) 733-7473 Fax: (614) 658-0050	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Pipe, Ductile Iron & Fittings	3"4" Class 51-56 Tyton Joint and, 30"-36" Class 50-56 Fastite Joint Cement Lined D.I.P.; and 6", 8", 10", 12", 14", 16", 18", and 24" Class 50-56 Tyton Joint Cement Lined D.I.P.; 6", 8", 10" and 12" Mechanical Joint Cement Lined D.I.P.	Pacific States Cast Iron Pipe Co. P.O. Box 1219 Provo, UT 84603 Tel: (801) 373-6910	Certification
Pipe, Fin Drains	ADS AdvanEdge	Advanced Drainage Systems, Inc. 4640 Trueman Blvd. Hilliard, OH 43026 Tel: (800) 733-7473 Fax: (614) 658-0050	Certification
Pipe, Structural Plate	Multi-Plate Structures	CONTECH / CULFABCO 111 East 100th Ave. Anchorage, AK 99515 Tel: (907) 344-1144 Fax: (907) 344-1174	Certification
	Structural Plate Pipe, Pipe Arches, and Low Profile Steel Box Culverts	Lane Enterprises Inc. 3905 Hartzdale Drive, Suite 514 Camp Hill, PA 17011 Tel: (717) 761-8175 Fax: (717) 761-5055	Certification
Pre-Cast Concrete		Pre-cast Concrete Co. 8811 Toloff Street Anchorage, AK 99507 Tel: (907) 344-6449 Fax: (907) 349-2213	Certification
		D&S Concrete, Inc. 2140 E. Dimond Blvd. Anchorage, AK 99507 Tel: (907) 349-6031 Fax: (907) 349-4597	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Pre-Cast Concrete (cont'd)		Fairbanks Precasters, Inc. P.O. Box 75289 Fairbanks, AK Tel: (907) 488-9763 Fax: (907) 488-8300	Certification
		University Redi-Mix, Inc P.O. Box 60750 Fairbanks, AK 99706 Tel: (907) 479-0122 Fax: (907) 479-2204	Certification
Soil, Fertilizer		Alaska Mill and Feed Co. 114 North Orca P.O. Box 101246 Anchorage, AK 99510 Tel: (907 279-4519 Fax: (907) 276-7416	Certification
Soil, Stabilization/Matting		Belton Industries, Inc. P.O. Box 127 Belton, SC 29627 Tel: (864) 338-5711 Fax: (864) 338-5594	Certification
	Curlex I, II, Curlex Enforcer II, Curlex I, II, III Stitched, Curlex Roadrunner, Curlex Sediment Log	American Excelsior Co. 831 Pioneer Ave. Rice Lake, WI 54868 Tel: (715) 234-6861 Fax: (715) 234-6823	Certification

2003 Approved Products List
Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Soil, Stabilization/Mulch	EcoFiber, EcoFiber+Tac, Eco Aegis	Fibre Marketing International, Inc 2806 NE Sunset Blvd. Suite A Renton, WA 98056 Tel: (425) 277-9966 Fax: (425) 277-9971	Certification
	Astro Mulch, Astro Mulch Plus Tackifier	Thermo Kool of AK, Inc. 6348 Quinhagak Anchorage, AK 99507 Tel: (907) 563-3644 Fax: (907) 561-2758	Certification
Standard Sign Reflective Sheeting	T-5500 High Intensity Grade ASTM Type III retro- reflective sheeting	Avery Dennison Reflective Films Div. 6565 West Howard St. Niles, IL 60714 Tel: (847) 647-7717 Fax: (847) 647-1205	Certification
Standard Signs	Fabrication includes: Sheet Aluminum, Reflective Sheeting, "Slip Base" and Metal, Perforated, Wide Flange or Flanged Channel Posts.	Warning Lights of Alaska, Inc. 591 West 67th Ave. Anchorage, AK 99518 Tel: (907) 562-2124 Fax: (907) 562-0473	Certification
	Fabrication includes: Sheet Aluminum, Reflective Sheeting, "Slip Base" and Metal, Perforated, Wide Flange or Flanged Channel Posts.	Traffic Safety Supply Co., Inc. 2324 S.E. Umatilla St. Portland, OR. 97202 Tel: (503) 235-8531 Fax: (503) 235-5112	Certification
		Universal Industrial Sales, Inc. P.O. Box 699 Pleasant Grove, UT 84062 Tel: (801) 785-0505 Fax: (801) 785-1710	Certification

2003 Approved Products List

Products Certified/Evaluated

General Description	Product Brand Name	Manufacturer	Certification/ Evaluation
Standard Signs, Perforated Steel Posts, and "Slip Base" assemblies	Ulti-Mate Sign Support System	Western Highway Products, Inc. P.O. Box 7 Stanton, CA 90680 Tel: (714) 484-4254 Fax: (714) 761-2965	Certification
	Slip Base Assembly	Allied Tube & Conduit 16100 South Lathrop Ave. Harvey, IL 60426 Tel: (800) 882-5543	Certification
Survey Monument Cases		Inland Foundry Co., Inc. North 11250 Market St. P.O. Box 453 Mead, WA 99021 Tel: (509) 466-7121 Fax: (509) 466-7696	Certification
		Neenah Foundry Company 2121 Brooks Ave Neenah, WI Tel: (920) 725-7000	Certification

Glenn Bragaw Interchange

Project 57179

APPENDIX 17-1 BRAGAW INTERCHANGE PROJECT STRUCTURE INVENTORY

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BRAGAW INTERCHANGE PROJECT STRUCTURE INVENTORY			R&M Project # 1338.01 AKSAS 57179			Red = Owner may remove
Parcel #	Legal Description	Address	Type of Structure	Year Built	Building Square Footage	Other Improvements
1	Lot 22, Block 2, Vanover	3905 E. 4th Avenue Anchorage, Alaska 99508	2 Story Wood Frame 4 Plex	1983	4,086 sf	Wood Fence
2	Lot 21, Block 2, Vanover	379 S. Bragaw Street Anchorage, Alaska 99508	Ranch Style Wood Frame Single Family	1951	612 sf	Wood Fence 14' x 12' Wood Shed
3	Lot 20, Block 2, Vanover	371 S. Bragaw Street Anchorage, Alaska 99508	Ranch Style Wood Frame Single Family	1957	1,240 sf	Wood Fence 8' x 10' Wood Shed
4	Lot 19, Block 2, Vanover	363 S. Bragaw Street Anchorage, Alaska 99508	Ranch Style Wood Frame Single Family	1949	1,201 sf	Wood Fence 120 sf Wood Shed
5	Lot 18, Block 2, Vanover	355 S. Bragaw Street Anchorage, Alaska 99508	2 Story Wood Frame 4 Plex	1985	4,368 sf	Fence Shed
6	Lot 17, Block 2, Vanover	351 S. Bragaw Street Anchorage, Alaska 99508	N / A	1960	15' x 24' Shed	Partial Chain Link Fence Partial Wood Fence 8' x 6' Shed
7	Lot 16, Block 2, Vanover	339 S. Bragaw Street Anchorage, Alaska 99508	Ranch Style Wood Frame Single Family	1950	523 sf	Fence Asphalt Pad
8	Lot 15, Block 2, Vanover	331 S. Bragaw Street Anchorage, Alaska 99508)	Bi-Level Wood Frame Single Family	1959	1,152 sf	Fence
9	Lot 14, Block 2, Vanover	323 S. Bragaw Street Anchorage, Alaska 99508	2 Story Wood Frame 6 Plex	1964	7,440 sf	Partial Fence
10	Lot 13, Block 2, Vanover	315 S. Bragaw Street Anchorage, Alaska 99508	Bi-Level Wood Frame 4-Plex	1985	4,080 sf	Fence
11	Lot 12, Block 2, Vanover	301 S. Bragaw Street Anchorage, Alaska 99508	Log Frame 4-Plex	1963	2,647 sf	Fence Shed
12	Lot 12, Block 26, Fairview Extension	291 S. Bragaw Street Anchorage, Alaska 99508	2 Story Wood Frame Duplex	1951	2,552 sf	Fence
13	Lot 13, Block 26, Fairview Extension	3923 & 3925 E. 3rd Avenue Anchorage, Alaska 99508	1 Story Wood Frame Duplex	1969	2,204 sf	Fence 2 Sheds
14	Lot 14, Block 26, Fairview Extension	282 S. Flower Street Anchorage, Alaska 99508	Bi-Level Wood Frame Duplex	1961	2,280 sf	Fence
15	Lot 15A, Block 26, Fairview Extension	274 S. Flower Street Anchorage, Alaska 99508	Bi-Level Wood Frame 4 plex	1974	4,032 sf	Fence
17	Lot 15A, Block 26, Fairview Extension	211 S. Bragaw Street Anchorage, Alaska 99508	NAPA Auto Care Center	1984	6,072 sf w/ 915 sf Mezzanine	400 LF Chain Link Fence Rolling Fence Gates
19	Lot 21A, Block 26, Fairview Extension	3230 E. 2nd Avenue Anchorage, Alaska 99508	2 Story Retail Warehouse	1984	16,460 sf	None
20 & 21	Lot 1A & 24A, Block 27, Fairview Extension	4000 E. 2nd Avenue Anchorage, Alaska 99508	2 Story Duplex Mobile Home Mobile Home Mobile Home	1984 1952 1974 1955	1,356 sf 350 sf 550 sf 350 sf	Wood Fence

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Glenn Bragaw Interchange

Project 57179

APPENDIX 17-2 PRELIMINARY HAZARDOUS MATERIALS REPORT

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The Preliminary Hazardous Materials Report will be provided at a later date by addendum.

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