

# Town of Belmont

Grove Street Baseball and Basketball Renovations

Community Preservation Committee Meeting | 9 November 2022



**ACTIVITAS**  
landscape architecture | civil engineering

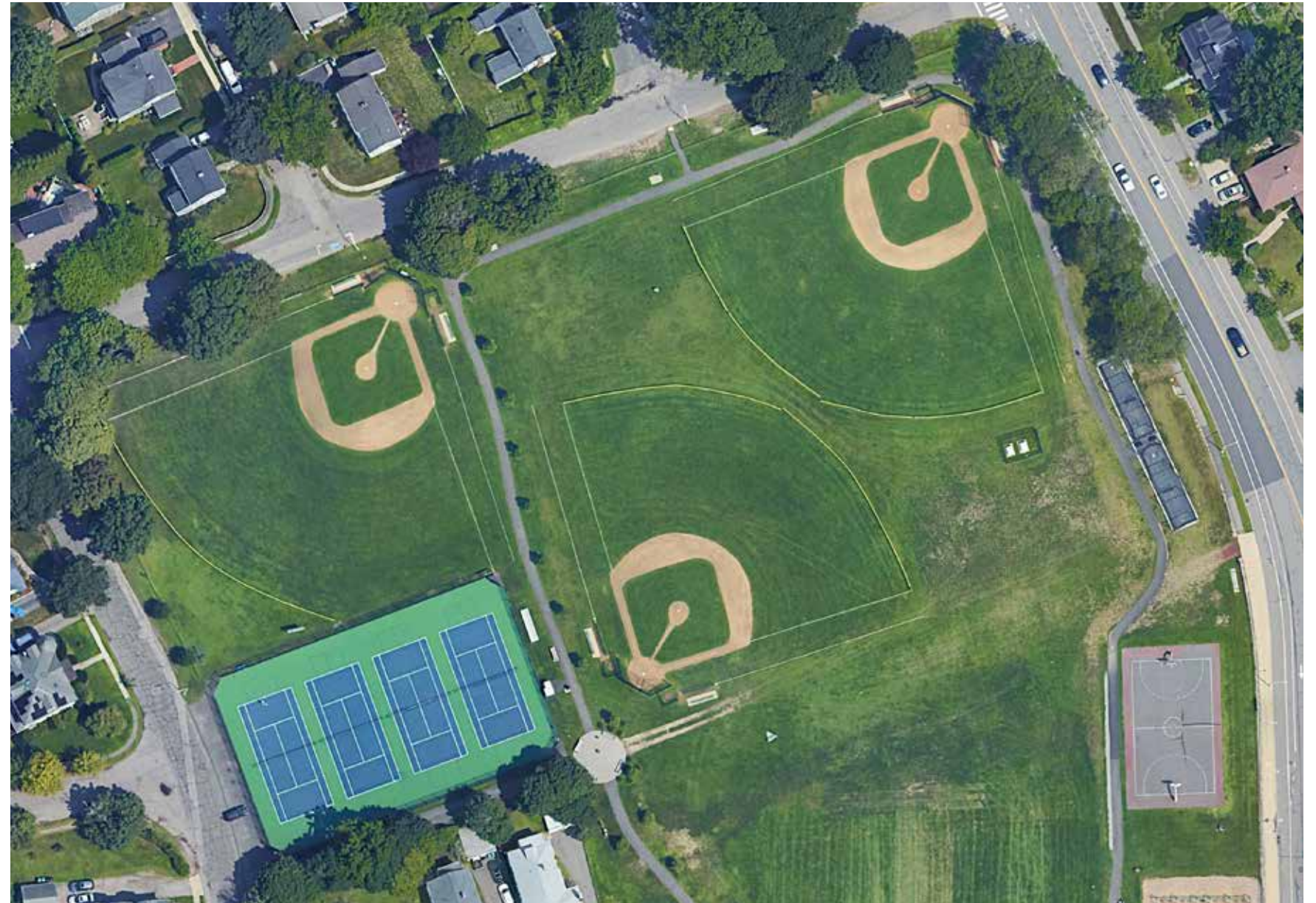


# Town of Belmont

Grove Street Baseball and Basketball Renovations Meeting | 9 November 2022

## AGENDA

1. Review Existing Topsoil Composition
2. Review Natural Grass Field Profiles
3. Review Preliminary Design and Associated Opinions of Probable Costs
4. Questions | Discussion | Next Steps



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## PARTICLE SIZE (ASTM F1632)

Lab ID#	Sample Name	Gravel %			Soil Separate <sup>*</sup> %			Sieve Size / Sand Fraction Sand Particle Diameter % Retained				
		1/4" 5.3 mm	No. 5 4.0 mm	No. 10 2.0 mm	Sand	Silt	Clay	No. 18 V. Coarse 1.0 mm	No. 35 Coarse 0.50 mm	No. 60 Medium 0.25 mm	No. 140 Fine 0.10 mm	No. 270 V. Fine 0.05 mm
48195-1	Baseball #1	0.0	0.7	1.1	64.4	25.5	10.1	5.4	13.3	19.5	16.7	9.4
48195-2	Baseball #2	0.0	0.0	1.2	60.0	28.3	11.6	3.6	10.6	16.1	18.2	11.5
48195-3	Baseball #3	0.1	0.0	0.6	62.6	25.5	12.0	3.2	10.6	18.3	19.4	10.8

Lab ID#	Sample Name	Ksat <sup>**</sup> in/hr	Bulk Density <sup>***</sup> g/cc	pH <sup>1</sup> 1:1	% Organic Matter <sup>2</sup> Dry Weight	Textural Class
48195-1	Baseball #1	1.2	1.12	5.4	6.77	Sandy Loam
48195-2	Baseball #2	1.4	1.06	5.8	8.36	Sandy Loam
48195-3	Baseball #3	1.9	1.06	5.7	7.96	Sandy Loam

<sup>1</sup>ASTM F1632 Method B

<sup>2</sup>ASTM D4972, method A, CaCl<sub>2</sub>, 25 g sample used

<sup>3</sup>ASTM F1647 Method A

Data reported using USDA definitions of soil classification

<sup>\*\*</sup> Saturated Hydraulic Conductivity (K-SAT) with compaction energy reduced to 5.75 ft lb/sq inch. Field infiltration rates may be lower, if soil is more heavily compacted than lab test conditions.

Samples were tested as received and comments pertain only to the samples shown.

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Samples were received with a transmittal letter.

Reviewed by Duane K Otto Digitally signed by Duane K Otto  
Date: 2022-08-19 11:28:11



**AVERAGE DEPTH | 3"-5"**

**CLASSIFICATION | SANDY LOAM**

**ORGANIC MATTER | 6.77% - 8.36%**

**ph | 5.4 - 5.8**

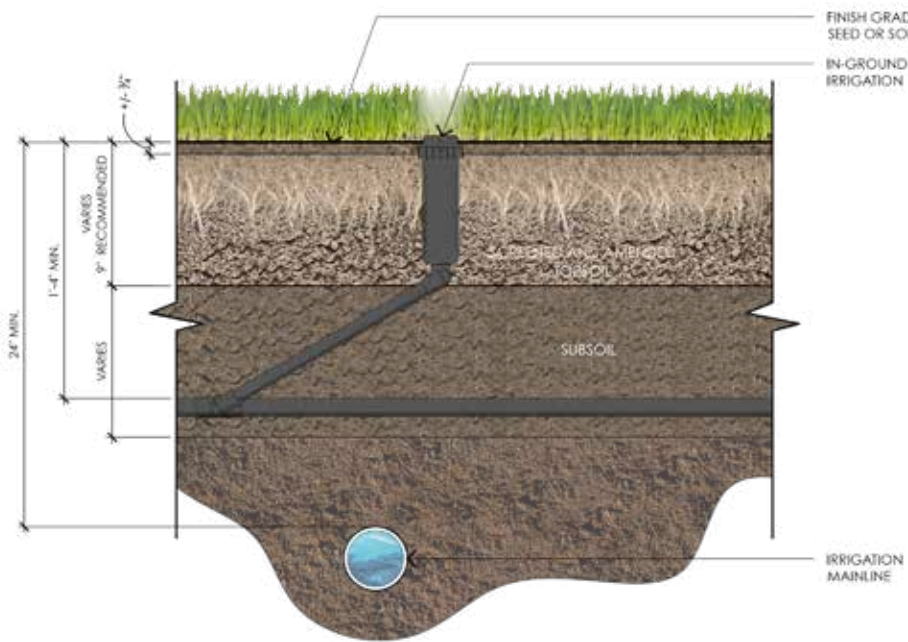
## RESULTS OF EXISTING TOPSOIL TESTING



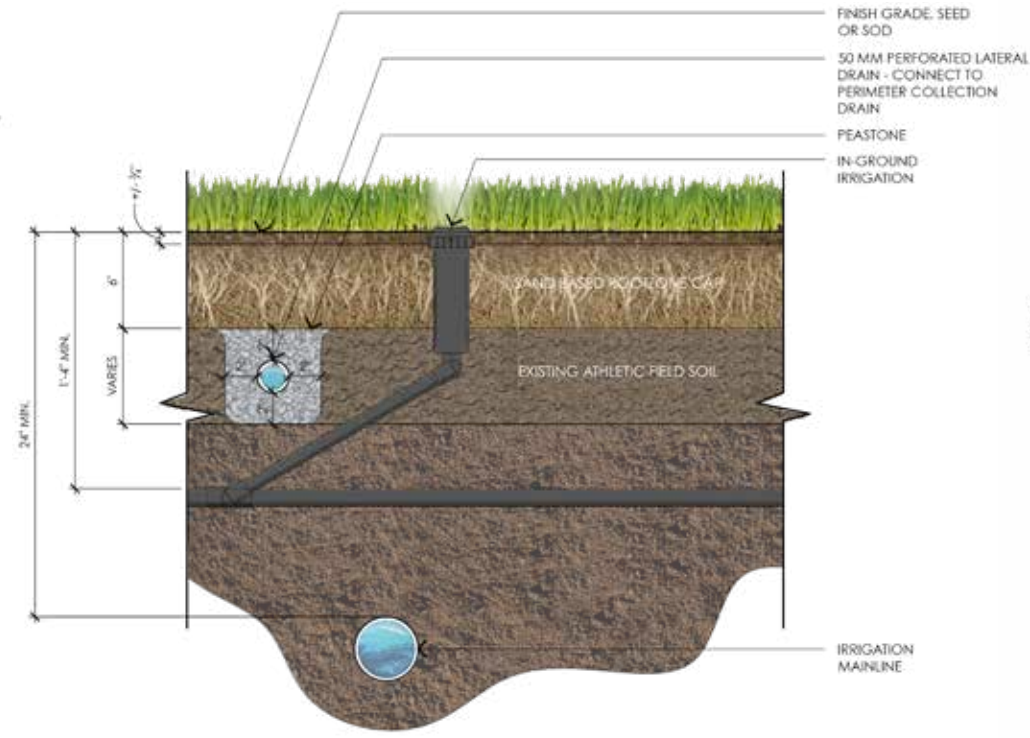
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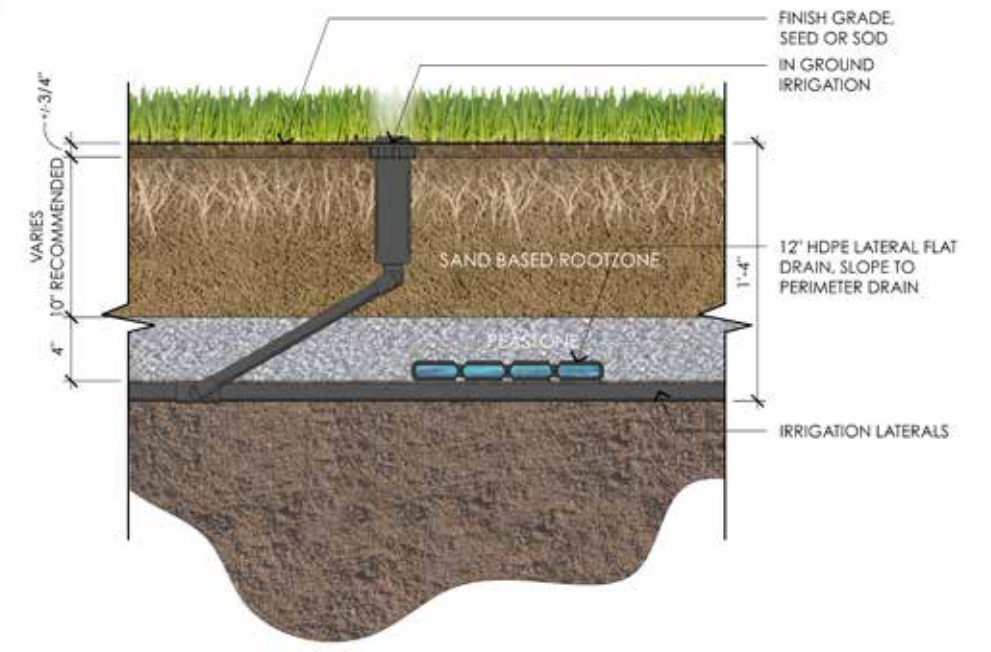
**NATIVE TOPSOIL ATHLETIC FIELD**  
FIELD SLOPE = 1.5% - 1.75%  
POOR VERTICAL DRAINAGE  
RELIES ON SURFACE DRAINAGE



**6" SAND CAPPED ATHLETIC FIELD**  
FIELD SLOPE = 1.0% - 1.25%  
RELIES ON VERTICAL AND SURFACE DRAINAGE



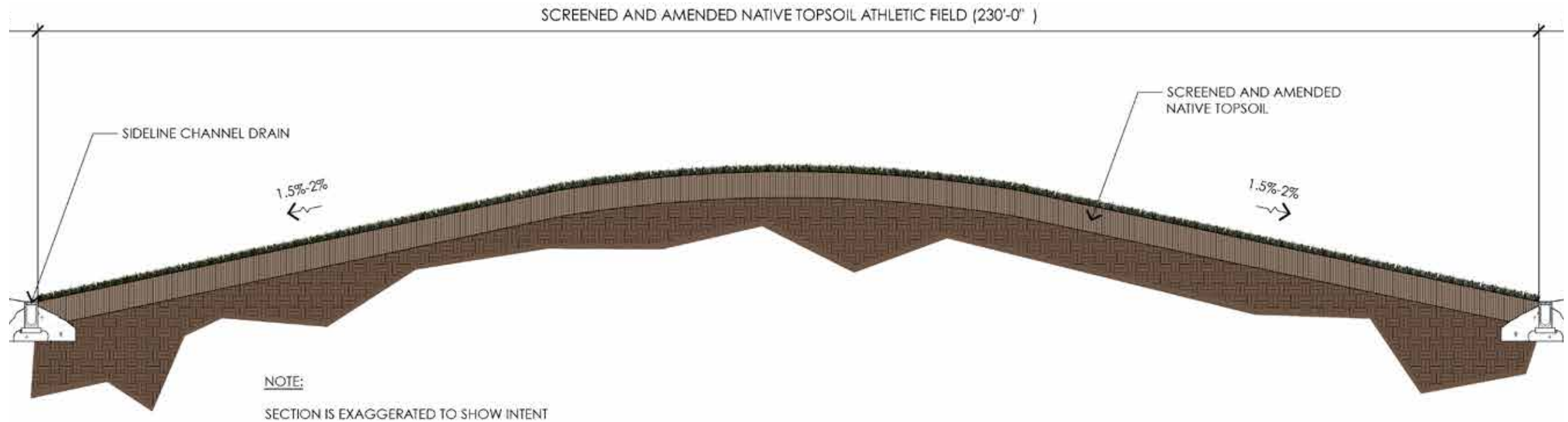
**SAND BASED ROOTZONE ATHLETIC FIELD**  
FIELD SLOPE = 1.0%  
RELIES ON VERTICAL AND SURFACE DRAINAGE



NATURAL GRASS FIELD PROFILES

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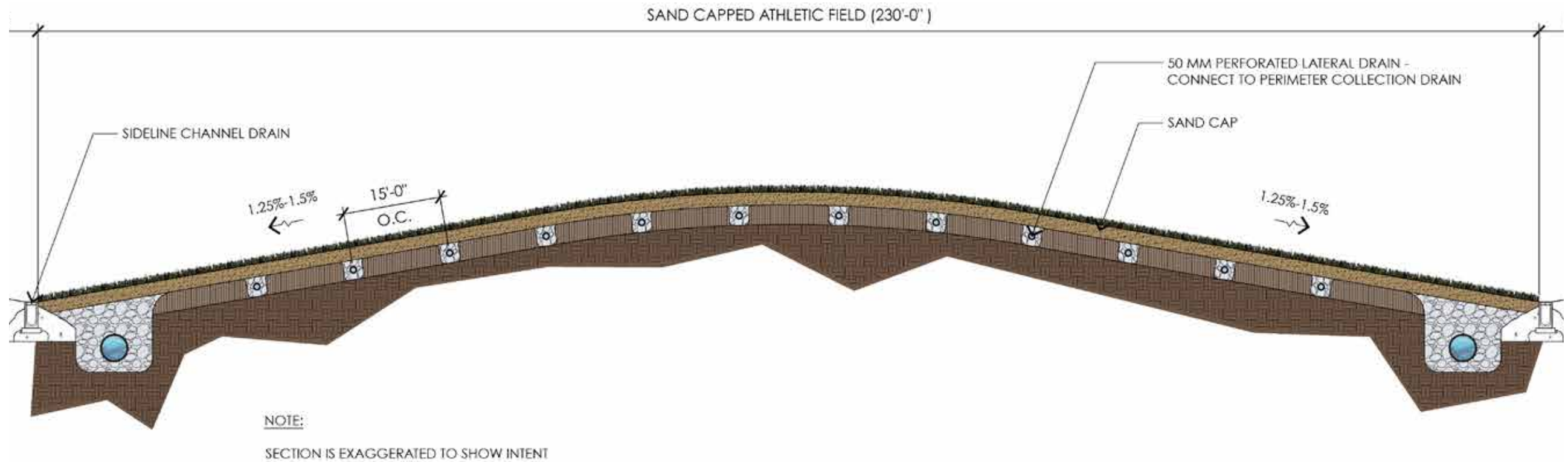
NATURAL GRASS SECTION | NATIVE TOPSOIL



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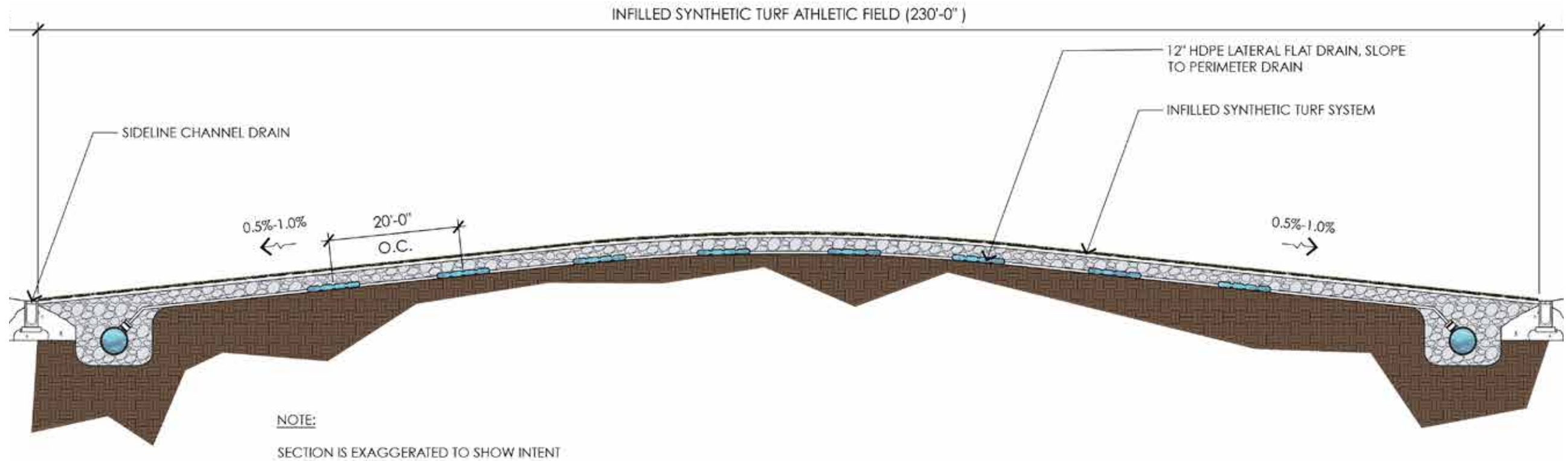


NATURAL GRASS SECTION | SAND CAP

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SYNTHETIC TURF SECTION



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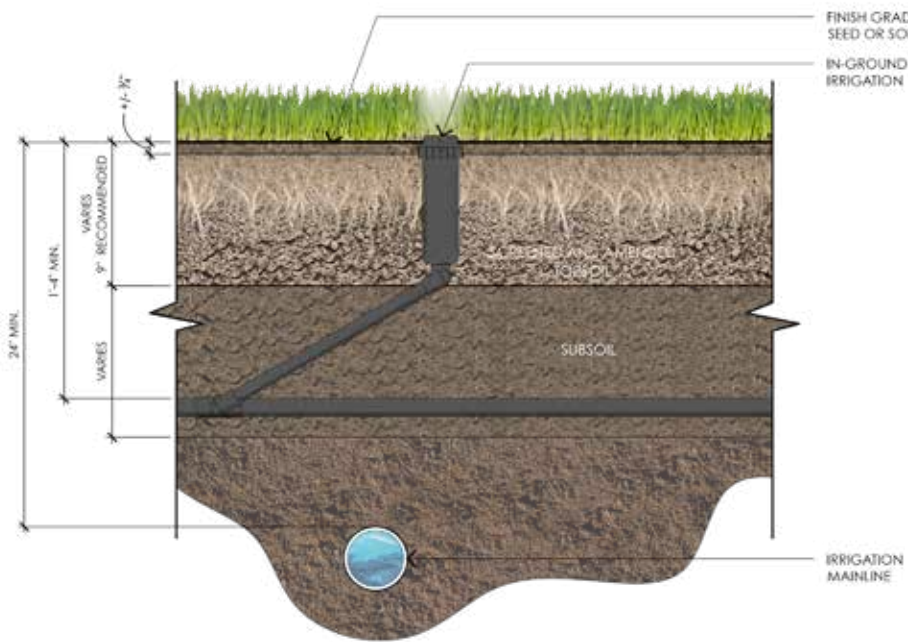


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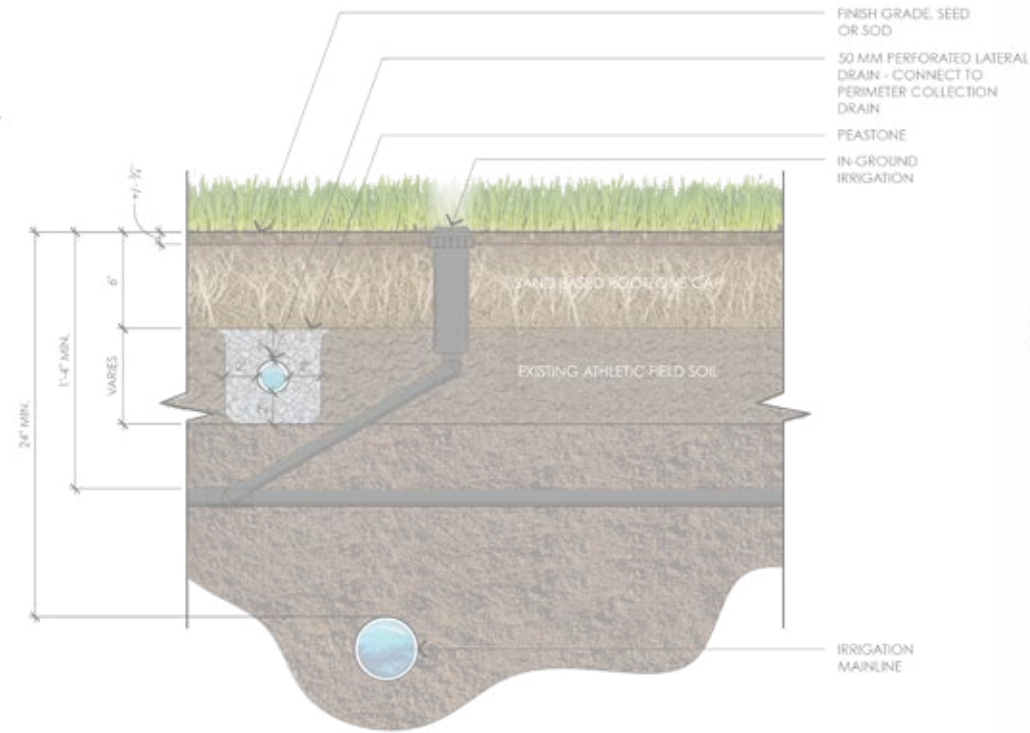
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**NATIVE TOPSOIL ATHLETIC FIELD**  
FIELD SLOPE = 1.5% - 1.75%  
POOR VERTICAL DRAINAGE  
RELIES ON SURFACE DRAINAGE

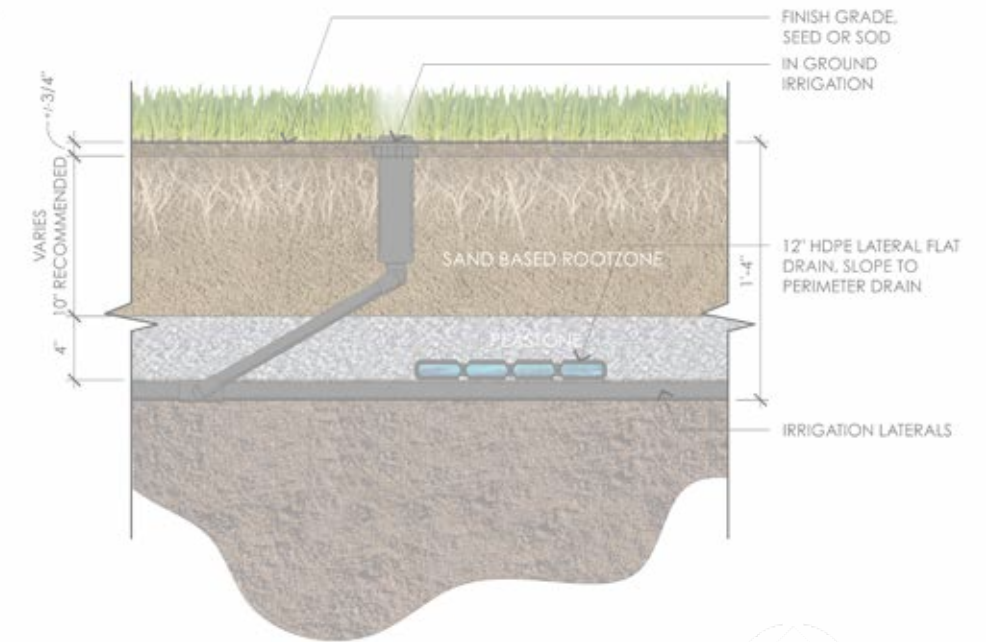
**SUPPLEMENT WITH ADDITIONAL  
LOAM AMEND WITH LIME**



**6" SAND CAPPED ATHLETIC FIELD**  
FIELD SLOPE = 1.0% - 1.25%  
RELIES ON VERTICAL AND SURFACE  
DRAINAGE



**SAND BASED ROOTZONE ATHLETIC FIELD**  
FIELD SLOPE = 1.0%  
RELIES ON VERTICAL AND SURFACE  
DRAINAGE



RECOMMENDED NATURAL GRASS ATHLETIC FIELD PROFILE

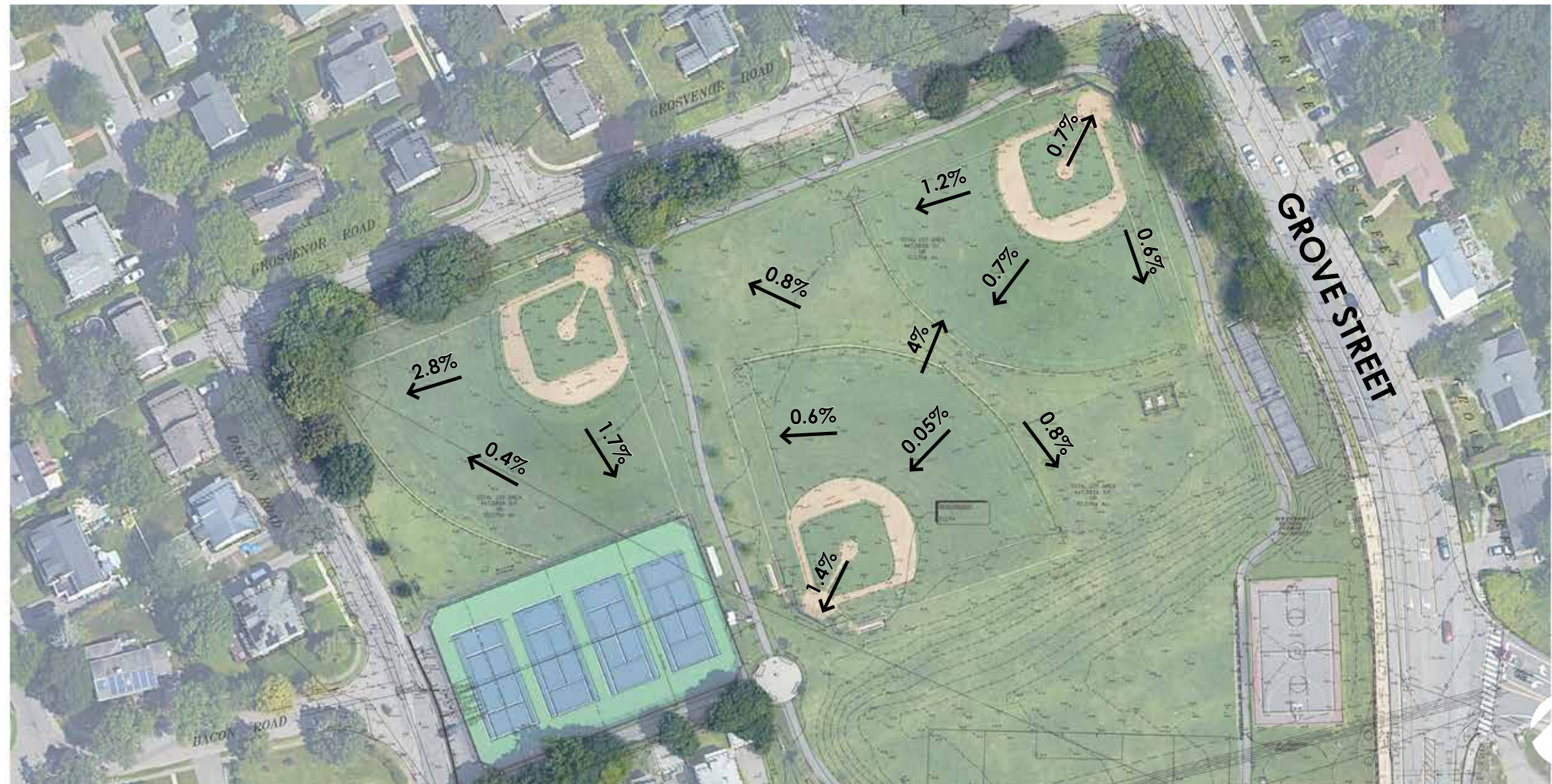


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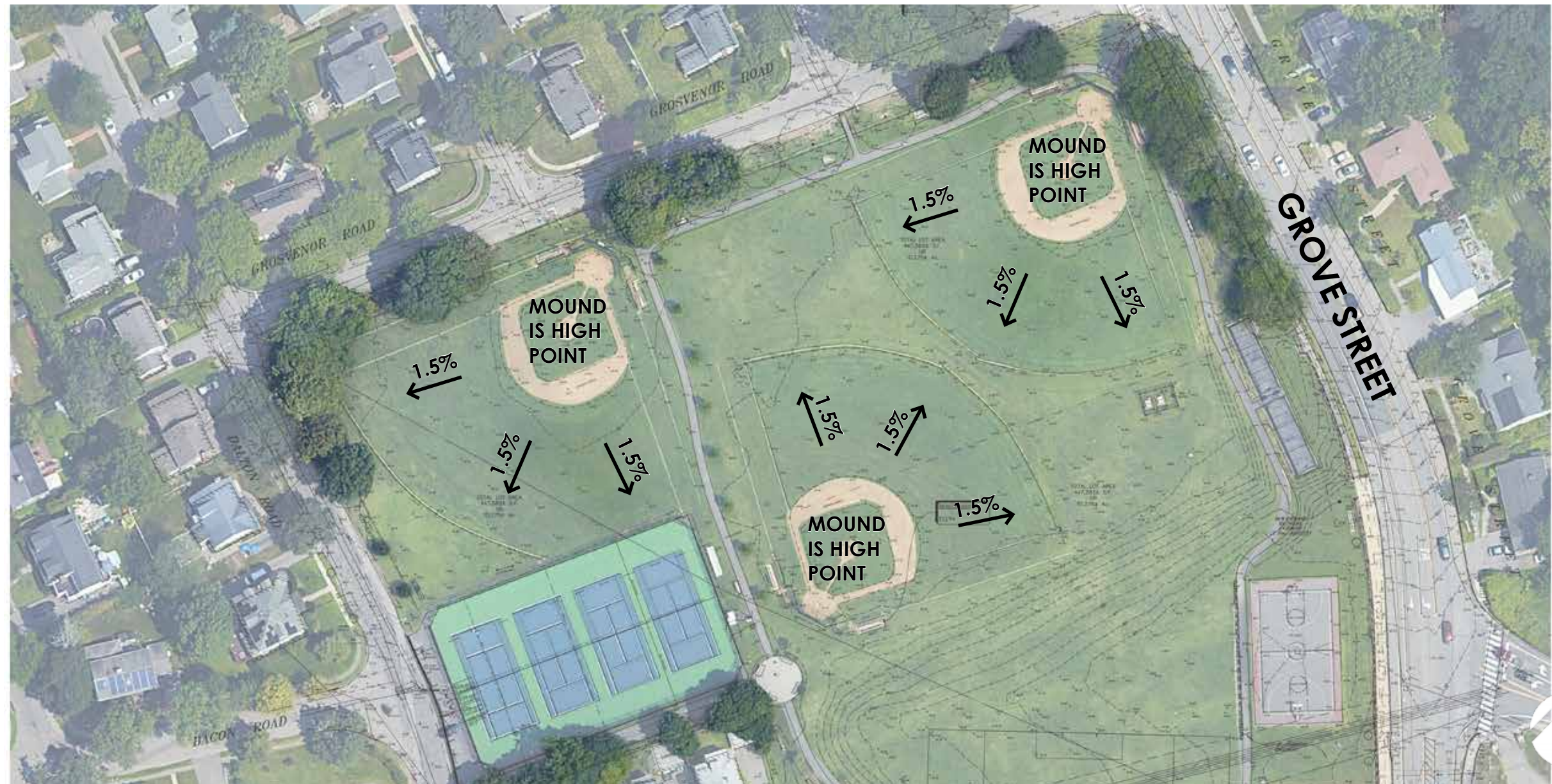


EXISTING CONDITIONS | SLOPE ANALYSIS



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IDEAL BASEBALL FIELD GRADING



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PRELIMINARY DESIGN | INITIAL PROPOSED SITE PLAN

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		Original Application	Potential Cost Changes
00001	MOBILIZATION AND SITE PREPARATION	\$75,308.00	\$64,020.00
00002	EARTHWORK	\$31,386.54	\$67,497.80
00003	STORMWATER MANAGEMENT IMPROVEMENTS*		\$10,000.00
00003	BASEBALL FIELD IMPROVEMENTS - FIELD 1	\$116,457.57	\$98,889.50
00004	BASEBALL FIELD IMPROVEMENTS - FIELD 2 & 3	\$270,683.41	229,728.21
00005	BASKETBALL COURT**	\$87,657.40	\$42,180.59
00006	ELECTRICAL IMPROVEMENTS (3 SCOREBOARDS)***	\$110,000.00	\$0.00
00007	CIRCULATION AND FENCING IMPROVEMENT****	\$68,520.00	\$5,656.00
	5% General Conditions	\$38,000.65	\$25,898.61
	10% Contractors Overhead and Profit	\$76,001.29	\$51,797.21
	<b>CONSTRUCTION SUBTOTAL</b>	<b>\$874,014.86</b>	<b>\$595,667.92</b>
	20% Project Contingency	\$174,802.97	\$119,133.58
	10% Soft Costs (Survey, Geotechnical, Design and Construction Administration)	\$87,401.49	\$59,566.79
	<b>PRELIMINARY OPINION OF PROBABLE COSTS</b>	<b>\$1,136,219.32</b>	<b>\$774,368.30</b>
00008	ADD ALTERNATE 1 - SOD IN LIEU OF SEED	\$237,910.00	\$237,910.00
	<b>PRELIMINARY OPINION OF PROBABLE COSTS WITH ADD ALTERNATE 1</b>	<b>\$1,374,129.32</b>	<b>\$1,012,278.30</b>

\* Stormwater management to address existing drainage trench installed for Intergenerational Walkway Project

\*\* Adjusted unit costs for pavement

\*\*\* Remove new scoreboards

\*\*\*\* No new fencing around park



PRELIMINARY OPINION OF PROBABLE PROJECT COSTS

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**Questions | Discussion | Next Steps**



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BA-2518 (4' TALL X 9' WIDE)



BA-618 (5' TALL X 14' WIDE)

