ENGINEERS SPECIAL INSPECTORS PLANNERS SURVEYORS
WESTERN PACIFIC ENGINEERING & SURVEY
PIONEER WAY PROFESSIONAL CENTER
1328 E. HUNTER PLACE
MOSES LAKE, WASHINGTON 98837
OFFICE: (509) 765-1023
FAX: (509) 765-1298

August 1, 2019

LCU, Inc.
Attn: Pat Deneen
P.O. Box 394
Cle Elum, Washington 98922

SUBJECT: Stormwater Management Plan for Phase IV of the Palomino Major Plat located in Ellensburg, Washington.
WPES Project No. 18540

Dear Mr. Deneen:

The purpose of this letter is to outline the stormwater management plan for Phase IV of the Palomino Major Plat in Ellensburg, Washington. The scope of Phase IV of the Palomino Major Plat development, includes the construction of Dapple Gray Way to service 45 additional residential lots. It is expected that each of the lots will contain newly constructed single family homes. The development is located approximately three miles northwest of downtown Ellensburg, Washington. The site can be accessed to the northwest from Bowers Road or from the southeast from Reecer Creek Road. More particularly, the site is located in the Northwest quarter of Section 27, Township 18 North. Range 18 East, W.M., on Kittitas County's Tax Parcel No. 491033

The area in which the Palomino Fields Development is located, is known to have seasonal high ground water during the summer months. Due to the high groundwater, the traditional trenches and swales used to manage stormwater runoff are highly unlikely to function properly. Problems with the high ground water were encountered during the construction of Phase I of this development. At that time, we worked closely with Kittitas County to come up with a solution that would best manage the stormwater runoff from this development. As a result, the road design for this development calls for raising the road bed above the existing native grade. In raising grade of the road, the stormwater will be able to run off the roadway. In order to handle the runoff from the roadway, as well as the lots themselves, the area located along the roadbed will be reserved to be used as infiltration areas. By minimizing compaction and allowing only drought resistant low growing grasses to be planted in these infiltration areas, the stormwater runoff will be able to properly infiltrate into the ground.

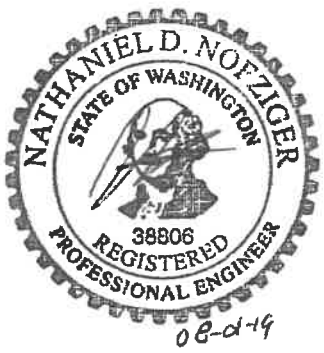
Attached to this letter is an exhibit showing a typical cross section of the stormwater infiltration areas located along the roadway. Within the infiltration area, one foot tall rock check dams will be installed at every foot of vertical grade drop. These check dams are intended to decrease the stormwater flow, minimize channel scour, and promote deposit of sediment. BMP C207, of the *Eastern Washington Stormwater Management Manual*, published by the Washington State Department of Ecology, shall

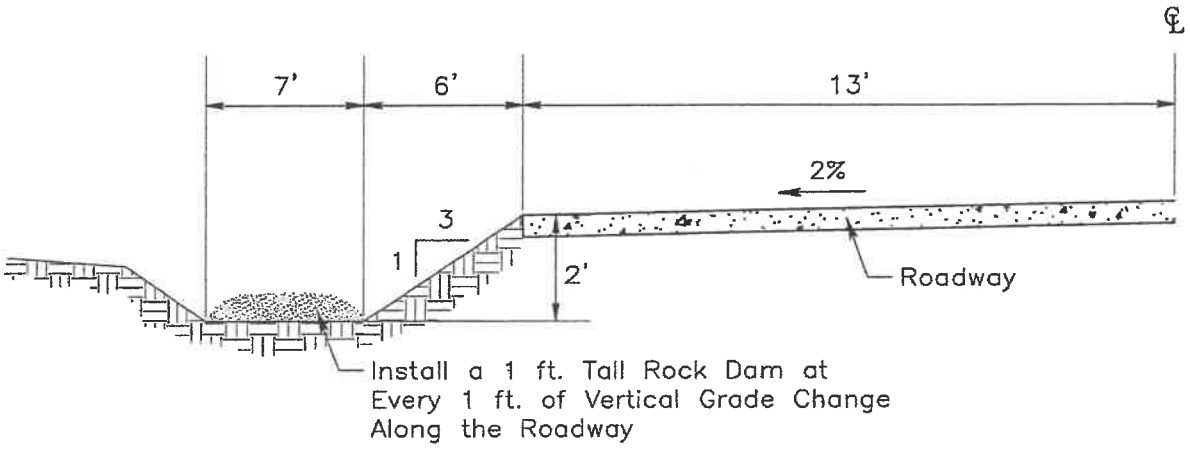
be followed during the construction of the check dams. As you know, you will also be required to follow all Washington Department of Ecology and Kittitas County Stormwater Standards during the construction of this development.

Thank you for allowing us to serve your engineering needs. If you have any further questions, please feel free to contact our office.

Sincerely,

Nathaniel D. Nofziger, P.E.
WESTERN PACIFIC ENGINEERING & SURVEY
1328 E. Hunter Place
Moses Lake, Washington 98837
(509) 765-1023





NOTES:

1. The Roadway shall be built up from the native grade. Stormwater collection areas shall not be dug out, or below native grade.

2. Drought resistant, low growing grasses shall be planted in the stormwater collection areas.

WESTERN PACIFIC ENGINEERING & SURVEY
A TERRA DEVELOPMENT SERVICES CORPORATION
1328 East Hunter Place
Moses Lake, WA
T:(509)765-1023
F:(509)765-1298

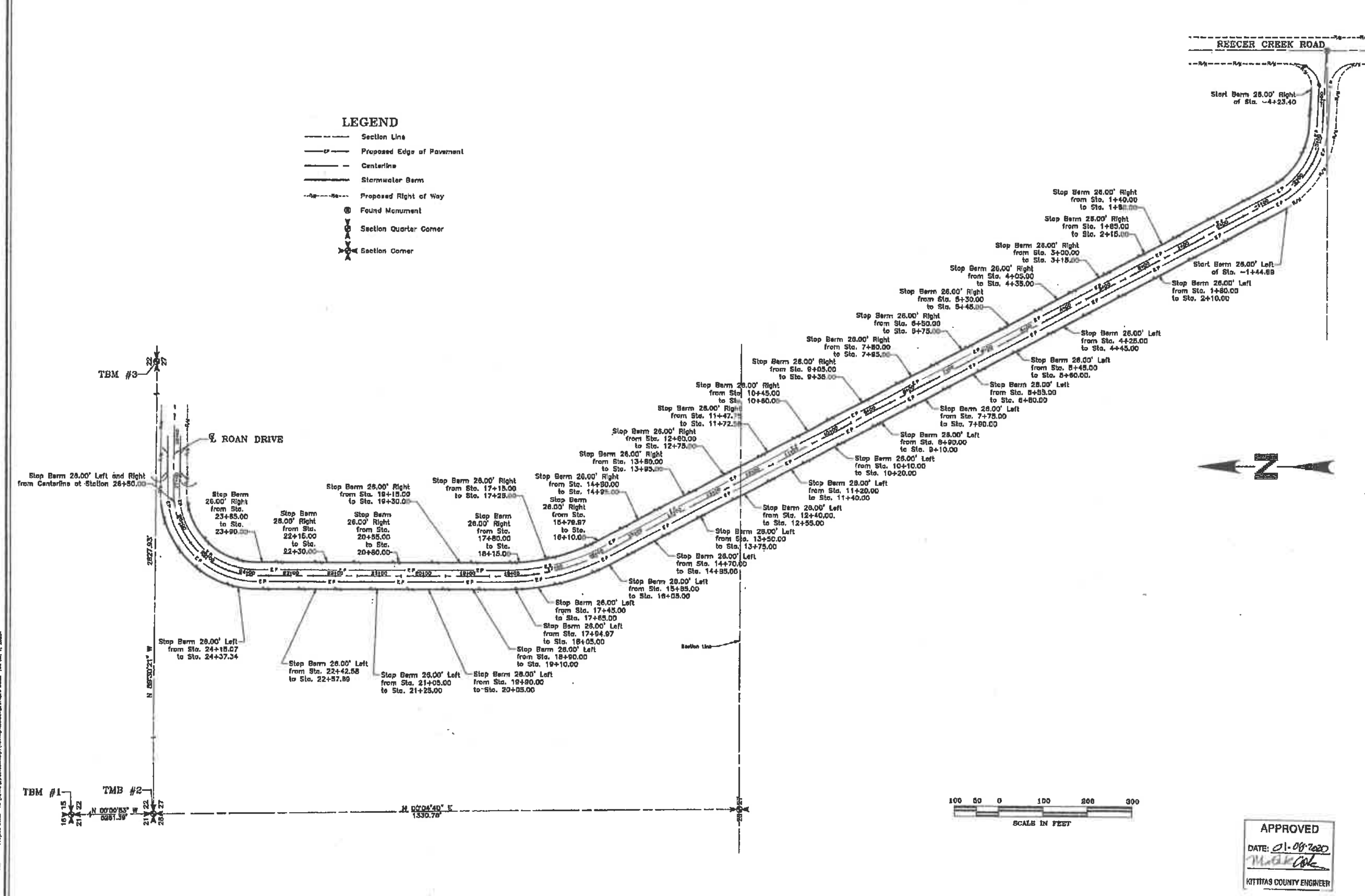
PALOMINO MAJOR PLAT

Stormwater Exhibit

Ellensburg, Washington

DRAWN BY: BNO	DATE:	WPE PROJECT #:	Scale: 1" = N/A
CHECKED BY: NDN	07/2019	18541	PLATE NO.: 01

COUNTY ROAD NETWORK AMENDMENT FOR PALOMINO MAJOR PLAT



LEGEND
Section Line
Proposed Edge of Pavement
Centerline
Stormwater Berm
Proposed Right of Way
Found Monument
Section Quarter Corner
Section Corner
REECER CREEK ROAD
℄ ROAN DRIVE
N
Start Berm 28.00' Right of Sta. -4+23.40
Start Berm 28.00' Left of Sta. -1+44.69
Stop Berm 28.00' Left from Sta. 1+80.00 to Sta. 2+10.00
Stop Berm 28.00' Right from Sta. 1+40.00 to Sta. 1+55.00
Stop Berm 28.00' Right from Sta. 1+85.00 to Sta. 2+15.00
Stop Berm 28.00' Right from Sta. 3+00.00 to Sta. 3+15.00
Stop Berm 28.00' Right from Sta. 4+05.00 to Sta. 4+35.00
Stop Berm 28.00' Right from Sta. 5+30.00 to Sta. 5+45.00
Stop Berm 28.00' Right from Sta. 6+50.00 to Sta. 6+75.00
Stop Berm 28.00' Right from Sta. 7+80.00 to Sta. 7+95.00
Stop Berm 28.00' Right from Sta. 9+05.00 to Sta. 9+35.00
Stop Berm 28.00' Right from Sta. 10+45.00 to Sta. 10+60.00
Stop Berm 28.00' Right from Sta. 11+47.75 to Sta. 11+72.58
Stop Berm 28.00' Right from Sta. 12+60.00 to Sta. 12+75.00
Stop Berm 28.00' Right from Sta. 13+80.00 to Sta. 13+95.00
Stop Berm 28.00' Right from Sta. 14+80.00 to Sta. 14+95.00
Stop Berm 28.00' Right from Sta. 15+79.87 to Sta. 16+10.00
Stop Berm 28.00' Right from Sta. 17+15.00 to Sta. 17+25.00
Stop Berm 28.00' Right from Sta. 17+80.00 to Sta. 18+15.00
Stop Berm 28.00' Right from Sta. 19+15.00 to Sta. 19+30.00
Stop Berm 28.00' Right from Sta. 20+55.00 to Sta. 20+80.00
Stop Berm 28.00' Right from Sta. 22+15.00 to Sta. 22+30.00
Stop Berm 28.00' Right from Sta. 23+85.00 to Sta. 23+90.00
Stop Berm 28.00' Left from Sta. 4+25.00 to Sta. 4+45.00
Stop Berm 28.00' Left from Sta. 5+45.00 to Sta. 5+60.00
Stop Berm 28.00' Left from Sta. 5+55.00 to Sta. 6+80.00
Stop Berm 28.00' Left from Sta. 7+75.00 to Sta. 7+80.00
Stop Berm 28.00' Left from Sta. 8+90.00 to Sta. 9+10.00
Stop Berm 28.00' Left from Sta. 10+10.00 to Sta. 10+20.00
Stop Berm 28.00' Left from Sta. 11+20.00 to Sta. 11+40.00
Stop Berm 28.00' Left from Sta. 12+40.00 to Sta. 12+55.00
Stop Berm 28.00' Left from Sta. 13+50.00 to Sta. 13+75.00
Stop Berm 28.00' Left from Sta. 14+70.00 to Sta. 14+85.00
Stop Berm 28.00' Left from Sta. 15+85.00 to Sta. 16+05.00
Stop Berm 28.00' Left from Sta. 17+45.00 to Sta. 17+65.00
Stop Berm 28.00' Left from Sta. 17+94.97 to Sta. 18+05.00
Stop Berm 28.00' Left from Sta. 18+90.00 to Sta. 19+10.00
Stop Berm 28.00' Left from Sta. 19+90.00 to Sta. 20+05.00
Stop Berm 28.00' Left from Sta. 21+05.00 to Sta. 21+25.00
Stop Berm 28.00' Left from Sta. 22+42.58 to Sta. 22+57.89
Stop Berm 28.00' Left from Sta. 24+18.07 to Sta. 24+37.34
Stop Berm 28.00' Left and Right from Centerline at Station 26+50.00
Section Line
TBM #1
TMB #2
TBM #3
N 00°04'40" E 1330.76'
N 00°00'53" W 2651.39'
N 89°30'21" W 2627.93'
100 50 0 100 200 300
SCALE IN FEET

APPROVED
DATE: 01-08-2020
KITTITAS COUNTY ENGINEER

WESTERN PACIFIC ENGINEERING & SURVEY
A TERRA DEVELOPMENT SERVICES CORPORATION
1325 E. Hunter Place, Moses Lake, Washington
T:(509)765-1023 F:(509)765-1296
Services in Washington and Idaho

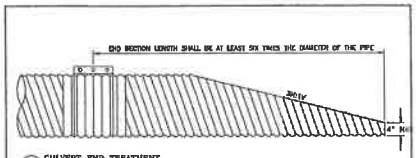
No.	Revision	Date	By

LCU, INC.
PALOMINO MAJOR PLAT, PHASE 2 & 3
ROAN DRIVE STORMWATER ALTERATIONS
Road Layout
Kittitas County, Washington

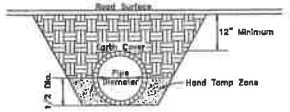
Designed by NDN
Drawn by NDN/TSL
Checked by NDN
Project No. 18418
Date: December 2019
Scale:
Hor. 1" = 100'
Vert. 1" = N/A
Sec 27, T 18 N, R 16 E

SHEET NO.
C1.1

181627



1 CULVERT END TREATMENT
N.T.S.

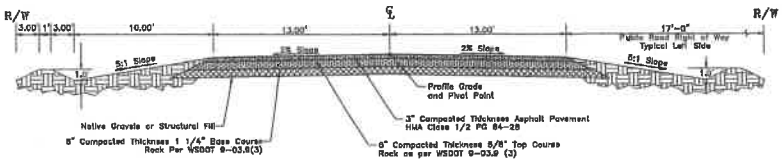


2 CULVERT CROSS-SECTION VIEW
N.T.S.

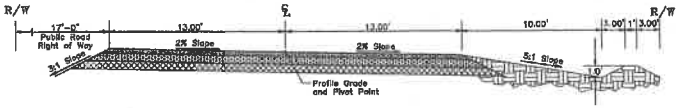
NOTE:
Culverts shall meet the requirements of WSDOT Standard Specifications Section 9-05.4

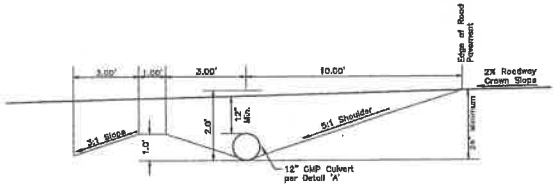
CULVERT DETAIL		
WESTERN PACIFIC ENGINEERING & SURVEY	09/2019	A

TYPICAL ROADWAY SECTION

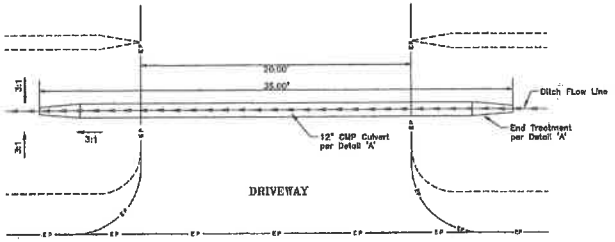


SUPER ROADWAY SECTION
Sta. -4+23.40 to Sta. -1+44.69

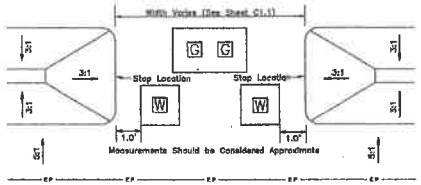




B TYPICAL DRIVEWAY PROFILE
Scale: 1" = 2'



C TYPICAL DRIVEWAY PLAN
Scale: 1" = 4'



D TYPICAL UTILITY BOX CUTOUT
Scale: 1" = 2'

APPROVED
DATE: 01-08-2020
NITTITAS COUNTY ENGINEER

CALL 811 BEFORE YOU DIG

WESTERN PACIFIC ENGINEERING & SURVEY
A TIERRA DEVELOPMENT SERVICES CORPORATION
1328 E. Hunter Place, Moses Lake, Washington
T(509)765-1823 F(509)765-1290
Surveyor in Washington and Idaho

No.	Revision	Date	By

LCU, INC.
PALOMINO MAJOR PLAT, PHASE 2 & 3
ROAN DRIVE STORMWATE ALTERATIONS
Construction Details
Kittitas County Washington

Designed by NBN
Drawn by Trnl/TSL
Checked by NBN
Project No. 19419
Date December 2019
Scale:
Hor. 1" = N/A
Vert. 1" = N/A
Sec 27, T 16 N, R 18 E

SHEET NO.
C2.1

181627