

November 13, 2013

City of Redmond, Development Services
ATTN: Jeff Dendy
15670 NE 85th St.
PO 97010
Redmond, WA 98073

Commercial
Infrastructure
Residential

RE: Benjamin Estates: Offsite Stormwater Extension Relief from maximum structure spacing (steep slope)

Dear Mr. Dendy,

The proposed Benjamin Estates (Benjamin) development fronts NE 100th St. at its far-east terminus. Benjamin Estates is bound by NE 100th St on the south, by residential lots on the north and west, and by a private drive (138th AVE NE north) on the east (See attached RD-01). Benjamin Estates proposes 14-lots.

An offsite Stormwater Facility extension is proposed to carry stormwater runoff from the proposed development and the watershed currently tributary to the NE 100th terminus down the steep bluff to tie directly into the public Willows Commerce Park system.

The intention of the stormwater pipe/system extension down the bluff is to ensure the mitigated developed flows do not adversely impact the existing natural surface ravines and channels down the steep slope.

Steep Slope Extents

The existing slopes on the bluff vary from 4% to 37%. The length of pipe which is inaccessible due to existing slope/topographic limitation is approximately 643 feet.

West End

The existing pavement/gravel drive at the terminus of NE 100th St. extends to the end of what can be accessed reasonably (beyond the existing edge of gravel drive is 20%+ slope). A catch basin has been added at the far easterly end of pavement/gravel drive (local Sta. 64+93.00).

East End

Prior development has paved an access road from the Willows Commerce Park area up the unimproved NE 100th St. ROW where pavement slopes could follow existing topography at less than 20%. A sanitary sewer manhole is currently located within the paved access near its end. A catch basin has been added to the storm line at the most westerly limit of paved access (loc. Sta. 71+36.47).

These extents provide a structure/access gap of 643 feet, with an average slope within the length of 17.4%. Per the Stormwater Technical Notebook Section 8.5.2, the maximum structure spacing for steep slopes is listed as 600 ft.

Proposed Deviation:

As the proposed structure spacing is 643ft and a catch basin placed within that length would be inaccessible by maintenance vehicles, we propose the catch basin spacing remain as proposed with a heat-fused HDPE pipe material within the 643ft gap-length, at a 4ft minimum bury depth to follow easement/ROW topography (See attached preliminary design plan/profile). This removal of pipe-seams and uninterrupted rugged pipe material reduces the likelihood/possibility of pipe damage and removed the possibility of joint separation.

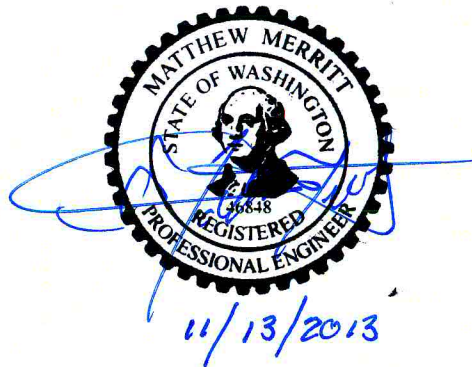
We propose the use of Solid Wall HDPE with pipe classification per the WSDOT SW HDPE Specification 9-05.23, and SDR of 11. This pipe material has been approved by the City for similar long separation sewer installations.

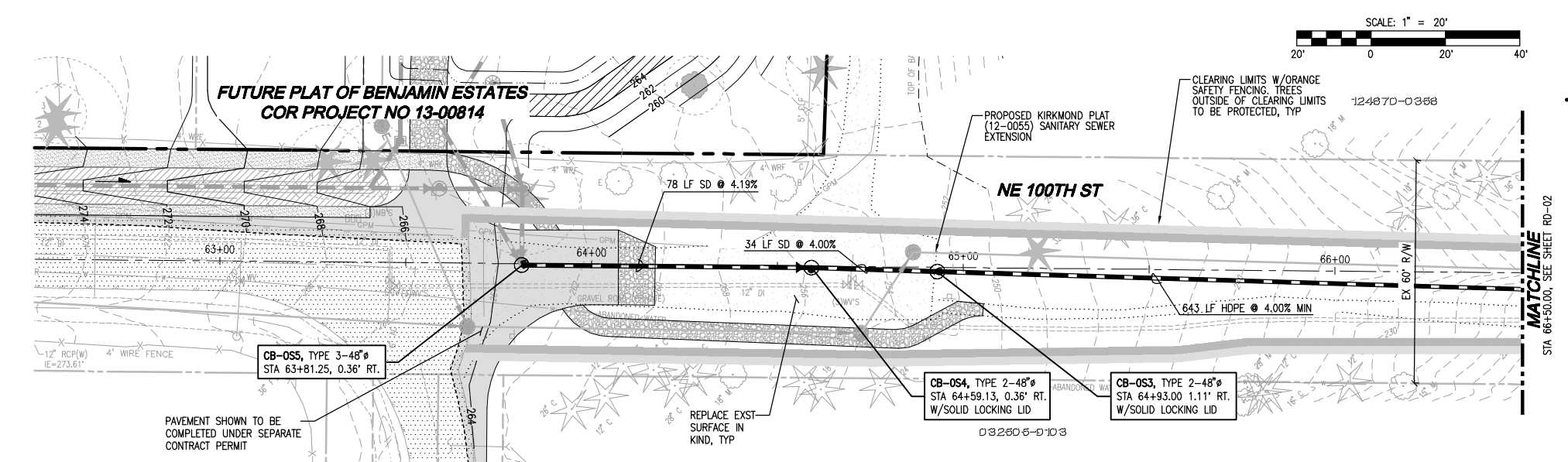
If you should require additional information or context for the items discussed above, please don't hesitate to contact me (MMerritt@LDCCorp.com) or Mark Villwock (Mvillwock@LDCCorp.com) at 425-806-1869.

Sincerely,



Matthew Merritt, P.E.
Project Manager, LDC.

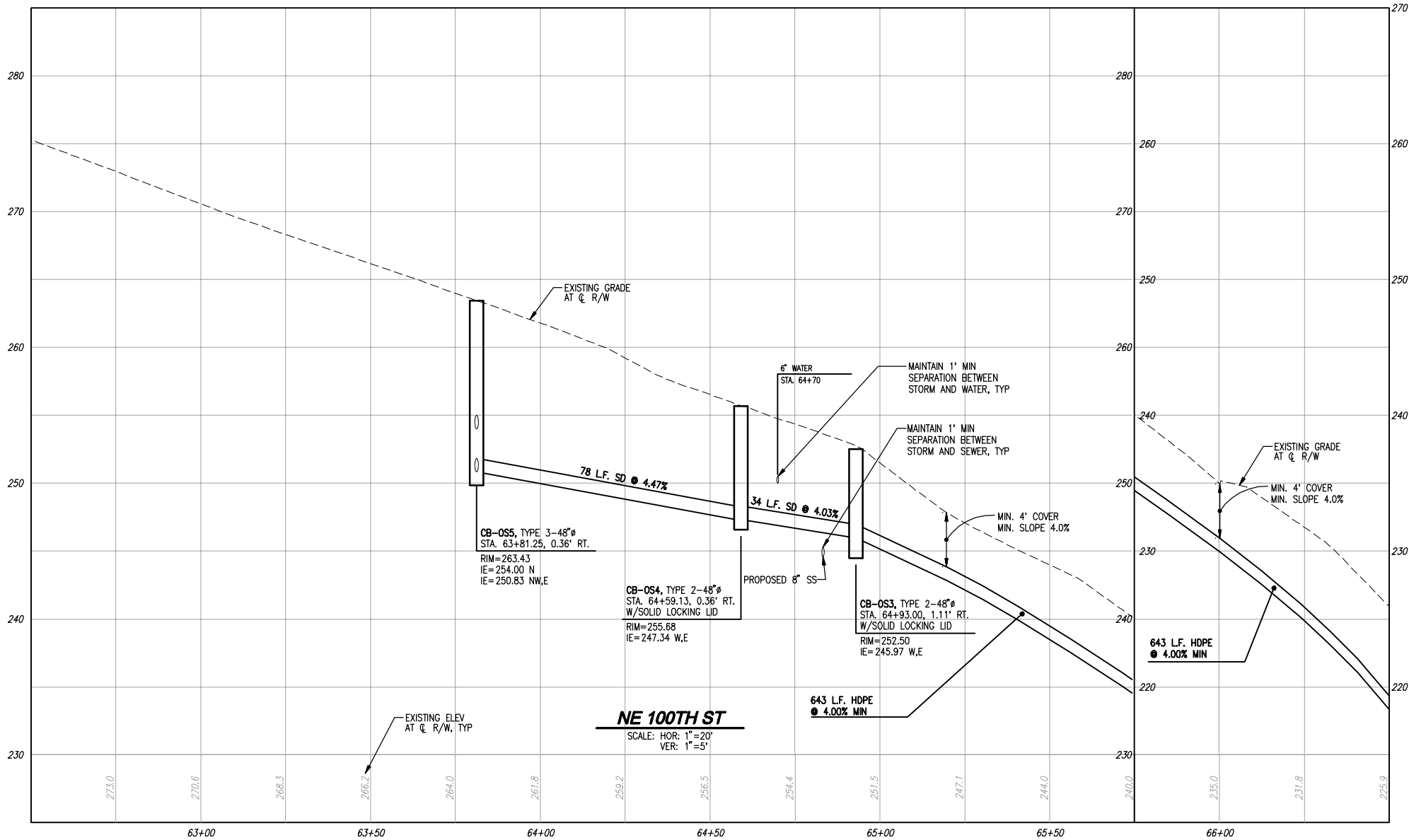




LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	TYPE 1 CATCH BASIN, GRATED LID
[Symbol]	TYPE 1 CATCH BASIN, SOLID LID
[Symbol]	TYPE 2 CATCH BASIN, GRATED LID
[Symbol]	TYPE 2 CATCH BASIN, SOLID LID
[Symbol]	STORM PIPE
[Symbol]	SEWER MANHOLE
[Symbol]	WATER METER
[Symbol]	HYDRANT
[Symbol]	SEWER PIPE
[Symbol]	WATER PIPE
[Symbol]	CLEARING AREA
[Symbol]	PROTECTED AREA
[Symbol]	CATCH BASIN PROTECTION
[Symbol]	INSTALL CHECK DAM EVERY 100 FEET
[Symbol]	SD
[Symbol]	STORM DRAIN (PVC)

TREE LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	TREE CONIFEROUS
[Symbol]	TREE DECIDUOUS
CW	COTTON WOOD TREE
F	FIR TREE
M	MAPLE TREE
A	ALDER TREE
S	SPRUCE TREE
C	CEDAR TREE
P	PINE TREE
[Symbol]	REMOVED TREE

- NOTES**
- SEE SHEET DT-01 FOR GENERAL NOTES AND DETAILS.
 - ALL TREES SHOWN AS REMOVED ON THESE PLANS HAVE BEEN REMOVED OR WILL BE REMOVED AS PART OF OTHER APPROVED CONSTRUCTION. NO TREES WILL BE REMOVED WITHIN THIS CONSTRUCTION.



TOPOGRAPHIC DISCLAIMER
THE TOPOGRAPHIC SURVEY WAS PERFORMED BY LDC, INC. ON OCTOBER 16-22, 2012. ANY CHANGES TO THE SITE AFTER THIS DATE WILL NOT BE REFLECTED IN THE PLANS. ANY DISCREPANCIES FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT IS NOTED IN THE FIELD SHOULD BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.

Call 2 Business Days Before You Dig
811 or 1-800-424-5555
Utilities Underground Location Center

THIS DEVELOPMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2012 CITY OF REDMOND STANDARD SPECIFICATION AND DETAILS.

APPROVED FOR CONSTRUCTION:

FOR: DIRECTOR OF PUBLIC WORKS CITY OF REDMOND

DATE: _____

PLAN CHK ENGR: _____

STORM: _____

UTILITY: _____

FIRE DEPT: _____

TRANS / ENGR: _____

PLANNING DEPT: _____

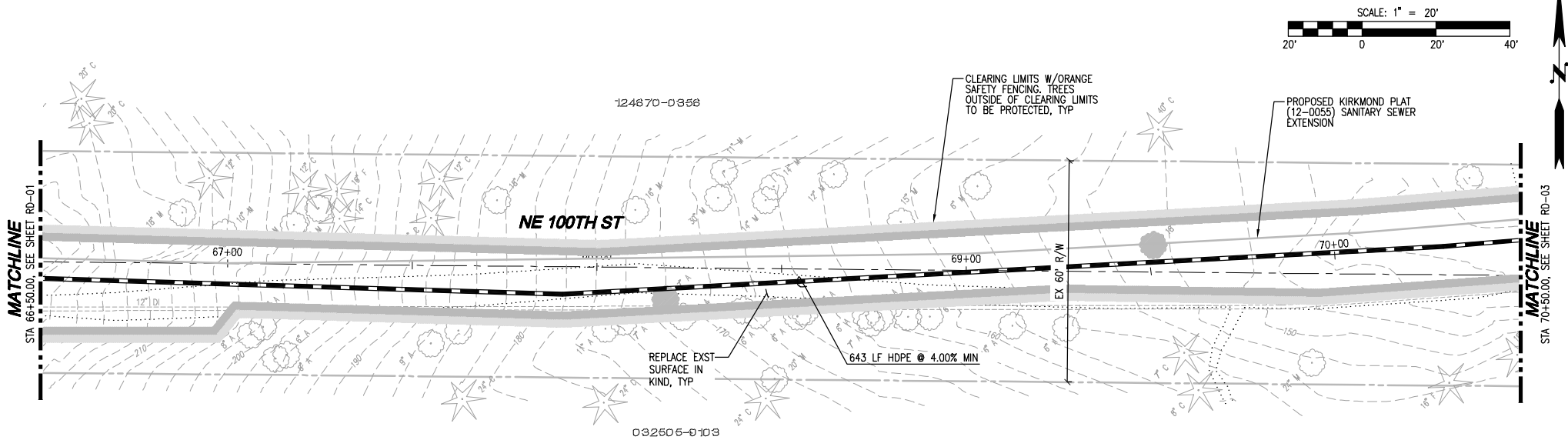
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LDC
THE CIVIL ENGINEERING GROUP
14201 NE 200th St. #100
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Ph: 425.805.1869
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www.LDCorp.com

THE BENJAMIN TRUST
**BENJAMIN ESTATES OFFSITE STORM
NE 100TH ST**
STORM DRAINAGE PLAN AND PROFILE



JOB NUMBER: 12-166
DRAWING NAME: 21660-RD-PL
DESIGNER: MEV
DRAFTING BY: MCH
DATE: 7-23-13
SCALE: 1"=20'
JURISDICTION: REDMOND



LEGEND

SYMBOL	DESCRIPTION
	TYPE 1 CATCH BASIN, GRATED LID
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	PROTECTED AREA
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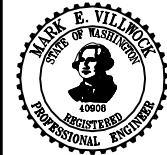
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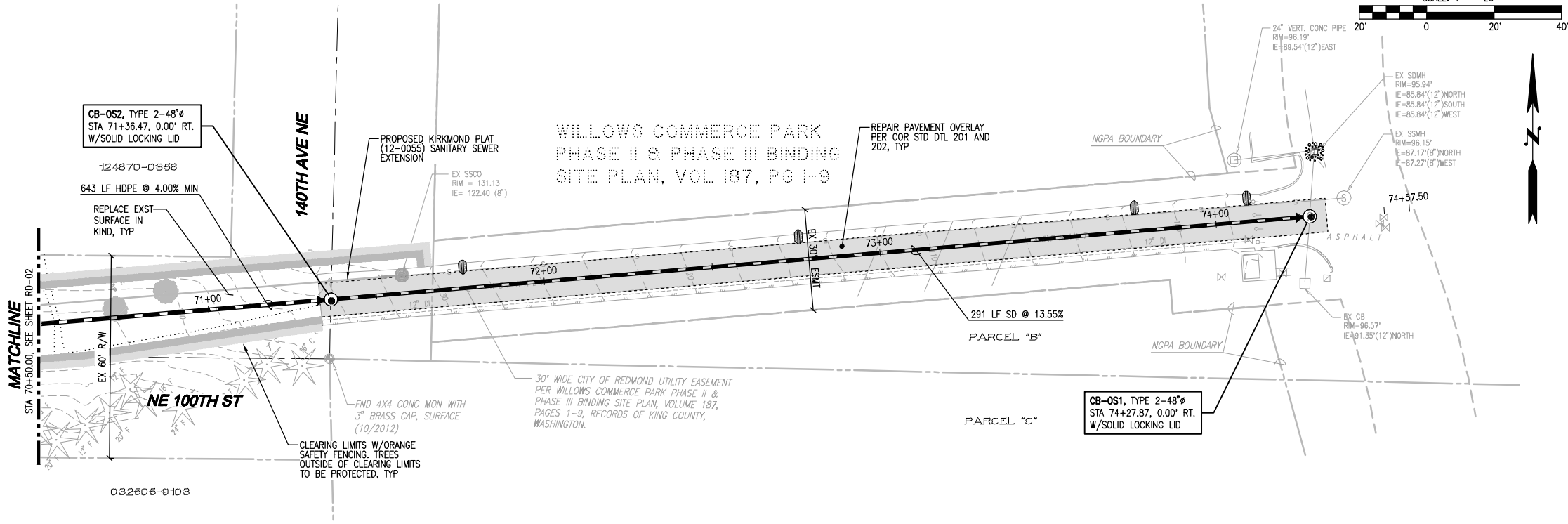
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RD-03