

re: **Road Grade Exceedance Review**
Proposed Residential Development - Conservancy Lands
Borrisokane Road - Ottawa

to: Caivan Communities - **Mr. Hugo Lalonde** - hugo.lalonde@caivan.com
David Schaeffer Engineering Ltd. - **Mr. Kevin Murphy** - KMurphy@dsel.ca

date: March 8, 2021

file: PG5036-MEMO.10

Paterson Group (Paterson) prepared the following memo to provide a geotechnical review of permissible grade raise exceedances of the proposed roadway grading at various locations throughout the aforementioned development. This memorandum should be read in conjunction with Paterson Group Report PG5036-1 Revision 1 dated February 3, 2021.

The following drawings prepared by David Schaeffer Engineering Ltd. were reviewed from a geotechnical perspective:

- ☐ Barrhaven Conservancy - Maximum Grade Raise Exceedance - Project No. 16-891 - Drawing No. 6 and 7 - dated March 2021
- ☐ Latest road grading AutoCAD file - 891_Grad_PS_Lowered_Mar5-21

Based on the available drawings, it is understood that minor permissible grade raise exceedances occur within the proposed roadway grades at various locations throughout the subject development.

Geotechnical Review

Based on our detailed review, the grading exceedances are considered acceptable from a geotechnical perspective and lightweight fill will not be required within the City of Ottawa right-of-way(s).

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



Owen Canton, E.I.T.

Paterson Group Inc.

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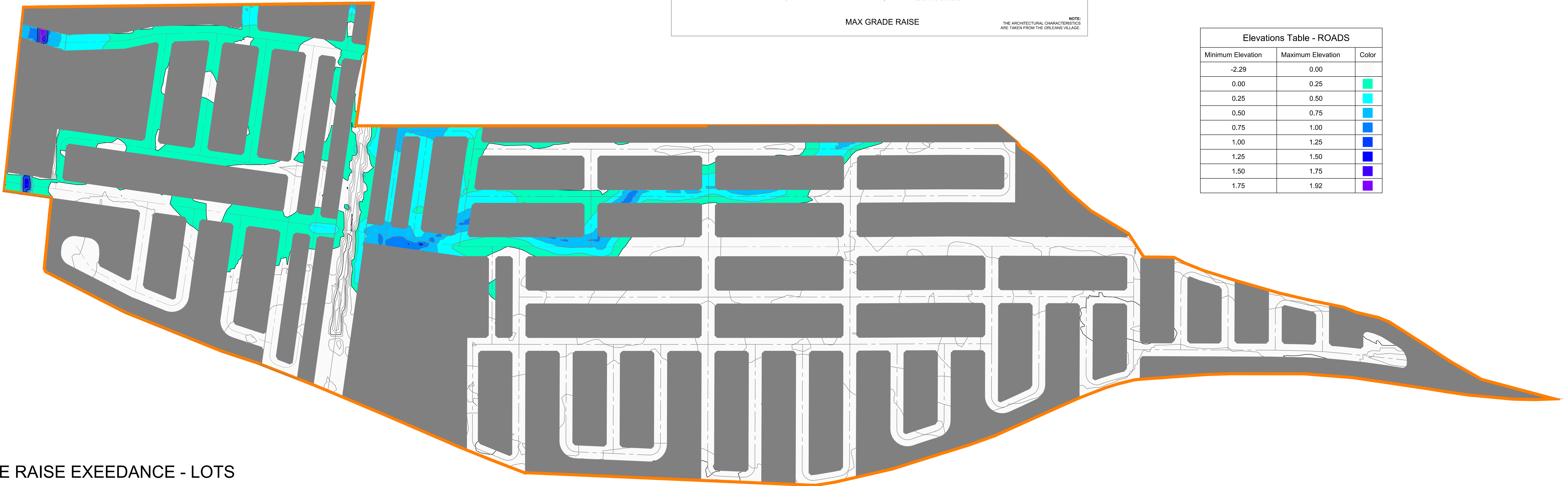
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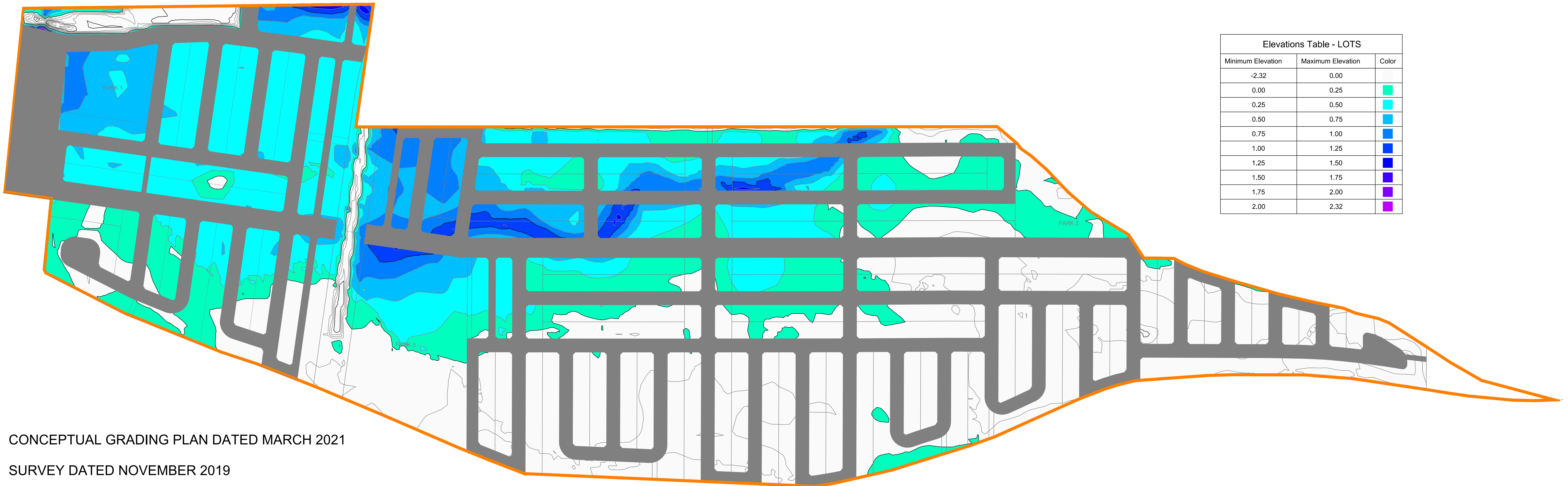
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MAXIMUM GRADE RAISE EXCEEDANCE - ROADS



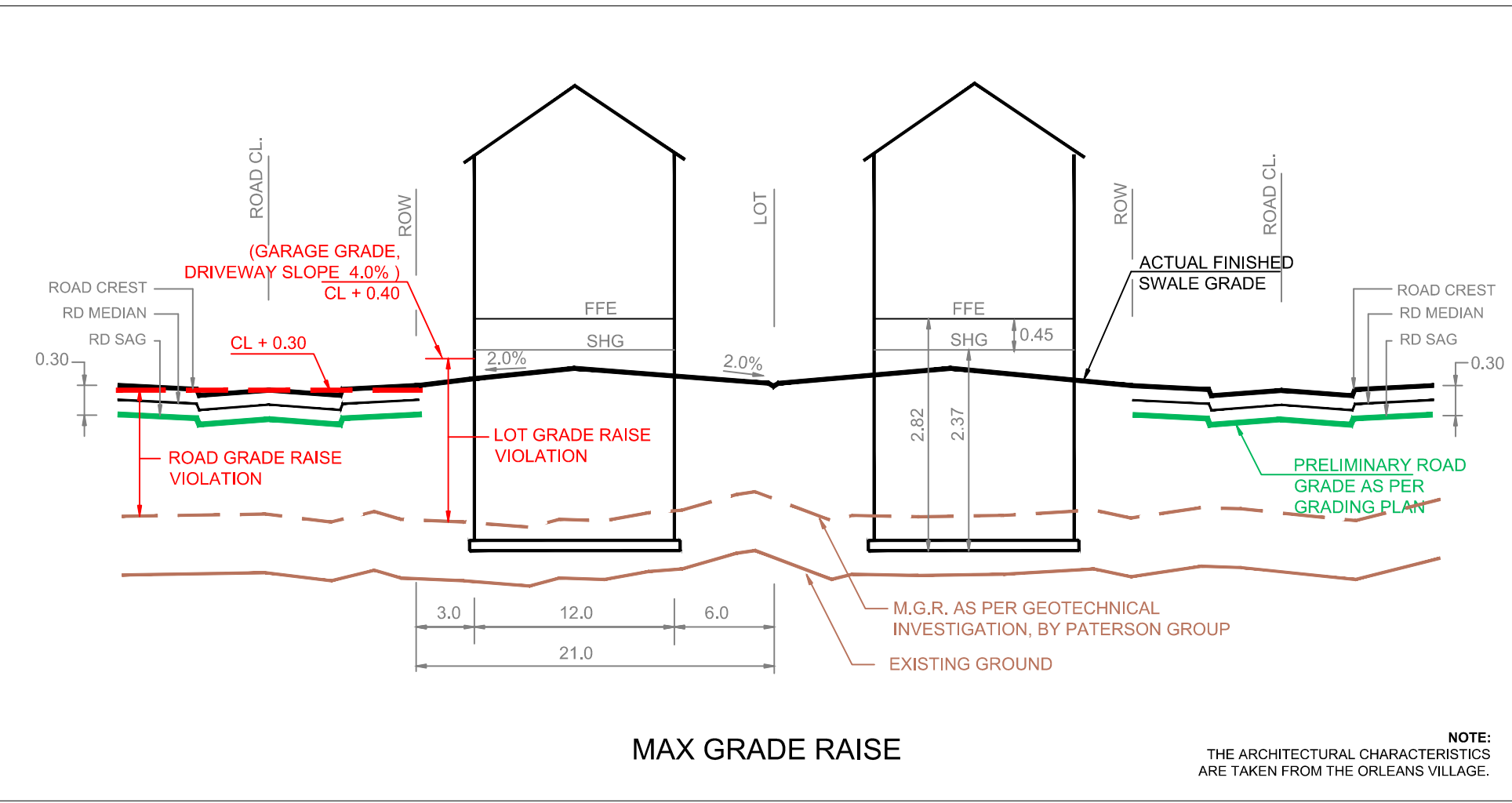
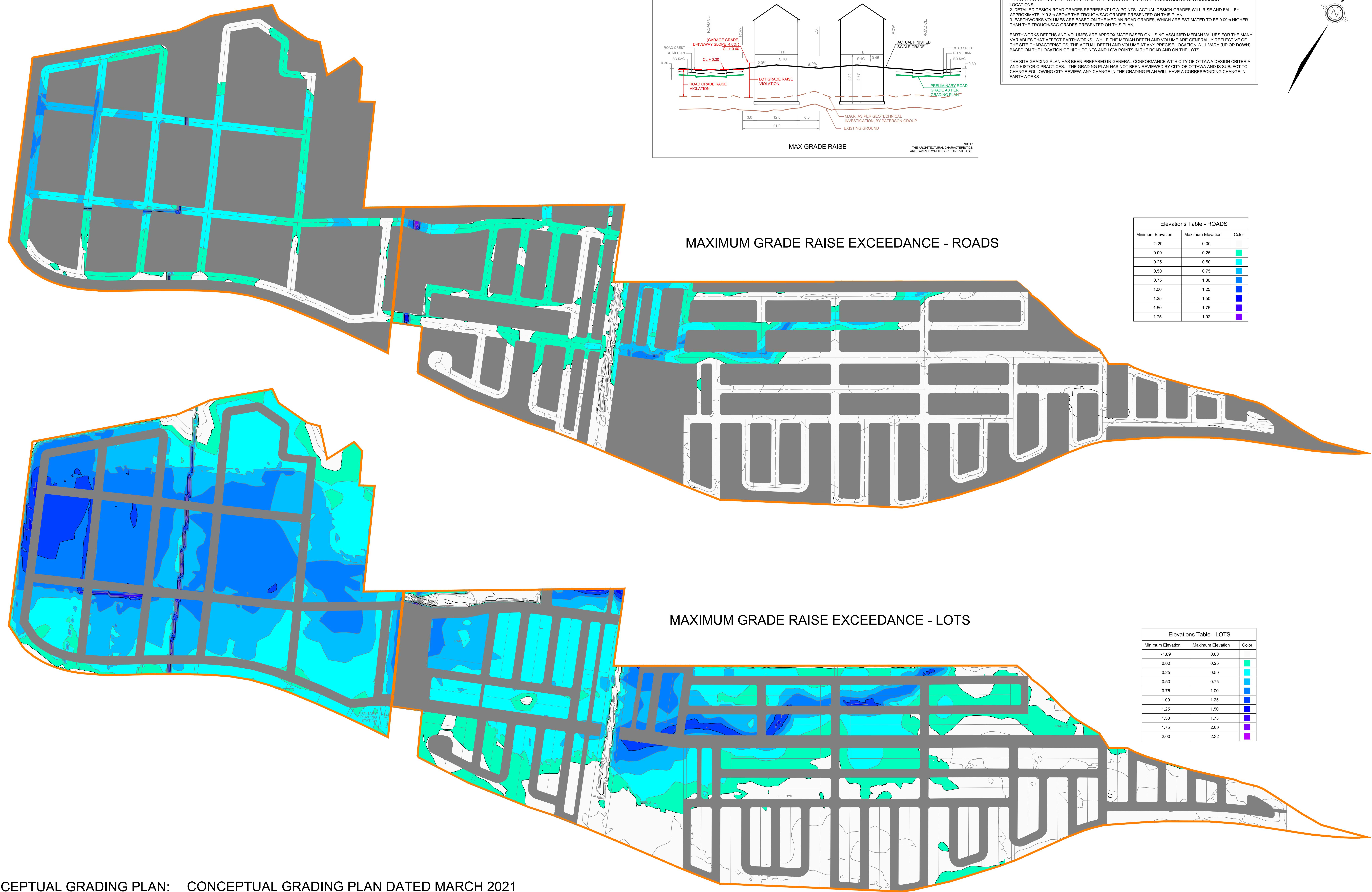
MAXIMUM GRADE RAISE EXCEEDANCE - LOTS



CONCEPTUAL GRADING PLAN: CONCEPTUAL GRADING PLAN DATED MARCH 2021

ORIGINAL GROUND: SURVEY DATED NOVEMBER 2019

MAXIMUM GRADE RAISE AS PER : GEOTECHNICAL INVESTIGATION, BY PATERSON GROUP DATED SEPTEMBER 27, 2019 - REVISED MAY 15, 2020



NOTES:
1. LOW FLOW CHANNEL ELEVATION TO BE VERIFIED IN THE FIELD AT ALL ROAD AND SEWER CROSSING LOCATIONS.
2. DETAILED DESIGN ROAD GRADES REPRESENT LOW POINTS. ACTUAL DESIGN GRADES WILL RISE AND FALL BY APPROXIMATELY 0.3m ABOVE THE TROUGH/SAG GRADES PRESENTED ON THIS PLAN.
3. EARTHWORKS VOLUMES ARE BASED ON THE MEDIAN ROAD GRADES, WHICH ARE ESTIMATED TO BE 0.09m HIGHER THAN THE TROUGH/SAG GRADES PRESENTED ON THIS PLAN.

EARTHWORKS DEPTHS AND VOLUMES ARE APPROXIMATE BASED ON USING ASSUMED MEDIAN VALUES FOR THE MANY VARIABLES THAT AFFECT EARTHWORKS. WHILE THE MEDIAN DEPTH AND VOLUME ARE GENERALLY REFLECTIVE OF THE SITE CHARACTERISTICS, THE ACTUAL DEPTH AND VOLUME AT ANY PRECISE LOCATION WILL VARY (UP OR DOWN) BASED ON THE LOCATION OF HIGH POINTS AND LOW POINTS IN THE ROAD AND ON THE LOTS.

THE SITE GRADING PLAN HAS BEEN PREPARED IN GENERAL CONFORMANCE WITH CITY OF OTTAWA DESIGN CRITERIA AND HISTORIC PRACTICES. THE GRADING PLAN HAS NOT BEEN REVIEWED BY CITY OF OTTAWA AND IS SUBJECT TO CHANGE FOLLOWING CITY REVIEW. ANY CHANGE IN THE GRADING PLAN WILL HAVE A CORRESPONDING CHANGE IN EARTHWORKS.

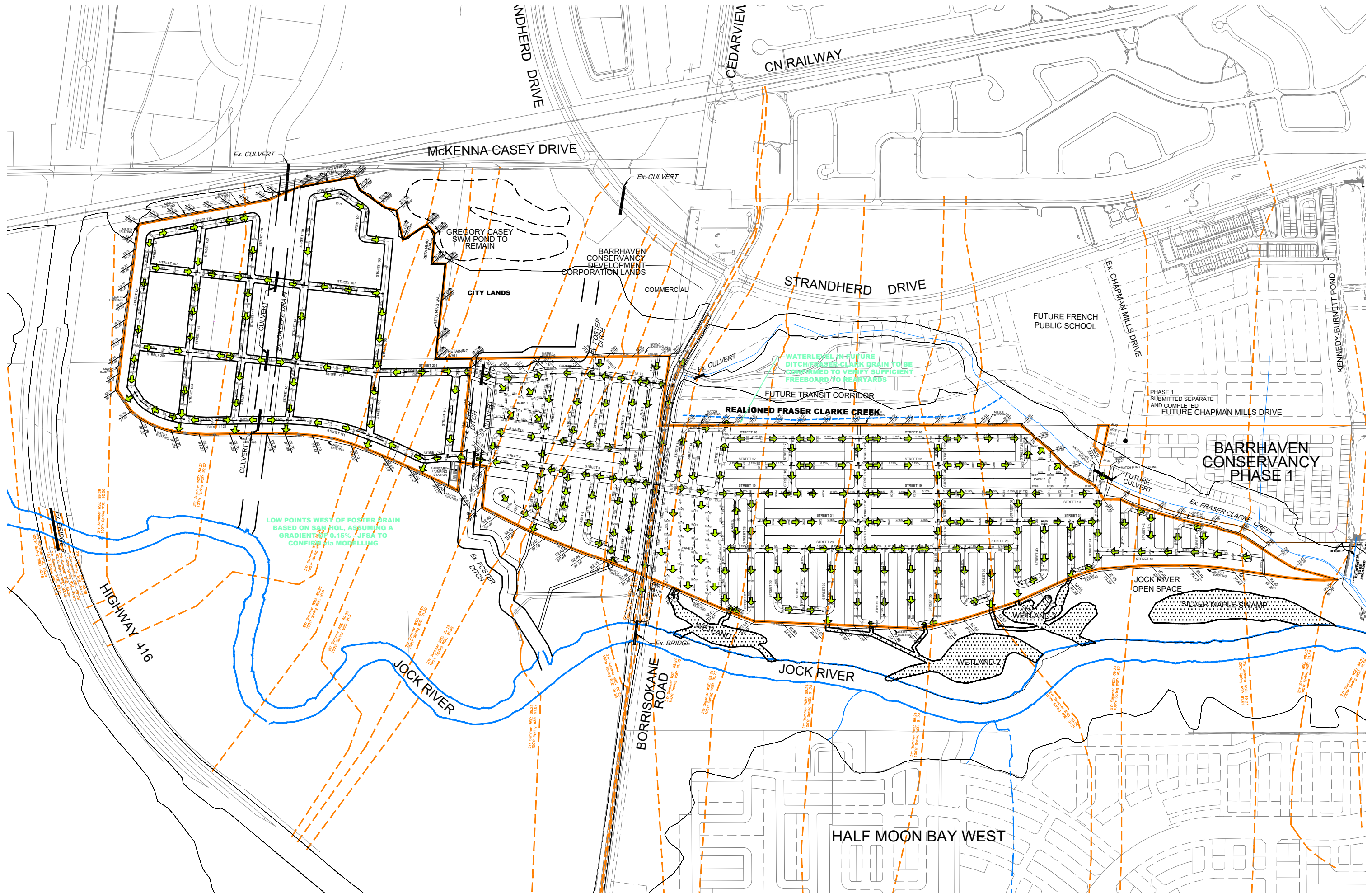
Elevations Table - ROADS		
Minimum Elevation	Maximum Elevation	Color
-2.29	0.00	
0.00	0.25	
0.25	0.50	
0.50	0.75	
0.75	1.00	
1.00	1.25	
1.25	1.50	
1.50	1.75	
1.75	1.92	

Elevations Table - LOTS		
Minimum Elevation	Maximum Elevation	Color
-1.89	0.00	
0.00	0.25	
0.25	0.50	
0.50	0.75	
0.75	1.00	
1.00	1.25	
1.25	1.50	
1.50	1.75	
1.75	2.00	
2.00	2.32	

CONCEPTUAL GRADING PLAN: CONCEPTUAL GRADING PLAN DATED MARCH 2021

ORIGINAL GROUND: SURVEY DATED NOVEMBER 2019

MAXIMUM GRADE RAISE AS PER : GEOTECHNICAL INVESTIGATION, BY PATERSON GROUP
DATED SEPTEMBER 27, 2019 - REVISED MAY 15, 2020



McKENNA CASEY DRIVE

CEDARVIEW

CN RAILWAY

ANDHERD DRIVE

STRANDHERD DRIVE

FUTURE FRENCH PUBLIC SCHOOL

PHASE 1 SUBMITTED SEPARATE AND COMPLETED FUTURE CHAPMAN MILLS DRIVE

BARRHAVEN CONSERVANCY PHASE 1

Ex. FRASER CLARKE CREEK

JOCK RIVER OPEN SPACE

SILVER MAPLE SWAMP

JOCK RIVER

BORRISOKANE ROAD

HALF MOON BAY WEST

HIGHWAY 416

LOW POINTS WEST OF FOSTER DRAIN BASED ON SAN HGL, ASSUMING A GRADIENT OF 0.15% - JFSA TO CONFIRM via MODELLING

WATERLEVEL IN FUTURE DITCH/FRASER-CLARKE DRAIN TO BE CONFIRMED TO VERIFY SUFFICIENT FREEBOARD TO REARYARDS

REALIGNED FRASER CLARKE CREEK

FUTURE TRANSIT CORRIDOR

GREGORY CASEY SWM POND TO REMAIN

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION LANDS

COMMERCIAL

CITY LANDS

Ex. CULVERT

Ex. CULVERT

Ex. CHAPMAN MILLS DRIVE

KENNEDY-BURNETT POND

FUTURE CULVERT

Ex. BRIDGE

Ex. FOSTER DITCH

CULVERT

RETAINING WALL

RETAINING WALL

Ex. FOSTER DITCH

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SANITARY PUMP STATION

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