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<b>TO:</b>	Marc Meyers, City of Bath	<b>DATE:</b>	2/22/2018
<b>FROM:</b>	Michael Guethle, P.E.; Doug Rice, P.E.	<b>PROJECT NO.:</b>	13971A
<b>SUBJECT:</b>	McMann Complex Opinion of Probable Costs Memorandum		

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Marc,

The Master Plan for the McMann Complex Improvements has been developed based on a site visit and multiple collaborative meetings with several project partners. From these meetings and plan developments, the work has been proposed to consist of five phases. An Opinion of Probable Costs for each of these phases has been developed, and is attached. A series of details used to develop these costs has also been attached. Below, please find a discussion of how these costs were developed, and what these costs specifically include.

### **Phase 1**

Phase 1 consists of constructing the proposed new Maintenance Facility. Appurtenant to this new facility is associated project blasting, retaining walls, gravel base for vehicle access, and lawn restoration/stabilization. The first phase will also provide for utility upgrades, to serve the proposed Maintenance Facility. Utilities should be designed to support Phase 2's Bathrooms and Storage building.

The Maintenance Facility building was designed to be similar to an existing building at Oak Grove. The proposed building includes a heated garage, two bathrooms, office spaces, and an unheated storage compartment. The building is situated to allow for a pull-through garage in the heated portion, and space has been allocated around the building to allow for maintenance equipment maneuvering. The size of the building was based on comments from City staff to allow for storage of equipment in a covered building, protected from weather and vandalism.

Blasting for all phases is included in the first phase of the project. This is because future blasting in areas adjacent to the new Maintenance Facility could cause structural damage, or require

costlier, less intrusive means of ledge removal. The actual amount of blasting required will be confirmed as part of a geotechnical evaluation and design. This work should be completed in consonance with a project survey to minimize blasting or earthwork based on more final site grading plan. This preliminary design and site evaluation should also include a pre-application meeting with MaineDEP to discuss permitting needs, including any necessary stormwater treatment for each phase of construction.

A large amount of the site's gravel base is proposed in locations where ledge is removed. This is an effort to minimize re-excavation of materials prior to future phases. Paving these new gravel surfaces is not currently proposed in Phase 1. However, if the City prefers, new gravel placement could be reduced and new pavement could be proposed over a portion of the graveled site. This would result in an overall increase to the project cost, but would provide a finish paved surface for Phase 1.

## **Phase 2**

This phase of construction consists of constructing a building for bathrooms, storage, and team meeting rooms. The building is designed to be 70'x40' with an 8' awning. The building itself can be constructed in sub-phases, with the first portion of construction limited to bathrooms and storage. Additional storage and team rooms could then be constructed at a later date. Demolition of existing buildings will occur when the new building is completed.

Flexibility has been designed into the second sub-phase of building construction. The team rooms may extend to a larger size than indicated on the plans to accommodate larger teams, and team room sizes can similarly be reduced to allow for more storage. In general, the building has been sized based on conversations with the City and RSU, and has been designed to allow for modifications to meet the McMann Complex's changing needs.

The existing concession stand is not being relocated as part of the site master plan. The All-Sports Boosters organization prefers to review building improvements on their own accord and does not

want to be relocated outside of the McMann Field fencing. As stated previously in this section, the new bathrooms and storage building is being designed with flexibility to allow for sub-phases of construction. A third sub-phase of building construction that incorporates a concession stand would be feasible, but has not been incorporated into the cost estimates or design due to the current direction from the City and the All-Sports Boosters.

### **Phase 3**

Phase 3 consists of major site features for the complex upgrades. Parking lot earthwork is completed for the bus loop, parking locations, and sidewalks. The site is then paved, with new pavement over new gravel locations, and surface milling and surface pavement reconstruction proposed for the existing paved surfaces. The proposed work allows for limited additional drainage infrastructure, as well as slipform curbing for the sidewalk locations. The improvements also include pavement markings, tree plantings, seeding/site restoration, and benches.

An emergency access location will be constructed to allow for ambulance access to Kelly Field, consisting of either gravel surface with seeding, or with geogrid/geoblock turf reinforcement. Additional conversations with emergency services will be needed to confirm final products, but the proposed master plan incorporates conservative aisle widths and turning radii to allow for emergency access. Limited retaining walls are also proposed, with attention placed to minimizing their use in emergency access locations.

### **Phase 4**

Phase 4 consists of surface regrading for a gravel overflow parking lot adjacent to Old Brunswick Road. Preliminary site evaluations indicate that the parking lot location is near the threshold for acceptable site distance for a new driveway. Further evaluations will need to be confirmed when a formal survey is available. Costs have been included for limited tree or outcrop removal adjacent to the roadway to improve sight distance. A light gravel roadway has also been proposed to allow for maintenance equipment or vehicles to access this gravel lot from the maintenance facility.

## **Phase 5**

Phase 5 consists of stone dust pathways for site circulation improvements. Stone dust pathways have been designed to formalize pedestrian desire lines for persons accessing the site from the Middle School, such as recess or gym classes, and to provide pedestrian access to the entire complex. Improvements include connections to the Whiskeag Trail, with no modifications to the existing trail.

## **Non-Phased Items**

Lighting has not been incorporated under a specific phase due to uncertainties about the need for lighting, as well as its substantial and variable cost. Probable costs and layout for parking lot lighting have been provided in the form of fixtures that encompass the improved project area, and are typically 25' tall standard fixtures. Probable costs for pathway lighting have been provided along the stone dust pathways between the middle school and the sidewalk locations. Lighting options should be revisited as part of the next phase of design to confirm which locations will necessitate site lighting, and which locations will not need lighting.

Probable costs for stormwater treatment and project permitting have been included for stormwater quality treatment requirements. These costs are based on the area of surfaces being redeveloped in accordance with MaineDEP redevelopment standards.

However, Site Law (SLODA) permits are required by the MaineDEP to ensure that large site developments meet environmental restrictions for stormwater runoff, solid waste disposal, wastewater disposal, and other site constraints. It is anticipated that the existing level of development at the McMann complex will have already required a SLODA permit or Stormwater Management Law Permit, yet there is not one currently on file with the MaineDEP or at the City. As such, redevelopment of the complex may trigger additional requirements for stormwater treatment mitigation at the existing developed fields and facilities. Therefore, any construction or permitting costs associated with existing site limitations cannot accurately be considered until

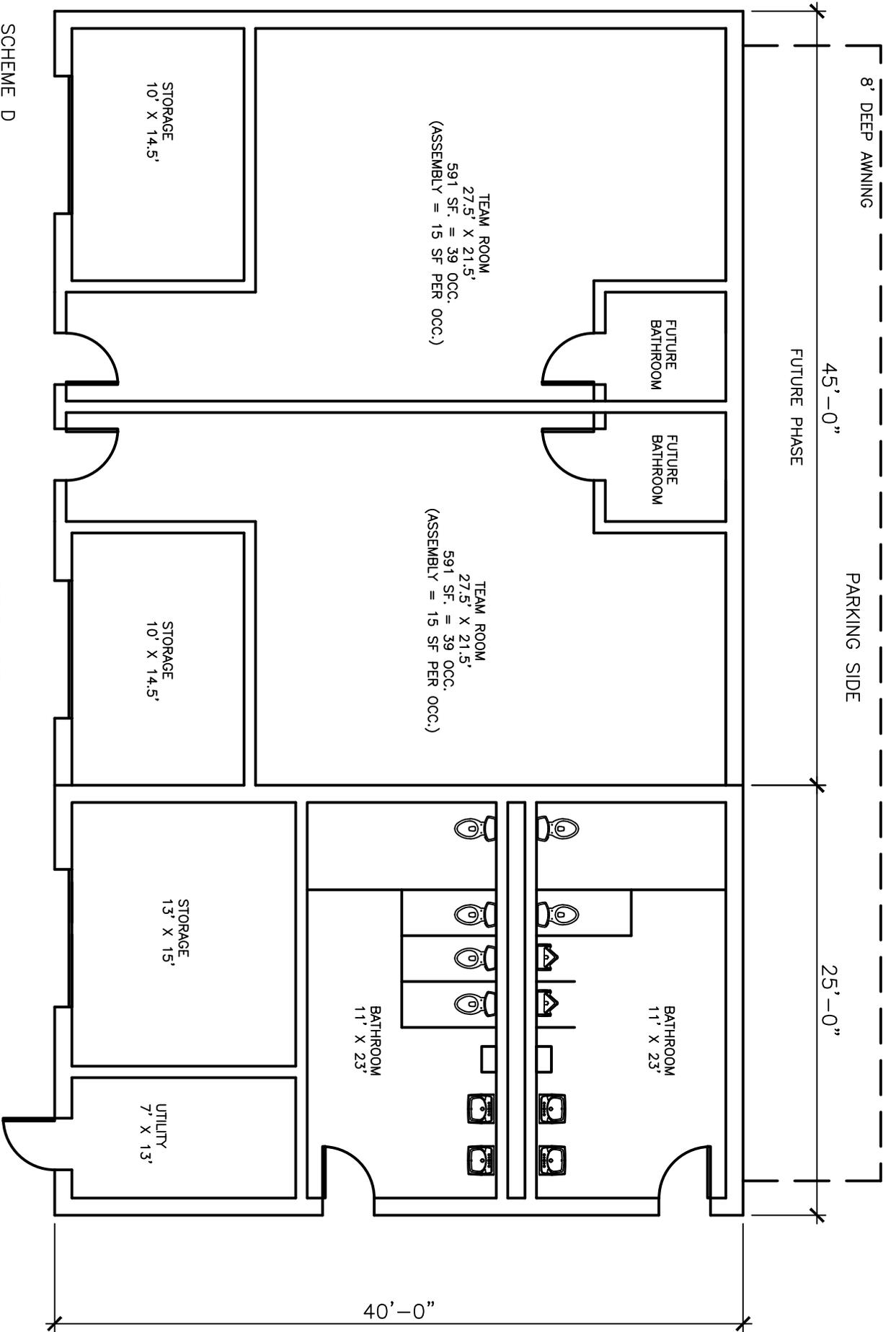
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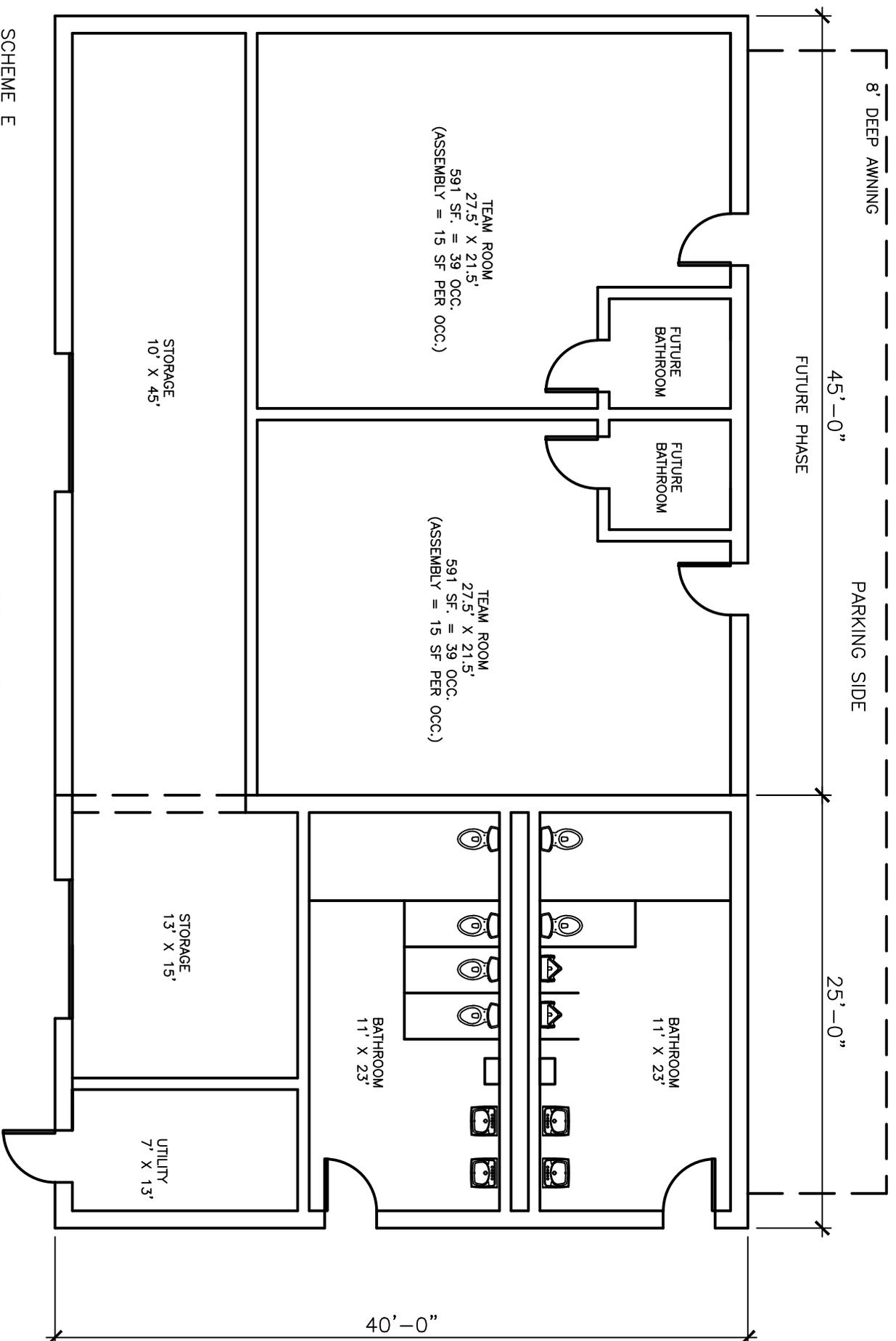
discussed at a pre-application meeting with the MaineDEP. A pre-application meeting would not typically occur until the first phase of design and site permitting, and any costs for these required improvements would be verified at this time.

<b>OPINION OF PROBABLE COSTS: ALL CONSTRUCTION AND DESIGN PHASES</b>		
<b>MCMANN ATHLETIC COMPLEX MASTER PLAN</b>		
<b>PHASE 1</b>	<b>Low</b>	<b>High</b>
Maintenance Facility Building	\$ 225,000.00	\$ 300,000.00
Demolition and Clearing	\$ 3,000.00	\$ 7,500.00
Utility Connections	\$ 2,500.00	\$ 5,000.00
Access/Roadway	\$ 65,000.00	\$ 85,000.00
Blasting	\$ 30,000.00	\$ 40,000.00
Retaining Walls	\$ 15,000.00	\$ 30,000.00
<b>Phase Sum</b>	<b>\$ 340,500.00</b>	<b>\$ 467,500.00</b>
<b>PHASE 2</b>	<b>Low</b>	<b>High</b>
Demolition	\$ 1,500.00	\$ 2,500.00
Bathrooms and Storage Building (Subphase I)	\$ 185,000.00	\$ 205,000.00
Team Rooms and Storage Building (Subphase II)	\$ 200,000.00	\$ 225,000.00
Utilities	\$ 2,500.00	\$ 5,000.00
<b>Phase Sum</b>	<b>\$ 389,000.00</b>	<b>\$ 437,500.00</b>
<b>PHASE 3</b>	<b>Low</b>	<b>High</b>
Sidewalks/Plaza	\$ 40,000.00	\$ 50,000.00
Trees/Plantings	\$ 12,000.00	\$ 20,000.00
Resurface Existing Lot	\$ 45,000.00	\$ 50,625.00
Drainage	\$ 15,000.00	\$ 30,000.00
New Parking Construction	\$ 300,000.00	\$ 350,000.00
New Pavement: New Graveled areas	90000	\$ 97,500.00
Retaining Walls	\$ 12,000.00	\$ 20,000.00
Emergency Access to Kelly Field	\$ 15,000.00	\$ 20,000.00
<b>Phase Sum</b>	<b>\$ 529,000.00</b>	<b>\$ 638,125.00</b>
<b>PHASE 4</b>	<b>Low</b>	<b>High</b>
Gravel Lot	\$ 3,000.00	\$ 5,000.00
Gravel Roadway to Maintenance	\$ 5,000.00	\$ 12,000.00
<b>Phase Sum</b>	<b>\$ 8,000.00</b>	<b>\$ 17,000.00</b>
<b>PHASE 5</b>	<b>Low</b>	<b>High</b>
Pathways	\$ 12,500.00	\$ 17,500.00
<b>Phase Sum</b>	<b>\$ 12,500.00</b>	<b>\$ 17,500.00</b>
<b><i>TOTAL CONSTRUCTION COSTS</i></b>	<b><i>\$ 1,279,000.00</i></b>	<b><i>\$ 1,577,625.00</i></b>
<b>NON-PHASED ITEMS</b>		
Stormwater Treatment (Quality Standard)	\$ 25,000.00	\$ 40,000.00
Pathway Lighting	\$ 110,000.00	\$ 185,000.00
Parking and Access Lighting	\$ 360,000.00	\$ 540,000.00
Engineering (10%)	\$ 127,900.00	\$ 157,762.50
Construction Administration (8%)	\$ 102,320.00	\$ 126,210.00
<b><i>TOTAL PROJECT COSTS</i></b>	<b><i>\$ 2,004,220.00</i></b>	<b><i>\$ 2,626,597.50</i></b>



SCHEME D  
SCHEMATIC BUILDING PLAN  
MCMANN FIELD 02-12-18  
BATH, ME  
PROJ. 13971



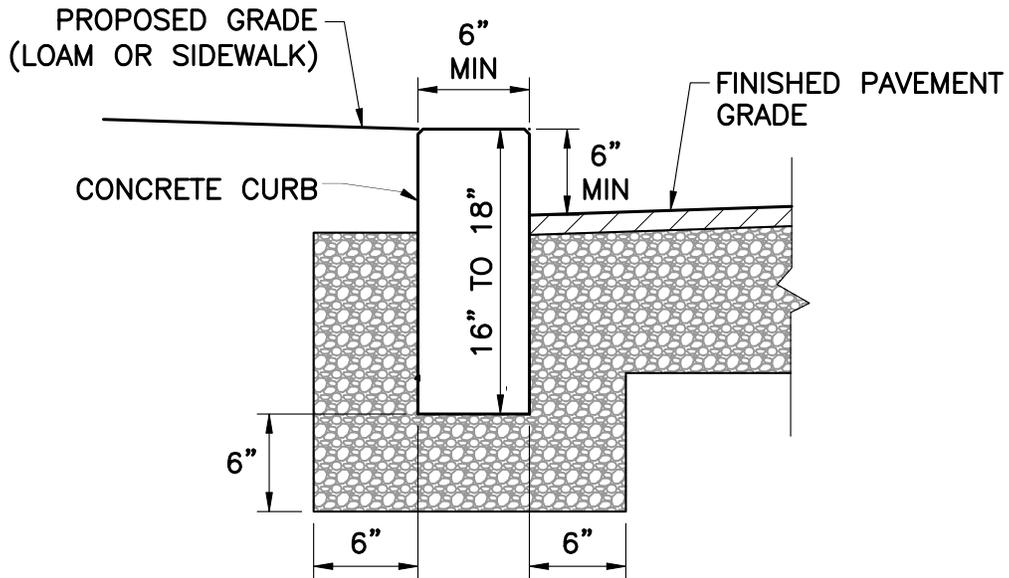


SCHEME E  
 SCHEMATIC BUILDING PLAN  
 MCMANN FIELD 02-12-18  
 BATH, ME  
 PROJ. 13971

DETAIL NAME: CURB - CONCRETE  
REFERENCE: 02526

DIVISION MGR: \_\_\_\_\_  
QA/QC MGR: DWS  
DRAFTING MGR: RLW

FILE NAME: CurbPcConc  
VIEWPORT SCALE: 1/1XP



**CONCRETE CURB**  
SCALE: NTS

DETAIL NAME: RETAINING WALL - KEYSTONE

REFERENCE:

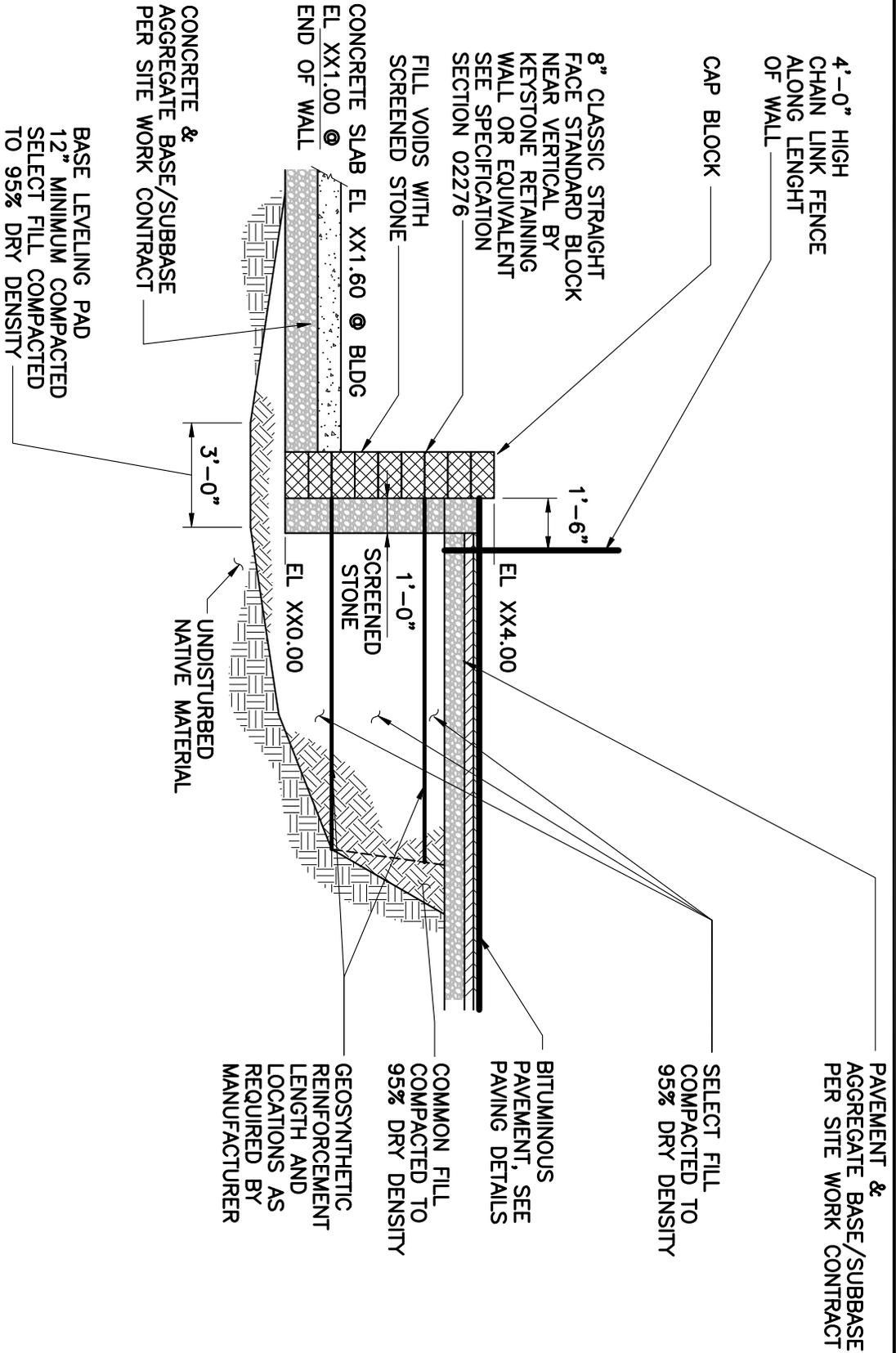
DIVISION MGR: JCE \_\_\_\_\_

QA/QC MGR: \_\_\_\_\_

DRAFTING MGR: \_\_\_\_\_

FILE NAME: RetWallKeystone

VIEWPORT SCALE: 1/1XP



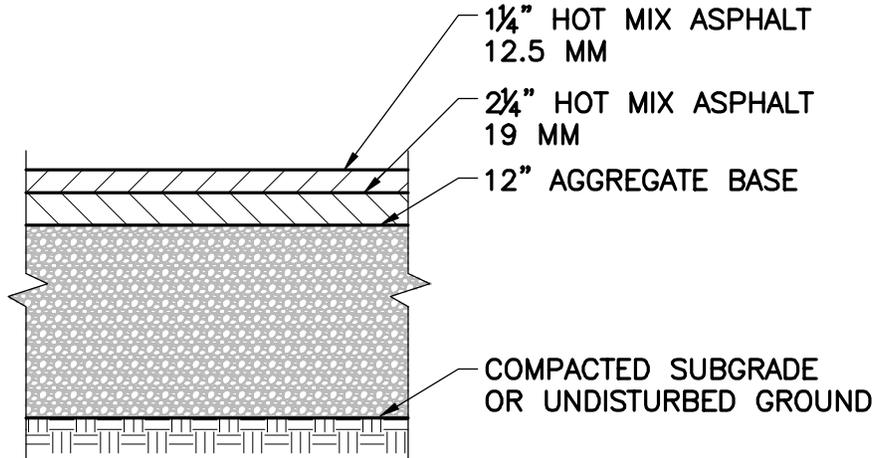
# KEYSTONE RETAINING WALL

SCALE: NTS

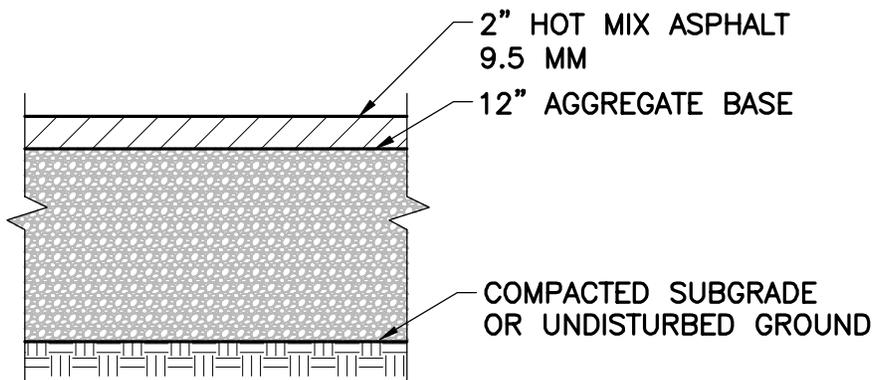
DETAIL NAME: PAVEMENT SECTION  
REFERENCE: 02513

DIVISION MGR: \_\_\_\_\_  
QA/QC MGR: DWS  
DRAFTING MGR: RLW

FILE NAME: PavementSect  
VIEWPORT SCALE: 1/1XP



**PARKING LOT PAVEMENT**  
SCALE: "NTS"

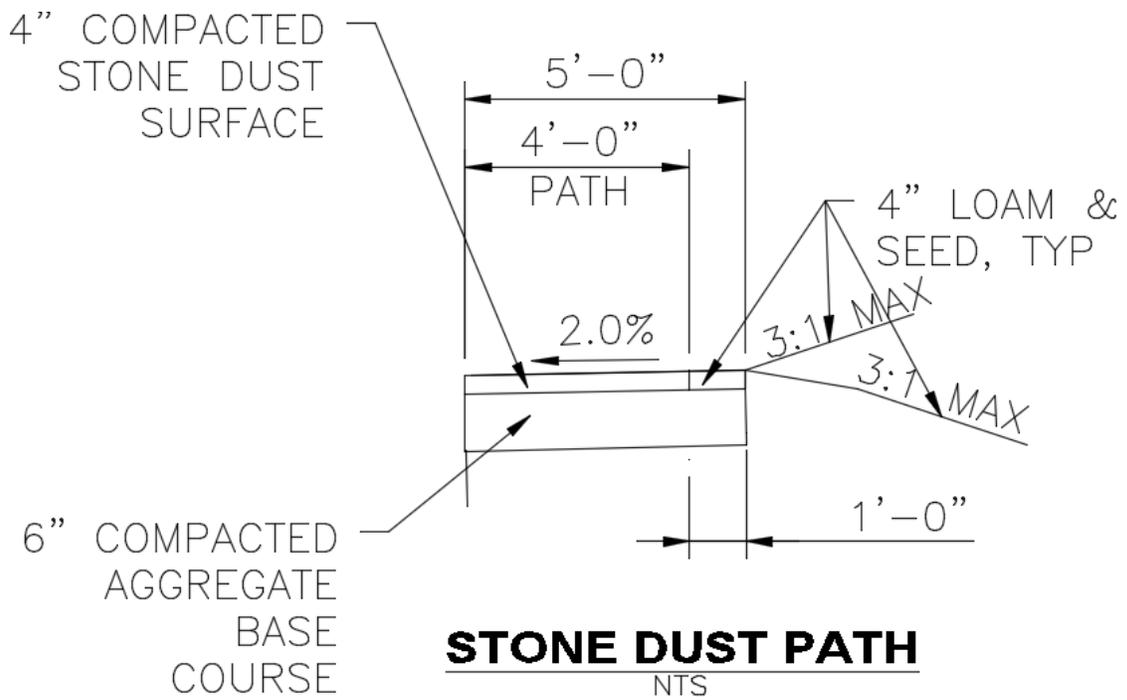


**WALKWAY PAVEMENT**  
SCALE: "NTS"

DETAIL NAME: STONE DUST PATH  
REFERENCE: 02200

DIVISION MGR: \_\_\_\_\_  
QA/QC MGR: \_\_\_\_\_  
DRAFTING MGR: \_\_\_\_\_

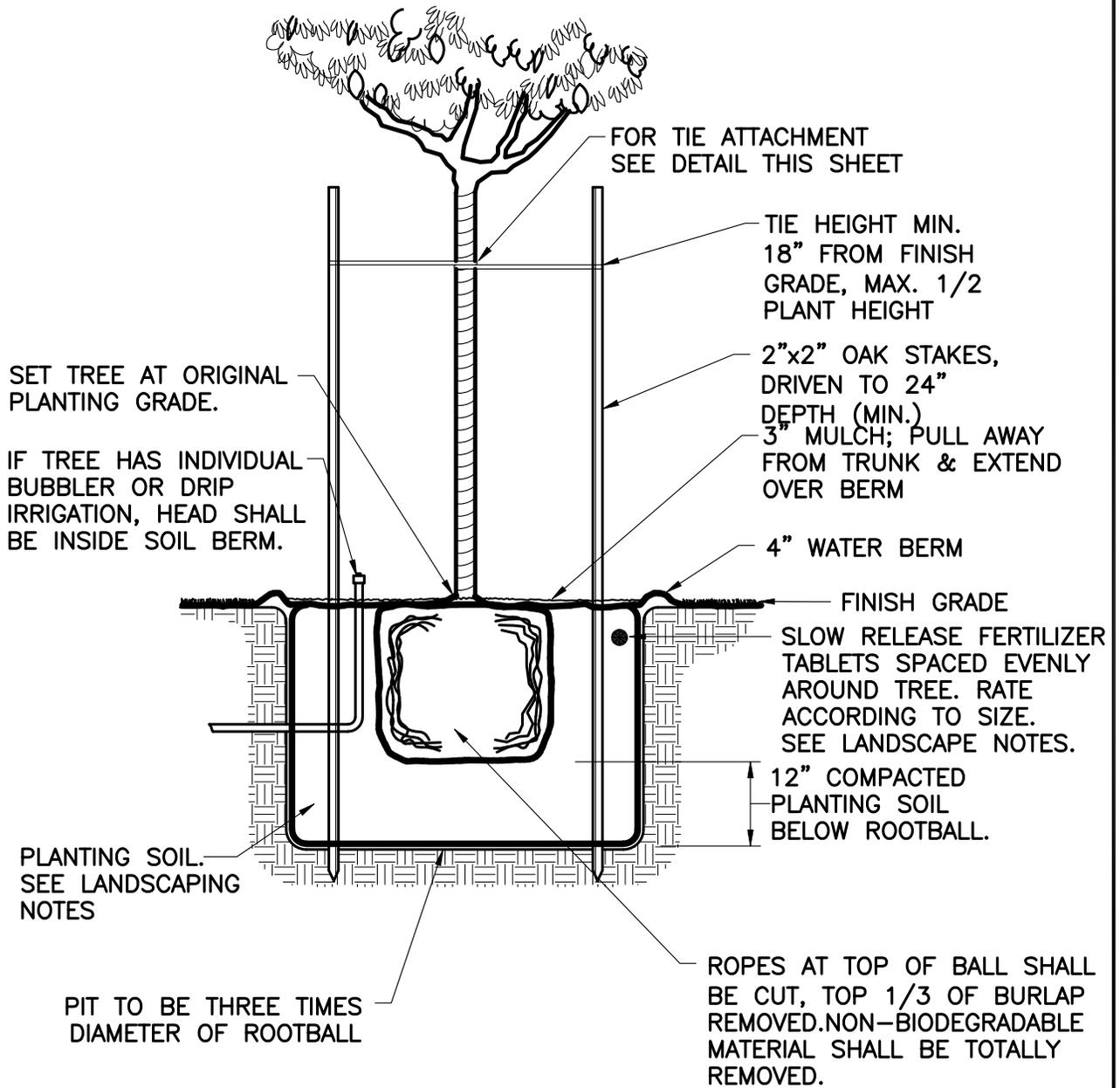
FILE NAME:  
VIEWPORT SCALE: -



DETAIL NAME: PLANTING – TREE BELOW 10 FT  
REFERENCE: 02200

DIVISION MGR: \_\_\_\_\_  
QA/QC MGR: \_\_\_\_\_  
DRAFTING MGR: \_\_\_\_\_

FILE NAME: PlantingTreeBelow10ft  
VIEWPORT SCALE: –



## **TREE INSTALLATION: UNDER 10'**

SCALE: NTS