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Date: 6/01/2022

Subject: Proximity Request – Basich Blvd & Wishkah Rd Proximity Request

Sender: Colby Lundstrom, Manager of Compliance and Operations Programs, Cascade Natural Gas Co.

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Identification of Proceeding: N/A

Identification of Documents: CNGC - Basich Blvd & Wishkah Rd Proximity Request June 1<sup>st</sup>, 2022.



8113 WEST GRANDRIDGE BOULEVARD, KENNEWICK, WASHINGTON 99336-7166

June 1<sup>st</sup>, 2022

Sean Mayo  
Director, Pipeline Safety  
Utilities & Transportation Commission  
PO Box 47250  
Olympia, WA 98504-7250

**Subject: WAC 480-93-020 Basich Blvd & Wishkah Rd Proximity Request**

Dear Mr. Mayo:

Pursuant to the requirements of WAC 480-93-020 Proximity Considerations, Cascade Natural Gas Corporation (CNGC) requests to operate the proposed pipeline at pressure of 305 psig within 100 feet of existing buildings or those that are under construction. CNGC is performing this work to maintain core customer needs and to have the ability to supply necessary capacities for future growth in Aberdeen and Hoquiam, WA.

**Proposed Scope of Work:**

The proposed pipeline consists of installing approximately 23,880-feet of 8-inch steel pipeline and one regulator station. This will connect to the existing Grays Harbor high-pressure pipeline that operates within a 305 MAOP and the Aberdeen/Hoquiam distribution-pressure pipeline that operates within a 60 MAOP. The complete route of this line is depicted on the attached aerial maps located in Appendix A. This Proximity Request is for approval to operate the new extension of this pipeline and pending regulator station at a 305 MAOP and future considerations.

The new regulator station proposed to be installed with this line is regulator station 81 (R-81). R-81 will tie-in the new Basich Blvd extension to the existing 6-inch, 60 psig MAOP line. New regulator station will be shop fabricated before being installed on site at the south end of the Basich Blvd alignment.

At the proposed MAOP of 305 psig, the stress level of the regulator station, pipe, and pipeline fittings will be a maximum of 10.12% of the specified minimum yield strength. At the design pressure of 500 psig where there are future consideration or raising the MAOP to, the stress level of the regulator station, pipe, and pipeline fittings will be a maximum of 16.59% of the specified minimum yield strength. Thus, the Basich Blvd and Wishkah Rd sections will be classified as high-pressure distribution main, not Transmission. Ten percent (10%) NDT will be performed on all newly installed pipe.

Specifications of the 8-inch pipeline and associated facilities are as follows:

- All components (valves, line stoppers, etc.) will be ANSI Class 300 with a maximum working pressure rating of 720 psig.
- All pipe and associated fittings will consist of API 5L specification and of a X52 grade.

**Proximity & Alternatives:**

The Basich Blvd and Wishkah Rd pipeline be within 100 feet of 194 structures as shown in Appendix A. Route analysis and protective measures were taken into consideration of the pipelines route and its proximity to the public and associated facilities.

Alternative routes were explored as detailed in Appendix B. These routes were not chosen because of more difficult and cost adverse construction, an increased number of proximity buildings, grounding concerns due to proximity to high-voltage lines and easements considerations.

**Closing:**

CNGC respectfully requests your approval to operate the new 8” Basich Blvd & Wishkah Rd high-pressure pipeline within a 305 MAOP. Construction for the Basich Blvd project is scheduled to begin in August of 2022 upon approval of this request and other permitting with the City of Aberdeen. The Wishkah Rd project is scheduled to begin February of 2023 upon approval of this request and other permitting and easement acquisitions. If you have any questions or require additional information, feel free to contact me at (509) 734-4587 or via email at Colby.Lundstrom@mdu.com

Sincerely,

CASCADE NATURAL GAS

*Colby Lundstrom 6/01/2022*

Colby Lundstrom  
Manager of Compliance Ops. Programs

CC: Pat Darras  
Mike Schoepp  
Craig Chapin

Enclosures

Appendix A - Buildings within 100-foot proximity to the pipeline and facilities.

Appendix B - Route Alternatives



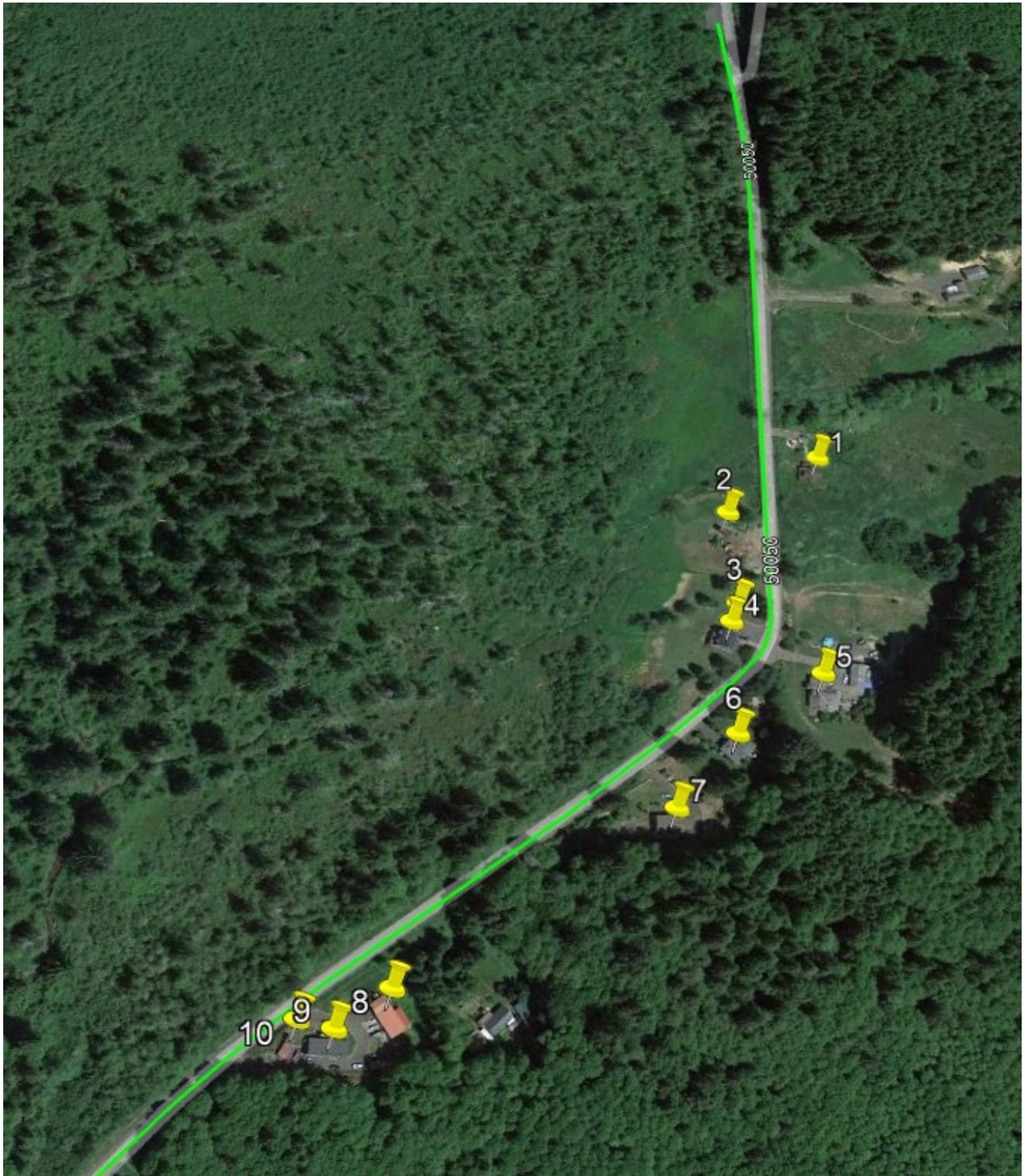


Figure 2: Section of the proposed pipeline showing buildings 1-10 within the 100-foot proximity boundary.

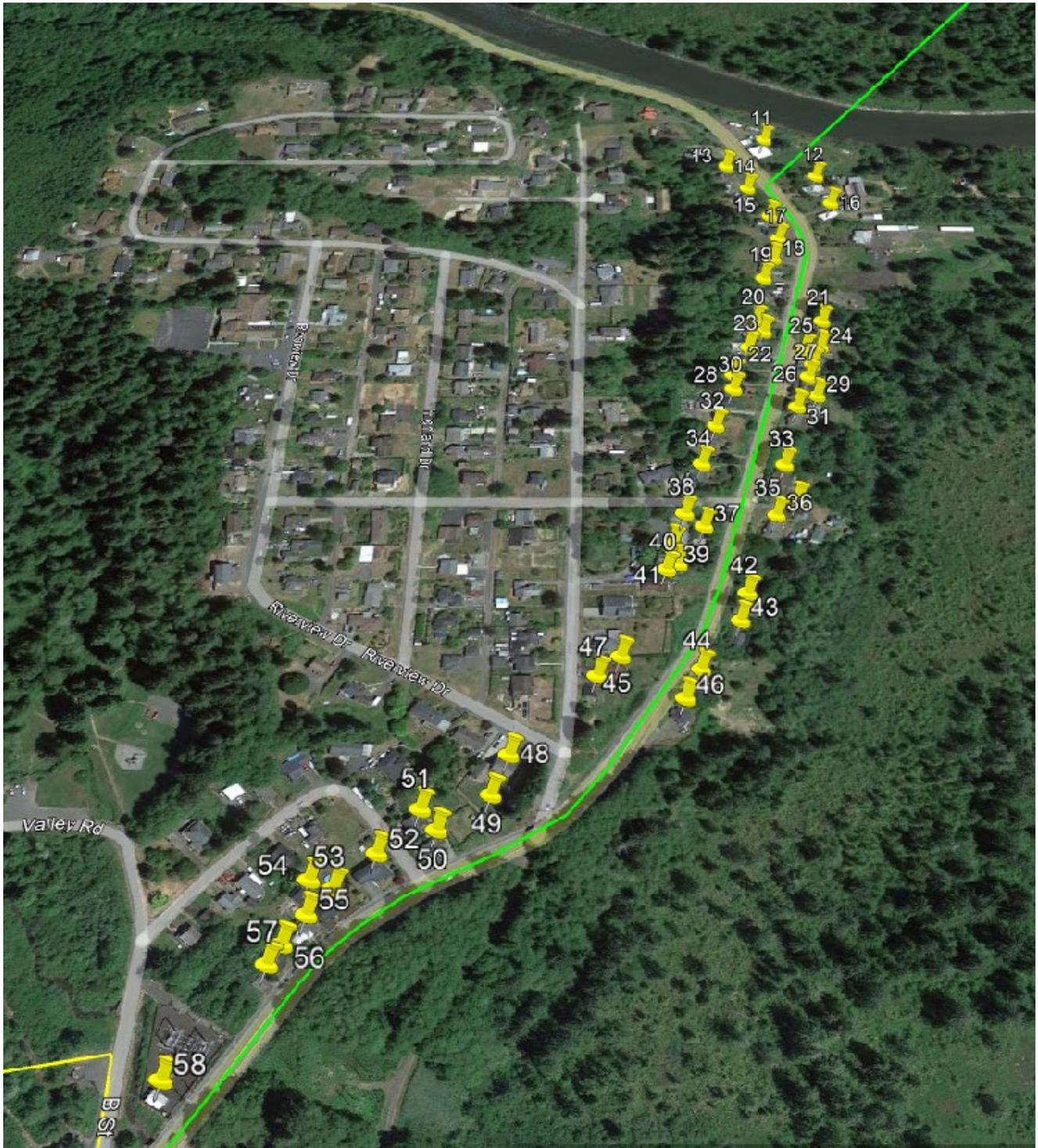


Figure 3: Section of the proposed pipeline showing buildings 11-58 within the 100-foot proximity boundary.



Figure 4: Section of the proposed pipeline showing buildings 59-64 within the 100-foot proximity boundary.

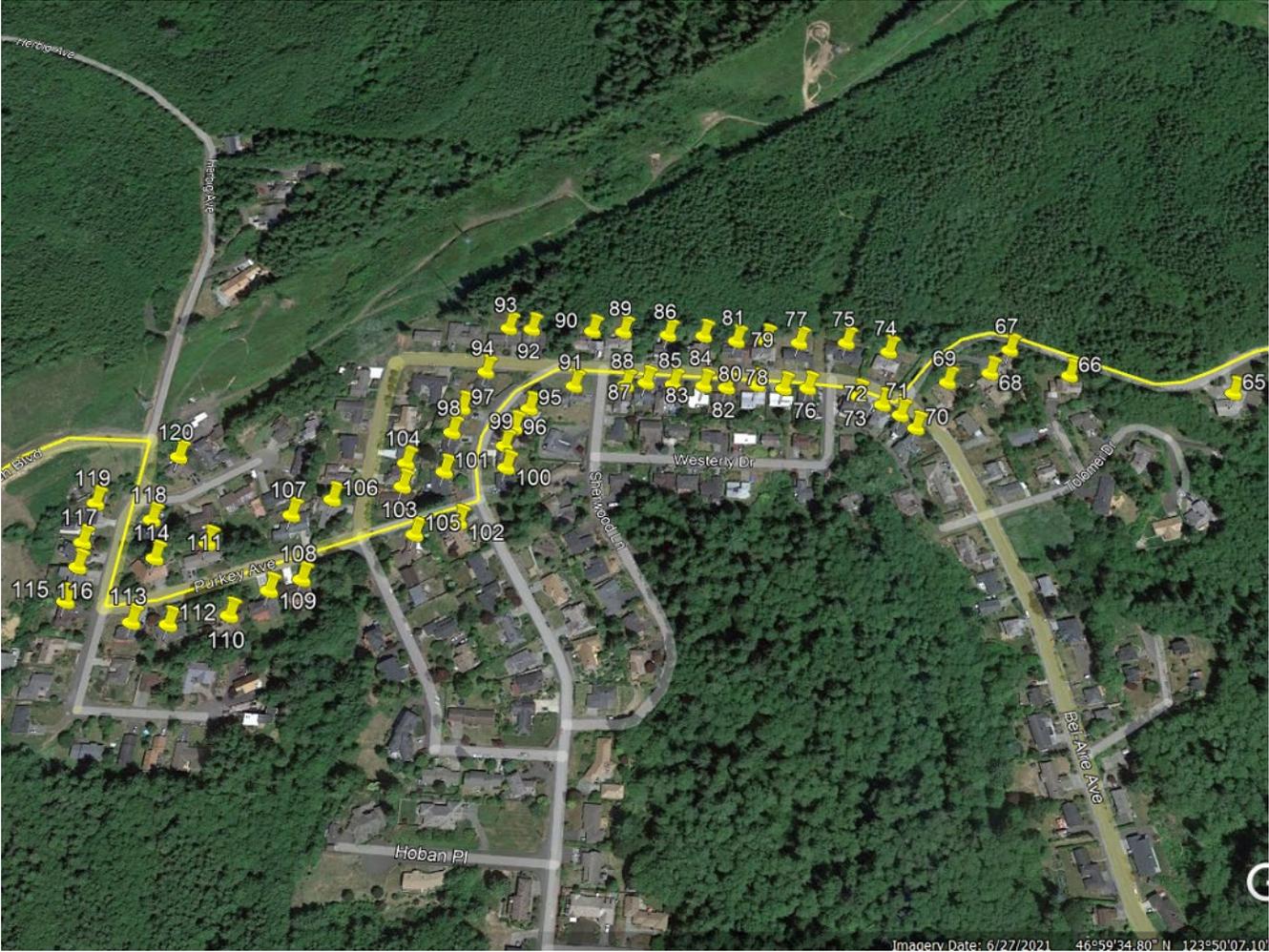


Figure 5: Section of the proposed pipeline showing buildings 65-120 within the 100-foot proximity boundary.

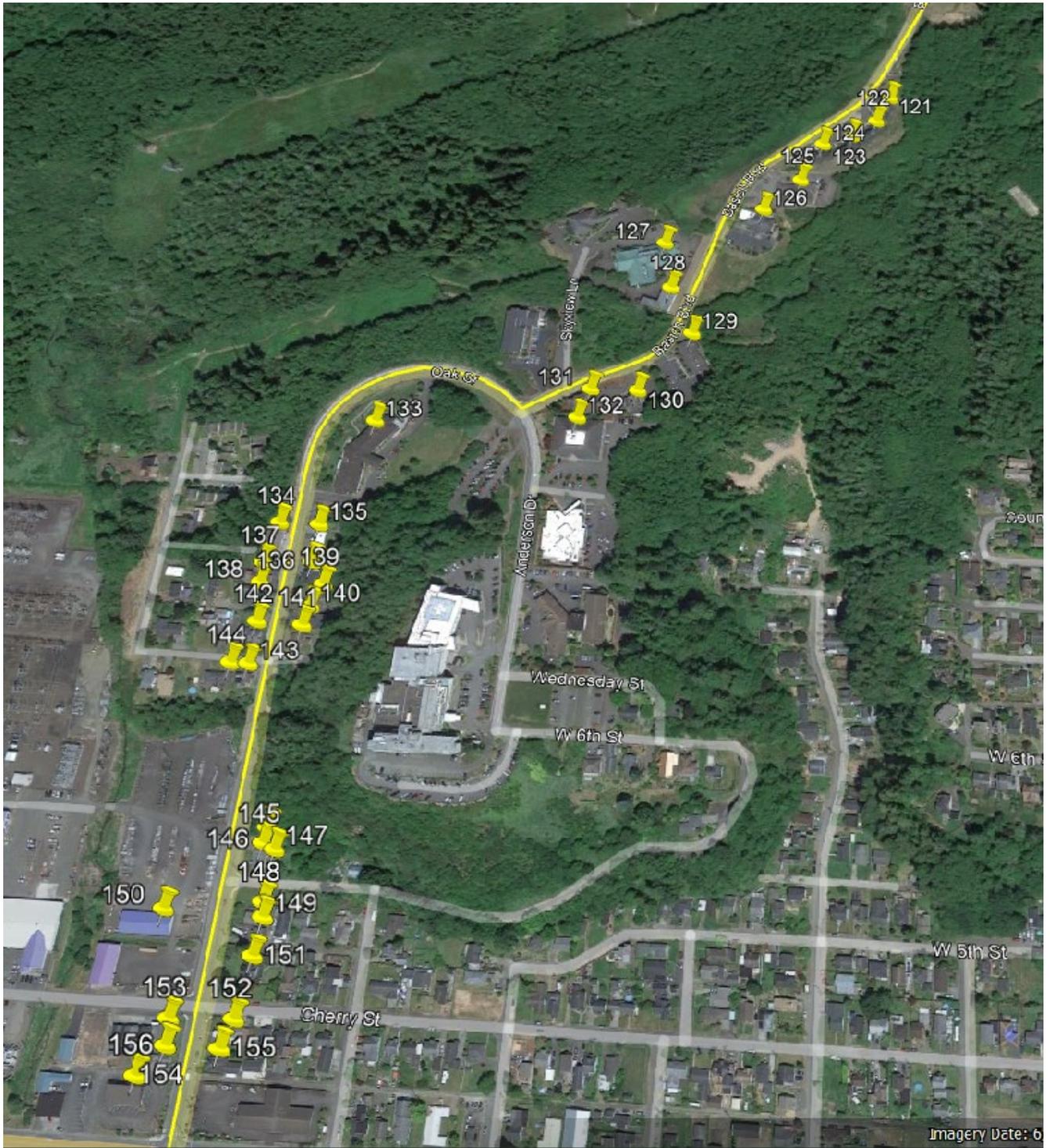


Figure 6: Section of the proposed pipeline showing buildings 121-156 within the 100-foot proximity boundary.



Figure 7: Section of the proposed pipeline showing buildings 157-194 within the 100-foot proximity boundary.

## Proximity Buildings

Bldg. #	Distance to HP Line (feet)	Bldg. Description	Bldg. #	Distance to HP Line (feet)	Bldg. Description	Bldg. #	Distance to HP Line (feet)	Bldg. Description
1	68	Residence	66	65	Residence	131	34	Commercial
2	64	Residence	67	57	Residence	132	73	Commercial
3	57	Residence	68	100	Residence	133	88	Multi-Family Residence
4	44	Residence	69	48	Residence	134	27	Commercial
5	98	Residence	70	94	Residence	135	60	Residence
6	76	Residence	71	55	Residence	136	44	Residence
7	100	Residence	72	38	Residence	137	36	Residence
8	73	Residence	73	33	Residence	138	38	Residence
9	58	Residence	74	53	Residence	139	88	Residence
10	34	Shed	75	71	Residence	140	65	Residence
11	55	Residence	76	28	Residence	141	49	Residence
12	83	Residence	77	66	Residence	142	32	Residence
13	88	Residence	78	35	Residence	143	28	Residence
14	55	Residence	79	62	Residence	144	80	Residence
15	37	Residence	80	32	Residence	145	64	Residence
16	67	Residence	81	64	Residence	146	64	Garage
17	52	Residence	82	40	Residence	147	100	Shed
18	45	Residence	83	36	Residence	148	72	Residence
19	58	Residence	84	66	Residence	149	100	Garage
20	55	Residence	85	44	Residence	150	100	Commercial
21	55	Residence	86	63	Residence	151	87	Residence
22	33	Residence	87	48	Residence	152	55	Residence
23	65	Residence	88	50	Residence	153	42	Residence
24	63	Residence	89	67	Residence	154	33	Commercial
25	44	Shed	90	65	Residence	155	52	Residence
26	63	Garage	91	67	Residence	156	82	Commercial
27	64	Residence	92	85	Residence	157	46	Commercial
28	76	Residence	93	100	Residence	158	45	Church
29	93	Garage	94	55	Residence	159	83	Church
30	71	Residence	95	42	Residence	160	54	Commercial
31	51	Residence	96	56	Residence	161	60	Commercial
32	82	Residence	97	55	Residence	162	33	Commercial
33	47	Residence	98	57	Residence	163	37	Residence
34	91	Residence	99	46	Residence	164	80	Residence
35	90	Residence	100	46	Residence	165	27	Commercial
36	62	Residence	101	39	Residence	166	46	Residence
37	52	Residence	102	29	Residence	167	30	Residence
38	90	Residence	103	39	Residence	168	45	Residence
39	94	Residence	104	100	Residence	169	100	Residence
40	100	Residence	105	38	Residence	170	100	Garage
41	90	Shed	106	45	Residence	171	28	Residence
42	44	Residence	107	54	Residence	172	55	Shed
43	58	Residence	108	67	Residence	173	85	Residence
44	25	Residence	109	80	Residence	174	55	Residence
45	82	Residence	110	72	Residence	175	47	Residence
46	39	Residence	111	57	Residence	176	100	Garage
47	100	Garage	112	68	Residence	177	54	Multi-Family Residence
48	100	Residence	113	52	Residence	178	100	Multi-Family Residence
49	83	Shed	114	50	Residence	179	100	Garage
50	49	Residence	115	82	Residence	180	40	Multi-Family Residence
51	100	Residence	116	62	Residence	181	95	Multi-Family Residence
52	50	Residence	117	65	Residence	182	40	Multi-Family Residence
53	47	Residence	118	40	Residence	183	95	Multi-Family Residence
54	100	Garage	119	77	Residence	184	53	Multi-Family Residence
55	44	Residence	120	55	Residence	185	100	Multi-Family Residence
56	40	Residence	121	53	Multi-Family Residence	186	54	Multi-Family Residence
57	41	Residence	122	83	Multi-Family Residence	187	100	Multi-Family Residence
58	54	Sub Station Bldg.	123	85	Multi-Family Residence	188	24	Residence
59	23	Residence	124	52	Multi-Family Residence	189	24	Residence
60	36	Residence	125	75	Commercial	190	53	Residence
61	11	Garage	126	40	Commercial	191	51	Garage
62	17	Shed	127	87	Commercial	192	34	Residence
63	90	Shed	128	46	Commercial	193	68	Garage
64	63	Residence	129	32	Commercial	194	43	Garage
65	66	Residence	130	94	Commercial			

The Hoop Stress and %SMYS for steel pipe is determined in accordance with the following formulas:

$$\sigma_{hoop} = \frac{P \times D}{2 \times t} \quad \sigma_{hoop} / S = \%SMYS$$

P=Design pressure, psig.

S=Yield strength, psig determined in accordance with §192.107.

D=Outside pipe diameter, inches.

t=Nominal wall thickness of pipe, inches.

Established 305 MAOP:

$$8'' \text{ Hoop Stress} = \frac{305 \times 8.625}{2 \times 0.250} = 5261.25 \text{ psig} \quad \%SMYS = \frac{5261.25}{52000} = 10.12 \%$$

Design pressure of a 500 MAOP:

$$8'' \text{ Hoop Stress} = \frac{500 \times 8.625}{2 \times 0.250} = 8625 \text{ psig} \quad \%SMYS = \frac{8625}{52000} = 16.59 \%$$

Figure 8: SMYS calculation

## Appendix B

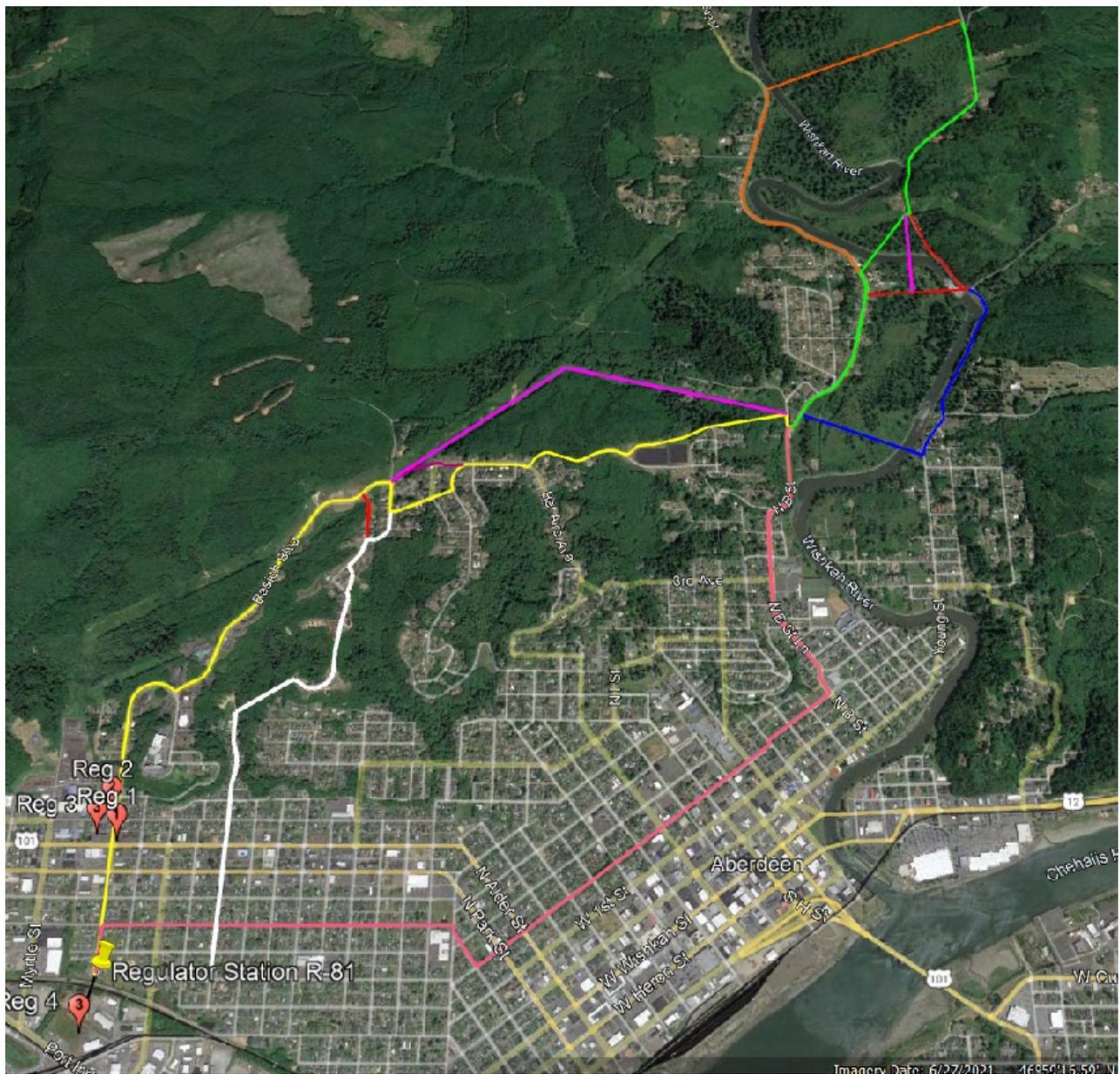


Figure 9: Route alternatives.