

APPENDIX

H

UTILITY CONFLICT MATRIX



30% VFPA FSPL - Utilities Conflict Matrix

Asset Reference				Owner Provided Information						Design Information			
Approximate Station	Construction / Associated Plan	Drawing ID	VFPA Asset ID	Asset Owner	Utility Type	Size (mm)	Elevation (m)	Material	Location Description	Relocation required?	Impact condition	Mitigation strategy	Comments
0+900	359-007	UT-1-W-UG-001	None	Unknown	Water	150	Unknown	Unknown	Elevator Rd & Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
0+900	364-087, 359-007	UT-1-G-UG-002	None	Unknown	Gas	60, 42	Unknown	Unknown	Elevator Rd & Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
0+900	364-085	UT-1-T-OH-003	None	Unknown	Telephone (OH)	N/A	N/A	N/A	Elevator Rd & Robson Rd	No	None anticipated	N/A	Overhead
0+900	359-007	UT-1-S-UG-004	None	City of Delta	Sanitary	250	0.85	PVC	Elevator Rd & Robson Rd	No	None anticipated	N/A	CAD base lists as City of Delta gravity sewer. COSMOS lists as City of Surrey Forcemain. No impacts to conduit for mill & overlay section.
0+900	Cosmos	UT-1-D-UG-005	None	City of Surrey	Drainage	1200	Unknown	Corrugated Metal	Elevator Rd & Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section.
0+950	364-001	UT-1-E-UG-006	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Elevator Rd & Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section.
0+950	Cosmos	UT-1-D-UG-007	None	City of Surrey	Drainage	800	1.56	Corrugated Metal	Elevator Rd & Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section.
1+080 - 1+160	359-007s6	UT-1-S-UG-008	359-H-133	VFPA	Sanitary	54	Unknown	PVC	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+100	S2019-138-Report	UT-1-S-UG-009	None	City of Surrey	Sanitary (Abandoned)	300	Unknown	Steel	Robson Rd	No	None anticipated	N/A	None
1+150 - 1+550	360-061	UT-1-G-UG-010	None	Fortis	Gas	168	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+160	Cosmos	UT-1-D-UG-011	None	City of Surrey	Drainage	300	1.96	Corrugated Metal	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+160	359-007s6, 360-024s01	UT-1-W-UG-012	None	City of Surrey	Water	200	Unknown	Steel	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+160 - 1+430	325-004, 325-005	UT-1-S-UG-013	None	Metro Vancouver	Sanitary FM	200	Unknown	PVC	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+180	360-061	UT-1-G-UG-014	None	Fortis	Gas (Abandoned)	168	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	None
1+180 - 1+600	325-07	UT-1-S-UG-015	None	Metro Vancouver	Sanitary	600	1.23	Concrete	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+190	325+005	UT-1-S-UG-016	None	City of Surrey	Sanitary FM	150	Unknown	PVC	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+190 - 1+600	Unknown	UT-1-D-UG-017	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+210	364-088	UT-1-T-UG-018	None	Telus	Telephone (UG)	100	Unknown	Cable	Robson Rd	No	None anticipated	N/A	No impacts.
1+240	Unknown	UT-1-D-UG-019	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+330	Cosmos	UT-1-W-UG-020	None	City of Surrey	Water	200	Unknown	DI	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+330	364-001	UT-1-E-UG-021	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts.
1+420	360-024s1, Cosmos	UT-1-W-UG-022	None	City of Surrey	Water	50	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+420	Unknown	UT-1-D-UG-023	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+530	360-001s1	UT-1-W-UG-024	None	City of Surrey	Water	200	Unknown	DI	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+530 - 1+600	360-001sW03, Cosmos	UT-1-W-UG-025	None	City of Surrey	Water	300	Unknown	DI	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+560	360-001s01	UT-1-E-UG-026	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+550 - 1+730	2014-183	UT-1-G-UG-027	None	Fortis	Gas (Abandoned)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+590	Unknown	UT-1-D-UG-028	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+590	364-010-PHS-EL2	UT-1-E-UG-029	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+600	364-098	UT-1-S-UG-030	None	Metro Vancouver	Sanitary	600	1.04	Concrete	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+600	360-001s1	UT-1-E-UG-031	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+600 - 2+000	360-001sW03, Cosmos	UT-1-W-UG-032	364-F-136	VFPA	Water	450	Unknown	DI	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+620	364-089	UT-1-T-UG-033	None	Telus	Telephone (UG)	2-75	Unknown	Cable	Robson Rd	No	None anticipated	N/A	No impact
1+620	364-084-A2	UT-1-E-UG-034	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+620	360-001sW03, Cosmos	UT-1-W-UG-035	364-F-136	VFPA	Water	300	Unknown	DI	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+620	364-031-E056C	UT-1-E-UG-036	364-J-113	VFPA	Electric (UG) & FO	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+720	360-001sW03, Cosmos	UT-1-W-UG-037	364-F-136	VFPA	Water Hydrant	N/A	N/A	N/A	Robson Rd	Possible	Within new road extents	Potential relocate	Hydrant from Base Utility shows it in existing road ROW which is unlikely. Survey did not pick up. Unlikely a conflict or require relocation.
1+760	Unknown	UT-1-D-UG-038	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
1+760	364-018-E2	UT-1-E-UG-039	364-J-113	VFPA	Electric (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+760	364+031+E059B	UT-1-C-UG-040	364-I-114	VFPA	Communications (UG)	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impact
1+760	364+031+E061C	UT-1-FO-UG-041	None	Unknown	Fibre Optic	Unknown	Unknown	Cable	Robson Rd	No	None anticipated	N/A	No impact

1+860	Unknown	UT-1-D-UG-042	None	Unknown	Drainage	Unknown	Unknown	Unknown	Robson Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
2+020	364+031+E059B	UT-2-C-UG-043	364-I-114	VFPA	Communications (UG)	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+020	364+031+E061C	UT-2-FO-UG-044	None	Unknown	Fibre Optic	Unknown	Unknown	Cable	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+060	360-008-U01	UT-2-C-UG-045	None	Unknown	Communications (UG)	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+060	360-008-U01	UT-2-E-UG-046	360-J-195	VFPA	Electric (UG)	2-Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+120	Unknown	UT-2-D-UG-047	None	Unknown	Drainage	2-Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+130	360-008-U01	UT-2-C-UG-048	None	Unknown	Communications (UG)	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+130	360-008-U01	UT-2-E-UG-049	360-J-195	VFPA	Electric (UG)	2-Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+130	364-031-E010B	UT-2-FO-UG-050	None	Unknown	Fibre Optic	Unknown	Unknown	Cable	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+180	364-075-03	UT-2-S-UG-051	None	Metro Vancouver	Sanitary	1422 x 1752 box culvert	1.05	Concrete	S Timberland Rd (New)	No	Shallow depth of cover over top of box culvert	May need to provide protection slab over top of culvert, or raise road grade	Review with MV.
2+200	360-008-W01	UT-2-W-UG-052	360-F-127	VFPA	Water	200	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+280	360-023sE011	UT-2-C-UG-053	None	Unknown	Communications (UG)	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+560	Unknown	UT-2-D-UG-054	None	Unknown	Drainage	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+590	360-008-S01	UT-2-S-UG-055	360-H-144	VFPA	Sanitary	50	Unknown	PE	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+590	360-008-W01	UT-2-W-UG-056	360-F-127	VFPA	Water	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+600	360-008-U01	UT-2-E-UG-057	360-J-195	VFPA	Electrical (UG)	2-Unknown	Unknown	Cable	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+600	Unknown	UT-2-W-UG-058	None	Unknown	Water Hydrant	Unknown	Unknown	Unknown	S Timberland Rd (New)	Yes	Within new road extents	Relocate	Relocate further up hydrant lead to side of new road
2+600	360-008-W01	UT-2-W-UG-059	360-F-127	VFPA	Water Hydrant	N/A	N/A	N/A	S Timberland Rd (New)	Yes	Within new road extents	Relocate	Relocate hydrant and lead to side outside of new road. Infra_ID 360-FH12
2+610 - 2+720	360-008-W01	UT-2-W-UG-060	360-F-127	VFPA	Water	200	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+620 - 2+720	360-008-U01	UT-2-E-UG-061	360-J-195	VFPA	Electrical (UG)	3-Unknown	Unknown	Cable	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+620 - 2+720	360-008-W01	UT-2-W-UG-062	360-F-127	VFPA	Water	50	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+620 - 2+720	360-023sE013	UT-2-C-UG-063	None	Unknown	Communications (UG)	Unknown	Unknown	Cable	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+630 - 2+720	360-008-S01	UT-2-S-UG-064	None	Unknown	Sanitary FM	50	Unknown	PE	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+760	360-056-UT-01	UT-2-W-UG-065	None	Unknown	Water Hydrant	N/A	N/A	N/A	S Timberland Rd (New)	Yes	Within new road extents	Relocate	Relocate hydrant and lead to side outside of new road.
2+760	360-056-UT-01	UT-2-S-UG-066	None	Unknown	Sanitary FM	75	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+760	360-056-UT-01	UT-2-TC-UG-067	None	Unknown	Telecomm	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+760	360-056-UT-01	UT-2-E-UG-068	None	Unknown	Electrical (UG)	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction (may require adjustment is utility is installed at very shallow depth)
2+760 - 3+400	360-022-TEL-01	UT-3-G-UG-069	None	Unknown	Gas	168	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
2+800 - 2+880	Unknown	UT-3-D-UG-070	None	Unknown	Drainage	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
3+040	360-021s03	UT-3-S-UG-071	None	City of Surrey	Sanitary FM	75	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	Full depth road construction. May need to adjust covers to suit new road elevation.
3+040	Unknown	UT-3-W-UG-072	None	Unknown	Water Hydrant	N/A	N/A	N/A	S Timberland Rd (New)	Yes	Within new road extents	Relocate	No record of watermain to service existing hydrant picked up on survey. Existing hydrant within extent of full depth road construction. Must relocate hydrant and lead to side outside of new road.
3+310	360+021s04	UT-3-S-UG-073	None	City of Surrey	Sanitary FM	75	Unknown	PVC	S Timberland Rd (New)	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+330	Unknown	UT-3-D-UG-074	None	Unknown	Drainage	Unknown	Unknown	Unknown	S Timberland Rd (New)	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+300 - 3+340	360-021s04	UT-3-S-UG-075	None	City of Surrey	Sanitary FM	250	Unknown	250	N & S Timberland Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+300 - 3+350 (Offset)	360+001sW01	UT-3-W-UG-076	360-F-123	VFPA	Water	350	Unknown	DI	N Timberland Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+330 (Offset)	Unknown	UT-3-D-UG-077	None	Unknown	Drainage	Unknown	Unknown	Unknown	N Timberland Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+340 (Offset)	360-032E01	UT-3-E-UG-078	None	Unknown	Electrical (UG)	Unknown	Unknown	Unknown	N Timberland Rd	No	None anticipated	N/A	No impact
3+350	360-022-TEL-01	UT-3-T-UG-079	None	Unknown	Telephone (UG)	Unknown	Unknown	Unknown	Timberland Rd	No	None anticipated	N/A	No impact

3+370 - 3+400	360-022-TEL-01	UT-3-G-UG-080	None	Unknown	Gas (Abandoned)	168	Unknown	Unknown	Timberland Rd	No	None anticipated	N/A	No impact
3+390 - 3+440	Unknown	UT-3-D-UG-081	None	Unknown	Drainage	Unknown	Unknown	Unknown	Timberland Rd	No	None anticipated	N/A	No impacts to conduit for mill & overlay section. May need to adjust covers to suit new road elevation.
3+400 - 3+400	360-022-TEL-01	UT-3-G-UG-082	None	Unknown	Gas	168	Unknown	Unknown	Timberland Rd	No	None anticipated	N/A	No impact

VFPA Asset ID

e.g. 364-G-185
364 = Site ID
G = Infrastructure Class
185 = Unique Identifier
None / other = Surrey, MV, etc.

Drawing ID

e.g. UT-1-D-UG-001
UT = Utility
1 = Project Section (i.e. 1, 2,3)
D = Infrastructure Class
UG = Underground, OH = Overhead
001 = Unique Identifier

Mitigation strategy

Advanced/Removal
Removal
Relocate & remove
Relocate & abandon
Temporary support
Protect in place

Infrastructure Class

D = Drainage
S = Sanitary
W = Water
T = Telephone
G = Gas
FO = Fibre Optic

30% VFPA FSPL - Utilities Conflict Matrix

Asset reference		Design Information						Cost		
Approximate Station	Asset ID	Asset Owner	Utility required	Size & material	Length (m)	Location Description	Comments	Unit cost	Total cost	Comments
2+200 - 2+600	NEW-UT-2-W-UG-001	VFSA	Water (Pipe)	PVC 200mm DIA	385	Robson Road (new full depth section)	Install new watermain, including 2 fire hydrants (with leads and valve assemblies) to service Section 2 of new road. Tie-ins to existing VFPA watermain (360-F-127) at ~STA. 2+200 and ~STA. 2+600.			
2+220	NEW-UT-2-W-UG-002	VFSA	Water (Hydrant)	CoS Standard	NA	Robson Road (new full depth section)	New fire hydrant (1/2) to service Section 2			
2+400	NEW-UT-2-W-UG-003	VFSA	Water (Hydrant)	CoS Standard	NA	Robson Road (new full depth section)	New fire hydrant (2/2) to service Section 2			
1+000	NEW-UT-2-W-UG-004	VFSA?	Water (Hydrant)	CoS Standard	NA	Elevator Road	Additional hydrant to service coverage gap in currently existing service area around Elevator & Robson Rd.			