

# THE NEW **W. EDWARD BALMER SCHOOL**

## WHITINSVILLE, MASSACHUSETTS



## SCHOOL BUILDING COMMITTEE

## SEPTEMBER 17, 2019



Massachusetts School Building Authority  
*Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities*



# AGENDA

- Landscaping Updates
- Energy Model Update/ Building Refinements
- LEED Updates
- Project Construction Update

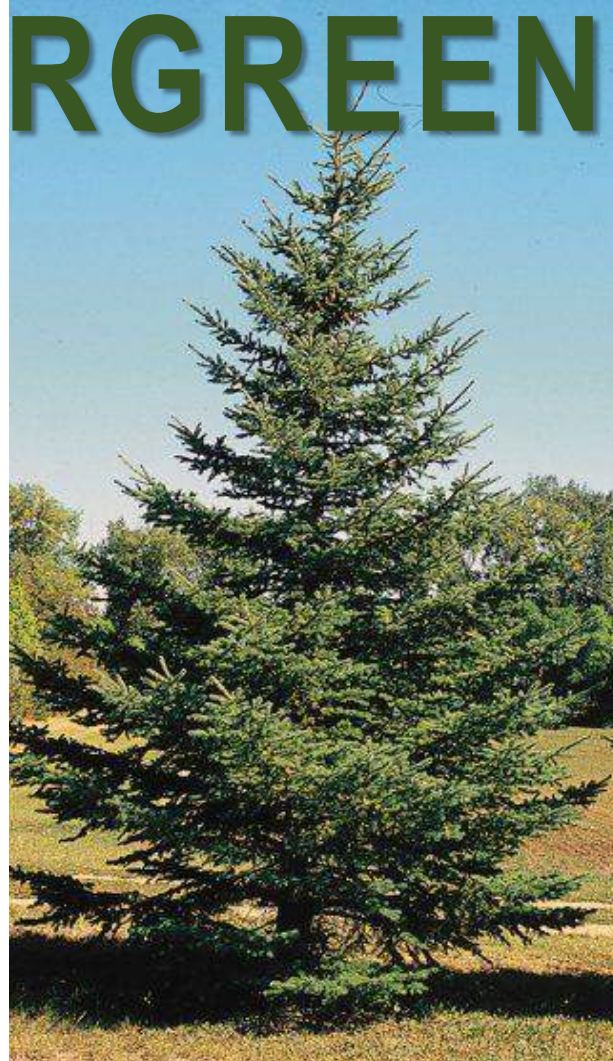




# EVERGREEN TREES



JV – Juniper Virginianus  
'Emerald Sentinel'  
Eastern Red Cedar  
7'-8' tall when planted



PG – Picea Glauca  
White Spruce  
10'-12' tall when planted



TG – Thuja 'Green Giant'  
Arborvitae  
10'-12' tall when planted





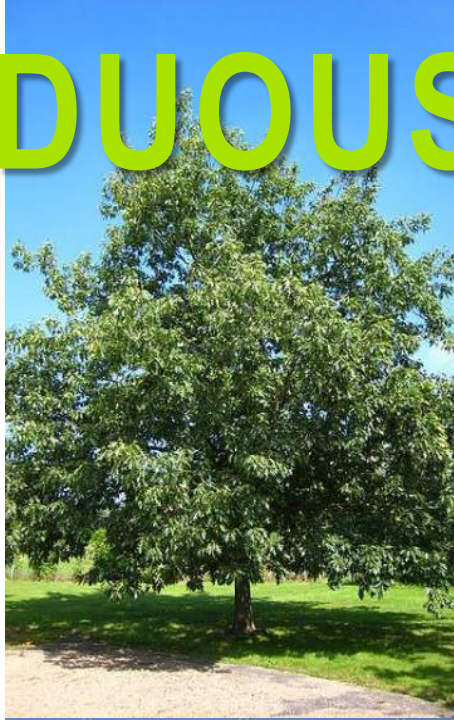
# DECIDUOUS TREES



**AR – Acer  
Rubrum  
Red Maple  
'October Glory'**



**3"- 3.5" Caliper  
when planted**



**\*QR – Quercus  
Rubra  
Red Oak**



**2.5" – 3" Caliper  
when planted**



**\*NS – Nyssa  
Sylvatica  
Black Tupelo**



**2.5" - 3" Caliper  
when planted**

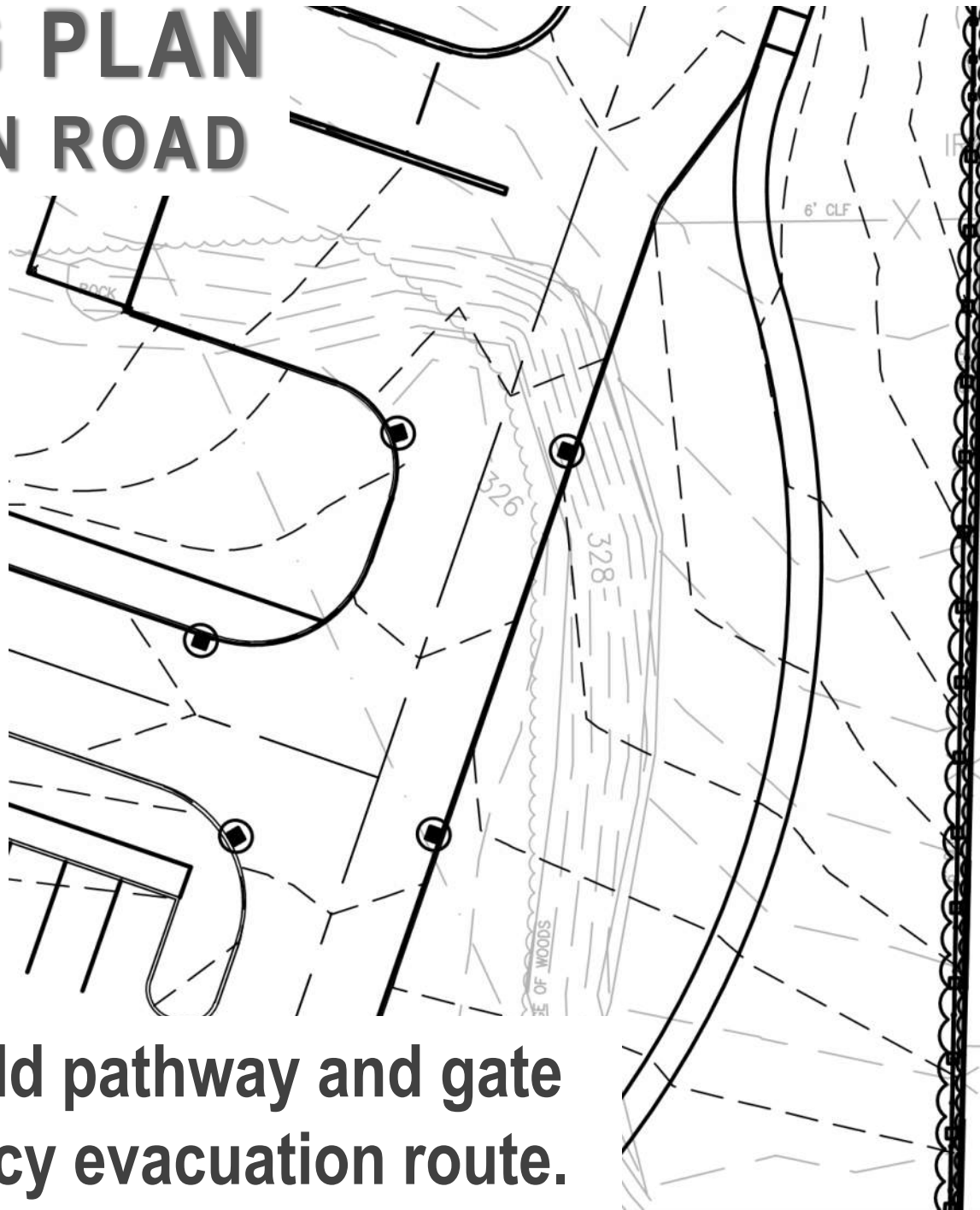
**\* Revised**



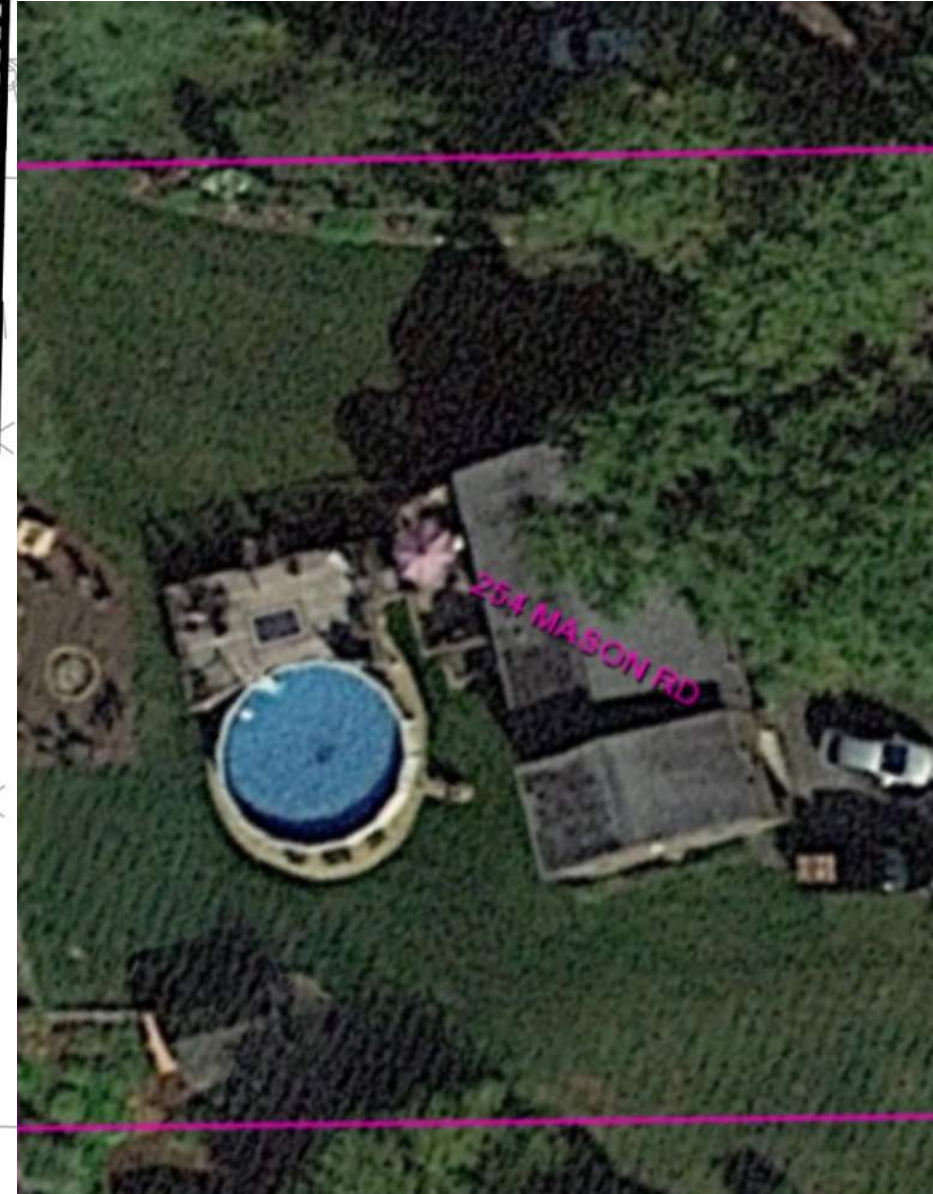


# GRADING PLAN

## 254 MASON ROAD



Request: add pathway and gate  
for emergency evacuation route.



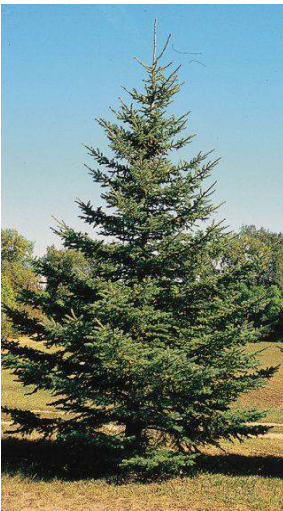




TG – Thuja 'Green Giant' Arborvitae



NS – Black Tupelo

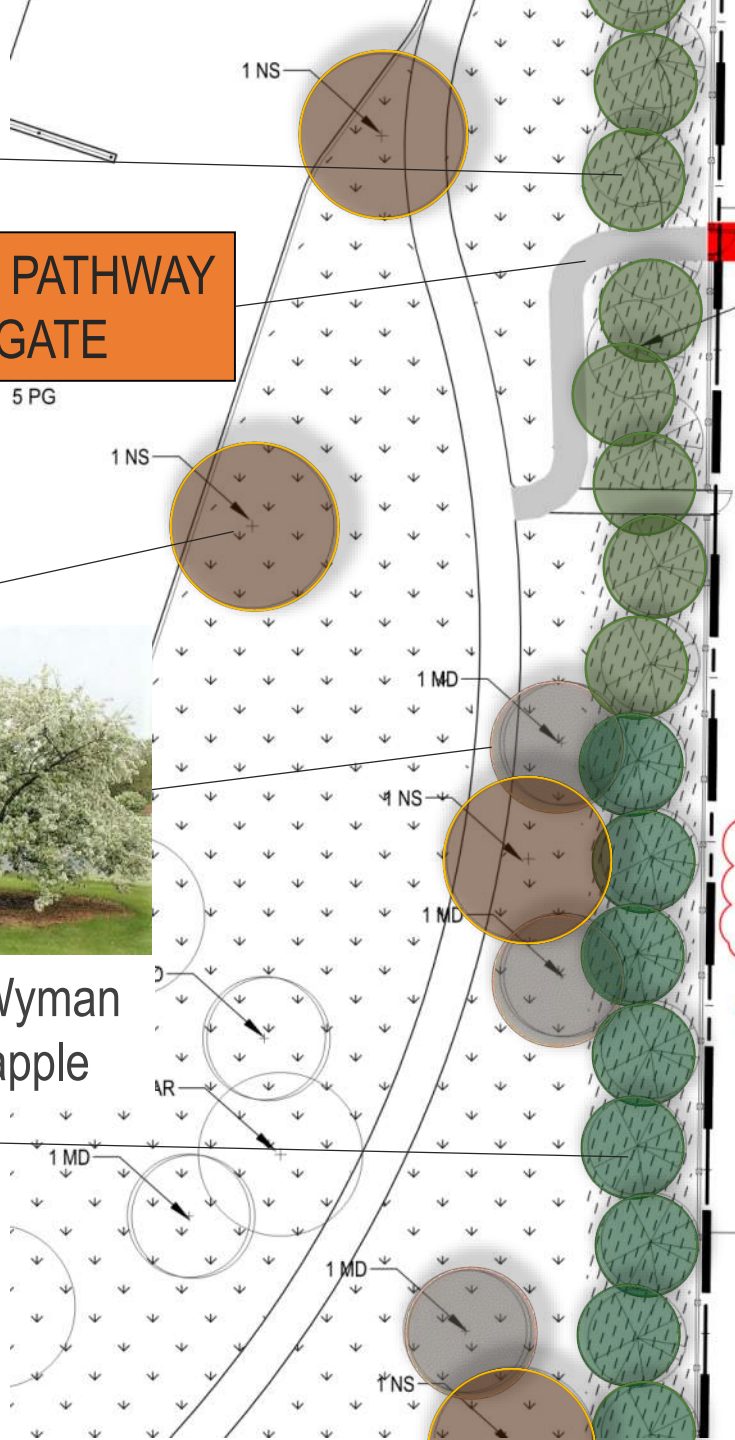


PG – White Pine



MD – Wyman Crabapple

ADDED PATHWAY  
& GATE



**PROPOSED LANDSCAPING**  
254 MASON ROAD

# GRADING PLAN

## 244 MASON ROAD



**Request: Neighbor is allergic to  
pine and spruce trees;  
change border to cedar arborvitae.**





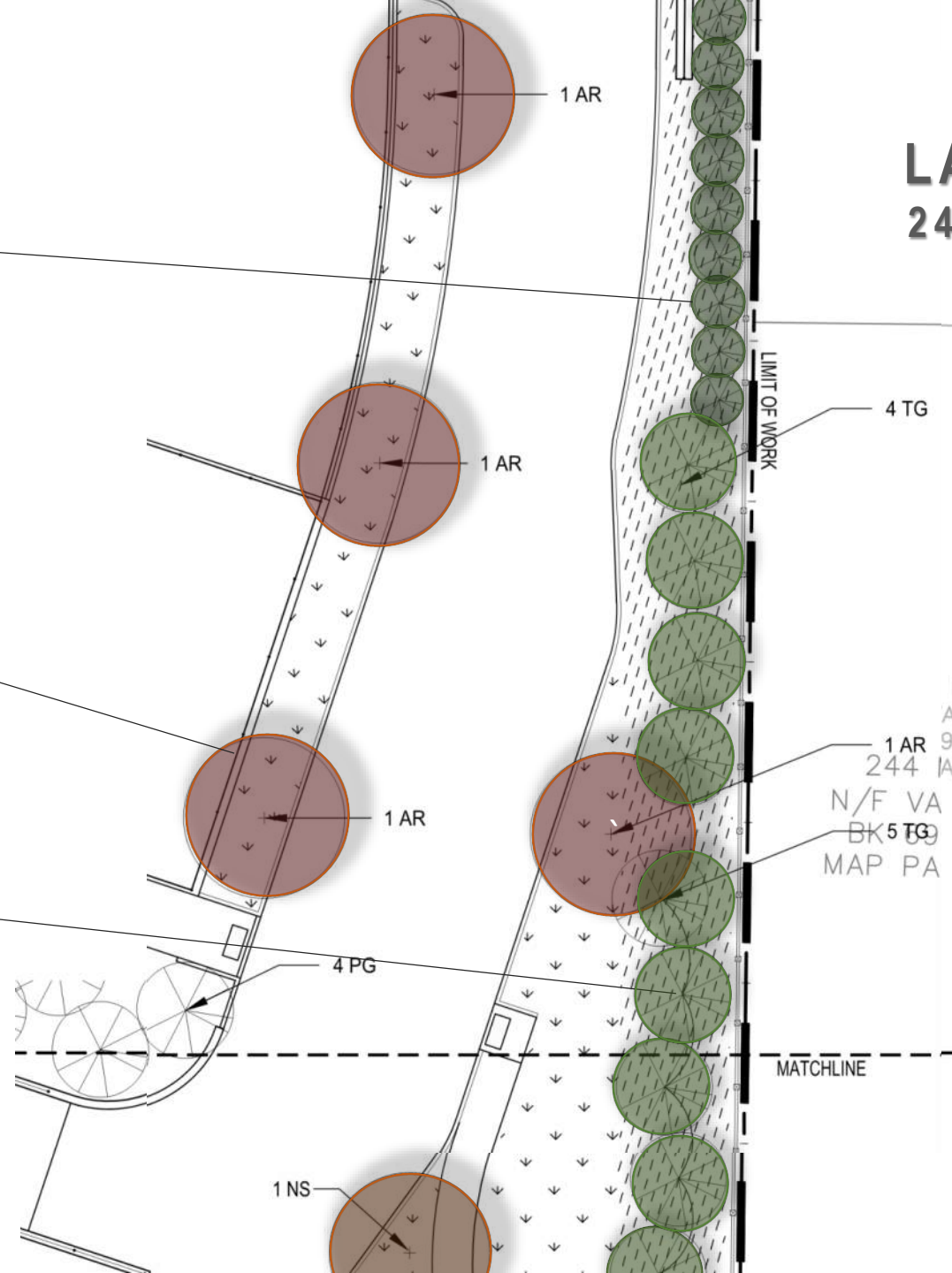
GT – 'Shademaster  
Honey Locust



JV – Eastern Red  
Cedar



TG – Thuja 'Green  
Giant' Arborvitae



# PROPOSED LANDSCAPING 244 MASON ROAD

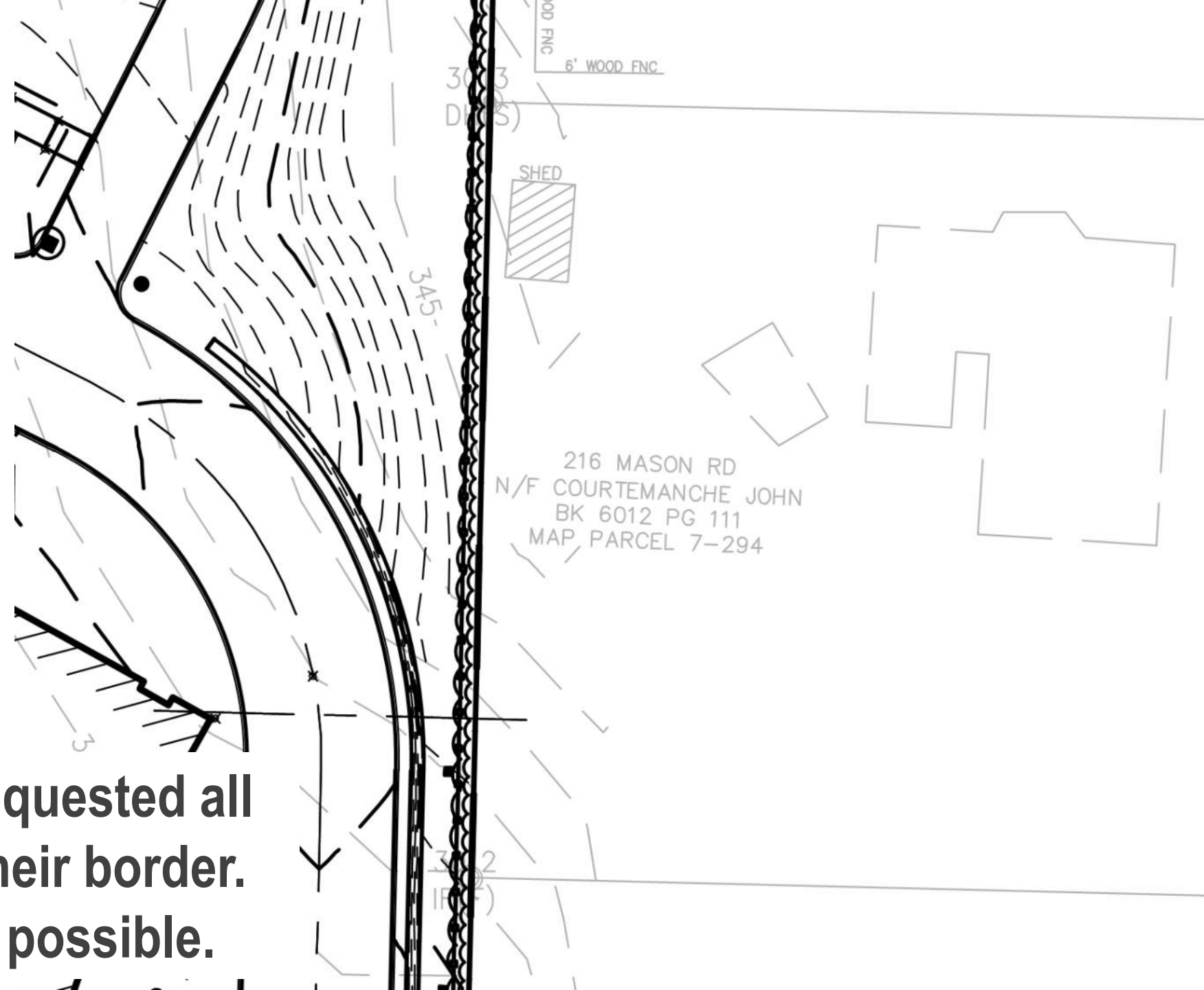
MASON RD  
ALIS DAVID O  
936 PG 303  
244 PARCEL 7-292  
N/F VA  
BK 5 TG  
MAP PA

MATCHLINE



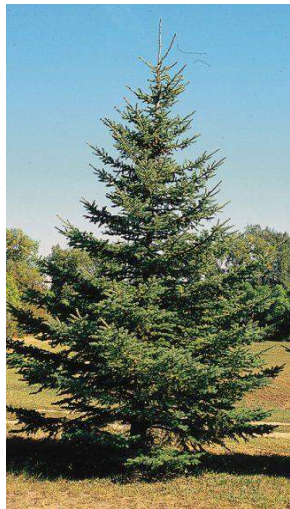
# GRADING PLAN

## 216 MASON ROAD



**Request: Neighbor requested all cedar arborvitae on their border. We will do so where possible.**





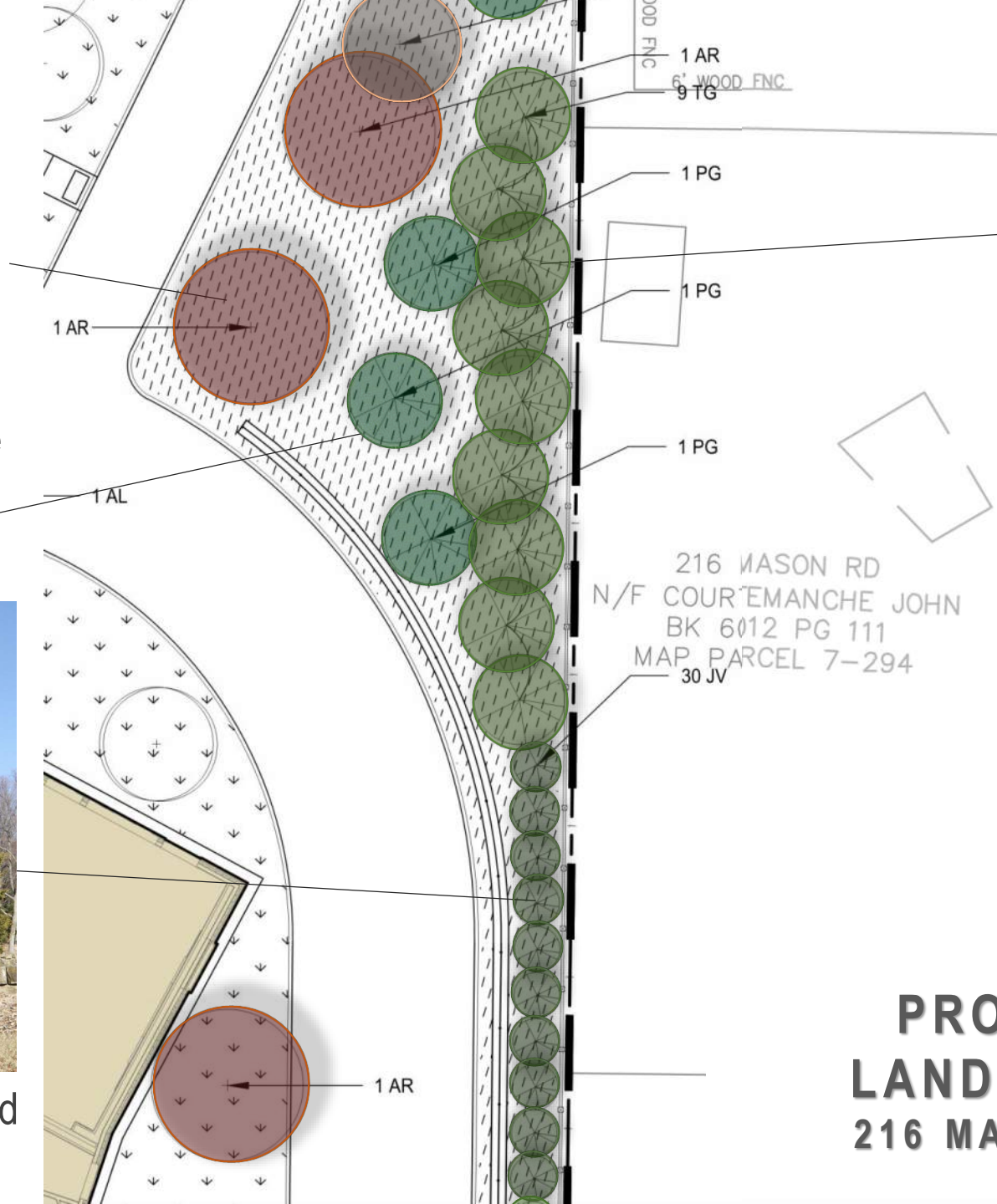
PG – White Pine



AR – Red Maple



JV – Eastern Red Cedar



TG – Thuja 'Green Giant' Arborvitae

**PROPOSED  
LANDSCAPING  
216 MASON ROAD**



# ENERGY MODEL UPDATE

## LEED v4 EA Credit Optimize Energy Performance Summary Report

Balmer E.S. - Energy Model  
Garcia Galuska DeSousa

09/13/2019  
07:44AM

### 3. EA CREDIT POINTS REFERENCE TABLE

#### ASHRAE Std 90.1-2010 Appendix G Percentage Improvement

#### Minimum Energy Cost Savings Percentage for Each Point Threshold

Project Cost Savings: 37.5%

- Final Draft Model Run
- Run without 2" under-slab insulation
- Only reduced savings by 0.2% from 37.7%
- Did not affect LEED points
- \$185,000 VE to take out insulation

Cost Savings			Points		
New Construction	Major Renovations	Core and Shell	Healthcare	Schools	All Others
29%	27%	26%	14	12	12
32%	30%	29%	15	13	13
35%	33%	32%	16	14	14
38%	36%	35%	17	15	15
42%	40%	39%	18	16	16





# ENERGY MODEL UPDATE

## LEED v4 EA Credit Optimize Energy Performance Summary Report

Balmer E.S. - Energy Model  
Garcia Galuska DeSousa

09/13/2019  
07:44AM

- **Only 0.5% to get next LEED point bracket (38% savings – 15 points)**
- Ran a test model adding 1" of roof insulation: 6" (R-34) → 7" (R-40)
- Added cost \$1.00/SF X 85,682 SF of roof = \$85,682
- Added savings by 0.2% from 37.5 to 37.7%
- Did not affect savings/ LEED points bracket
- Decided not to do now.





# LEED STATUS UPDATE

Yes	M +	M -	No		
47	6	7	50	PROJECT TOTALS (Certification Estimates)	110
Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points					

- The Green Engineer reviewed the 90% CD documents
- Updated LEED checklist
- Some positive movement on point totals!







## LEED v4 for Schools Project Scorecard

# LEED STATUS UPDATE

Yes M+ M- No

6 0 0 6				SUSTAINABLE SITES	12	Responsible	Notes & Status
C	Y			SSp1	Req'd	Nitsch/CM	REQUIRED: SWPPP is required on the project, will comply. 312500 ESC section contained with specs
D	Y			SSp2	Req'd	Owner	REQUIRED: 8.5.19: Tank removed w/ no soil contamination. 1.18.18 - EPA Phase 1 ESA prepared. No contamination identified. NEED Report.
D	1			SSc1	1	DWA/Nit/HSL	12.4.18: Drafted version of worksheet resent by Tom H to other team members. Team to draft relevant sections.
D			2	SSc2	1-2		8.8.19: Moved to 'No' per TGE calcs of 90% CDs
D	1			SSc3	1	HSL	8.8.19: Moved to 'Yes' per TGE calcs of 90% CDs - 52% open space of which 26% is vegetated.
D			3	SSc4	2-3		4.11.19: Nitsch assessment is that both v4 & v4.1 requirements can not be met.
D	2			SSc5	1-2	HSL	8.8.19: Moved to 'Yes' per TGE calcs of 90% CDs - 52% open space of which 26% is vegetated.
D	1			SSc6	1	GGD	GGD previously confirmed that the exterior lighting will comply with BUG requirements for the corresponding lighting zone (LZ2).
D			1	SSc7	1		
D	1			SSc8	1	Owner	Confirmed 3 common areas will be accessible for use by the public with access to restrooms (auditoriums, cafeteria, gym).

- (3) points from maybe + to yes
- (2) points from maybe - to no





## LEED v4 for Schools Project Scorecard

# LEED STATUS UPDATE

Yes M+ M- No

Yes	M+	M-	No
19	1	3	8

**ENERGY & ATMOSPHERE**

31 Responsible

Yes	M+	M-	No
14			2

Category	Requirement	Points	Requirement	Points
EAc2	Optimize Energy Performance (RP@8)	1-16	GGD	9.13.19: Per GGD: 37.5% energy cost savings for 14 points

- (1) point from no to yes







## LEED v4 for Schools Project Scorecard

# LEED STATUS UPDATE

		Yes	M +	M -	No		
		4	2	0	0	INNOVATION IN DESIGN	6 Responsible
D	1					INc1.1 Innovation: Low-Mercury Lighting	1 Team
D	1					INc1.2 Innovation: O+M Starter Kit	1 Team
D		1				INc1.3 Innovation: MSBA HVAC LCCA	1 Team
C		1				INc1.4 Innovation: Pending	1 Team

### Notes & Status

Team will work to satisfy a minimum of 3 ID points for Innovation, Exemplary Performance, or Pilot Credit. Options include: O+M Starter Kit (Green Cleaning + IPM), Low-Mercury Lighting, Green Building Education, School as an Educational Tool, Occupant Comfort Survey, Integrative Analysis of Building Materials, etc. Assume 3 innovation credits plus one pilot credit will be achieved.

- (1) point from maybe - to maybe +





LEED v4 for Schools  
Project Scorecard

# LEED STATUS UPDATE

D		1			LTc8	Green Vehicles	1	Owner
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**Pending owner final decision.** Have plans showing potential location for 16 EV stations.

[TGE RECOMMENDS v4.1] Removes preferred parking for green vehicles. Option 1: EVSE for 2% of parking spaces (5); Option 2: Make 6% of spaces (15) EV-ready

- Stations are currently shown in documents
- Isolated Cost: \$160,757
- Decision point?





# CONSTRUCTION UPDATE



View looking north at U-10 field area,  
across the building pad





# CONSTRUCTION UPDATE



View looking south at future parking area,  
topsoil relocation and water line installation





# CONSTRUCTION UPDATE



View looking north at U-8 fields area,  
drainage structures installed





# CONSTRUCTION UPDATE



View at new entry drive, beginning water line installation





# CONSTRUCTION UPDATE

View of underground detention basin  
excavation, south end of site





# QUESTION AND ANSWER

