

Proposed Amendment to Land Use By-Law 1315-19, MD of Pincher Creek No. 9

The following information is offered in support of an application to amend the MD of Pincher Creek Land Use By-Law moving the proposed 4.9 ha parcel from Agricultural to Direct Control.

We are asking for this amendment so we can apply to extract a natural resource (gravel) from the 4.9 ha site in the SE corner of Lot 14, Plan 971 0740, SE 18 7-2-5.

This information is offered to address objections raised at a public hearing held January 28, 2020 regarding a previous application.

We are proposing the following operational parameters:

- This will strictly be a gravel extraction operation; there will be no crushing or further processing on site. Gravel will be excavated and hauled to an existing Alberta Rocks operation to be further processed.
- There will be no retail sales from this site.
- There will be no buildings or bulk fuel storage tanks on site.
- We are proposing 8:00am to 4:00pm operating hours on week days only, no activity on weekends or holidays. The proposed access to the site will be on the east-west government road allowance adjacent to the extraction site. There is also an undeveloped road allowance straight south of proposed site.
- Any additional conditions required for road maintenance and dust control will be at the direction of the MD of Pincher Creek.
- As indicated in another attached document, (Appendix B), the site will be contoured and restored in accordance with Municipal and Provincial requirements. A good example of how a gravel pit can be properly restored is the old Rinaldi pit just west of this proposed operation.

Information also attached gives data on the environmental and infrastructure impact of hauling gravel into the area from long distances as well as letters of support for the need for locally sourced material.

We have also provided drone imagery of proposed site and surrounding area to bring a visual perspective to proposal.

Re: Application for Amendment to the Land Use Bylaw

Objective: to change the land use of 4.9 ha, being the southeast corner of Lot 14, Plan 971 0740, SE 18 7-2-5 , from Country Residential to Natural Resource Extraction (gravel).

Benefits:

“A Municipal Guide to Sand and Gravel Operations in Alberta”, 2007, makes the following statement: “The extraction of aggregate (sand and gravel) resources is vital to the growth of Alberta. Readily available supplies of aggregate are essential for development of the roads, buildings and infrastructure on which our society and our economy are built.” The proposed extraction area is 200M X 245M X 3.5M deep with a potential volume of 214,375 LCM of aggregate. Articles 1 & 2 (attached) emphasize the need to recover deposits of this important material. Villa Vega, and any other modern community, would not exist without the extensive use of gravel and rock for road building and concrete for basements, sidewalks and retaining walls.

Location:

This small proposed gravel pit is located at the property’s SE corner on a wide level bench that drops steeply away at its north margin, down a wooded hillside for approximately 500 meters to the main Villa Vega access road. The distance from the crest of the hillside to the pit perimeter varies generally from approximately 650 to 300 meters, with one site jutting in closer to the proposed pit. Elevation change for the upper wooded north-facing slope goes from 1243 M at the crest to 1210 M at the access road below, a drop of 33 meters over approximately 350 M distance. Of the approximately 21 lots in the subdivision, the proposed pit would be visible to only 2 of them. The balance of the dwellings are situated at various locations scattered throughout the timber along the north-facing slope, and within the grass/shrub cover north toward the river, some 650 M away at its nearest point.

In summary, the proposed gravel extraction site is small (4.9 hectares), well back (approx. 300 meters) in a southerly direction from the crest of the north-facing hillside which forms the south part of the Villa Vega residential area, and as far away east (downwind) as it can get from any residences. The nearest residence (one of only 2 that can see the proposed pit area) is approximately 300 meters away due north. The other visible residence is approximately 700 meters west of the proposed location. Properly placed berms, well-vegetated, should satisfactorily block pit operations from the view of both of these residences.

Access:

Pit access will follow an existing trail along the southern quarter section Right of Way. It will be upgraded to connect with the existing north/south ROW access road between NW7 7-2-5 and NE7 7-2-5 out to Hwy 507 to the east of the abandoned Rinaldi gravel pit.

Impacts and Mitigation:

Resource extraction operations such as gravel pits have many direct positive impacts — for example: municipal taxes and royalty payments, availability of local sources of aggregate for development of industry, transportation and residential, local jobs for equipment operators, trucking companies and house builders.

Negative comments related to gravel pits generally cite noise and visual as the principal impacts of gravel extraction operations.

Research into the climate of the area reveals that a typical day might see winds in the 50 – 90 km/hr range, a fact that has led to successful development of wind farms, and wind turbine towers are a familiar part of the area scenery. Siting this small Class 2 pit on the far southeast corner of SE18 7-2-5 will place it well downwind of the majority of residences in Villa Vega. It is anticipated that these same winds will significantly reduce the potential for most noises from downwind gravel extraction operations to be a disturbance to residents in the subdivision. Initial pit activities will see development of strategic berms to act as sound barriers that block potential work noises from escaping the pit area. Providing vegetative cover on berms by salvaging and seeding any available topsoil will also maximize the potential for this small pit to blend in with the surrounding topography.

In addition, the north-facing slope where many of the Villa Vega acreages are located is naturally well-treed, and it is anticipated that the vegetation cover there will continue to act as a buffer to suppress off-site noises. Existing noises would include highway (507 & 3) traffic, lawn mowers, chain saws, high winds and trains regularly passing through on CPR mainline.

Operation and Reclamation:

The aggregate deposit at this site is currently overlain by a thin, well-drained soil layer with characteristic grass/forb/shrub cover. There is some evidence to suggest that at some time in the past, an attempt had been made to cultivate the site, perhaps to grow grain or hay. For this site, low soil moisture, low soil nutrients, low rainfall and the drying effect of the predominant winds results in low grazing capability.

Operations will comply with existing Provincial and Municipal regulations and Codes of Practice applicable to gravel pit operations of this size.

The first step in development will be to salvage all surface materials capable of supporting vegetation growth. There is generally a native seed bank present in the surface layer which is beneficial in providing additional native seed source for reclamation. Surface materials will be sequentially removed and stockpiled for later spreading on the re-contoured pit slopes during the reclamation phase. Re-contouring during site reclamation can provide much-needed topographic variation in the form of humps, swales and microsites that encourage seedling establishment. The reclamation objective will be to re-contour and re-seed the site to establish a vegetation cover that will prevent erosion and eventually provide wildlife cover and forage.

Sound Levels:

Noise levels associated with gravel crushing activities at an operating pit were measured on September 20, 2019 during full production at the Alberta Rocks aggregate pit near the junction of Hwy 507 and Hwy 3. Sound levels were measured with an **Hti HT-80A sound level meter**. Distances were measured with a **Leica Rangemaster 1600-B range finder**.

The in-pit heavy equipment in use during the noise level monitoring was:

- . McCloskey J-40 crusher, McCloskey C-44 crusher, McCloskey ST-80 stacker, Extec sorter
- . 2 – 5 cu. yd. rubber-tired loaders
- . occasional gravel truck / trailer combinations removing product from the pit

Table of sound levels recorded in/near Alberta Rocks gravel pit – Sept. 20, 2019

Source	Distance (m)	Decibels (dB)
Background inside pit noise-truck idling, wind, crusher down	89	49
Hwy 3 traffic – cars, trucks, gusty wind- 5 min. duration sample	65	70.6 – 39
West pit access rd. – near Tp. Rd. 7-26 -4 min. duration	225	47.7 – 36.5
Mid-pit –Talon Peak Estates Road – 5 min. duration	230	47.7 – 37.4
East end of property – pit operating, Hwy 3 traffic @ 200 meters- 2 min.	500	60.3 – 39.2
East end of property – pit operating, Hwy 3 noise partial block – 2 min	450	52.3 – 32.9
Inside pit – operating – clear view W of crusher – 5 min. duration	145	66.6 – 46.3

Low noise levels associated with this operation are partly due to the presence of a 2 meter high vegetated berm along most of the pit perimeter, in addition to the fact that the pit develops in benches downward, effectively blocking sound from leaving the pit itself.

Additional noise sources:

Westbound CPR train – 2 diesel locomotives pulling oil cars - distance 170 meters - dB = 71.5 maximum

Re: Cross-section A – A'

This cross-section represents a slice south to north through the east part of the Villa Vega subdivision, originating in the area of the proposed pit then proceeding north through SE18 7-2-5 and part of NE18 7-2-5. It is intended to illustrate the gradient and orientation of the timbered north-facing slope. Residences in this area are across the flats, over the hill and well away from proposed development activities associated with this application.

Figure 1: Cross-section A - A'

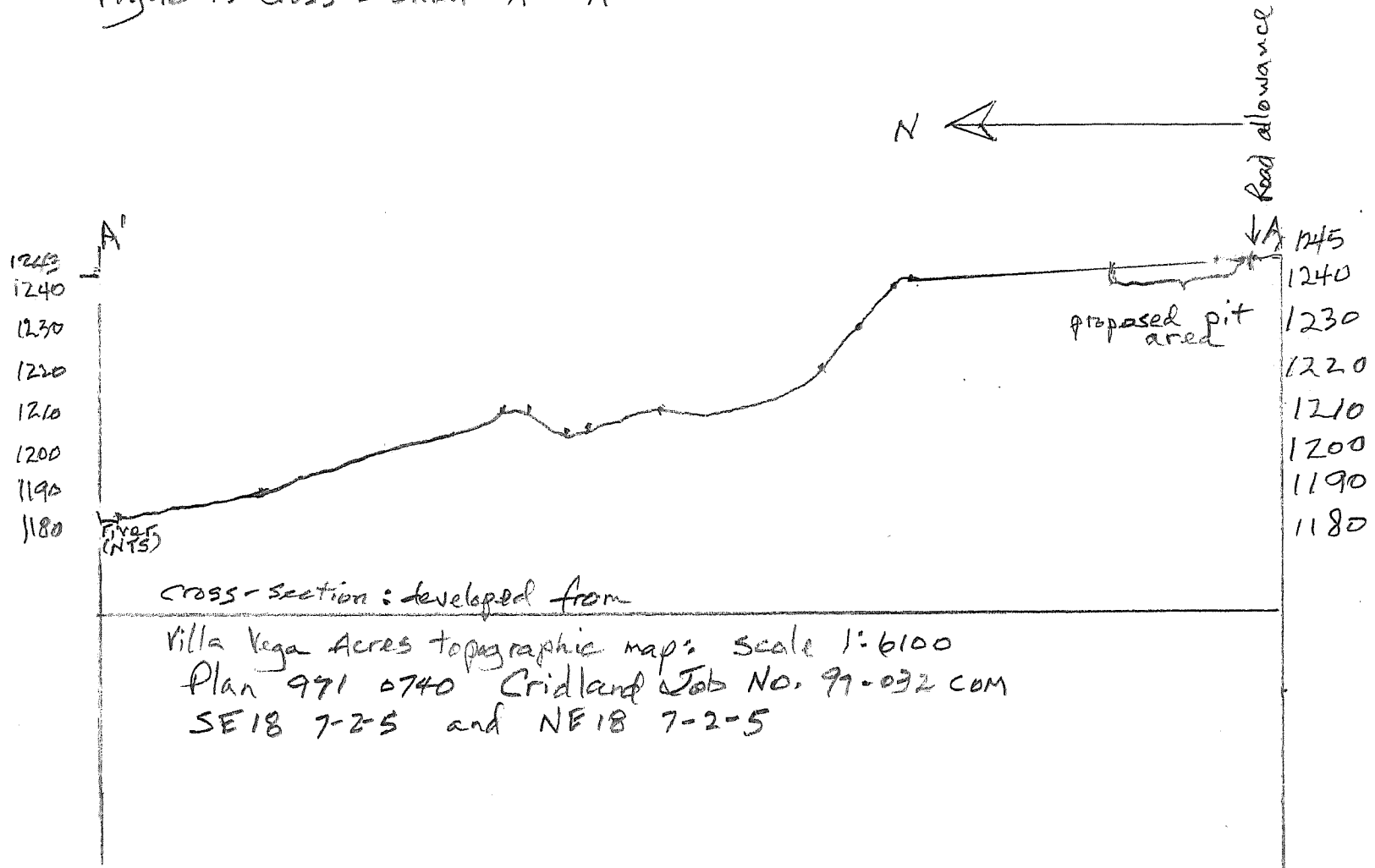
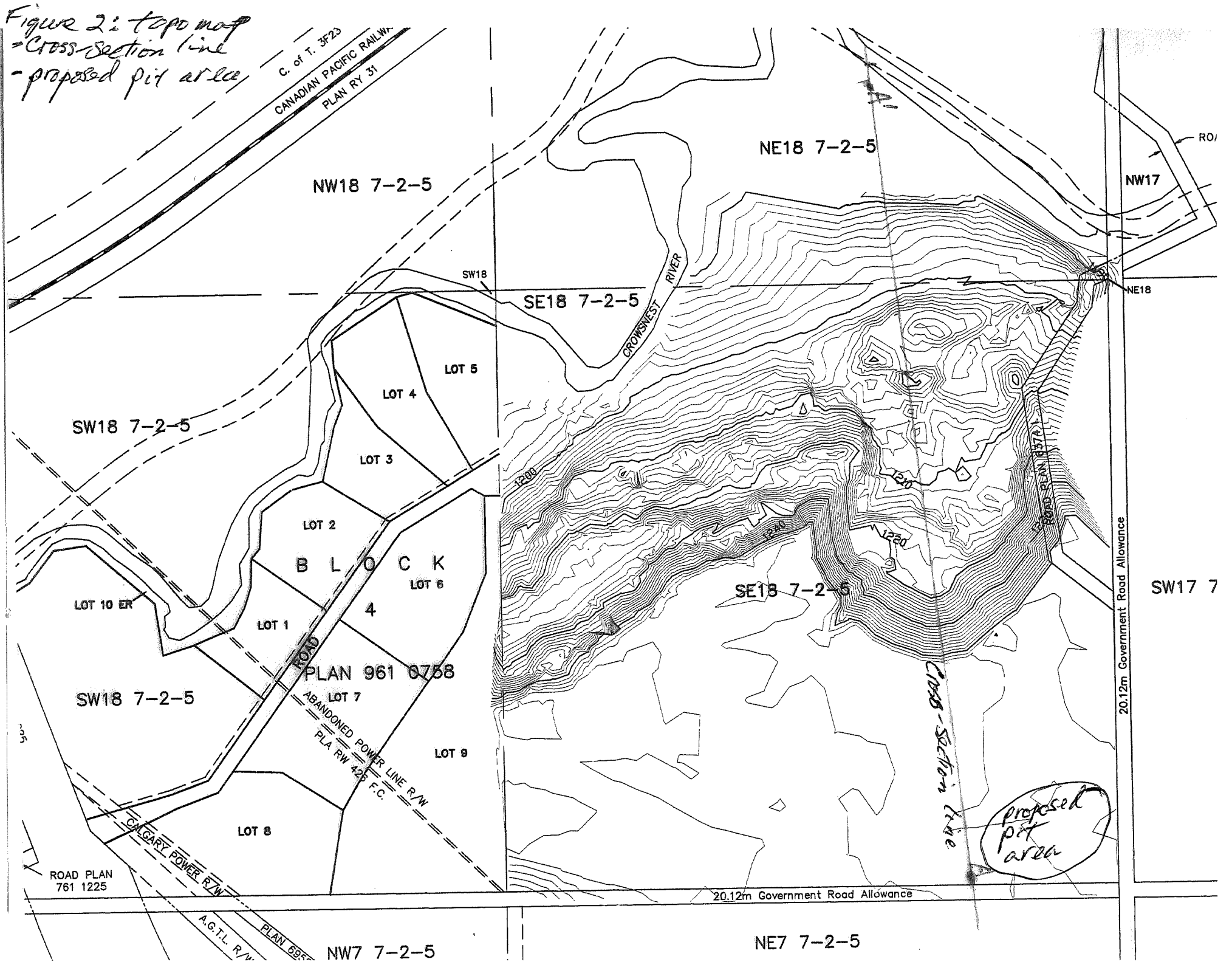
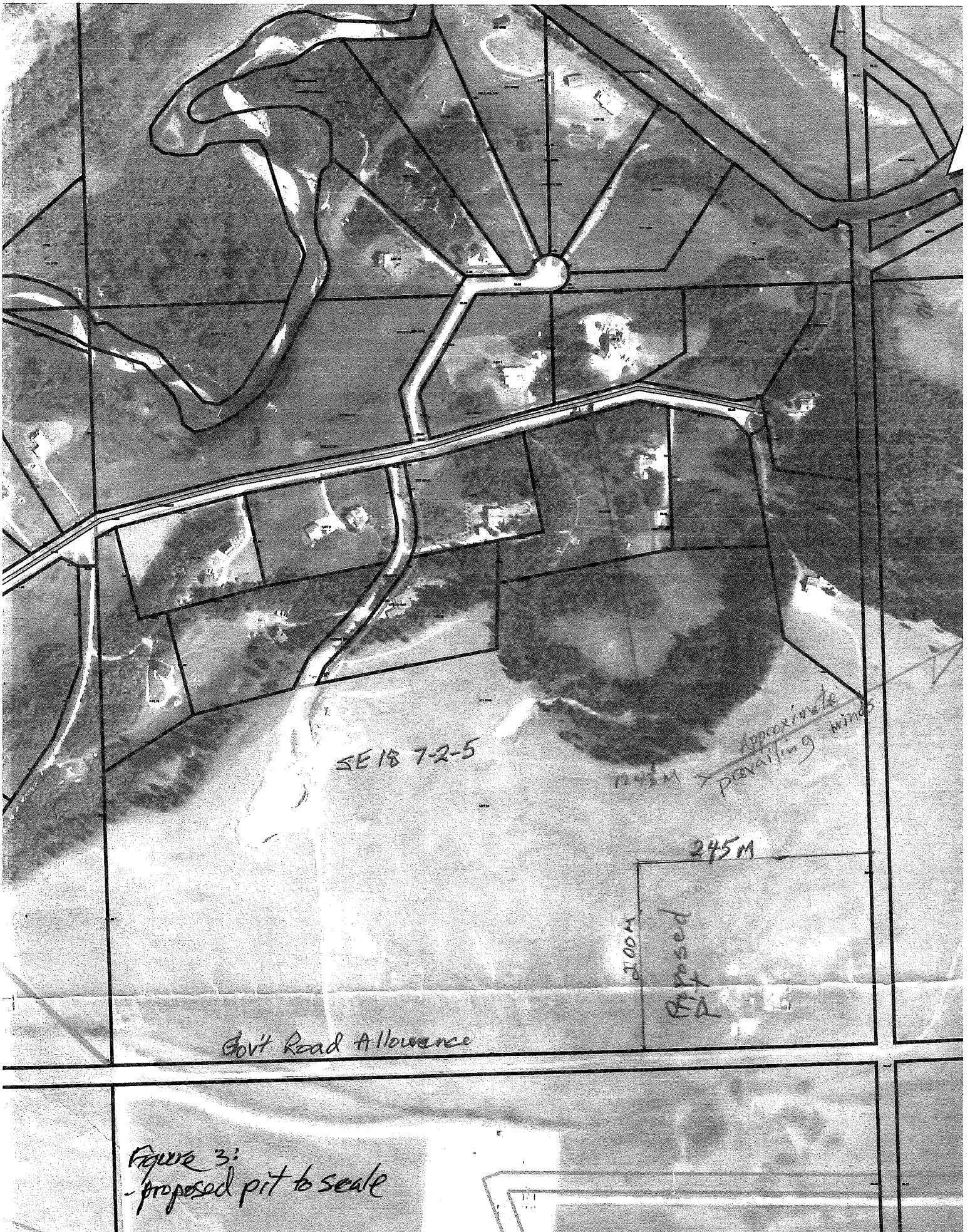


Figure 2: topo map
- Cross-section line
- proposed pit area





SE 1/4 7-2-5

Approximate prevailing winds

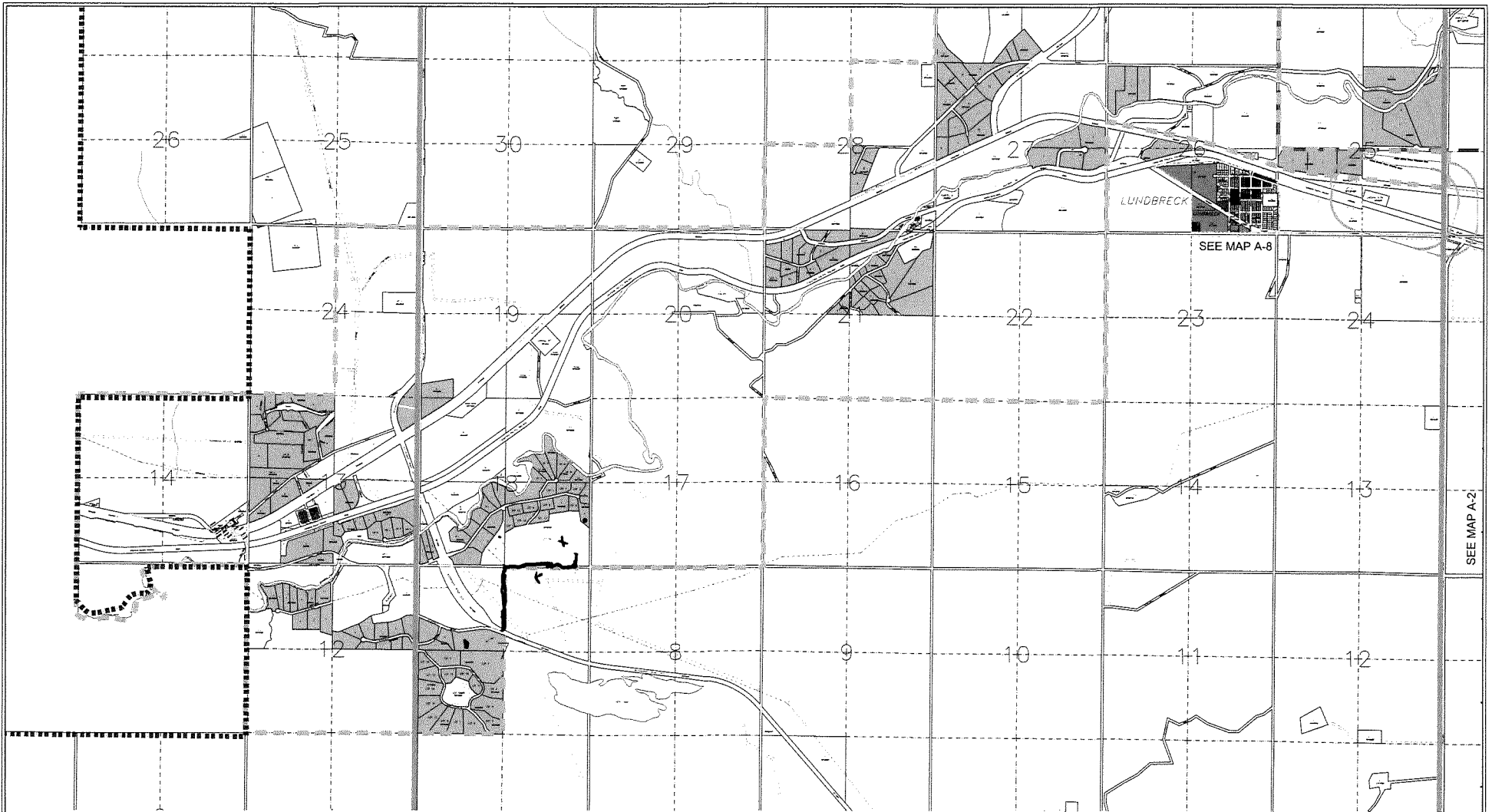
245M

2100M

Proposed Pit

Govt Road Allowance

Figure 3:
- proposed pit to seal



M.D OF PINCHER CREEK No. 9
 LAND USE DISTRICT MAP
 Bylaw No. 1289-18, November 13, 2018

BURMIS LUNDBRECK CORRIDOR

--- Burmis Lundbreck Corridor ASP Boundary
 - - - Hamlet Boundary

- Agricultural
- Direct Control
- Parks And Open Space
- Rural Recreation 1
- Rural Recreation 2
- Grouped Country Residential

- 'A'
- 'DC'
- 'POS'
- 'RR-1'
- 'RR-2'
- 'GCR'

MAP A-3



December 01, 2018 © Oldman River Regional Services Commission
 M.D. of Pincher Creek, LUB 1289-18, November 13, 2018, 9:48