INFORMATION TO PROPOSERS
for

(C3) RFP No. MR E21-137
Capital School Park Reconstruction

ISSUED BY:

City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

Date Issued: October 20, 2020

The following information is posted online. Please refer to the CBJ Engineering Contracts Division webpage at: http://www.juneau.org/engineering_ftp/contracts/Contracts.php. This is ***not*** an addendum.

Proposers are reminded that the solicitation period for this RFP is reduced.
Consultant proposals are due 2:00PM October 30,2020

Additional information regarding this project is attached and can be found on the CBJ project page. https://juneau.org/engineering-public-works

Attached Documents:

1. PND Conceptual Design and Cost Estimate Letter dated January 26, 2017.
2. Preferred Master Plan Conceptual Schematic – December 10, 2012

By: _____
Greg Smith,
Contract Administrator

PND ENGINEERS, INC.

January 26, 2017 PND 172114.01

Mr. Skye Stekoll
Landscape Architect - Project Manager
CBJ Engineering Department
155 South Seaward Street
Juneau, Alaska 99801

Re: Chicken Yard Park and Capital Park
Conceptual Design and Cost Estimate

Dear Mr. Stekoll;

Per your request, PND Engineers, Inc. (PND) has inspected, assessed and developed design alternatives for the requested improvements at Chicken Yard Park and Capital Park. This letter includes some background, a description of project scope, a description of inspections and assessments, and narratives of alternatives that include positive attributes and drawbacks of the alternatives and budget level cost estimates for the alternatives.

Background

Chicken Yard Park

Available documents concerning Chicken Yard Park include a site plan for the park dated February 1981. The title block indicates the plan is one of two sheets, but the second sheet is not available. This site plan shows an existing concrete bin wall at the 6th Street and Kennedy Street Intersection and a concrete crib wall along Kennedy Street. The plan shows an existing wood wall and some play equipment.

On the 1993 Sixth Street Reconstruction plans the park is shown with the existing concrete walls and steel bin walls, the stairs and driveway at the park entrance on Sixth Street and the adjacent chain link fence. That set of plans also includes an alternate for a new concrete retaining wall along Sixth Street, which was constructed. The existing short timber wall and adjacent sidewalk are noted but not shown in great detail.

We are uncertain of the date of construction of the low timber wall that parallels Sixth Street and Kennedy Street, the existing gabion walls along the southwest edge of the park and the southeast edge of the park. These improvements existed in 1993 and we believe they were constructed around 1981 or soon after.

The Chicken Yard Park Community Garden is above the concrete walls and steel bin walls along Kennedy Street. There is no water source for users. The existing water main is in the middle of Kennedy Street. The pavement was last replaced in 1993.

Capital Park

Capital Park is the site of the original Juneau School building that is shown on the site plan of the Juneau High School (later Capital Grade School and currently the Terry Miller Office Building) dated June 1927. The retaining wall that is the subject of this project appears in the 1918 photo of the school. The wall is over 100 years old.

Some improvements in the park were made in 1979 or 1980 in accordance with a 4 sheet set of plans. These plans show the existing concrete wall, timber retaining walls and timber curbs and steps. The newer concrete walls on the northeast edge of the basketball court and the newer concrete wall on the southwest edge of the playground are not shown. The wood framed stairs on the northeast end of the basketball court are not shown. Those improvements came after 1980.

Project Scope

For this project the following issues were to be investigated and improved if needed and if budget allows:

Chicken Yard Park

- The concrete driveway at entrance is cracked, undergoing differential settlement and the downhill wooden curb edge is pulling away from the driveway
- The gabion retaining wall has settled significantly resulting in the sidewalk above the wall to slope excessively and the fence mounted on the wall to not be plumb
- The users of the community garden would like to have a water service, best location to be determined.

Capital Park

- The concrete retaining wall has spalled, has exposed reinforcing, has significant cracking and efflorescence, and is beyond its expected life.
- The timber retaining walls above the concrete wall are not plumb and were likely not designed to support the lateral earth loads to which they are subjected.
- The area between the concrete wall and the timber wall does not drain well.
- The southern edge of the basketball court does not drain well
- The basketball court hardscape should be evaluated.
- The playground equipment should be evaluated.

It was decided to not investigate the basketball court hardscape or playground equipment at this time.

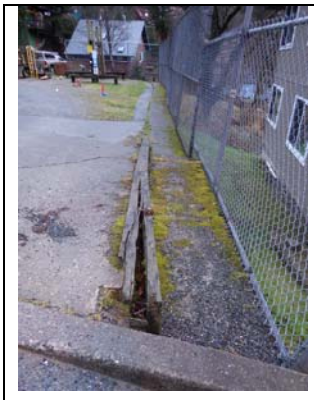
Both parks are to be surveyed and topography of the areas of concern are to be created.

Inspections and Assessments

Chicken Yard Park

On December 12, 2017, Mr. Chris Gianotti, P.E., inspected the existing conditions at Chicken Yard Park. The inspection was mostly a visual inspection with some measurements taken. The following observations were made:

	1) The existing house with address 626 Fifth Street uses the park as a driveway. The portion of Fifth Street that this house fronts is a wooden-framed stair and the house and lot have no vehicle access. The CBJ Assessor Data Base indicates that the house was originally constructed in 1937. Traffic in the park appears to be light and the travelled way appears to be away from play equipment. The concrete driveway from Sixth Street is how the vehicles access the park and their home. PND as been told that the CBJ Law department was determining if this house has legal access for vehicles across the park.
	2) The concrete driveway on Sixth Street has cracks but the cracks are not large and the vertical step across the cracks does not appear to be much of a tripping hazard.

	3) The wood edge between the concrete driveway and the steps southwest of the drive serves only as a curb along the sidewalk/steps. It is split and in poor condition. If the steps and sidewalk are to be upgraded this wood should be removed and replaced with a concrete curb.
	4) The concrete sidewalk next to the fence was placed in two distinct pours. The sidewalk is not level and there is significant drop across the joint. Adjacent to the driveway the sidewalk is narrow. The sidewalk should be replaced.
	5) The fence on the southwest and southeast edges of the park is not plumb. The fence posts penetrate the sidewalk and are embedded in grout or concrete in plastic pipe in the gabion wall below. The fence other than leaning a little, is in fair to good condition. If the sidewalk is replaced the fence should be removed, new fence post sleeve bases should be secured in a reinforced, concrete replacement sidewalk and the fence re-installed in a plumb condition.

	6) The gabion wall under the perimeter sidewalk and fence appears to be in fair to good condition. Wires are not corroded. The vertical face of the wall is not straight or smooth, but such is the nature of gabion walls. If this wall was built in 1981 it likely has 10 to 20 more years of life in it. If this project improvements are to last longer than 20 years, it is recommended that the wall be removed and replaced by a large concrete block retaining wall, whose life will be between 50 and 100 years.
	7) Hydrant on east side of Kennedy Street. Main is in middle of street per as-builts. Community Garden is on west side of street. Pavement is in good condition. Water service will require pavement cut. An alternative is to create rain catchment on a pavilion or other shelter that could be built on site.
	8. Community Garden- along Kennedy Street

	9. Entrance to Community Garden. Potential location for small pavilion over gate. Rain catchment consisting of a roof with gutters and multiple large plastic barrels could provide some unchlorinated water for users.

Capital Park

Also on December 12, 2017 Mr. Gianotti also inspected the concrete wall at Capital Park.

The approximately 8 foot high concrete wall on the northwest edge of the play area is deteriorating and beyond its useful life. There are large voids and reinforcing is exposed. There are large sections with cracking and efflorescence. The concrete was likely not air entrained to protect it from deterioration during freeze-thaw cycles. It will continue to deteriorate and likely fail in the next 5 to 10 years. Due to the low amount of reinforcement in the wall it will likely fail quickly rather than in a slow ductile fashion.

Replacement of the wall in the near future should be considered.

Replacement will require moving the small shed at the west end of the wall. This 8' x 8' light framed timber structure appears to be on a minimal foundation and may be removed and reset as needed.

At the east end of the wall there is a timber-framed stair. This stair will need to be removed for wall demolition and reconstruction. The stair is adjacent to the basketball court. Some thought should be given to removing the stair and reconstructing it above the existing east end retaining wall that is in good condition and to remain. A relocated stair may be in the sledding area but could be made of reinforced concrete and be much more durable than a timber framed stair.

The demolition of the existing wall will undermine the timber framed retaining wall on the uphill side of the gravel path above the retaining wall. This wall appears to be similar to those specified in the 1979 plans. It is not plumb and does not appear to have been designed for earth at rest lateral pressures. Other timber walls that are in the nearby Seward Street right-of-way show signs of rot and fungus. Fungal growth on the surface of timber retaining walls indicate that the wall has been saturated for a considerable amount of time and is likely rotten.

The chain link fence above the retaining wall is old and in fair to poor condition. Metal coatings on the posts, top rail and fence fabric are beyond their useful life. It should be replace in the near future.

The gravel path above the retaining wall does not drain freely. There is standing water. The soils behind the wall do no freely drain indicating that there is a high amount of water that the wall supports. This water moves through the retaining wall as concrete is not impervious. The water in the wall expands when frozen

and causes cracking and delamination. If the wall is replaced there should be free-draining backfill and a continuous perforated drain pipe so that water will not build up behind the wall.

Demolition of the existing wall will require removal of two large cottonwood trees at the east end of the wall. These are on the fill behind the timber wall just above the concrete wall. During demolition excavators will undermine the support for these trees.

During wall demolition and reconstruction play equipment will need to be relocated.

Some representative photos taken from the inspection are included below:

	Large surface void in the "Tot Play" area
	Large void at base of wall at the basketball court – Reinforcing in this is present but is less frequent than would be present in current designs.

	Void at base of wall at basketball court. Reinforcing exposed. Weep hole visible – Other weep holes not visible
	Deterioration at top of wall
	Timber wall and fence on the concrete wall. Timber wall is not plumb and the fence is corroding.

	Stairs at east end of retaining wall. Note large cotton wood above wall.
	West end of wall- Note shed in corner and play equipment. Green concrete wall is newer and in good condition and need not be replaced. Timber walls in fore-ground are in the Seward Street right-of-way and not part of this project.

Alternatives

At both parks there are several alternative paths forward. They are described as follows:

Chicken Yard Park

Alternate 1 – Replace Sidewalk and Fence

This alternative involves removing the fence and concrete on the gabion wall and leaving the gabion wall in-place. The replacement wall cap/sidewalk will be thicker than the existing, reinforced, and capable of supporting the fence. This alternate also includes removing and replacing the existing steps at Sixth Street and the wood curb.

The positive attributes of this option include lower cost, addressing the uneven sidewalk surfaces, removing the timber curb. The drawbacks to this alternate include leaving the gabion wall in place.

The estimated budget level cost for this alternate is $ 56,900. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate 2 – Replace Wall as well as Alternate 1

This alternate includes the work in Alternate 1 and removing and replacing the gabion wall with a large concrete block wall.

The benefits of this alternate is the life of the concrete block wall will be in line with the life of the replacement wall cap/sidewalk. The drawback of it is the cost.

The estimated budget level cost for this alternate is $ 114,775. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate 3: Pavilion and Rain Catchment at Gate of Community Garden

This alternate involves removing the existing gate structure and possibly several planters and constructing a pavilion with metal or polycarbonate roofing with gutters and downspouts into several rain barrels. The barrels would allow garden users to have access to water.

The benefit of this alternate over a yard hydrant or other water supply from the city water system is that it does not involve an un-restricted use of city water, and it does not cause good pavement to be cut at this time.

The estimated budget level cost for this alternate is $ 21,500. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate 4: Water Hydrant

This alternate includes the construction of a yard hydrant with connection to the existing waterline under Kennedy Street. Work will include cutting pavement, excavating a trench, tapping into the existing line with a service saddle, installing a copper line to the new hydrant, installing a curb valve and box, installing the hydrant, bedding the line, backfilling, testing and disinfection and patching the pavement.

The estimated budget level cost for this alternate is $ 32,070. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Capital Park

Alternate A: Cast-in-Place Concrete Wall

This alternate includes removing stairs, shed, play equipment, demolishing the existing concrete and timber walls, casting in place a new wall, backfilling, constructing a 2 course concrete block wall where the timber wall was, replacing the 4 foot high chain link fence, then reconstructing the stairs, re-setting the shed, and re-setting play equipment.

The benefits of this alternate is that the existing play area is not reduced, the new wall will likely have a life greater than 50 years. The drawbacks to this alternate include the large amount of excavation and associated disturbance to the planted area above the wall.

A cross sectional view of this alternate is attached at the end of the report.

The estimated budget level cost for this alternate is $ 247,045. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate B: Large Concrete Block Wall – 2 Tiers

This alternate includes removal of the stairs and shed, removal of play equipment, demolition of the existing concrete wall and timber wall above it, excavation for new construction, laying geotextile or geogrid and setting large concrete blocks (2' x 2' x 4') four courses high, backfilling and installing a perforated drain pipe, installing a 2 course large block wall where the timber wall was, replacing the 4 foot high chain link fence, resetting the stair, shed and play equipment. To keep excavation to a reasonable level, the concrete block wall will be 2 feet into the play area.

The benefits of this alternate include a very durable wall. The drawbacks include the loss of play area and the large amount of excavation and disruption to the planted area uphill of the wall.

A cross sectional view of this alternate is attached at the end of the report.

The estimated budget level cost for this alternate is $ 240,770. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate C: Large Concrete Block Wall – One 12 foot High

This alternate includes removal of the stairs and shed, removal of play equipment, demolition of the existing concrete wall and timber wall above it, excavation for new construction, laying geotextile or geogrid and setting large concrete blocks (2' x 2' x 4') six courses high, backfilling and installing a perforated drain pipe, replacing the 4 foot high chain link fence, resetting the stair, shed and play equipment. To keep excavation to a reasonable level, the concrete block wall will be 4 feet into the play area.

The benefits of this alternate include a very durable wall and a larger upper area above the wall. The drawbacks include the loss of play area and the large amount of excavation and disruption to the planted area uphill of the wall.

A cross sectional view of this alternate is attached at the end of the report.

The estimated budget level cost for this alternate is $ 247,045. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate D: Terraced Wall

This alternate includes removal of the stairs and shed, removal of play equipment, demolition of the existing concrete wall and timber wall above it, excavation for new construction, laying geotextile or geogrid and setting large concrete blocks (2' x 2' x 4') in three tiers of 2 courses high, backfilling and installing a perforated drain pipe, replacing the 4 foot high chain link fence, resetting the stair, shed and play equipment. To keep excavation to a reasonable level, the concrete block wall will be 4 feet into the play area.

The benefits of this terraced approach is that there is less excavation, a smaller intrusion into the play areas, and the beneficial aesthetics of a terraced wall. If planter blocks are used on the top course of several tiers there will be further aesthetic improvement. The drawbacks include some loss of play area and some disruption to the planted area above the wall.

A cross sectional view of this alternate is attached at the end of the report.

The estimated budget level cost for this alternate is $ 232,500. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Alternate E: Soil Nail Anchored Wall

This alternate includes removal of the stairs and shed, removal of play equipment, drilling soil nails through the existing concrete wall, casting a new concrete wall onto the face of the existing concrete wall, Replacing the timber wall with a 2 course large concrete block wall.

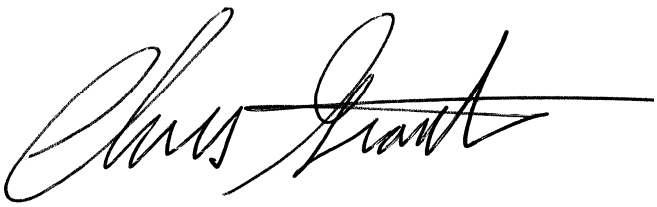
The benefits of this soil nail wall is that there is minimal excavation and disruption to the planted area above the existing wall, there is minimal loss of play area, the new face will be of durable concrete with the potential of using an attractive patterned form and replacement of the timber wall with a durable concrete block wall. If planter blocks are used on the top course of several tiers there will be further aesthetic improvement. The drawbacks include some minimal loss of play area.

A cross sectional view of this alternate is attached at the end of the report.

The estimated budget level cost for this alternate is $ 216,600. A more detailed breakdown estimate is attached at the end of this report. The budget cost includes direct construction costs and indirect costs for design, bid phase support, construction administration and construction inspection.

Hopefully, this report suits your needs. If you have questions or need additional information, please feel free to contact me.

Sincerely
PND Engineers | Juneau Office



Chris Gianotti, P.E.
Senior Engineer

Enc.

Conceptual Cost Estimate 20-Dec-17
Alternate 1 Fence and Concrete Replacment

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$3,700
Remove Fence	1	LS	$1,500	$1,500
Remove Concrete	1	LS	$3,000	$3,000
New Concrete on Grade	30	CY	$600	$18,000
New Fence	120	LF	$100	$12,000
Surveyor	1	LS	$2,000	$2,000
Construction Subtotal				$40,200
Construction Contingency	20%			$8,000
Recommended Construction Budget				$48,200

Indirect Costs			
Design	8%	$3,900	
Construction Administration	4%	$1,900	
Construction Inspection	6%	$2,900	
Sub Total Indirect Costs		$8,700	

Recommended Budget **$56,900**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
Juneau, Alaska 99801
907-586-2093

Conceptual Cost Estimate 20-Dec-17
Alternate 2 Wall Replacment With New Fence and Concrete Walk

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$7,400
Remove Fence	1	LS	$1,500	$1,500
Remove Concrete	1	LS	$3,000	$3,000
Excavation/Remove Gabion Wall	1	LS	$10,500	$10,500
Base Course	10	CY	$65	$650
Large Concrete Blocks	55	Ea	$375	$20,625
Perforated Pipe Drain	120	LF	$20	$2,400
New Concrete on Grade	35	CY	$600	$21,000
New Fence	120	LF	$100	$12,000
Surveyor	1	LS	$2,000	$2,000
Construction Subtotal				$81,075
Construction Contingency	20%			$16,200
Recommended Construction Budget				$97,275

Indirect Costs			
Design	8%	$7,800	
Construction Administration	4%	$3,900	
Construction Inspection	6%	$5,800	
Sub Total Indirect Costs		$17,500	

Recommended Budget **$114,775**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
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907-586-2093

Conceptual Cost Estimate 20-Dec-17

Alternate 3 - Community Garden Pavilion with Rain Collection System

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$1,300
Remove Gate and Planters	1	LS	$1,500	$1,500
New Pavillion	144	SF	$80	$11,520
Construction Subtotal				$14,320
Construction Contingency	20%			$2,900
Recommended Construction Budget				$17,220

Indirect Costs			
Design	15%	$2,600	
Construction Administration	4%	$700	
Construction Inspection	6%	$1,000	
Sub Total Indirect Costs		$4,300	

Recommended Budget **$21,520**

PND Engineers, Inc
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Conceptual Cost Estimate 26-Jan-18
Alternate 4 - Community Garden Yard Hydrant

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$1,900
Piping and Hydrant Materials	1	LS	$3,500	$3,500
Earthwork and Pavment				
Bedding	3.3	CY	$100	$330
Concrete Patch	4.4	SY	$100	$440
Curb and Gutter	20	LF	$50	$1,000
Sidewalk	20	SF	$75	$1,500
Equipment and Labor				$0
Excavator	12	Hr	$250	$3,000
Compactor	12	hr	$100	$1,200
Dump Truck	8	Hr	$285	$2,280
Pavement Saw, pump hand tools	12	hr	$50	$600
Operator, 1	12	hr	$120	$1,440
Laboroer, 1	12	hr	$90	$1,080
Traffic Control	1	day	$2,000	$2,000
Notification of Residents	2	hr	$100	$200
Coordinate with CBJ Water	2	hr	$100	$200
Bore Flush	1	hr	$100	$100
Pressure Test	2	hr	$100	$200
Disenfect	4	hr	$100	$400
Construction Subtotal				$21,370
Construction Contingency	20%			$4,300
Recommended Construction Budget				$25,670

Indirect Costs			
Design	15%	$3,900	
Construction Administration	4%	$1,000	
Construction Inspection	6%	$1,500	
Sub Total Indirect Costs		$6,400	

Recommended Budget **$32,070**

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Conceptual Cost Estimate 20-Dec-17
Alternative A: Cast In Place Wall

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$15,900
Remove Stairs	1	LS	$1,000	$1,000
Remove Shed	1	LS	$500	$500
Remove Play Equipment	1	LS	$2,500	$2,500
Demolish Wall	1	LS	$12,000	$12,000
Excavation	630	CY	$20	$12,600
New CIP Wall	70	CY	$800	$56,000
Foundation Drain	170	LF	$20	$3,400
Backfill	630	CY	$30	$18,900
Base Course	36	CY	$65	$2,340
Upper Level Concrete Blocks	81	EA	$375	$30,375
Geogrid	198	SY	$10	$1,980
Fence	170	LF	$35	$5,950
Replace Stairs	1	LS	$2,000	$2,000
Replace Shed	1	LS	$500	$500
Replace Play Equipment	1	LS	$3,500	$3,500
Surveyor	1	LS	$5,000	$5,000
Construction Subtotal				$174,445
Construction Contingency	20%			$34,900
Recommended Construction Budget				$209,345

Indirect Costs			
Design	8%	$16,700	
Construction Administration	4%	$8,400	
Construction Inspection	6%	$12,600	
Sub Total Indirect Costs		$37,700	

Recommended Budget **$247,045**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
Juneau, Alaska 99801
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Conceptual Cost Estimate 20-Dec-17
Alternative B: Large Block Wall

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$15,500
Remove Stairs	1	LS	$1,000	$1,000
Remove Shed	1	LS	$500	$500
Remove Play Equipment	1	LS	$2,500	$2,500
Demolish Wall	1	LS	$12,000	$12,000
Excavation	370	CY	$20	$7,400
Lower Level Large Blocks	162	EA	$375	$60,750
Geogrid	522	SY	$10	$5,220
Foundation Drain	170	LF	$20	$3,400
Backfill	485	CY	$30	$14,550
Base Course	25	CY	$65	$1,625
Upper Level Concrete Blocks	81	EA	$375	$30,375
Fence	170	LF	$25	$4,250
Replace Stairs	1	LS	$2,000	$2,000
Replace Shed	1	LS	$500	$500
Replace Play Equipment	1	LS	$3,500	$3,500
Surveyor	1	LS	$5,000	$5,000
Construction Subtotal				$170,070
Construction Contingency	20%			$34,000
Recommended Construction Budget				$204,070

Indirect Costs			
Design	8%	$16,300	
Construction Administration	4%	$8,200	
Construction Inspection	6%	$12,200	
Sub Total Indirect Costs		$36,700	

Recommended Budget **$240,770**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
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907-586-2093

Conceptual Cost Estimate 20-Dec-17
Alternative C: 12 foot High Large Block Wall

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$15,200
Remove Stairs	1	LS	$1,000	$1,000
Remove Shed	1	LS	$500	$500
Remove Play Equipment	1	LS	$2,500	$2,500
Demolish Wall	1	LS	$12,000	$12,000
Excavation	240	CY	$20	$4,800
Large Blocks	243	EA	$375	$91,125
Geogrid	720	SY	$10	$7,200
Foundation Drain	170	LF	$20	$3,400
Backfill	390	CY	$30	$11,700
Base Course	45	CY	$65	$2,925
Fence	170	LF	$25	$4,250
Replace Stairs	1	LS	$2,000	$2,000
Replace Shed	1	LS	$500	$500
Replace Play Equipment	1	LS	$3,500	$3,500
Surveyor	1	LS	$5,000	$5,000
Construction Subtotal				$167,600
Construction Contingency	20%			$33,500
Recommended Construction Budget				$201,100

Indirect Costs			
Design	8%	$16,100	
Construction Administration	4%	$8,000	
Construction Inspection	6%	$12,100	
Sub Total Indirect Costs		$36,200	

Recommended Budget **$237,300**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
Juneau, Alaska 99801
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Conceptual Cost Estimate 20-Dec-17
Alternative D: Terraced Large Block Wall

Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$14,900
Remove Stairs	1	LS	$1,000	$1,000
Remove Shed	1	LS	$500	$500
Remove Play Equipment	1	LS	$2,500	$2,500
Demolish Wall	1	LS	$8,000	$8,000
Excavation	450	CY	$20	$9,000
Large Blocks	243	EA	$375	$91,125
Foundation Drain	340	LF	$20	$6,800
Backfill	450	CY	$30	$13,500
Base Course	25	CY	$65	$1,625
Fence	170	LF	$25	$4,250
Replace Stairs	1	LS	$2,000	$2,000
Replace Shed	1	LS	$500	$500
Replace Play Equipment	1	LS	$3,500	$3,500
Surveyor	1	LS	$5,000	$5,000
Construction Subtotal				$164,200
Construction Contingency	20%			$32,800
Recommended Construction Budget				$197,000

Indirect Costs			
Design	8%	$15,800	
Construction Administration	4%	$7,900	
Construction Inspection	6%	$11,800	
Sub Total Indirect Costs		$35,500	

Recommended Budget **$232,500**

PND Engineers, Inc
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Juneau, Alaska 99801
907-586-2093

Conceptual Cost Estimate 20-Dec-17
Alternative E: Soil Nailed Concrete Wall

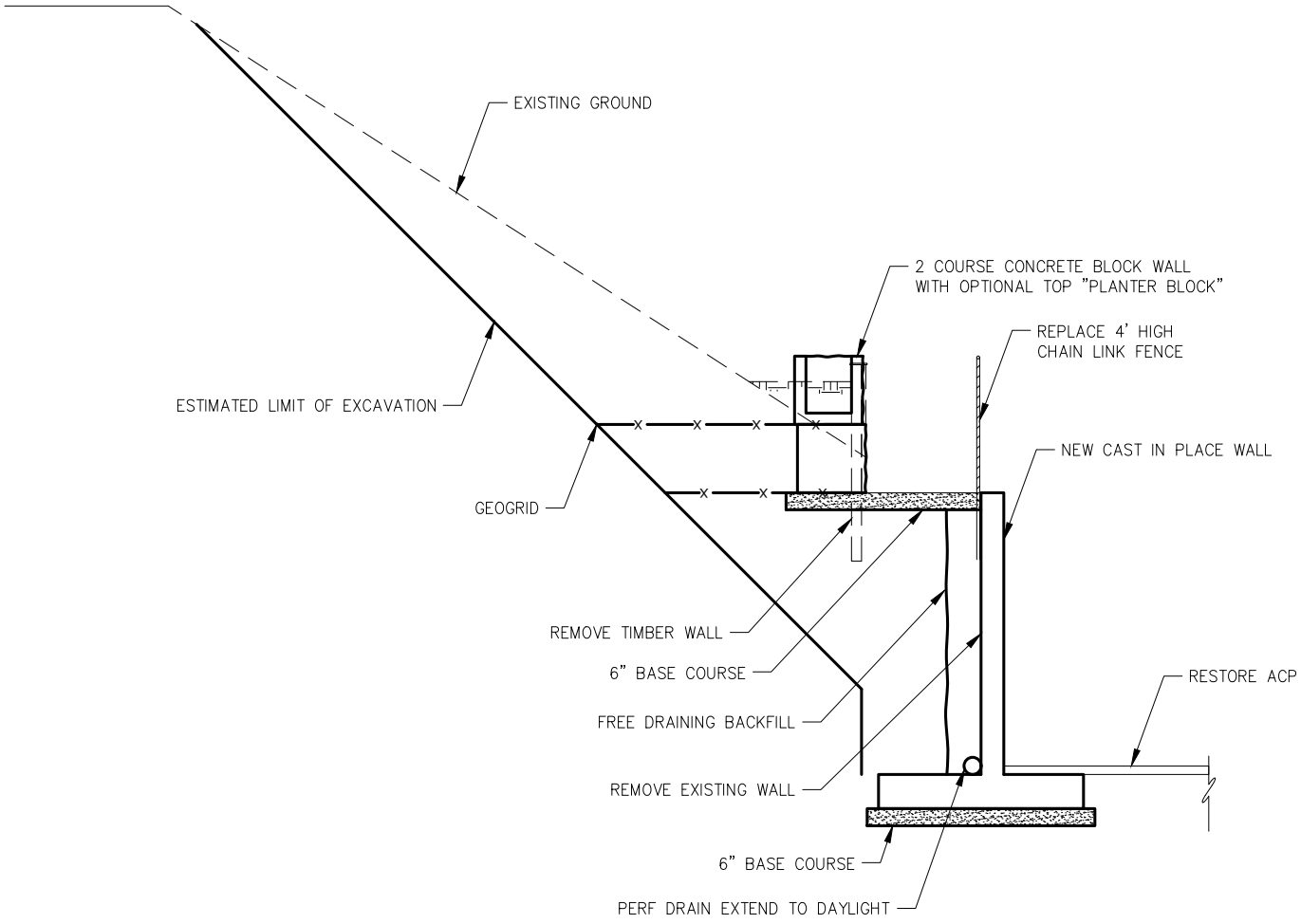
Construction

Task	Quantity	Units	Unit Cost	Cost
Mobilization	1	LS	10% of all other construction tasks	$12,600
Remove Stairs	1	LS	$1,000	$1,000
Remove Shed	1	LS	$500	$500
Remove Play Equipment	1	LS	$2,500	$2,500
Soil Nails	40	Each	$750	$30,000
Concrete Wall	40	CY	$800	$32,000
Excavation	200	CY	$20	$4,000
Upper Wall Large Blocks	81	EA	$375	$30,375
Foundation Drain	170	LF	$20	$3,400
Backfill	200	CY	$30	$6,000
Base Course	18	CY	$65	$1,170
Fence	170	LF	$25	$4,250
Replace Stairs	1	LS	$2,000	$2,000
Replace Shed	1	LS	$500	$500
Replace Play Equipment	1	LS	$3,500	$3,500
Surveyor	1	LS	$5,000	$5,000
Construction Subtotal				$138,795
Construction Contingency	20%			$27,800
Recommended Construction Budget				$166,595

Indirect Costs			
Design	8%	$13,300	
Geotechnical Investigation		$20,000	
Construction Administration	4%	$6,700	
Construction Inspection	6%	$10,000	
Sub Total Indirect Costs		$50,000	

Recommended Budget **$216,595**

PND Engineers, Inc
9360 Glacier Highway, Suite 100
Juneau, Alaska 99801
907-586-2093



TYPICAL SECTION

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ENGINEERS, INC.

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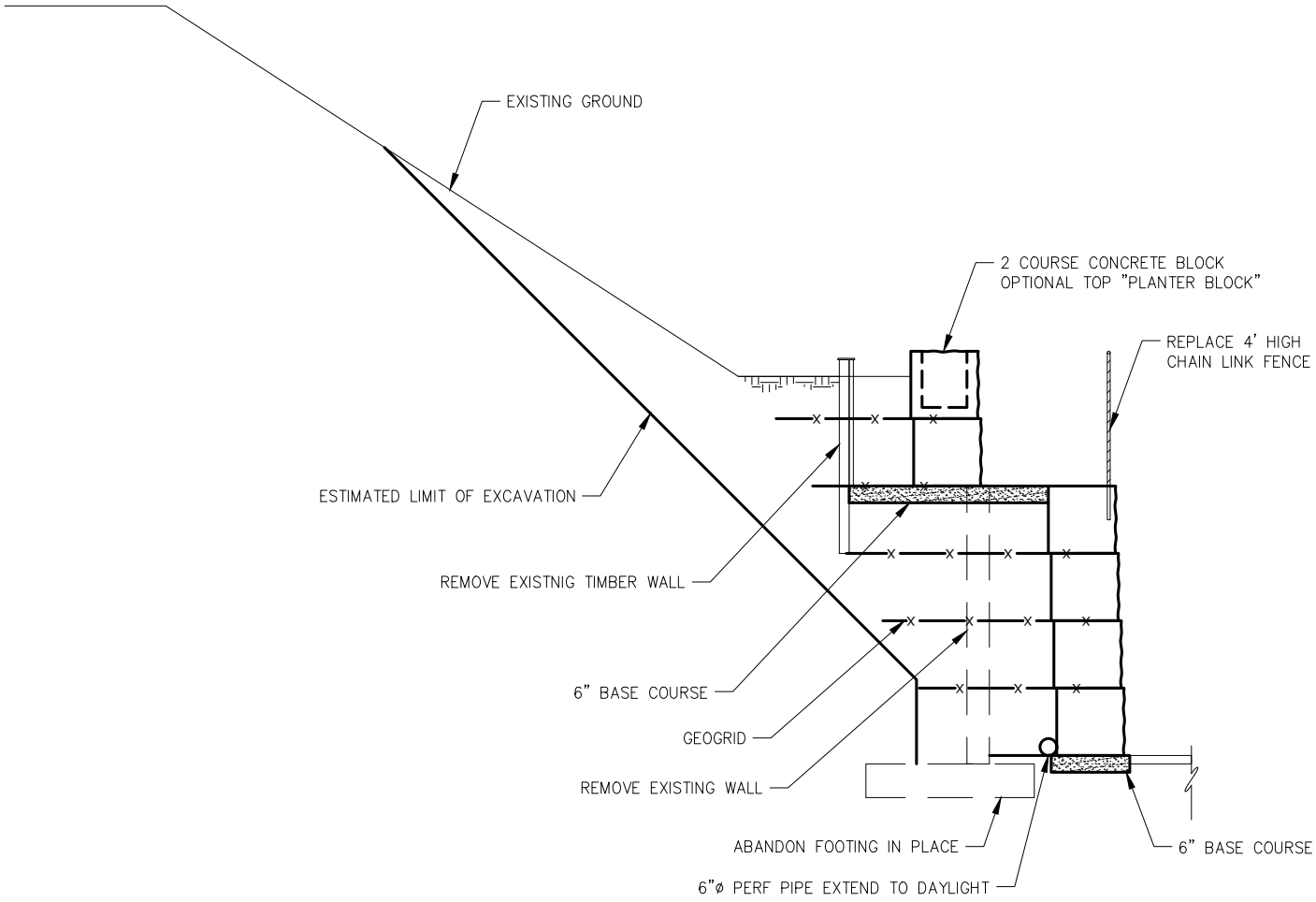
Juneau, Alaska 99801

Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

SHEET TITLE:

C.I.P WALL
ALTERNATIVE A

PND PROJECT NO.: 172114 **DATE:** 12/20/17



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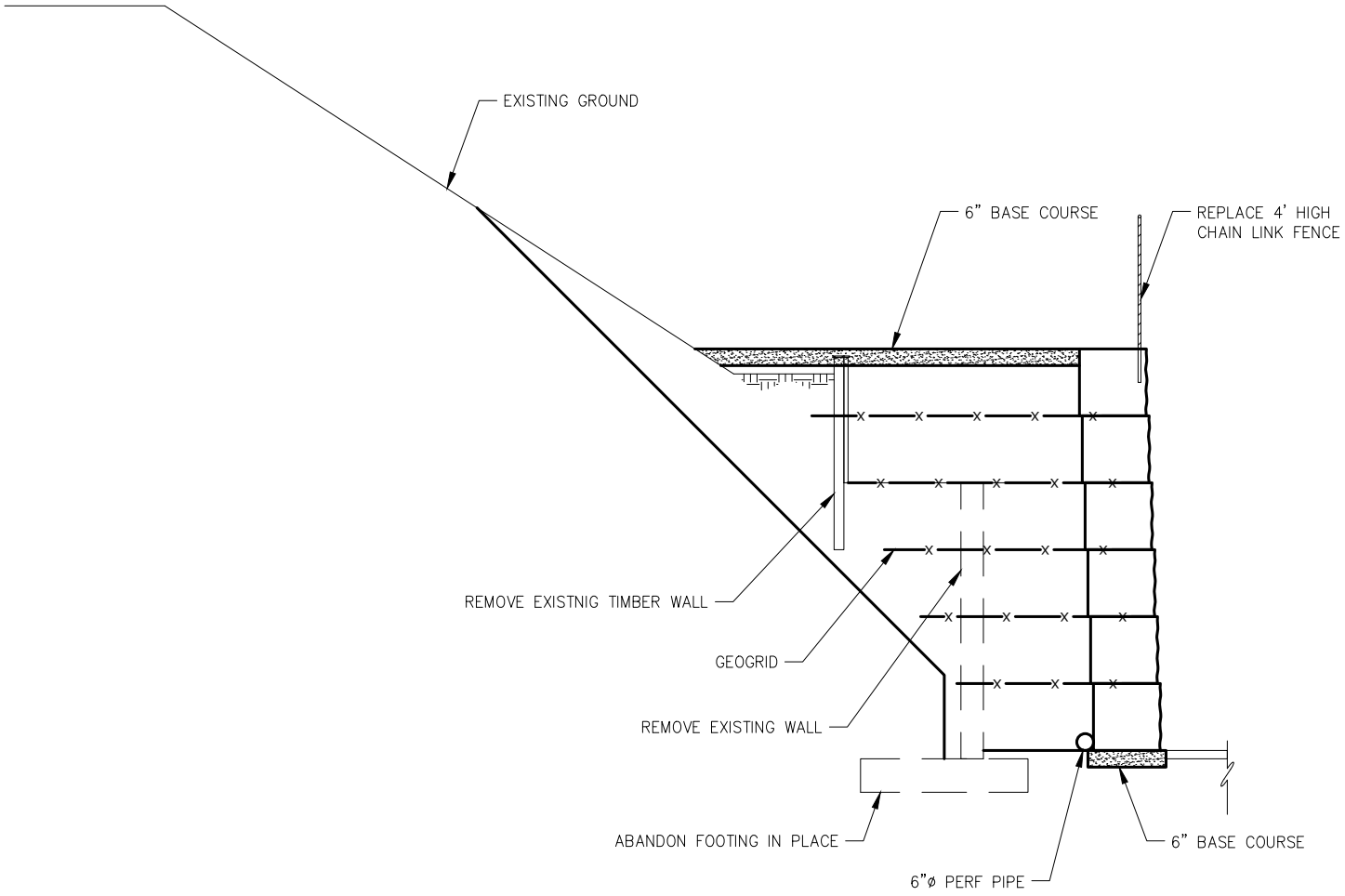
SHEET TITLE:

LARGE BLOCK WALL
ALTERNATIVE B

PND PROJECT NO.: 172114 **DATE:** 12/20/17



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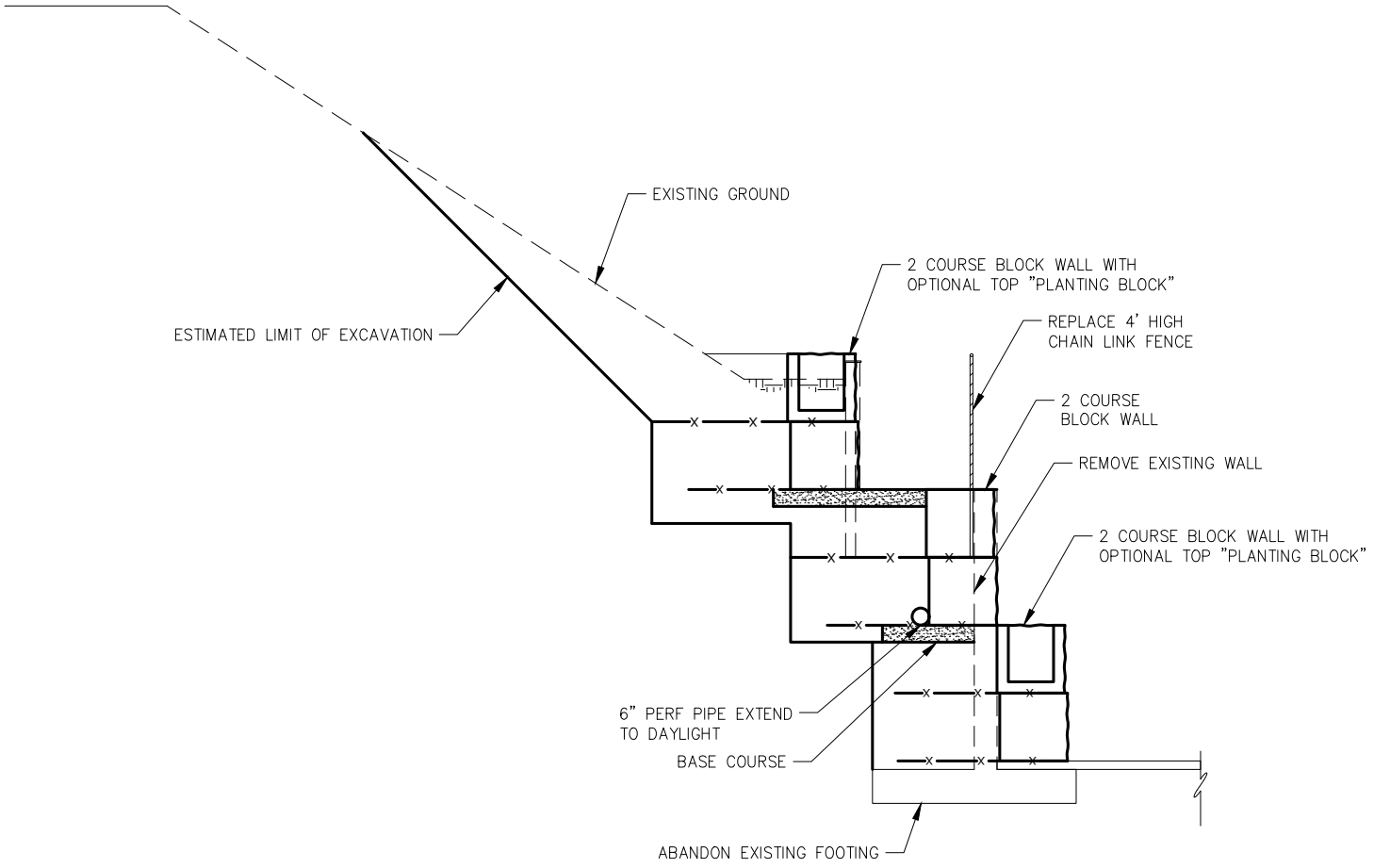
SHEET TITLE:

12ft HIGH WALL
ALTERNATIVE C

PND PROJECT NO.: 172114 **DATE:** 12/20/17



TYPICAL SECTION

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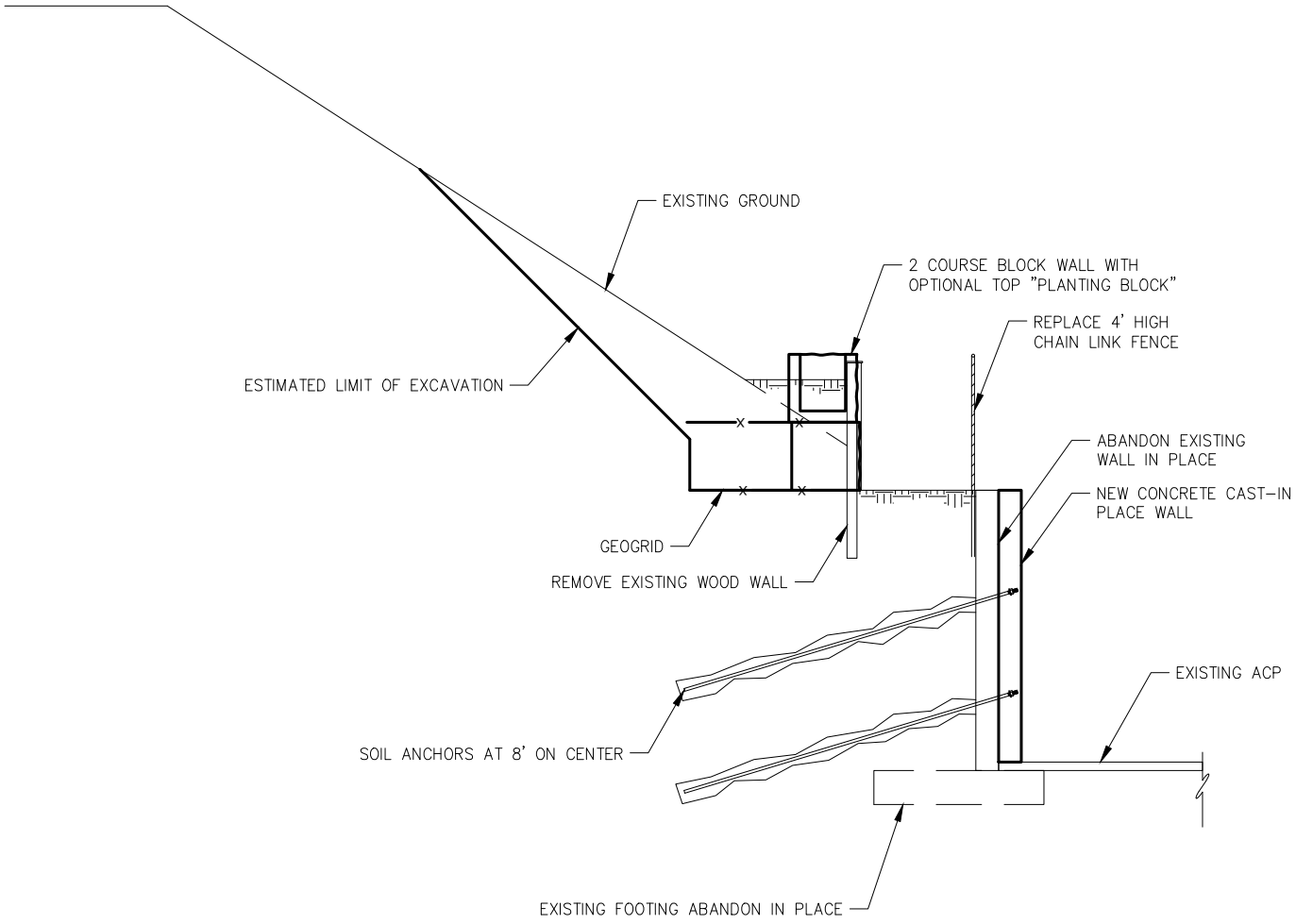
SHEET TITLE:

TERRACED LARGE BLOCK ALTERNATIVE D

PND PROJECT NO.: 172114 **DATE:** 12/20/17



TYPICAL SECTION

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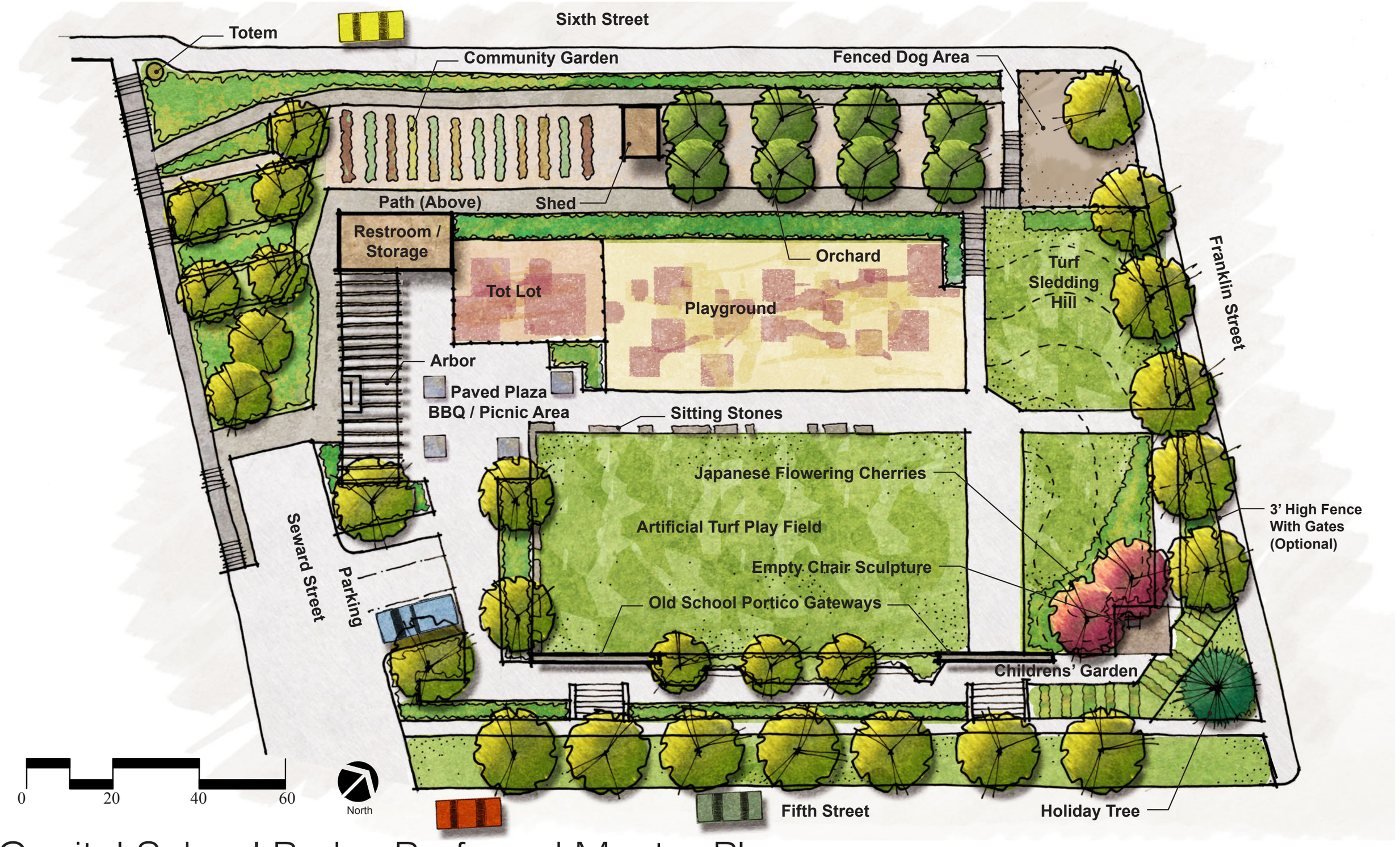
SHEET TITLE:

SOIL ANCHORED WALL
ALTERNATIVE E

PND PROJECT NO.: 172114 **DATE:** 12/20/17



Capital School Park - Preferred Master Plan

December 10, 2012

Juneau, AK

Corvus Design

Landscape Architecture • Planning • Industrial Design