



Regional School District No. 14 Woodbury / Bethlehem

Nonnewaug High School – Renovations Project

Public Building Committee Meeting

November 15, 2016

PBC Attendees:

John Chapman
Robert Piazza
Brian Peterson
Tom Hecht
Andie Greene
Patrick DiSarro
Matthew Cleary
George Bauer

Absent:

JP Fernandes
Don Fital
Janet Morgan
Alan Rubacha

Also Present:

Kurt Lavaway	Colliers
Scott Pellman	Colliers
Amy Samuelson	SLAM
Glen Gollenberg	SLAM
Lorel Purcel	O&G
Mark Jeffko	O&G
Wayne McAlester	Region 14
Mike Molzon	Region 14
Alice Jones	Region 14
Suzy Greene	Region 14
Bill Nemec	Region 14
Dr. Anna Cutaia-Leonard	Region 14

From / Notes Prepared by:

Kurt Lavaway / Scott Pellman - Project Manager
Colliers International

Attachments:

**VE Presentation, VE Site and Fields Test Fit Plans,
Colliers VE List**

A meeting of the Public Building Committee was held on Tuesday, November 15, 2016 in the LMC of Nonnewaug High School, 5 Minortown Road, Woodbury, Connecticut.

The following notes are to record the most significant issues discussed at the above referenced meeting. If anyone attending the meeting feels these notes are inaccurate, additional items need recording, or further detail is required, please forward your written comments to Kurt Lavaway for inclusion.

1. Call to Order - John Chapman called the meeting to order at 6:38 PM.

John stated that “tonight, I would like to come to grips with what is the base project with wiggle room for unanticipated costs within the base project. We will need to review VE items that can add a buffer and look at field items to place either in the base project or as alternates.”

2. OPM presentation on scope items – Kurt Lavaway reported on the following:

- There have been a few changes to the alternate list that was presented last week.
- Tonight, we will look to identify a pathway to added field scope, looking at VE items with a goal of authorizing the design team to move into the Design Development Phase of the project.
- The added scope items list were reviewed with new options dated 11-15-16, some of the items have been revised with reduced scope or locations along with the addition of a toilet room and concession building.
- The revised list was reviewed with the district.
 - The VoAg connector was very important along with irrigation of the fields and re-furbishment of the turf fields. There were 3 add alternates that were also identified with a high priority for inclusion in the project.

3. SLAM – Amy Samuleson presented the revisions to the added scope items as follows:

- A new site plan was presented that represents the revised site alternates, the two-additional tennis court proposed location has been moved adjacent to the 4 courts to maintain the existing gravel parking lot.
- The new football field layout was shown with a new practice field which is required due to the fact that the natural main field cannot hold up to daily practice. (Pricing for the practice field is in scope item S1a-1). If a synthetic field is installed the practice field would not be required. (the practice field may be impacted by clearing and wetlands with its proximity to the river, it might also fit between the JV soccer fields, SLAM will explore). The existing track fits a standard size football field but the field will have narrower sidelines than are typically provided which will require mats to protect the track surface during games. Field hockey also fits within the existing track with a slight overlap of the run off zone. Soccer can be played on a smaller field – the standard field of 195’ wide has the overrun area that covers the track. NHFS allows a junior high school size of 165’ wide that will fit. To maximize the field width you would end up with a field of 181.5’ which is allowed. The 181.5 is acceptable to the athletic director, there would still be a 225’ wide natural turf field available. The athletic director is planning to visit Cheshire to observe their field before deciding what size field to incorporate as they have a similar sized track.
- The reduction in cost of S-7 scope for renovation of the fields does not include any field relocations but would include new back stops and dugouts along with

handicapped accessibility. This is acceptable to the athletic director; the previous relocations would have allowed baseball and softball to play at the same time but this situation does not happen. Renovation of the fields would involve filling the dips and leveling uneven areas with top soil, seed and a growing season.

- The new toilet building would be at the base of the hill with a concrete slab for concessions, it would house 2 men's and 2 women's toilet rooms.
- Inland wetlands are not aware of the potential practice field; it may be best to move it away from the river.
- The options to provide solar illumination in the high school concourse were reviewed, these options include skylights and solar tubes.
- The science teachers provided SLAM a response on reduced fume hood counts. They reduced the hood count in one chemistry room more than the other and also reduced the fume hood count in the general science rooms.

4. Value Engineering Review

A. Current budget 52 million, VE would come out of the high school project. There are two options to incorporate VE items.

1. Keep building scope as is and incorporate VE items, place desired items on an add alternate list – suggest keeping the list of alternates to 5 or less, if it's too big of a list the bidders will react negatively.
2. Add some of the alternates identified in option #1 into the base scope and that becomes the new base moving forward. The remaining alternates would be bid as add alternates. This option will also require some VE in order to remain on budget. This option will provide slightly less flexibility for the building committee if the total project GMP is over budget and may require re-bidding certain packages to remain on budget (if needed).
3. Kurt noted that field reimbursement is only 50% of the building reimbursement on most of the site items but not all. (for example synthetic turf fields are not reimbursable)

B. In summary, it was determined that both are good options.

- Option #1 (Base Scope with Add Alternates) protects the base scope to allow the project to come in under budget and then allows the building committee to add in alternates with the bid savings. A safe bidding approach.
- Option #2 (Revised Base Scope with Add Alternates) adds selected items into the base scope for some of the desired field / building program scope which would increase the baseline budget. If bids come in high you might need to do additional VE during the bid process, most likely taking it from the site package. This could potentially involve delaying start of construction. However, if bids come in favorably, this allows the building committee to add in alternates with the bid savings.

5. The VE items were reviewed and selected for acceptance.

Each specific value engineering items listed below was reviewed with the committee, items without notations may have already been accepted, previously rejected, are second tier options of other items that were accepted, previously rejected or further pricing is pending, action was taken for the following:

C-1	Accepted savings
C-4	Potential accepted, waiting for confirmation from Janet
S-1	Accepted savings
BX-2	Accepted savings
BX-5	Rejected, if changed later this would not be a simple change and would involve cost to re-implement
BX-6	Rejected, if changed later this would not be a simple change and would involve cost to re-implement
BX-8	Pending - To be managed during design development
BN-1	Accepted Savings
BN-8	Accepted Savings
BN-12	Accepted Savings
P-1	Accepted Savings
H-1	Accepted Savings
H-3	Accepted Savings
H-4b	Pending (HOLD FOR MORE INFO) Load sharing between Cafeteria, Gym Auditorium and Media Center could not run be provided with full cooling all at once. Auditorium is the least used space during the day.
H-5	Accepted 50%
H-6	Accepted 50%
E-3	Accepted

Total accepted VE is approx. \$2.9 million

6. The building committee agreed to accept the following items to revise the base scope of the project.

Discussions centered on B3 (additional program spaces in the auditorium). It was also noted that if the second floor was added it would add square footage.

Additions to the Base Scope

• B2 - VoAg connector	\$27,400
• B3 - Auditorium first floor program space	\$93,000
• S4 - Renovate 3 tennis and add 4th	\$578,600
• S6-1 - Irrigate natural turf	\$224,362
• S7-1 - Refurbish existing turf fields	\$568,729

Add Alternates

- | | |
|---|-------------|
| • S1b-1 - multipurpose synthetic field | \$1,442,891 |
| • S5 – (2) additional tennis courts | \$256,000 |
| • S8 - New toilet and concession stand | \$397,000 |
| • B4 - Auditorium 2 nd floor Alternate | \$188,000 |

7. Public Comment

- Questions, if synthetic turf is included is there a savings on irrigation and the practice field? Response – no, it's included in the number.
- The public voted for athletics and those project requirements need to be implemented. The committee has to deal with the delay.
- The constituents need to understand what they are getting for the 63 million, it needs to be clearly communicated on what was promised and what is being provided. Response from John Chapman – A communication plan will be rolled out and the team is doing the best they can to deliver the project requirements.

Motion made by John Chapman - To authorize the design team to proceed into the Design Development Phase of the project based on the plan laid out for revision to the base scope and agreed add alternates. All will be reviewed again at the end of the Design Development Phase to keep the project on budget.

Motion Seconded by George Bauer

Discussions:

Matt Cleary – Is there a possibility of adding conduit for field lighting in the future? It was agreed within the Design Development phase additional alternates could be added.

Motion carries – Unanimous 8 positive

8. Meeting was adjourned at 9:08 PM

The next meeting is scheduled for **6:30 PM** on **Tuesday November 22, 2016** in the High School Library Media Center, located at 5 Minor Town Road, Woodbury, CT. Additional meetings will be determined.

REGION 14 NONNEWAUG HIGH SCHOOL BUILDING PROJECT

Building Committee Meeting

November 15, 2016



Presentation Agenda

Review of the Following:

- Revised Pricing for Added Scope Items / Alternates
- Pathway to Added Fields Scope (Strategies)
- Value Engineering (VE) Log

Next Steps

- Authorization to Proceed into Design Development Phase

Schematic Design Cost Summary

Concept Design Estimate vs. Schematic Design Cost Estimate

Base Project Scope	A	B	C
	Concept Estimate Budget Base Scope 08/30/16	SD Phase Reconciled Cost Estimate 11/7/16	Variance Over/(Under) Budget (D-A)
Building Cost - High School	\$ 34,831.19	\$ 31,460.00	(3,371.19)
Building Cost - Central Office	\$ 950.32	\$ 977.50	27.18
TOTAL BUILDING CONSTRUCTION COST	\$ 35,781.50	\$ 32,437.50	(3,344.00)
Site Work Cost - High School	\$ 2,854.54	\$ 6,052.00	3,197.46
Site Work Cost - Central Office	\$ 135.00	\$ 120.00	(15.00)
Abatement	\$ 2,542.07	\$ 2,200.00	(342.07)
TOTAL RELATED CONSTRUCTION COST	\$ 5,531.61	\$ 8,372.00	2,840.39
Design Contingency and CM Mark-ups	\$ 8,634.30	\$ 9,488.40	854.10
Escalation	\$ 2,120.74	\$ 1,879.40	(241.34)
	\$ 10,755.04	\$ 11,367.80	612.76
TOTAL CONSTRUCTION COST ESTIMATE	\$ 52,068.16	\$ 52,177.30	109.14
APPROVED VALUE ENGINEERING (VE)		0	
TOTAL w/APPROVED VE	\$ 52,068.16	\$ 52,177.30	109.14
Project Related Costs (By Owner)	\$ 11,752.45	\$ 11,752.45	0.00
TOTAL PROJECT COST	\$ 63,820.61	\$ 63,929.75	\$ 109.14



Added Scope Items

Alternates Pricing w/ Adjustments

		11/08/16	11/15/16
Alt. B1	Canopy at Central Office	\$54,800	
Alt. B2	Enclosure / Connector to VoAG	\$27,400	
Alt. B3	Teaching Spaces in Aud. – Main Level only	\$93,000	
Alt. B4	Teaching Spaces in Aud. – Main & Upper Level	\$188,000	
Alt. S1a	Track & Turf Field w/Irrigation	\$1,843,000	
Alt. S1a-1	Track Resurface & Turf Field w/Irrigation		\$1,127,693
Alt. S1b	Track & Synthetic Field	\$2,443,400	
Alt. S1b-1	Track Resurface & Synthetic Field		\$1,442,981
Alt. S2	Multi-Purpose Field Lighting	\$696,600	
Alt. S3	Aluminum Bleachers	\$471,700	
Alt. S4	(4) Tennis Courts	\$578,600	
Alt. S5	(2) Additional Tennis Courts	\$256,300	
Alt. S5-1	Same as Alt. S5 but in new location		\$283,995
Alt. S6	Irrigation at Existing Natural Turf Fields	\$245,200	
Alt. S6-1	Same as Alt. S6 but tied to existing wells		\$224,362
Alt. S7	Refurbish Existing Fields	\$662,400	
Alt. S7-1	Same as S7 but with reduced scope		\$568,729
Alt. S8	New Toilet and Concessions Bldg.		\$397,000



Added Scope Items – District Preferred

NOTE: Eligible Site Related Items Reimbursed at 50% of District Rate

Added to Base Scope of the Project		\$820,491
B2	- Enclose Connector to Vo Ag Building	\$27,400
S6-1	- Irrigate Natural Turf Fields (use existing well)	\$224,362
S7-1	- Refurbish Existing Turf Field (reduced scope)	\$568,729
Add Alternates		\$2,418,581
S1b-1	- Multi-purpose Field (Synthetic Turf) w/ Re-surfaced Track	\$1,442,981
S4	- Renovate (3) Tennis Courts & (1) New = (4) Total	\$578,600
S8	- New Toilet and Concessions Building	\$397,000

Total VE Savings Required = Approx. \$3,239,072



Value Engineering

Potential Savings

Value Engineering Summary

	Value	w/mark-ups
Total All VE Items	\$4,703,760	\$6,031,730
Total Baseline VE Savings	\$1,964,950	\$2,519,700
Total Pending VE Minor	\$766,140	\$982,430
Total Pending VE Major	\$1,618,630	\$2,075,600
Total Rejected	\$354,050	\$454,000

Base Scope Construction Budget

High School Project

Central Office Project

\$52,068,500

\$50,708,000

\$1,360,500



Value Engineering

Pathway to Adding Fields Scope - OPTION 1

- Identify Desired Fields Scope as Add Alternates
 - Based on District and BC Direction
 - Selected Scope Items to be Add Alternates
 - Limit to (5) Add Alternates or less
- Accept the VE Savings List – (Based on BC and District Direction)
 - Hold on Accepting Remaining Pending VE Items Until End of DD Phase
- Add the “Connector to Vo AG Building” to the Base Scope
- Reduce the Base Scope Construction Budget by the BC Approved Accepted VE Amount
- Proceed into the DD Phase with Revised Base Scope and New Add Alternates List.



Value Engineering

Pathway to Adding Fields Scope - OPTION 2

- Identify Desired Fields Scope as Add Alternates
 - Based on District and BC Direction
- Add Selected Scope Items into Base Scope of the Project
- Remaining Selected Scope Items to be Add Alternates
 - Limit to (5) Add Alternates
- Accept the VE Savings List – (Based on BC and District Direction)
 - Hold on Accepting Remaining Pending VE Items Until End of DD Phase
- Add the “Connector to VoAG Building” to the Base Scope
- Reduce the Base Scope Construction Budget by the BC Approved Accepted VE Amount
- Proceed into the DD Phase with Revised Base Scope and New Add Alternates List.



Value Engineering

Pathway to Adding Fields Scope - OPTION 1

	Value	w/mark-ups	
Total All VE Items	\$4,703,760	\$6,031,730	
Total Baseline VE Savings	\$1,964,950	\$2,519,700	Approve \$ (??) *
Total Pending VE Minor	\$766,140	\$982,430	Hold thru DD
Total Pending VE Major	\$1,618,630	\$2,075,600	
Total Rejected	\$354,050	\$454,000	
Base Scope Construction Budget		\$49,548,800	New Budget (??) *
High School Project		\$48,188,300	Reduce by \$ (??) *
Central Office Project		\$1,360,500	No Change

* Assumption

Approve Baseline Savings Identified Above to Add Fields Scope Back into Base Project and Afford Some Alternates, Assumes Some Risk of Not

9 Getting all Alternates



Value Engineering

Pathway to Adding Fields Scope - OPTION 2

	Value	w/mark-ups	
Total All VE Items	\$4,703,760	\$6,031,730	
Total Baseline VE Savings	\$1,964,950	\$2,519,700	Adjust *
Total Pending VE Minor	\$766,140	\$982,430	Adjust *
Total Pending VE Major	\$1,618,630	\$2,075,600	
Total Rejected	\$354,050	\$454,000	
Base Scope Construction Budget		\$48,798,500	New Budget (??) *
High School Project		\$47,438,000	Reduce by \$ (??) *
Central Office Project		\$1,360,500	No Change

* Assumption

Approve Approx. \$850,000 to Add Fields Scope Back into Base Project

Select Another \$2,420,000 in VE for Alternates Now



State Reimbursement Considerations

Assumes Renovation Status – Decision from OSCG Still Pending

RENOVATION STATUS

Total Approved Budget (2013)	\$63,820,605
Estimated Ineligible Costs (assumed 12% @ HS/ 50% @ Central Office)	\$8,823,667
Projected Eligible Costs	\$54,996,938
Full Reimbursement Rate (reduction Ratio = 99.58%)	47.86%
Reduced Reimbursement Rate	47.66%
Estimated State Reimbursement	\$26,101,266
Estimated District Share	\$28,895,672
Total District Portion (including ineligible costs)	\$37,719,339
Referendum Region 14 Taxpayer Cost (2013) → (per referendum)	\$38,765,310
Variance (over) / under	\$1,045,971

Site scope could affect the reimbursement rate and District Share of the Project cost.

Value Engineering to achieve added site scope could impact ineligible costs.

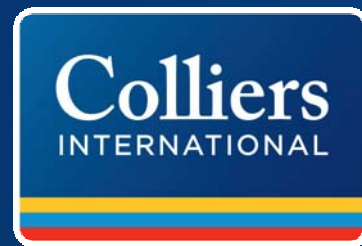
Audit will look to the ED Spec in reviewing final reimbursements.

Next Steps

Special Building Committee Meeting – November 22, 2016

- Incorporate Approved Added Scope, Alternates and VE Savings into the Project
- Report on Renovation Status from OSCG (When Received)
- Future BC Meetings
 - Phase II ESA Results
 - Update on CxA Process (OPR Development)
 - Update on Geotechnical Report
 - Public Presentation of Project Status
 - BC Meetings 12/6, 12/20





Accelerating success.



Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

Regional School District 14
Nonnewaug High School
Additions / Renovations Project

		A		B	C		D	E	F	G	
ITEM #	ITEM DESCRIPTION	DRAWING / SPEC REFERENCE	ALL VE COST SAVINGS ITEMS (DEDUCT)/ADD	VE SAVINGS BASELINE	PENDING / POSSIBLE DEFERRED Minor Impact	PENDING / POSSIBLE DEFERRED/ Significant Impact		REJECTED	RSD 14 SELECTED REDUCTIONS 11/15/2016 (SD Phase)	ALT. "✓"	COMMENTS
SITE / CIVIL / LANDSCAPE											
C-1	Simplify staff/event parking lot, re-design as double loaded drive	SLAM Sketch	\$ 38.54			\$ 38.54			\$ (38.54)		Single Loaded Drive, keep the existing dirt parking lot.
C-2	Eliminate staff/event parking lot (see note)	SLAM Sketch?	\$ -	X		\$ -	X				Additional two tennis courts will need to be eliminated in this option to maintain parking count,
C-3	Take reduction in landscaping and seeding — allowance \$150,000		\$ -	X				Revised in Base			In-Base Scope
C-4	Reduce capacity of underground storage tanks for fire suppression system (see note)	CES Narrative	\$ (305.45)	\$ (305.45)					\$ (305.45)		Review with FM CES Comment: Reduced fire pump size due to manual standpipes will allow for one 70,000 water storage tank (Oldcastle precast model LWT) and one Oldcastle precast 10x16x24RC under pump house.
C-5	Change all blue stone caps on retaining and seat walls to precast		\$ (24.74)		\$ (24.74)						
C-6	Eliminate small stair to athletic fields and re-design handicap ramp to provide access to side of site where stairs were eliminated	SLAM Sketch	\$ (67.32)	X			\$ (67.32)				Need SLAM to review grading to see if stairs can be eliminated in this option. SLAM: NOT POSSIBLE DUE TO EXISTING GRADING.
C-7	Simplify bus loop plaza, delete pavers, change raised area to concrete	SLAM Sketch		X				Revised in Base Scope			Reduced in base scope Add additional savings for no pavers, minimal changes to island
C-8	Change all bituminous walks at fields to stone dust	SLAM Sketch	\$ (39.84)			\$ (39.84)					Review with District Maintenance Issue
C-9	Reduce scope of existing staff/student parking lot	SLAM sketch	\$ -	Revise in DD where possible							Pending Geotech Report Need to meet current P&Z Requirements
C-10	Reduce site lighting fixture count assumption to minimum required	SLAM Narrative	\$ -	Revise in DD where possible							SLAM to provide reduction in fixture quantity SLAM to reduce if possible in DD Phase
C-11	Reduce site drainage scope (see note)	Civil Narrative	\$ -	Revise in DD where possible							Scope existiing pipes to inspect condition Reductions will be taken where possible in DD Phase
	Site / Civil / Landscape - Sub-total		\$ (398.82)	\$ (305.45)	\$ (24.74)	\$ (1.30)	\$ (67.32)		\$ (343.99)		
STRUCTURAL											
S-1	Eliminate ramp outside of gymnasium		\$ (141.00)	\$ (141.00)					\$ (141.00)		Dependant on type of divider curtain installed (RE: Egress) See item No. BN-1
	Structural - Sub-total		\$ (141.00)	\$ (141.00)	\$ -	\$ -	\$ -		\$ (141.00)		



Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

Regional School District 14
Nonnewaug High School
Additions / Renovations Project

		A			C		D	E	F	G	
ITEM #	ITEM DESCRIPTION	DRAWING / SPEC REFERENCE	ALL VE COST SAVINGS ITEMS (DEDUCT)/ADD	VE SAVINGS BASELINE	PENDING / POSSIBLE DEFERRED Minor Impact	PENDING / POSSIBLE DEFERRED/ Significant Impact		REJECTED	RSD 14 SELECTED REDUCTIONS 11/15/2016 (SD Phase)	ALT. "✓"	COMMENTS
BUILDING - EXTERIOR / ENVELOPE											
BX-1	Change to backlit skylights ILO opening up 9 skylights to daylight	SLAM Sketch	\$ -	X				X			SLAM – would prefer to pursue BX-2
BX-2	Change skylights to Sola tubes and infill glazing with gyp bd	SLAM Sketch	\$ (109.00)	\$ (109.00)					\$ (109.00)		CES: UTILIZE (8) SOLATUBE SOLAMASTER 330 DS SERIES UNITS IN LEIU OF ALL (7) SKYLIGHTS AND ALL (20) REPLACED CLERESTORY GLAZING PANELS. INFILL EXISTING INTERIOR SIDE OF GLAZING PANELS WITH TYPE F4 FURRED PARTITION CONSTRUCTION.
BX-3	Use Storefront ILO Curtainwall		\$ (42.36)		\$ (42.36)						SLAM to review new connector for height limitation Cannot take this if BX-5 or BX-6 is accepted
BX-4	Change all metal panel to CMU		\$ (41.47)		\$ (41.47)						
BX-5	Eliminate new entrance and canopy - (keep connector corridor)	SLAM Sketch	\$ (350.24)					\$ (350.24)			Cannot take this if BX-6 is accepted
BX-6	Eliminate new entrance and canopy and connector corridor	SLAM Sketch	\$ (875.59)					\$ (875.59)			Cannot take this if BX-5 is accepted
BX-7	Clean exterior building face ILO re-painting		\$ (51.23)	X				\$ (51.23)			SLAM – Not recommended for this wall material
Bx-8	Reduce extent and finishes of proposed entry canopy	SLAM Sketch	\$ -								Revisit in DD Phase if needed
	Building Exterior / Envelope - Sub-total		\$ (1,469.88)	\$ (109.00)	\$ (83.83)	\$ -	\$ (1,277.05)		\$ (109.00)		
BUILDING - INTERIOR											
BN-1	Change to drop down curtain ILO folding partiiton in Gymnasium		\$ (100.00)	\$ (100.00)					\$ (100.00)		SLAM to review egress requirements for impact to Item No. S-1 SLAM Reviewed, accptable
BN-2	Reduce wood paneling in auditorium by 30%		\$ (51.60)		\$ (51.60)						
BN-3	Reduce wood paneling in corridors by 30%		\$ (35.13)		\$ (35.13)						
BN-4	Revise carpet selection to be below \$45/yd	SLAM	\$ -								O&G base is at \$45/SY
BN-5	Patch and refinishg Gym floor ILO full replacement		\$ (65.10)			\$ (65.10)					Assume 20% patching, also reduces abatement costs AD does not preffer this option
BN-6a	Eliminate Terrace infill, Keep video production in VoAG Build new culinary arts on second floor where video production lab is proposed.	SLAM Sketch	\$ -	X				X			Still construct new corridor connector Current design – 1,820 sf nd adjacent to café for overflow seating. This change = 1,150 sf
BN-6b	Eliminate Terrace infill, Keep video production in VoAG Renovate Culinary Arts Classroom in Place. Move second floor Faculty Workroom and Dining to Proposed Video Production Classroom		\$ -			\$ -					
BN-7	Same as BN-6, except do not build corrdior connector		\$ -	X				X			
BN-8	Change all HVT to VCT floor tile	SLAM Spec	\$ (242.65)		\$ (242.65)				\$ (242.65)		REVIEW MAINTENANCE IMPACT: ANNUAL WAXING ON VCT REQUIRED. NO WAX ON HVT. UTILIZE MANNIGTON TOUCHSTONE OR EQUIVALENT.
BN-9	Eliminate all VCT, patch and seal concrete floors		\$ (170.00)		\$ (170.00)						District to test floor moisture content Cannot be taken with BN-8
BN-10	Reduce renovations to locker rooms	SLAM Sketch	\$ -	X				X			Design needs to be reviewed with District Not preferred by District
BN-11	Reduce central office scope to code required changes only		\$ -	X				X			Sprinklers and ADA changes only SLAM not recommended



Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

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BN-12	Delete ceilings in all storage rooms, jan. closets, IDF rooms, etc.		\$ (43.77)	\$ (43.77)					\$ (43.77)		
BN-13	Change to 2x4 ceiling tile ILO 4x4 ceiling tile in Media Center		\$ (16.83)		\$ (16.83)						
BN-14	Change interior storefront to aluminum door frames		\$ -	X				Revised in Base			
BN-15	Keep existing doors where possible	SLAM	\$ -	X				Revised in Base			
BN-16	Change to PLAM sills ILO solid surface sills		\$ (20.80)		\$ (20.80)						Not recommended by design team
	Building Interior - Sub-total		\$ (664.47)	\$ (100.00)	\$ (499.37)	\$ (65.10)	\$ -		\$ (342.65)		

FIRE PROTECTION											
FP-1	Change to manual standpipe system (Reductions Inside Building)		\$ -	See C-4 Above							Review with FM, reduces size of fire pump and storage tanks CES comment: Manual standpipes will allow for diesel fire pump house package manufactured by Armstrong Pumps to be sized for 500 GPM @ 100ft/d approximately. See note C-4 above for additional information.
FP-2	Change to flex heads ILO black iron pipe		\$ (15.00)			\$ (15.00)					Review with District Facilities Director
FP-3	Change to exposed heads ILO concealed type	SLAM sketch	\$ -								Combined with BN--12
	Fire Protection - Sub-total		\$ (15.00)	\$ -		\$ (15.00)	\$ -	\$ -	\$ -		

PLUMBING											
P-1	Provide manual faucets and flush valves ILO automati sensing type		\$ (12.20)			\$ (12.20)			\$ (12.20)		Review with District Facilities Director
P-2	Provide insta-hot water heaters ILO storage type		\$ -	X				X			CES Comment: Not recommended because hot water recirculation throughout the building. In addition the power consumption is extremely high for a building this size. As a result the electrical feeders and service can be effected. We typically do not recommend these units unless it is an office space or tenant fit-out. We do mention in our SD Narrative to provide tankless water heaters at janitor closets to supply hot water during the summer months when the building water heaters are shut down, if the owner so chooses.
P-3	Change water heaters to (2) PVI Conquest 80 L 130A-GCML. "		\$ -								CES Suggested VE - Take this in Design Development
	Plumbing - Sub-total		\$ (12.20)	\$ -		\$ (12.20)	\$ -	\$ -	\$ (12.20)		



Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

Regional School District 14
Nonnewaug High School
Additions / Renovations Project

			A	B		D	E	F	G
ITEM #	ITEM DESCRIPTION	DRAWING / SPEC REFERENCE	ALL VE COST SAVINGS ITEMS (DEDUCT)/ADD	VE SAVINGS BASELINE	PENDING / POSSIBLE DEFERRED Minor Impact	PENDING / POSSIBLE DEFERRED/ Significant Impact	REJECTED	RSD 14 SELECTED REDUCTIONS 11/15/2016 (SD Phase)	ALT. "✓" COMMENTS
HVAC									
H-1	Move chiller sound enclosures 30 to 40 feet away from bldg with sound blankets	SLAM Sketch	\$ (402.00)	\$ (402.00)				\$ (402.00)	SLAM to verify with acoustic engineer
H-2	Move chiller sound enclosures away from bldg to eliminate sound-control requirements	SLAM Sketch		X			X		SLAM to verify with acoustic engineer and proximity to neighbors Similar to H-1
H-3	Change to Cassette units for VFR system	SLAM Sketch?	\$ (400.00)	\$ (400.00)				\$ (400.00)	
H-4a	Eliminate AC from school except in specific areas (see notes)		\$ (214.50)	X			\$ (214.50)		Keep AC in Auditorium, Central offices, Admin offices, Media-Center, Fitness Room CES Suggested VE:- Option #1- Full cooling of air handlers listed above: Chillers will be reduced to (2) 120 ton chillers Trane model CGAM-120. Pumps P1A&B will be 25 HP Armstrong dual arm model 4302 pumps.- -AHU-1, 7, 8, 9, & 10 no cooling coil -VRF to be reduced where no VRF indoor or outdoor units serve classrooms.-
H-4b	Eliminate AC from school except in specific areas (see notes) Load Sharing		\$ (258.40)			\$ (258.40)			CES Suggested VE: Cooling for only for class ventilation and offices only air handlers with swing space of auditorium: Chillers will be reduced to (2) 90 ton chillers Trane model CGAM-90. Pumps P1A&B will be 20 HP Armstrong dual arm model 4302 pumps. -AHU-1, 7, 8, 9, & 10 no cooling coil -VRF to be reduced where no VRF indoor or outdoor units serve classrooms. SLAM and District do not prefer to reduce AC
H-5	Reduce number of fume hoods in science classrooms (Chemistry)		\$ (33.00)		\$ (33.00)			\$ (16.50)	Reduce from 4 to 2 - (4) total -- District to advise. Cannot be taken if H-7 is accepted
H-6	Reduce number of fume hoods in science classrooms (Biology)		\$ (58.00)		\$ (58.00)			\$ (29.00)	Reduce from 2 to 1 - (3) total -- District to advise Cannot be taken if H-7 is accepted
H-7	Eliminate Stainless Steel ductwork in chemistry labs		\$ (40.00)		\$ (40.00)				SLAM to verify list of chemical used in chemistry labs with District. Use fume hoods with filters? Cannot be taken with H-5 or H-6
H-8	Reuse HVAC unit serving Central offices,		\$ -	X			X		CES does not recommend this due to lost efficiency
H-9	Reduce amount of roof cut and patch for new AHU replacement	SLAM Sketch?	\$ -	Revise in DD where possible					SLAM to coordinate with CES and Structural Engineer SLAM to review potential in DD
H-10	Open specification for HVAC controls		\$ (75.00)	\$ (75.00)				\$ (75.00)	
	HVAC - Sub-total		\$ (1,480.90)	\$ (877.00)	\$ (131.00)	\$ (258.40)	\$ (214.50)	\$ (922.50)	



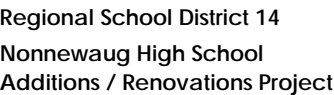
Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

Regional School District 14
Nonnewaug High School
Additions / Renovations Project

		A		B	C		D	E	F	G	
ITEM #	ITEM DESCRIPTION	DRAWING / SPEC REFERENCE	ALL VE COST SAVINGS ITEMS (DEDUCT)/ADD	VE SAVINGS BASELINE	PENDING / POSSIBLE DEFERRED Minor Impact	PENDING / POSSIBLE DEFERRED/ Significant Impact		REJECTED	RSD 14 SELECTED REDUCTIONS 11/15/2016 (SD Phase)	ALT. "✓"	COMMENTS
ELECTRICAL (includes Fire Alarm and Low Voltage Items)											
E-1	Reduce number of fire pull stations through buildings		\$ -	TBD							\$500 savings / each - To be reviewed with FM CES Comment: This will need to be formally reviewed and approved by the AHJ prior to implementing into the design. We should keep this as a possible savings but not count on it at this stage.
E-2a	Change service entrance feeders to aluminum ILO copper		\$ (10.00)			\$ (10.00)					CES Comment: Change aluminum feeders for the service entrance conductors from the utility transformer to the main service entrance switch.
E-2b	Change feeders to aluminum ILO copper		\$ (58.00)			\$ (58.00)					CES Comment: Provide Aluminum feeders for panelboards 100A and larger. HVAC equipment shall remain copper.
E-3	Change to MC cable ILO EMT for branch circuit wiring	CES Narrative?	\$ (380.00)	\$ (380.00)					\$ (380.00)		Entire building (where allowed) CES Comment: Estimator to confirm if included in base
E-4	Change to fluorescent light fixtures in locker rooms, storage/mech/elec/data rooms		\$ (21.00)	X			\$ (21.00)				SLAM/CES--Not Preferred
E-5	Use (12) recessed 2x4 LED fixtures in lieu of 3 rows of 6 Pinnacle linear recessed fixtures in all classroom spaces (35)		\$ (52.50)	\$ (52.50)					\$ (52.50)		\$1,500 savings per classroom (expected)
	Electrical - Sub-total		\$ (521.50)	\$ (432.50)	\$ -	\$ (68.00)	\$ (21.00)		\$ (432.50)		



Regional School District 14
Nonnewaug High School
Additions / Renovations Project

Site / Civil / Landscape VE Savings Sub-total	\$ (398.82)	\$ (305.45)	\$ (24.74)	\$ (1.30)	\$ (67.32)	\$ (343.99)
Structural VE Savings Sub-total	\$ (141.00)	\$ (141.00)	\$ -	\$ -	\$ -	\$ (141.00)
Building Exterior/Envelop VE Suggestions Sub-total	\$ (1,469.88)	\$ (109.00)	\$ (83.83)	\$ -	\$ (1,277.05)	\$ (109.00)
Building Interior VE Savings Sub-total	\$ (664.47)	\$ (100.00)	\$ (499.37)	\$ (65.10)	\$ -	\$ (342.65)
Building General VE Savings Sub-total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Protection VE Savings Sub-total	\$ (15.00)	\$ -	\$ (15.00)	\$ -	\$ -	\$ -
Plumbing VE Savings Sub-total	\$ (12.20)	\$ -	\$ (12.20)	\$ -	\$ -	\$ (12.20)
HVAC VE Savings Sub-total	\$ (1,480.90)	\$ (877.00)	\$ (131.00)	\$ (258.40)	\$ (214.50)	\$ (922.50)
Electrical VE Savings Sub-total	\$ (521.50)	\$ (432.50)	\$ -	\$ (68.00)	\$ (21.00)	\$ (432.50)
	\$ (4,703.76)	\$ (1,964.95)	\$ (766.14)	\$ (392.80)	\$ (1,579.87)	\$ (2,303.84)



Value Engineering Log



Schematic Design Phase Estimate - 11/08/16, Updated 11,15/16
Design Development Estimate -
75% Construction Documents Estimate -

Regional School District 14
Nonnewaug High School
Additions / Renovations Project

			A	B	C	D	E	F	G
					PENDING / POSSIBLE DEFERRED Minor Impact	PENDING / POSSIBLE DEFERRED/ Significant Impact		RSD 14 SELECTED REDUCTIONS 11/15/2016 (SD Phase)	ALT. "✓"
ITEM #	ITEM DESCRIPTION	DRAWING / SPEC REFERENCE	ALL VE COST SAVINGS ITEMS (DEDUCT)/ADD	VE SAVINGS BASELINE			REJECTED		COMMENTS

ALTERNATES			
Alt. No. B1	Canopy at Central Office	\$	54.80
Alt. No. B2	Enclosure at Corridor to VoAG Building	\$	27.80
Alt. No. B3	Teaching Spaces in Auditorium - Main Level Only	\$	93.00
Alt. No. B4	Teaching Spaces in Auditorium - Main and Upper Level	\$	188.00
Alt. No. S1a	Track and Natural Turf Field w/Irrigation	\$	1,843.00
Alt. No. S1a-1	Re-surfaced Track and Natural Turf Field w/Irrigation	\$	1,127.69
Alt. No. S1b	Track and Synthetic Turf Field	\$	2,443.40
Alt. No. S1b-1	Re-surfaced Track and Synthetic Turf Field	\$	1,442.98
Alt. No. S2	Multipurpose Field Lighting	\$	696.60
Alt. No. S3	Aluminum Bleachers	\$	471.70
Alt. No. S4	(4) Tennis Courts	\$	578.60
Alt. No. S5	(2) Additional Tenniss Courts	\$	256.30
Alt. No. S5-1	(2) Additional Tenniss Courts in new location	\$	284.00
Alt. No. S6	Irrigation at Natural Turf Fields	\$	245.20
Alt. No. S6-1	Irrigation at Natural Turf Fields using existing well	\$	224.36
Alt. No. S7	Refurbish Existing Fields, Athletic Amenities	\$	662.40
Alt. No. S7-1	Refurbish Existing Fields, Athletic Amenities w/ reduced scope	\$	568.73
Alt. No S8	New Toilet and Concessions Building	\$	397.00

	ADD TO BASE SCOPE - District Priority
	ADD TO BASE SCOPE
✓	ALTERNATE
	Includes new track
	Includes new track
✓	ALTERNATE
	ADD TO BASE SCOPE
✓	Renovate (3) existing, add (1) new cout
	ALTERNATE
	Will not allow Event Parking Lot to be eliminated
	ADD TO BASE SCOPE
	ADD TO BASE SCOPE
✓	ALTERNATE

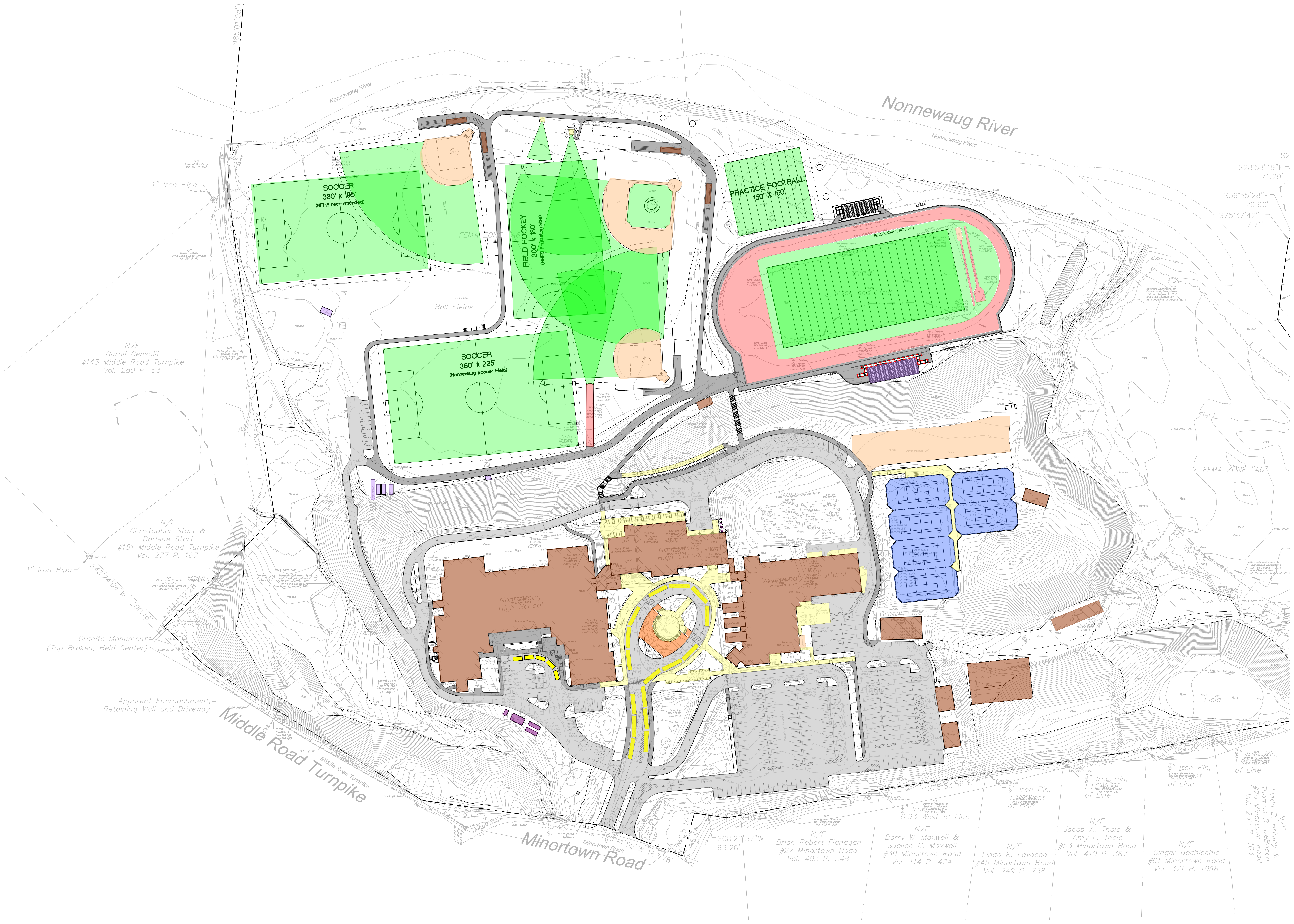
Total Add to Base Scope	\$	1,492.49
Total Alternates	\$	2,284.28

Construction Budget	\$	52,068.20
Reconciled SD Estimate	\$	52,177.30

Accepted VE	\$	(2,954.26)
Value Engineering Required to Meet Budget		109.10
Total Added to Base Scope	\$	1,492.49
Total Revised Construction Budget	\$	50,824.63
Variance to Budget - Over/(Under)	\$	(1,243.57)

SD Phase - Building Committee Approved 11/15/16

SD Phase - Building Committee Approved 11/15/16



1" Iron Pipe

N/F
Gurali Cenkolli
#143 Middle Road Turnpike
Vol. 280 P. 63

N/F
Christopher Start &
Darlene Start
#151 Middle Road Turnpike
Vol. 277 P. 167

N/F
Christopher Start &
Darlene Start
#151 Middle Road Turnpike
Vol. 277 P. 167

Granite Monument
(Top Broken, Held Center)

Apparent Encroachment,
Retaining Wall and Driveway

Middle Road Turnpike

Minortown Road

Nonnewaug River

Nonnewaug River

S28°58'49"E
71.29'

S36°55'28"E
29.90'

S75°37'42"E
7.71'

Field

FEMA ZONE "A6"

Field

Field

Field

Field

Field

Field

Field

N/F
Brian Robert Flanagan
#27 Minortown Road
Vol. 403 P. 348

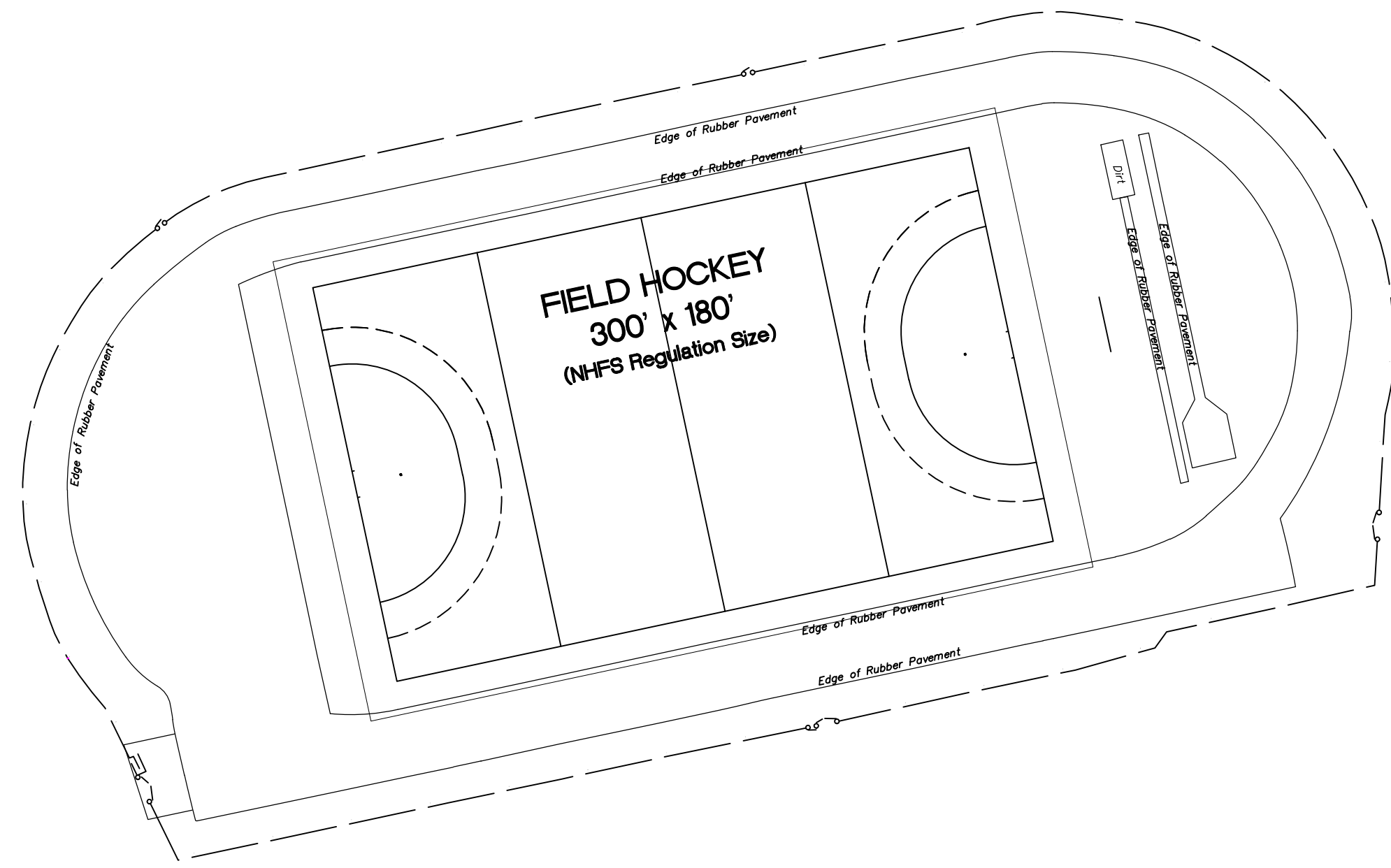
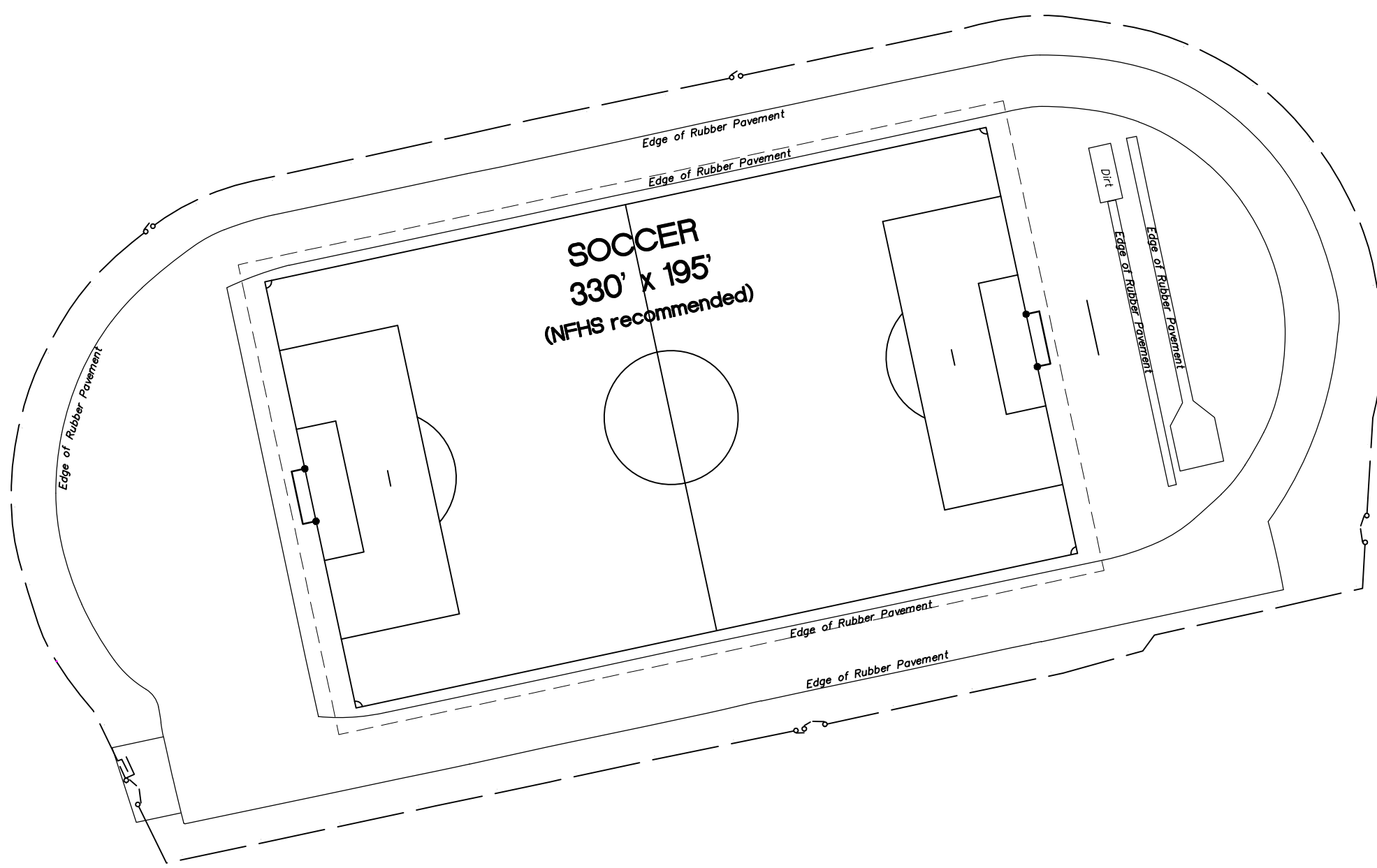
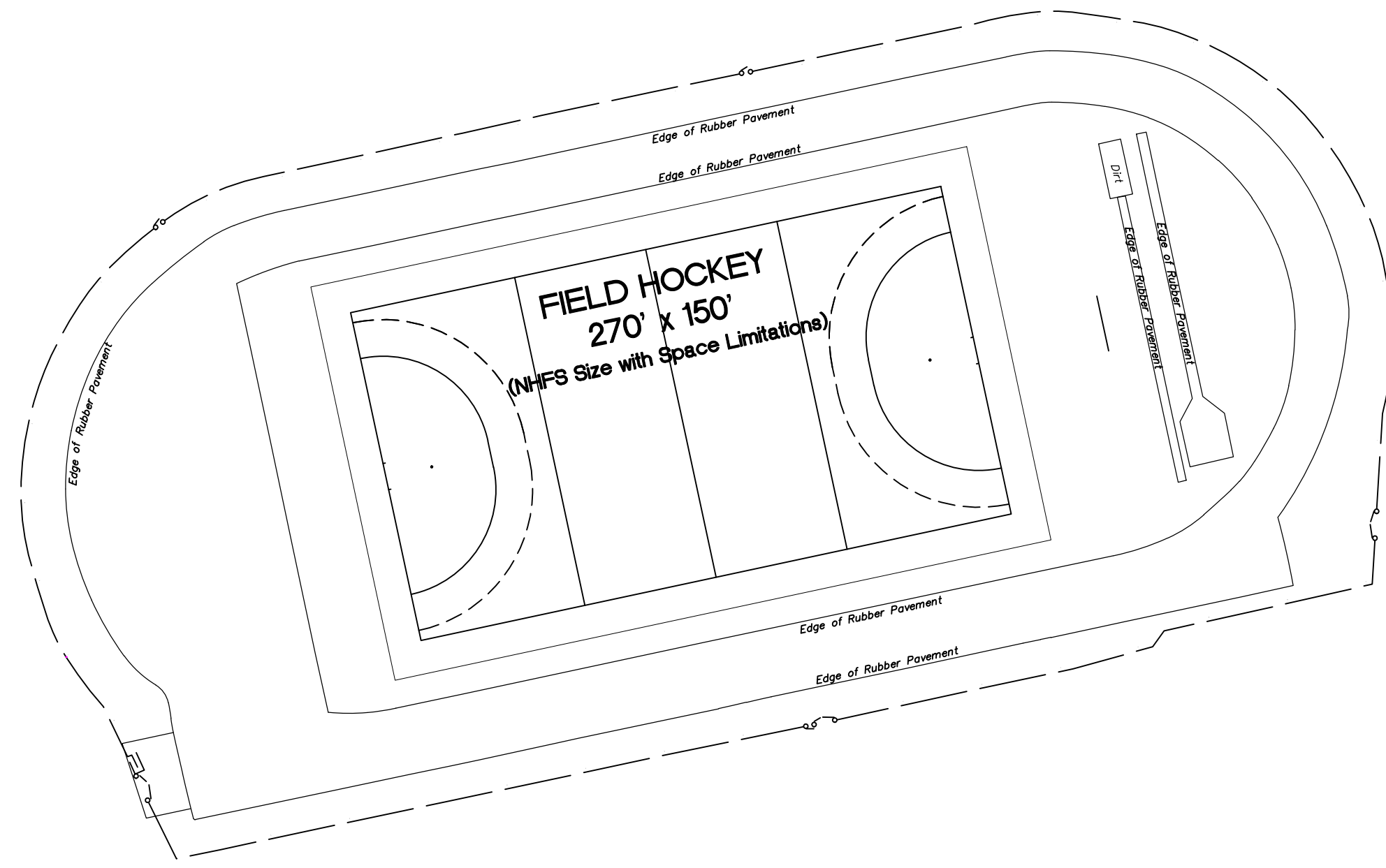
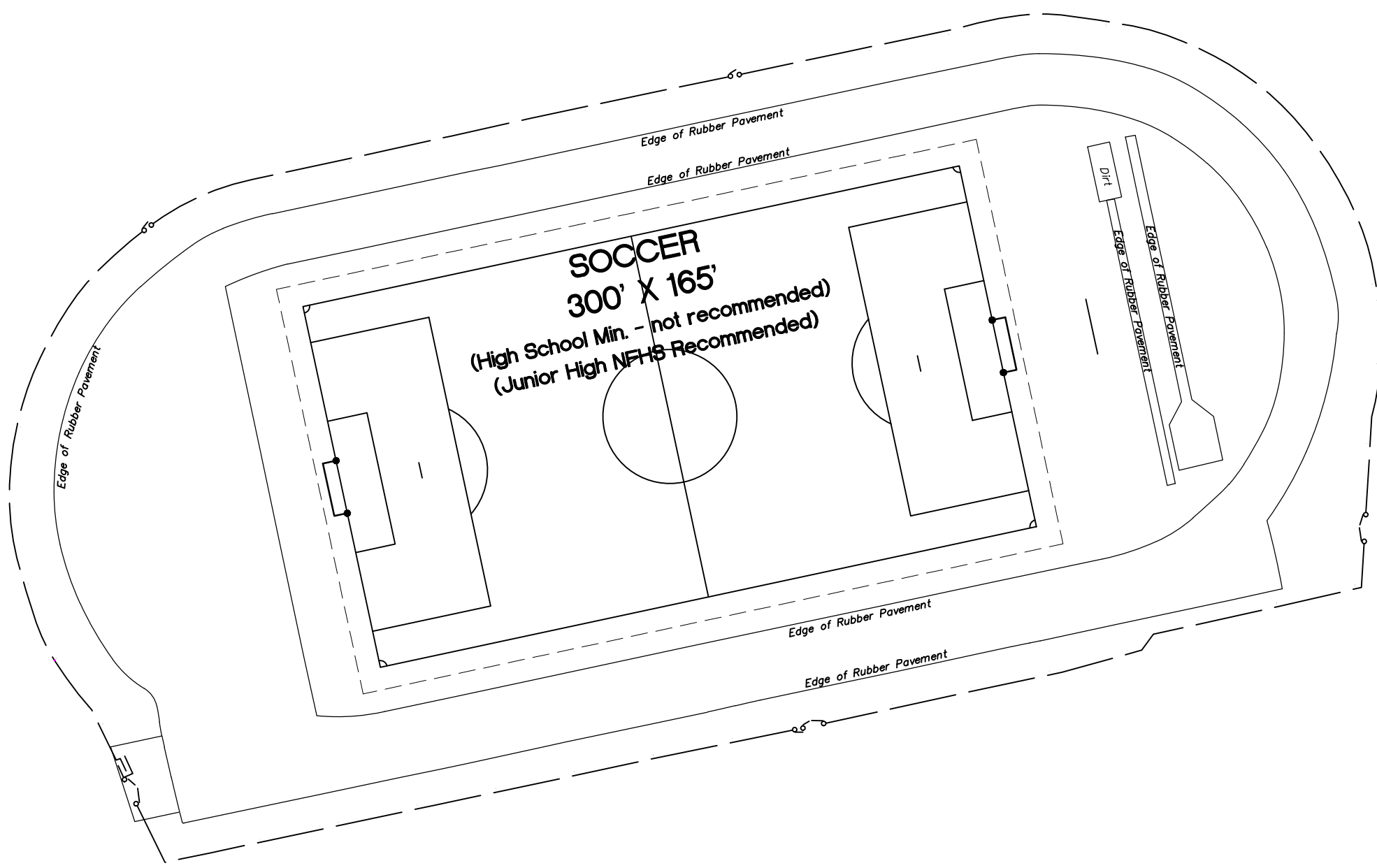
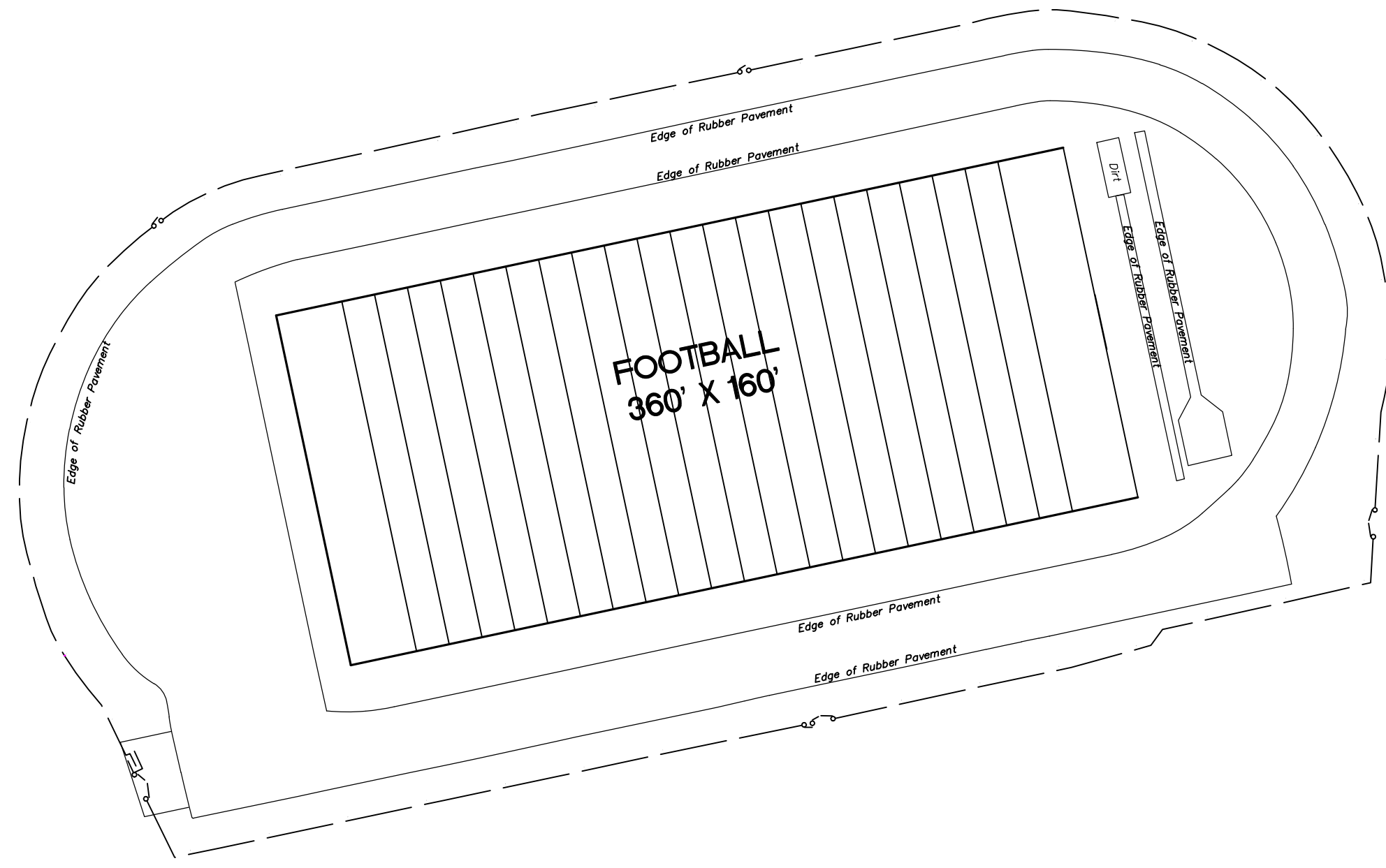
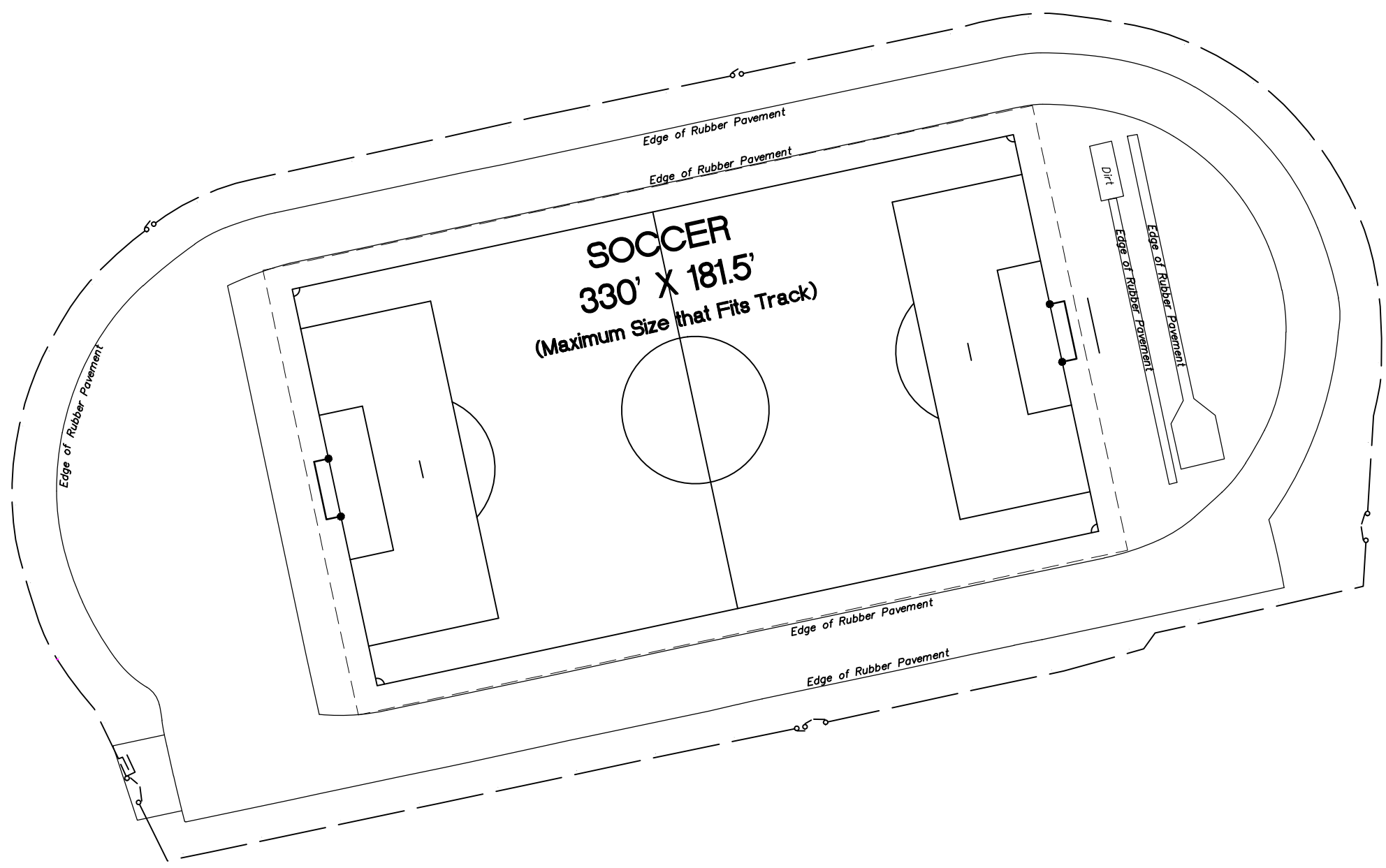
N/F
Barry W. Maxwell &
Suellen C. Maxwell
#39 Minortown Road
Vol. 114 P. 424

N/F
Linda K. Lavacca
#45 Minortown Road
Vol. 249 P. 738

N/F
Jacob A. Thole &
Amy L. Thole
#53 Minortown Road
Vol. 410 P. 387

N/F
Ginger Bochicchio
#61 Minortown Road
Vol. 371 P. 1098

N/F
Linda B. Brinley &
Thomas R. DeBacco
#75 Minortown Road
Vol. 250 P. 405



Proposed Field Diagrams at Existing Track

Scale: 1" = 60'