Central Falls High School

100% Construction Documents

Central Falls, RI

Ai3 Project #2202.02

Addendum #12

February 20, 2024

The attention of Bidders submitting proposals for Central Falls High School 100% Construction Documents is called to the following changes to the Bidding Contract Documents dated October 13, 2023 as prepared by Ai3 Architects, LLC. The items set forth therein below, whether of revision, omission, addition, substitution or clarification are all to be included as changes to Information to Bidders, the Conditions of the Contract, Specifications and Drawings of the Contract.

The number of this Addendum (Number 12) must be entered in the appropriate spaces provided on the Bid Form.

CLARIFICATIONS:

ADD 12-001 ***Bidder Question:*** *Note 38/C1.0 calls for the existing light poles at the basketball court to be salvaged and delivered to the Central Falls DPW. Electrical Site Demo plan EDS.01 calls for Existing Utility Pole to be removed by Electric Utility Company. Please clarify who is responsible for utility pole removal at the existing basketball court.* ***Response:*** *Refer to attached drawings to revisions and clarification.*

ADD 12-002 ***Bidder Question:*** *Regarding Base Plate Schedule on S1.13, on the Northeast wall of the gym there are three (3) columns called out HSS12x12x3/4 (A). However, on the Base Plate Schedule, there is nothing called out for that size column. Please advise what we should carry for those columns.* ***Response:*** *At 12x12x3/4" columns, located at BH/B5, BH/B6, and BH/B7, provide Type A base plate with L=1'-11", W=1'-11", and T=1¾", see updated Base Plate Schedule on S2.20 ADD-12. Provide (4)-1"ø F1554 GR.36 A bolts as noted for typical*

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conditions under Type A base plates on S2.20. Refer to the attached drawing.

ADD 12-003 ***Bidder Question:*** *Recent addendums have introduced and increased the requirements for ground improvement to support structures and features outside the proposed doting footprint. These features include utilities, utility structures, retaining walls, sidewalks, and other hardscapes around the site. That is why we previously requested a drawing be prepared by the design team to avoid any misinterpretation of the specification. Can a drawing be prepared by the design team?* ***Response:*** *The specifications are quite clear and to be used, no drawing will be provided.*

ADD 12-004 ***Bidder Question:*** *With respect to the exterior scope it should be noted that ground improvements are now required in many different areas across a large site. Ground improvement equipment cannot move quickly and with the scope being so spread out the cost implications grow exponentially as installation moves further away from the building. For example a contractor could install 50 elements per day in a building footprint where all the foundations and slabs are close together that could drop all the way down to 5 or 10 per day if they can only build a few piers under a utility structure and then have to walk the equipment 100+ feet to the next structure. These are just examples of productivity and not specific to the project but are illustrating the concern that ground improvement couldn't be installed in a productive manner if we support all these features. Additionally could you either provide or direct me to a phasing plan showing where ground improvement would be installed for each phase?* ***Response:*** *The attached specifications have been revised to break down the cost of the ground improvements as follows: 1) building foundations and slabs, stairs, access ramps, retaining walls and sidewalks attached to the building, 2) all other noted structures requiring ground improvements. Phasing Plans are located in Volume 1 of the bidding documents in the PH series. More detailed construction phasing/sequencing plans will be coordinated/developed by the awarded General Contractor.*

SPECIFICATIONS:

ADD 12-005 *Document 00 01 10 "Table of Contents"; REMOVE in entirety and REPLACE with new Document 00 01 10, dated February 20, 2024, Addendum #12.*

ADD 12-006 *Document 00 43 22 "Bid Attachment – Unit Prices Form" REMOVE in entirety and REPLACE with new Document 00 43 22, dated February 20, 2024, Addendum #12.*

ADD 12-007 *Section 05 40 00 "Cold-Formed Metal Framing"; Article 2.2, Paragraph B, DELETE subparagraph 2 in entirety and REPLACE as follows:*

2. Conform to the 2018 International Building Code with Rhode Island Building Code Regulation RISBC-1.
   a. Basic Wind Speed (V.ult.): 133 miles per hour (three second gust).
   b. Risk Category: III.
   c. Exposure: "C".

ADD 12-008 *Section 07 54 19 "Polyvinyl-Chloride (PVC) Roofing"; Article 2.1, Paragraph B, DELETE the word "(EVFM)" and replace with "(EFVM)".*

ADD 12-009 *Section 07 54 19 "Polyvinyl-Chloride (PVC) Roofing"; Article 2.4, DELETE the word "(EVFM)" and replace with "(EFVM)".*

ADD 12-010 *Section 07 54 19 "Polyvinyl-Chloride (PVC) Roofing"; Article 1.4, DELETE Paragraph B and REPLACE with the following:*

B. Pre-Installation Meetings: At least two weeks prior to commencing the work of this Section, conduct a pre-installation conference at the Project site. Comply with requirements of Section 01 31 00 - PROJECT MANAGEMENT AND COORDINATION. Coordinate time of meeting to occur prior to installation of work under the related sections named below.
   1. Required attendees: Owner, Architect, Contractor, Roofing Applicator's Project Superintendent, roof manufacturer's technical representative and representatives of other related trades as directed by the Architect or Contractor, and representatives for installers of related work specified under the following Sections:
      a. Section 05 31 00 - STEEL DECKING.
      b. Section 07 27 13 - SELF-ADHERING SHEET AIR BARRIER.
      c. Section 07 42 13 - METAL WALL PANELS.
      d. Section 07 62 00 - SHEET METAL FLASHING AND TRIM.
      e. Section 07 71 00 - ROOF SPECIALTIES.
      f. Section 07 72 00 - ROOF ACCESSORIES.
      g. Section 07 95 13 - EXPANSION JOINT COVER ASSEMBLIES.

h. Section 11 40 00 - FOODSERVICE EQUIPMENT.
i. Division 23 - HEATING, VENTILATING AND AIR CONDITIONING.
j. Division 26 - ELECTRICAL

2. Agenda:
   a. Scheduling of roofing operations.
   b. Review of shop submittal requirements.
   c. Review of staging and material storage locations.
   d. Coordination of work by other trades.
      1) Coordination of details with air and vapor barrier system.
   e. Installation procedures for mechanical equipment.
   f. Protection of partial completed assemblies.
   g. Protection of completed roofing.
   h. Establish weather and working temperature conditions to which Architect and Contractor must agree.
   i. Emergency foul weather and rain protection procedures.
   j. Establish conditions for which a temporary roof will be provided by the Contractor.
   k. Discuss process for manufacturer's inspection and acceptance of completed roofing and flashings.
   l. Manufacturer's deck inspection to be performed.
   m. Field quality control and close-out testing procedures.
      1) Electric Field Vector Mapping (EFVM) testing procedures.

ADD 12-011 *Section 07 54 19 "Polyvinyl-Chloride (PVC) Roofing"; Article 2.2, Paragraph C, DELETE subparagraph 1 in entirety and REPLACE as follows:*

1. Wind Loading:
   a. Comply with specified requirements on Structural Drawings.
   b. Conform to the 2018 International Building Code with Rhode Island Building Code Regulation RISBC-1.
      1) Basic Wind Speed (V.ult.): 133 miles per hour (three second gust).
      2) Risk Category: III.
      3) Exposure: "C".

ADD 12-012 *Section 07 61 00 "Sheet Metal Roofing"; Article 2.2, Paragraph A, DELETE subparagraph 1 in entirety and REPLACE as follows:*

1. Wind Loading and uplift: Comply with specified requirements on Structural Drawings and the greater pressure of the following:
   a. Conform to the 2018 International Building Code with Rhode Island Building Code Regulation RISBC-1.
      1) Basic Wind Speed (V.ult.): 133 miles per hour (three second gust).
      2) Risk Category: III.
      3) Exposure: "C".

ADD 12-013 *Section 09 72 16 "Rigid Sheet Vinyl Wall Cladding"; Article 2.2, Paragraph A, subparagraph 1, after the words "Altro Whiterock Wall Designs", ADD the words "Altro Whiterock Whiteboard" as follows::*

1. Specified Product: Altro USA, Inc., Wilmington, MA, product

"Altro Whiterock Wall Designs", "Altro Whiterock Whiteboard", and "Altro Whiterock Textured".

ADD 12-014 *Section 09 72 16 "Rigid Sheet Vinyl Wall Cladding"; Article 2.2, Paragraph A, subparagraph 3c and 3d, DELETE the words "Textured, satin finish" and REPLACE with the word "Whiteboard" as follows:*

c. Type 3: Altro Whiterock Whiteboard, color as selected by Architect.
d. Type 4: Altro Whiterock Whiteboard, color as selected by Architect.

ADD 12-015 *Section 13 34 33 "Environmentally-Controlled Hydroponic Farming Container"; Article 1.5, Paragraph A, DELETE subparagraph 3 in entirety.*

ADD 12-016 *Section 13 34 33 "Environmentally-Controlled Hydroponic Farming Container"; Article 2.3, Paragraph A, DELETE subparagraph 1 in entirety and REPLACE as follows:*

1. Wind loading: Conform to the 2018 International Building Code with Rhode Island Building Code Regulation RISBC-1:
   a. Basic Wind Speed: 133 miles per hour. (three-second-gust).

ADD 12-017 *Section 23 00 00 "Heating, Ventilation, and Air Conditioning", Article 2.48 Automatic Temperature Controls, Paragraph A, subparagraph 1; REVISE to read as follows:*

1. ~~This is a proprietary specification~~. Furnish and install, as hereinafter specified, a native BACnet, Direct Digital Control (DDC), automatic temperature control system as manufactured by KMC **(Basis of Design)** or approved equal. [ADD #12]

ADD 12-018 *Section 31 60 00 "Ground Improvements"; REMOVE in entirety and REPLACE with new Section 31 60 00, dated February 20, 2024, Addendum #12.*

DRAWINGS:

ADD 12-019 *C2.0 – SITE IMPROVEMENTS PLAN*

ADD 12-020 *C4.0 – UTILITY PLAN*

ADD 12-021 *C5.1 – DRAINAGE PLAN*

ADD 12-022 *C6.2 – SITE DETAILS*

ADD 12-023 *C6.3 – SITE DETAILS*

ADD 12-024 *C6.5 – SITE DETAILS*

ADD 12-025 *L1.01 – OVERALL SITE REFERENCE*

ADD 12-026 *L1.21 – HARDSCAPE PLAN BASE BID*

ADD 12-027 *L1.21A – HARDSCAPE PLAN ALTERNATE 2*

ADD 12-028 *L1.21B - HARDSCAPE PLAN ALTERNATE 3*

ADD 12-029	*L1.21C - HARDSCAPE PLAN ALTERNATE 5*
ADD 12-030	*L1.22 – HARDSCAPE PLAN BASE BID*
ADD 12-031	*L1.22A – HARDSCAPE PLAN ALTERNATE 6*
ADD 12-032	*L1.23 – HARDSCAPE PLAN BASE BID*
ADD 12-033	*L1.41 – HARDSCAPE ENLARGEMENT PLAN*
ADD 12-034	*L1.42 – HARDSCAPE ENLARGEMENT PLAN*
ADD 12-035	*L3.01 - DETAILS*
ADD 12-036	*L3.02 - DETAILS*
ADD 12-037	*L3.03 - DETAILS*
ADD 12-038	*L3.04 - DETAILS*
ADD 12-039	*L3.05 - DETAILS*
ADD 12-040	*L3.06 - DETAILS*
ADD 12-041	*L3.07 - DETAILS*
ADD 12-042	*L3.08 - DETAILS*
ADD 12-043	*L3.09 - DETAILS*
ADD 12-044	*L3.10 - DETAILS*
ADD 12-045	*L3.11 - DETAILS*
ADD 12-046	*L3.12 DETAILS*
ADD 12-047	*L3.13 - DETAILS*
ADD 12-048	*L3.14 - DETAILS*
ADD 12-049	*L3.15 - DETAILS*
ADD 12-050	*LP1.01 – OVERALL PLANTING PLAN*
ADD 12-051	*LP1.21 – PLANTING PLAN BASE BID*
ADD 12-052	*LP1.22 – PLANTING PLAN ALTERNATE 10*
ADD 12-053	*LP1.23 - PLANTING PLAN ALTERNATE 10*
ADD 12-054	*LP1.24 – PLANTING PLAN ALTERNATE 10*
ADD 12-055	*LP3.0 – PLANTING DETAILS*
ADD 12-056	*A8.41 – ENLARGED TOILET ROOM PLANS*
ADD 12-057	*S2.20 – BASE PLATE AND PIER DETAILS - 1*
ADD 12-058	*EDS.01 – ELECTRICAL SITE DEMOLITION*

ATTACHMENTS:

ADD 12-059	*00 01 10 - TABLE OF CONTENTS*
ADD 12-060	*00 43 22 – BID ATTACHMENT – UNIT PRICES FORM*
ADD 12-061	*31 60 00 – GROUND IMPROVEMENTS*

NOTES:

1. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE DURATION OF CONSTRUCTION. AT A MINIMUM, PERIMETER HAY BALES, VEHICLE TRACKING CONTROL, INLET PROTECTION, CONCRETE WASHOUT AREAS AND TEMPORARY SEDIMENTATION BASINS SHOULD BE CONSIDERED.
2. CURBING SHALL BE PROVIDED AS NOTED IN ALL PARKING AREAS AT THE EDGE OF THE PAVEMENT AND ADJACENT TO SIDEWALKS.
3. WHERE SIDEWALKS INTERSECT CURB LINES, ADA COMPLIANT CURB RAMP WITH DETECTABLE WARNING MAT SHALL BE INSTALLED. DETECTABLE WARNING PANELS SHALL BE CAST IRON, SEE SPECIFICATIONS.
4. CONCRETE WALKWAY MATERIALS SHOWN FOR CLARITY ONLY. REFER TO LANDSCAPE PLANS FOR ALL WALKWAY MATERIALS, FINISHES, AND SCORING.
5. WHERE EXISTING UTILITIES ARE TO REMAIN, ALL RIMS, COVERS, GRATES AND HATCHES SHALL BE ADJUSTED TO FINISHED GRADE.
6. THE SITE IS SUBJECT TO A REMEDIAL ACTION WORK PLAN (RAWP). THE CONTRACTOR SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE RAWP. SITE WIDE CAPPING IS THE REMEDIAL ACTION IDENTIFIED IN THE PLAN. THE CONTRACTOR SHALL CAP ALL AREAS WITHIN THE LIMIT OF DISTURBANCE AS DESCRIBED BELOW UNLESS NOTED OTHERWISE. ALL FILL MATERIAL USED AS CLEAN FILL WITHIN 12 INCHES OF FINAL GRADE SHALL BE SAMPLED FOR COMPLIANCE PRIOR TO IMPORTATION.
   - BUILDING/HARDSCAPE: A MINIMUM OF 6 INCHES OF CLEAN SUBGRADE OVERLAIN BY 4 INCHES OF ASPHALT OR CONCRETE PAVEMENT. SURFACE SOIL IN THE PROPOSED HARDSCAPE AREAS CAN EITHER BE EXCAVATRED OR REPLACED, OR THE ASPHALT/CONCRETE SURFACING AND/OR CLEAN FILL CAN BE PLACED DIRECTLY ON TOP OF THE SOIL WITHOUT EXCAVATION.
   - LANDSCAPE: A MINIMUM OF 12 INCHES OF CLEAN FILL PLACED OVER A NON-WOVEN GEOTEXTILE FABRIC ON TOP OF CONTAMINATED SOIL.
7. ALL STAIRS, ACCESS RAMPS, RETAINING WALLS, AND SIDEWALKS ATTACHED/CONNECTED TO BUILDINGS; ALL UTILITY STRUCTURES, INCLUDING CATCH BASINS, MANHOLES, TRANSITION CHAMBERS, AREA DRAINS, WATER TREATMENT PRACTICE STRUCTURES AND UNDERGROUND VAULTS OF ANY TYPE; ALL CONCRETE PADS; FULL LENGTH OF ALL 48" PIPE; FULL LENGTH OF ALL CULVERTS AND ASSOCIATED WINGWALLS;18" DRAIN PIPE FROM DMH-304 TO DMH-313; AND 24" DRAIN PIPE FROM DMH-317 TO DMH-313 SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS. GROUND IMPROVEMENTS SHALL BE IN ACCORDANCE WITH SECTION 31 60 00. ADD-12
8. ~~THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL DEPTH RESTORATION OF THE EXISTING TRACK SURFACE WHICH IS DISTURBED FOR INSTALLATION OF DRAINAGE PIPES. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESURFACING OF THE ENTIRE EXISTING TRACK. REFER TO THE LANDSCAPE PLANS FOR TRACK RESTORATION DETAILS.~~ ADD-10

REMOVED FROM BID DOCUMENTS

BID ALTERNATE NOTES:

ALTERNATE 2 - OUTDOOR FURNITURE: DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

ALTERNATE 3 - OUTDOOR CLASSROOM: OUTDOOR CLASSROOM FEATURES ASSOCIATED WITH THE ALTERNATE ARE SHOWN AS BACKGROUND INFORMATION ON THIS SHEET. DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE.

ALTERNATE 5 - FREIGHT FARM UNIT: DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

ALTERNATE 6 - THROWING EVENTS: DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE.

ALTERNATE 9 - SPORTS LIGHTING: ALL WORK SHOWN ON THE CIVIL DRAWING SHEETS ARE ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO THE ELECTRICAL DRAWINGS FOR INFORMATION REGARDING SITE ELECTRIC.

ALTERNATE 10 - TREES: DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

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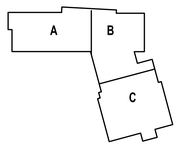
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024

100% CONSTRUCTION DOCUMENTS

NORTH ARROW

KEYPLAN



DRAWING NAME:

SITE IMPROVEMENTS PLAN

DRAWN BY:	SMC
REVIEWED BY:	GBD
SCALE:	AS NOTED
JOB NO.:	77997
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	C2.0

NOTES:

1. WORK ON ACTIVE UTILITY LINES (INCLUDING SEWER, WATER, AND DRAINAGE) SHALL BE COORDINATED AND SCHEDULED WITH THE OWNER PRIOR TO EXECUTION OF THE WORK.
2. THE CONTRACTOR SHALL MAINTAIN EXISTING PUBLIC SEWER AND DRAIN THROUGHOUT THE DURATION OF THE PROJECT. AT NO TIME SHALL THESE UTILITIES BE TAKEN OUT OF SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE UTILITY OWNER. IF TEMPORARY SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH UTILITY BYPASSING.
3. WORK ON EXISTING GAS LINES, INCLUDING CAPPING, SHALL BE COORDINATED WITH LOCAL GAS COMPANY.
4. POLYVINYL CHLORIDE PIPE AND FITTINGS (PVC) SHALL BE MINIMUM SDR 35 WITH FULL DIAMETER DIMENSIONS CONFORMING TO THE SPECIFICATIONS FOR TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION D3034 LATEST REVISION, FOR SIZES 18 INCHES TO 27 INCHES THE PIPE SHALL COMPLY WITH ASTM F679, LATEST RECORD.
5. MANHOLE FRAMES AND COVERS SHALL BE MINIMUM CLASS 25 CONFORMING TO ASTM "STANDARD SPECIFICATION FOR GRAY IRON CASTINGS," DESIGNATION: A48.
6. ALL WATER MAINS SHALL BE DUCTILE IRON CLASS 52 WITH PUSH ON JOINTS (UNLESS OTHERWISE SPECIFIED) MEETING THE REQUIREMENTS OF ANSI/AWWA C151/A21.51. ALL DUCTILE IRON WATER MAIN PIPE SHALL BE CEMENT LINED, WITH AN ASPHALTIC SEAL COAT MEETING THE REQUIREMENTS OF ANSI/AWWA C104/A21.4.
7. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL WATERLINE BENDS AND TEES IN ACCORDANCE WITH THE SPECIFICATIONS.
8. ALL EXISTING STRUCTURES TO REMAIN WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO FINISH GRADE. MINIMUM AND MAXIMUM NUMBER OF SEWER BRICK COURSES USED FOR GRADE ADJUSTMENT SHALL BE IN ACCORDANCE WITH UTILITY OWNERS STANDARDS. THIS SHALL INCLUDE THE NARRAGANSETT BAY COMMISSION TRANSITION CHAMBER WITH ALUMINUM HATCH ACCESS.
9. ALL PRECAST CONCRETE MANHOLES FOR SANITARY AND DRAINAGE SHALL CONFORM TO THE ASTM "SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS," DESIGNATION D478. THE BARREL SHALL BE 4-FOOT WITH A 1-FOOT COLLAR TO PREVENT FLOTATION.
10. ALL DUCTILE IRON WATER PIPE SHALL BE PRESSURE TESTED FOR 2 HOURS.
11. ALL WATERLINE CONNECTIONS SHALL REQUIRE A SHUTDOWN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SHUTDOWN WITH THE PAWTUCKET WATER SUPPLY BOARD TWO WEEKS IN ADVANCE OF WORK.
12. ALL UTILITY AND DRAINAGE INSTALLATION SHALL BE INSPECTED BY THE PAWTUCKET WATER SUPPLY BOARD. CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO PAWTUCKET WATER SUPPLY BOARD PRIOR TO INSTALLATION.
13. ALL WATERLINE GATE VALVES SHALL OPEN RIGHT. ALL HYDRANTS SHALL OPEN LEFT.
14. MINIMUM VERTICAL SEPARATION BETWEEN ALL UTILITY PIPES SHALL BE EIGHTEEN (18) INCHES. IF VERTICAL SEPARATIONS ARE LESS THAN EIGHTEEN (18) INCHES, THE UTILITY PIPES SHALL BE REINFORCED AND PROTECTED AS REQUIRED BY CURRENT CITY AND UTILITY AGENCY STANDARD SPECIFICATIONS.
15. WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. WHEN A TEN (10) FOOT SEPARATION IS NOT PROVIDED OR WHEN SEWER LINES CROSS WATER LINES WITH LESS THAN ONE AND ONE-HALF (1 ½) FEET OF VERTICAL SEPARATION, SEWER JOINTS SHALL BE CONCRETE ENCASED. FOR PERPENDICULAR CROSSINGS, ENCASED JOINTS SHALL EXTEND TEN (10) FEET, PERPENDICULAR TO THE WATER LINE IN BOTH DIRECTIONS.
16. THE LENGTH OF SANITARY SEWER LINE IS THE HORIZONTAL DISTANCE BETWEEN CENTER OF MANHOLE TO CENTER OF MANHOLE. THEREFORE, THE DISTANCES INDICATED ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND MANHOLE DIMENSIONS.
17. ALL PLUMBING/MECHANICAL UTILITIES WITHIN 10 FEET OF THE BUILDING ARE SHOWN ON THE PLUMBING/MECHANICAL PLANS.
18. REFER TO ELECTRICAL PLANS FOR SITE ELECTRICAL ROUTING.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THE LOCATION AND ELEVATION OF EXISTING WYES PRIOR TO INSTALLATION OF EXTERIOR SEWER PIPING.
20. ALL STAIRS, ACCESS RAMPS, RETAINING WALLS, AND SIDEWALKS ATTACHED/CONNECTED TO BUILDINGS; ALL UTILITY STRUCTURES, INCLUDING CATCH BASINS, MANHOLES, TRANSITION CHAMBERS, AREA DRAINS, WATER TREATMENT PRACTICE STRUCTURES AND UNDERGROUND VAULTS OF ANY TYPE; ALL CONCRETE PADS; FULL LENGTH OF ALL 48" PIPE; FULL LENGTH OF ALL CULVERTS AND ASSOCIATED WINGWALLS;18" DRAIN PIPE FROM DMH-304 TO DMH-313; AND 24" DRAIN PIPE FROM DMH-317 TO DMH-313 SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS. GROUND IMPROVEMENTS SHALL BE IN ACCORDANCE WITH SECTION 31 60 00. ADD-12

BID ALTERNATE NOTES:

ALTERNATE 2 - OUTDOOR FURNITURE: UTILITY WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

ALTERNATE 3 - OUTDOOR CLASSROOM: OUTDOOR CLASSROOM FEATURES ASSOCIATED WITH THE ALTERNATE ARE SHOWN AS BACKGROUND INFORMATION ON THIS SHEET. UTILITY WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE.

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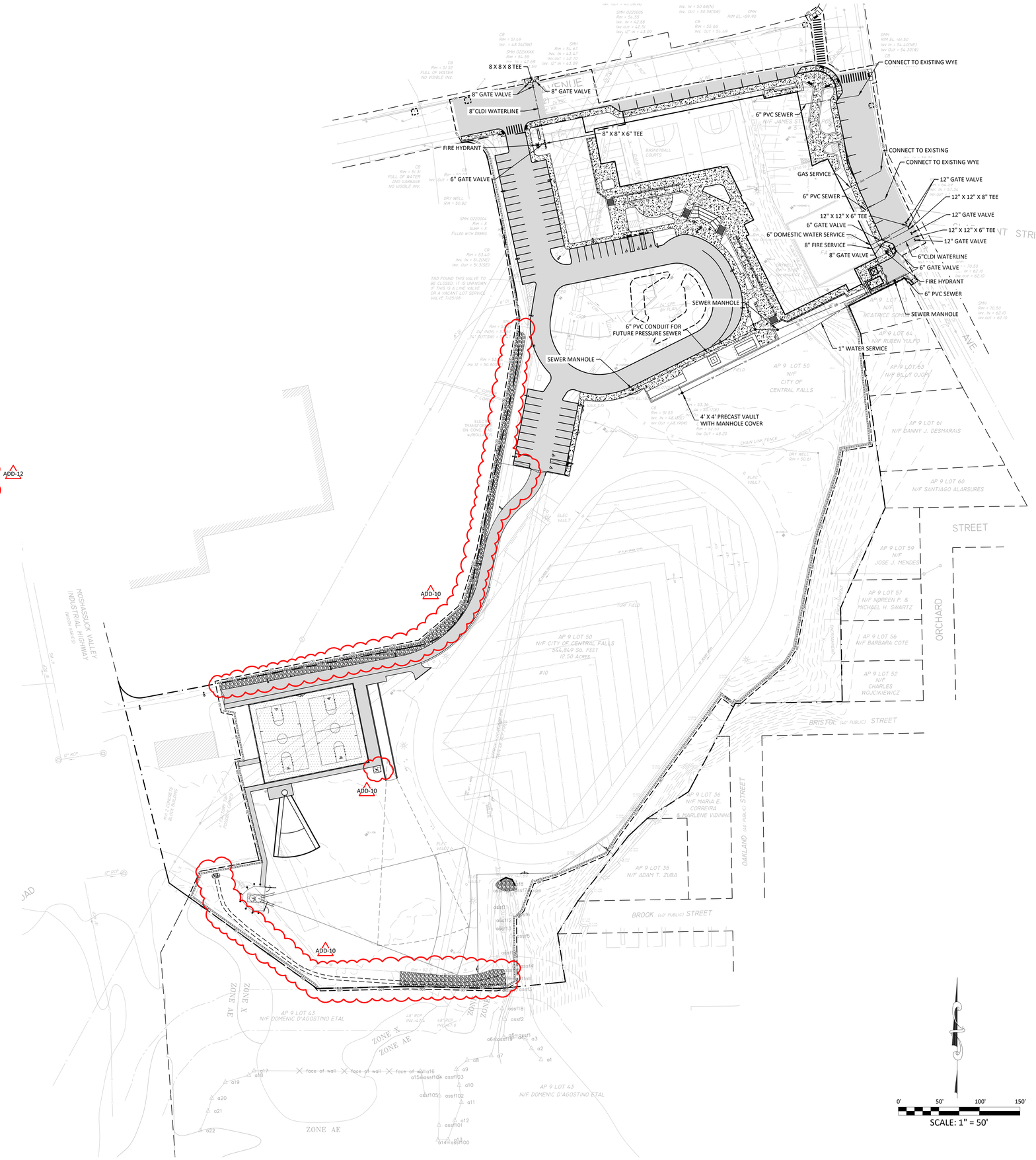
ALTERNATE 10 - TREES: UTILITY WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.



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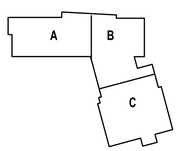
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024

100% CONSTRUCTION DOCUMENTS

NORTH ARROW

KEYPLAN



DRAWING NAME:

UTILITY PLAN

DRAWN BY:		SMC	
REVIEWED BY:		GBD	
SCALE:	AS NOTED	DRAWING NUMBER:	
JOB NO.:	77997	C4.0	
DATE:	OCTOBER 13, 2023		

NOTE:

1. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE DURATION OF CONSTRUCTION. AT A MINIMUM, PERIMETER HAY BALES, VEHICLE TRACKING CONTROL, INLET PROTECTION, AND TEMPORARY SEDIMENTATION BASINS SHOULD BE CONSIDERED.
2. ALL UTILITIES WITHIN THE FOOTPRINT OF PROPOSED BUILDING ADDITIONS SHOULD BE ANTICIPATED TO BE REMOVED AND RELOCATED. SERVICE SHALL BE MAINTAINED TO EXISTING BUILDINGS TO REMAIN FOR THE DURATION OF CONSTRUCTION.
3. ALL EXISTING STRUCTURES TO REMAIN WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO FINISH GRADE. SERVICE SHALL BE MAINTAINED TO EXISTING BUILDINGS TO REMAIN FOR THE DURATION OF CONSTRUCTION.
4. ALL PRECAST CONCRETE MANHOLES FOR DRAINAGE SHALL CONFORM TO THE ASTM "SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS," DESIGNATION D478. THE BARREL SHALL BE 4-FOOT WITH A 1-FOOT COLLAR TO PREVENT FLOTATION.
5. ALL DRAIN LINES SHALL BE 12" UNLESS OTHERWISE NOTED. ALL DRAIN LINES SHALL BE HDPE UNLESS OTHERWISE NOTED.
6. ALL CATCH BASINS TO BE 4' DIAMETER (UNLESS OTHERWISE NOTED) SHALL CONFORM TO MHD STANDARD DETAIL 201.4.0 AND ALL CATCH BASIN FRAMES AND GRATES SHALL CONFORM TO 201.6.0 UNLESS OTHERWISE NOTED.
7. ALL MANHOLES TO BE 4' DIAMETER (UNLESS OTHERWISE NOTED) AND SHALL CONFORM TO MHD STANDARD DETAIL 202.4.0 AND ALL MANHOLE FRAMES AND COVERS SHALL CONFORM TO 202.6.0 UNLESS OTHERWISE NOTED. CONCRETE ANTI-FLOTATION COLLARS SHALL BE PROVIDED AT ALL MANHOLES.
8. REINFORCED CONCRETE PIPE AND FLARED ENDS SHALL CONFORM TO THE AASHTO M170 FOR STANDARD STRENGTH REINFORCED CONCRETE CULVERT PIPE FOR CLASS III PIPE, WALL B. OR ASTM C76 FOR REINFORCED CONCRETE CULVERT AND STORM DRAIN PIPE UNLESS NOTED OTHERWISE. ALL PIPE 24 INCHES IN DIAMETER OR SMALLER SHALL BE OF THE BELL AND SPIGOT TYPE. PIPES LARGER THAN 24 INCHES IN DIAMETER SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT. ALL DRAINAGE PIPING SHALL BE GASKETED.
9. CONCRETE VAULT DETENTION SYSTEMS SHALL INCLUDE AN 8" EXTENDED CONCRETE SLAB WITH UNITS ANCHORED INTO SLAB, AND SHALL BE LINED WITH AN IMPERVIOUS LINER.
10. HIGH-DENSITY POLYETHYLENE PIPE AND FITTINGS SHALL BE ADS N-12 IB ST SMOOTH INTERIOR PIPE, ADS N-12 IB ST HIGH CAPACITY LARGE DIAMETER PIPE OR APPROVED EQUIVALENT. JOINTS SHALL BE SOIL-TIGHT AND INCLUDE A RUBBER GASKET ON THE SPIGOT END OF THE PIPE. WHEN INSTALLED INTO THE BELL END, THE JOINT SHALL BE SEALED.
11. MANHOLES OVER 12 FEET IN DEPTH SHALL HAVE MINIMUM OF 5 FEET INSIDE DIAMETER. ALL MANHOLES SHALL HAVE A SUMP OF AT LEAST 30 INCHES BELOW INVERT OF OUTLET PIPE. RISERS SHALL BE CLAY OR SHALE BRICK, AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 91, GRADE MM OR AS SPECIFIED IN MASSDOT M4.05.
12. ALL CATCH BASINS SHALL HAVE A SUMP OF AT LEAST 48 INCHES (4 FEET) BELOW THE INVERT OF THE OUTLET PIPE, OR OTHERWISE APPROVED BY THE TOWN, AND AN INSIDE DIAMETER OF 4 FEET MINIMUM.
13. LIVE LOAD DESIGN FOR CATCH BASINS SHALL BE HS-25 LOADING. CATCH BASINS WHICH ARE LIMITED BY HEIGHT SHALL BE INSTALLED WITH A FLAT TOP SLAB, CAST IN PLACE, DESIGNED FOR HS-25 LOADING AND CAST IRON FRAME CAST IN PLACE.
14. MANHOLE FRAMES AND COVERS SHALL BE AT LEAST CLASS 25 CONFORMING TO ASTM A48 "STANDARD SPECIFICATION FOR GRAY IRON CASTINGS".
15. CATCH BASIN HOODS SHALL BE USED TO MINIMIZE THE ENTRY OF OIL, GASOLINE, AND DEBRIS INTO DRAINAGE PIPES.
16. WHERE PROPOSED DRAIN LINES CROSS SANITARY OR WATER LINES WITH LESS THAN 1.5' CLEARANCE, ENCASE BOTH UTILITIES IN FLOWABLE FILL FOR A DISTANCE OF 10' ON EITHER SIDE OF CROSSING. CENTER PIPE LENGTH AT CROSSING. REFER TO CROSSING DETAIL ON SHEET C5.2 ON DETAIL SHEETS.
17. ALL STAIRS, ACCESS RAMPS, RETAINING WALLS, AND SIDEWALKS ATTACHED/CONNECTED TO BUILDINGS; ALL UTILITY STRUCTURES, INCLUDING CATCH BASINS, MANHOLES, TRANSITION CHAMBERS, AREA DRAINS, WATER TREATMENT PRACTICE STRUCTURES AND UNDERGROUND VAULTS OF ANY TYPE; ALL CONCRETE PADS; FULL LENGTH OF ALL 48" PIPE; FULL LENGTH OF ALL CULVERTS AND ASSOCIATED WINGWALLS;18" DRAIN PIPE FROM DMH-304 TO DMH-313; AND 24" DRAIN PIPE FROM DMH-317 TO DMH-313 SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS. GROUND IMPROVEMENTS SHALL BE IN ACCORDANCE WITH SECTION 31 60 00. ADD-12

BID ALTERNATE NOTES:

ALTERNATE 2 - OUTDOOR FURNITURE: DRAINAGE WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

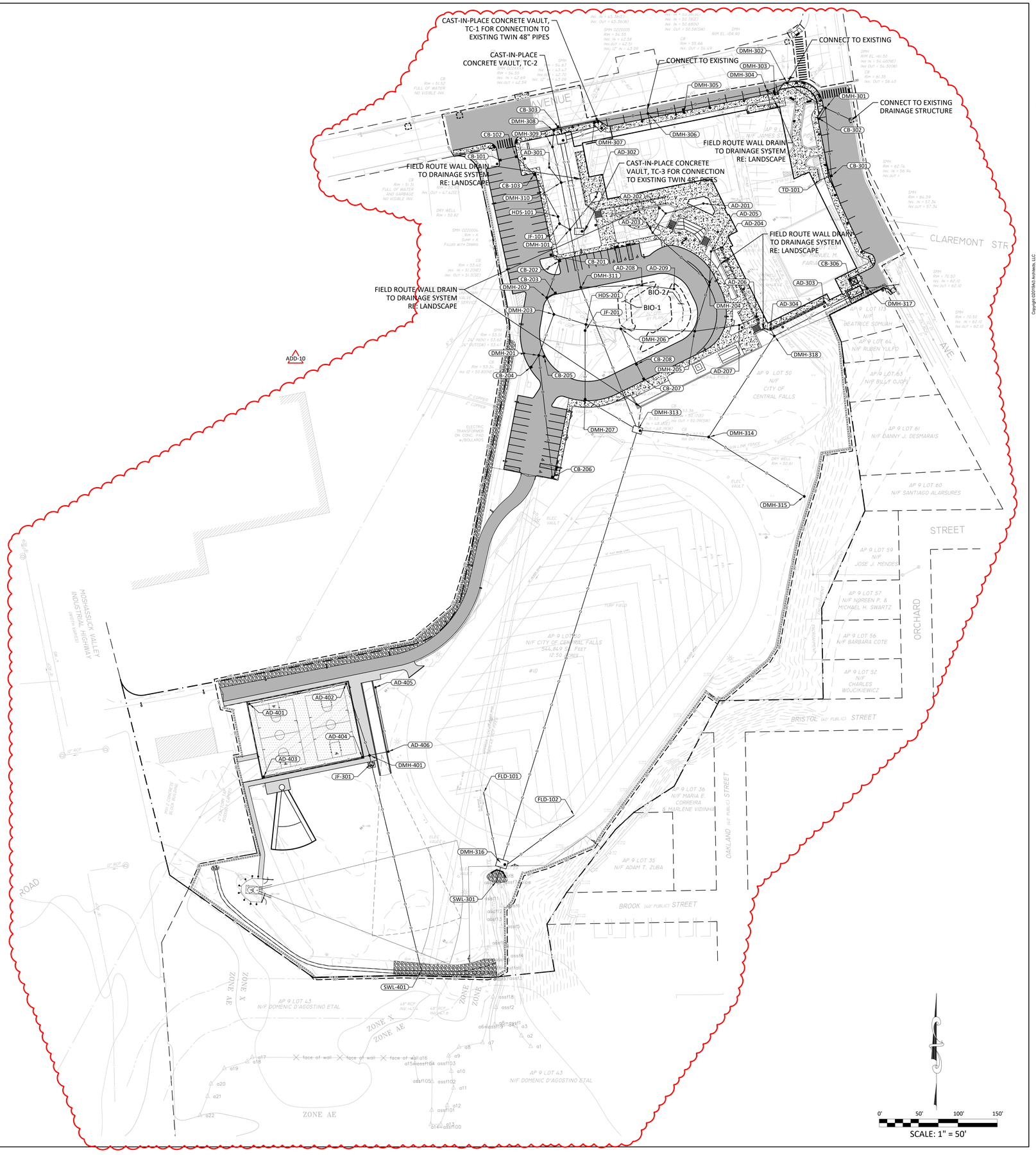
ALTERNATE 3 - OUTDOOR CLASSROOM: OUTDOOR CLASSROOM FEATURES ASSOCIATED WITH THE ALTERNATE ARE SHOWN AS BACKGROUND INFORMATION ON THIS SHEET. DRAINAGE WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE.

ALTERNATE 5 - FREIGHT FARM UNIT: DRAINAGE WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.

ALTERNATE 6 - THROWING EVENTS: DEMOLITION WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE.

ALTERNATE 9 - SPORTS LIGHTING: ALL WORK SHOWN ON THE CIVIL DRAWING SHEETS ARE ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO THE ELECTRICAL DRAWINGS FOR INFORMATION REGARDING SITE ELECTRIC.

ALTERNATE 10 - TREES: DRAINAGE WORK SHOWN ON THIS SHEET IS ANTICIPATED TO BE CONSISTENT WITH BOTH THE BASE BID AND ALTERNATE. REFER TO LANDSCAPE DRAWINGS FOR INFORMATION REGARDING THE BASE BID AND ALTERNATE.



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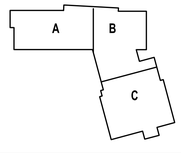
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024

100% CONSTRUCTION DOCUMENTS

NORTH ARROW

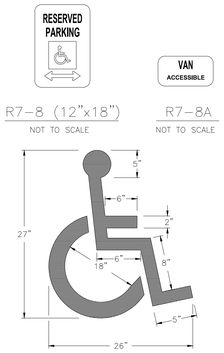
KEYPLAN



DRAWING NAME:

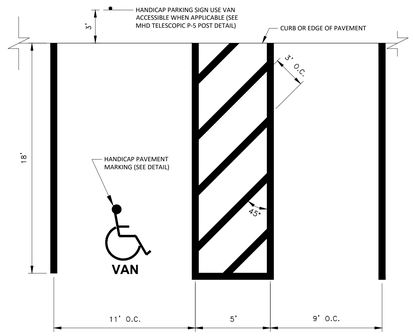
DRAINAGE PLAN

DRAWN BY:	SMC
REVIEWED BY:	GBD
SCALE:	AS NOTED
JOB NO.:	77997
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	C5.1



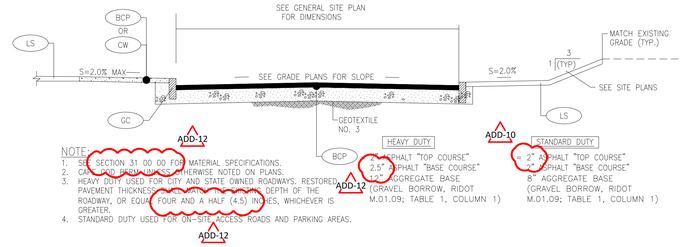
NOTE:
1. ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE 2010 ADAS AND RISBC-1.

SHP HANDICAP PAVEMENT MARKING
NOT TO SCALE



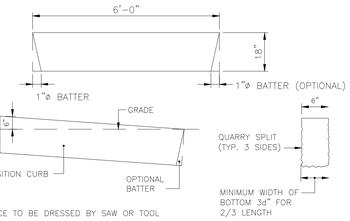
NOTE:
1. WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
2. STRIPING SHOULD BE WHITE IN COLOR

SHP VAN HANDICAP PARKING STALLS @ 90°



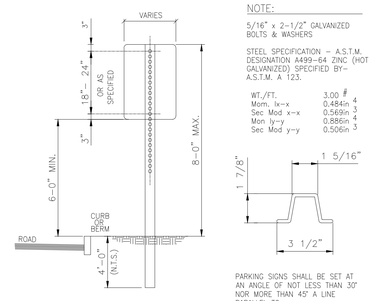
NOTE:
1. SEE SECTION 31 00 00 FOR MATERIAL SPECIFICATIONS.
2. CONSTRUCT PER MANUFACTURER OTHERWISE NOTED ON PLANS.
3. HEAVY DUTY USED FOR CITY AND STATE OWNED ROADWAYS. RESTORED PAVEMENT THICKNESS SHALL MATCH THE DEPTH OF THE ROADWAY, OR EQUAL FOUR AND A HALF (4.5) INCHES, WHICHEVER IS GREATER.
4. STANDARD DUTY USED FOR ON-SITE ACCESS ROADS AND PARKING AREAS.

BCP TYPICAL BITUMINOUS CONCRETE PAVEMENT SECTIONS
NOT TO SCALE



NOTES:
1. TOP SURFACE TO BE DRESSED BY SAW OR TOOL
2. GRANITE CURB SHALL CONFORM TO M.H.D. STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.

6' GRANITE TRANSITION CURB
NOT TO SCALE



NOTE:
5/16" x 2-1/2" GALVANIZED BOLTS & WASHERS

STEEL SPECIFICATION – A.S.T.M. DESIGNATION A499-64 ZINC (HOT GALVANIZED) SPECIFIED BY- A.S.T.M. A 123.

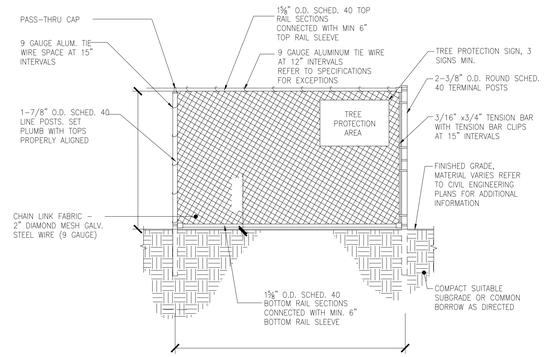
WT./FT.	3.00 #	4
Mom. Ix-x	0.484in	3
Sec Mod x-x	0.569in	4
Mon Iy-y	0.886in	4
Sec Mod y-y	0.506in	3

PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° A LINE PARALLEL TO THE FLOW OF TRAFFIC.

SIGN MOUNTING NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
2. WASHERS SHALL BE 0.07" THICK. 3. ALL SIGN COLORS, RADII AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

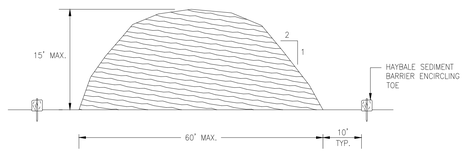
HANDICAP SIGN NOTES:
1. ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA)
2. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
3. FOR HANDICAPPED VAN SPACE, USE SIGN AS DETAILED.
4. FOR HANDICAPPED SPACE FOR AUTOMOBILES, USE ONLY HANDICAPPED PARKING SIGN. (WITHOUT ADDITIONAL "VAN ACCESSIBLE" SIGN)

SIGN MOUNTING DETAIL



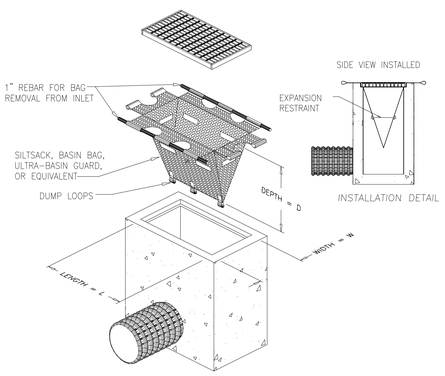
NOTE:
1. FOR TREE PROTECTION ONLY, SEE CIVIL PLANS FOR LOCATION.
2. FENCE POST TO BE BURIED 2 FEET BELOW GRADE.
3. ADJUST POST LOCATIONS IN THE FIELD ACCORDING TO LOCATION OF TREE ROOTS
4. PROTECTION FENCING LOCATED ON SIDEWALKS AS SHOWN ON THE PLANS SHALL HAVE CONCRETE BLOCKS.
5. INSTALLATION TO BE APPROVED BY TOWN TREE WARDEN AND LANDSCAPE ARCHITECT

6 FOOT CHAIN LINK TREE PROTECTION FENCE
NOT TO SCALE



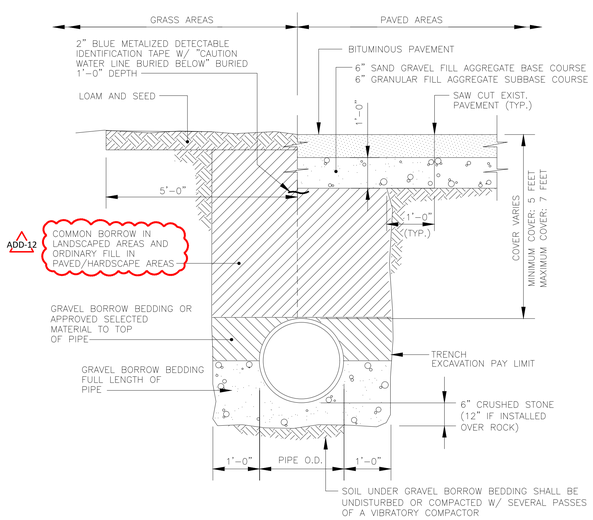
NOTES:
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION OR COVERED IMMEDIATELY FOLLOWING PLACEMENT.
3. NO STOCKPILE SHALL BE PLACED WITHIN THE 100 FOOT WETLAND BUFFER.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE



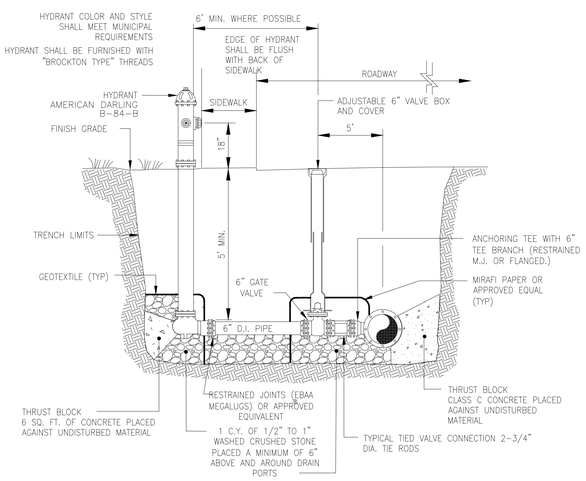
NOTES:
1. INLET PROTECTION SHALL BE CLEANED OF SILT AND DEBRIS ON A REGULAR BASIS AS REQUIRED BY PROJECT SPECIFIC SWPPP.
2. INSPECTIONS SHALL BE DONE AFTER EACH RAIN EVENT AND AT A MINIMUM EVERY TWO WEEKS AND AS REQUIRED BY PROJECT SPECIFIC SWPPP.

INLET PROTECTION
NOT TO SCALE



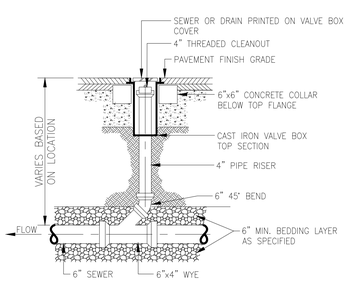
NOTES:
1. FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.
2. MINIMUM WIDTH OF TRENCH SHOULD BE 3 FEET.
3. PLACE 6" OF DRAINAGE STONE FROM BASE OF TRENCH TO TOP OF PIPE IF PIPE IS INSTALLED BELOW SEASONAL HIGH GROUND WATER TABLE.

TYPICAL WATER MAIN TRENCH 9
NOT TO SCALE

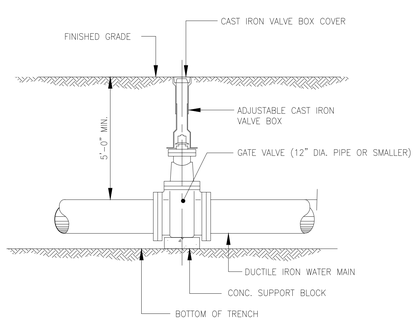


HYDRANT DETAIL 12
NOTE:
ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUIVALENT" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS.

NOT TO SCALE



PIPE CLEANOUT DETAIL 8
NOT TO SCALE



VALVE BOX
NOT TO SCALE

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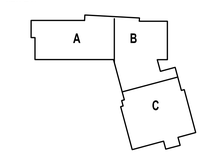
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024

100% CONSTRUCTION DOCUMENTS

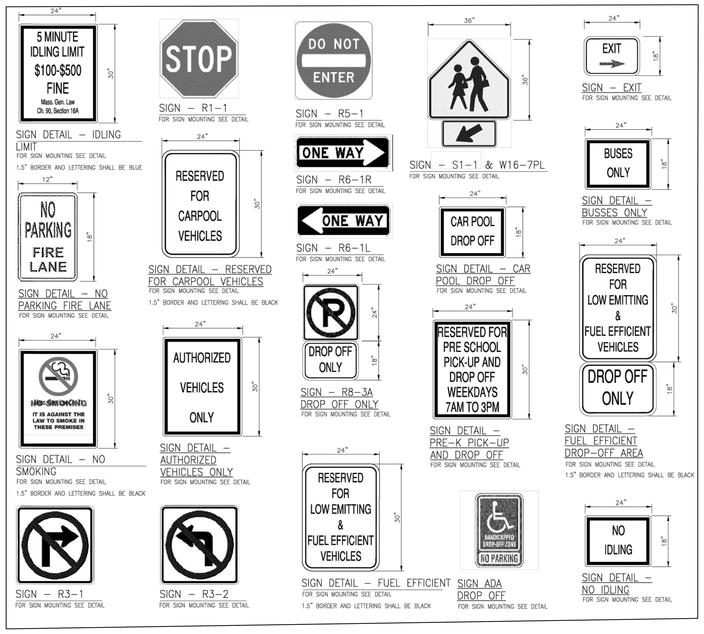
NORTH ARROW

KEYPLAN

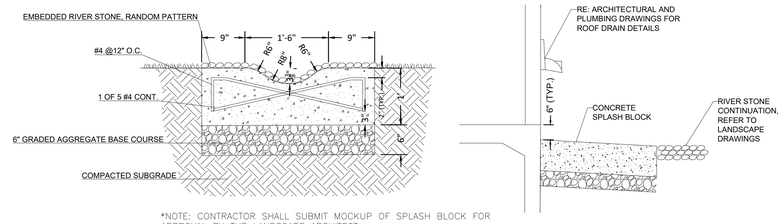


DRAWING NAME:
SITE DETAILS

DRAWN BY:	SMC
REVIEWED BY:	GBD
SCALE:	AS NOTED
JOB NO.:	77997
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	C6.2

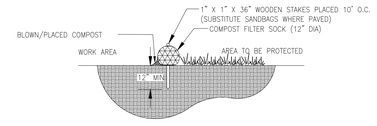


TYPICAL MISCELLANEOUS SIGNS
NOT TO SCALE

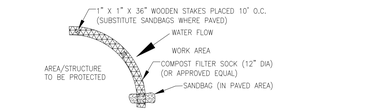


*NOTE: CONTRACTOR SHALL SUBMIT MOCKUP OF SPLASH BLOCK FOR APPROVAL BY THE LANDSCAPE ARCHITECT

CONCRETE SPLASH BLOCK
NOT TO SCALE



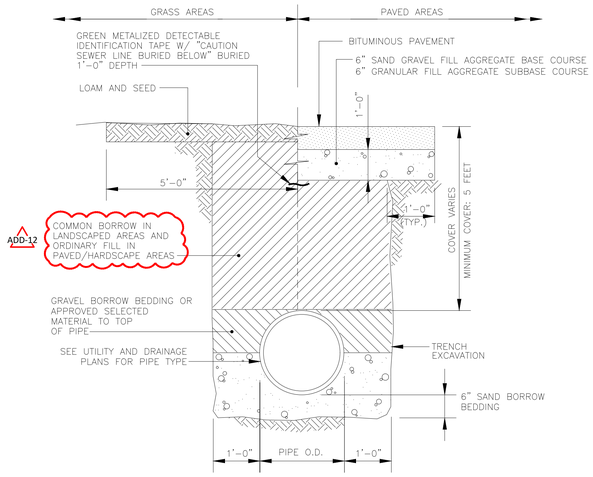
SECTION



PLAN

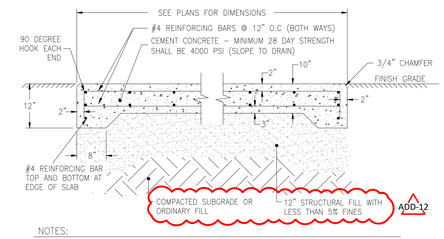
NOTES:
1. INSPECT AND MAINTAIN THROUGHOUT CONSTRUCTION
2. SOCK AND COMPOST MATERIAL TO BE REMOVED FROM SITE WHEN CONSTRUCTION COMPLETE.

SILTATION BARRIER
NOT TO SCALE



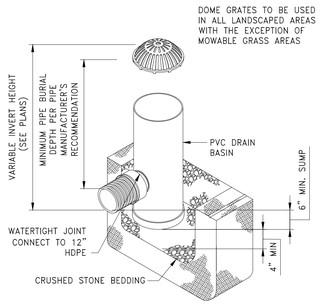
NOTES:
1. FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.
2. MINIMUM WIDTH OF TRENCH SHOULD BE 3 FEET.
3. PLACE 6" OF DRAINAGE STONE FROM BASE OF TRENCH TO TOP OF PIPE IF PIPE IS INSTALLED BELOW SEASONAL HIGH GROUND WATER TABLE.

TYPICAL ONSITE SEWER TRENCH
NOT TO SCALE



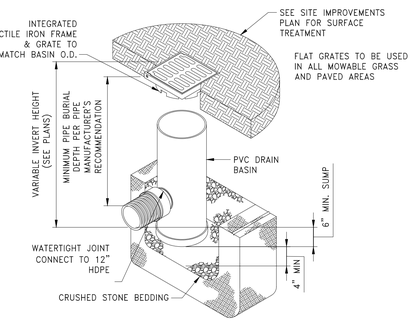
NOTES:
1. FOR DUMPSTER PAD AND OTHER UTILITY LOCATIONS, SEE PLANS.
2. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A–615 OF THE LATEST DATA.
3. TO REDUCE THE POTENTIAL FOR HEAVE CAUSED BY SURFACE WATER PENETRATING UNDER THE CONCRETE PAD, THE CONCRETE SHOULD BE SEALED WITH A WATERPROOFING COMPOUND.

CEMENT CONCRETE PAD
NOT TO SCALE



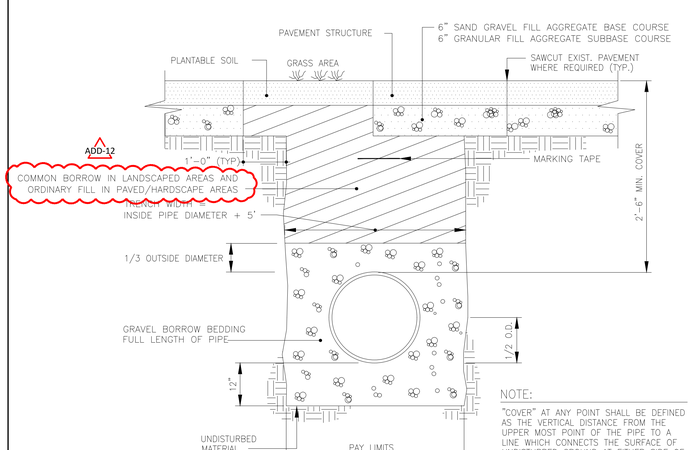
NOTES:
1. DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE.

AD 12" AREA DRAIN BASIN WITH DOME GRATE
NOT TO SCALE



NOTES:
1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05 AND ADA COMPLIANT
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE.

AD 12" AREA DRAIN BASIN
NOT TO SCALE

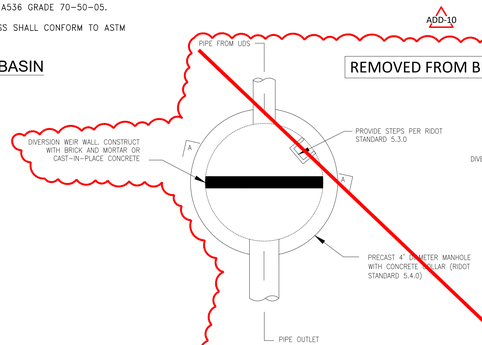


NOTE:
"COVER" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UPPER MOST POINT OF THE PIPE TO A LINE WHICH CONNECTS THE SURFACE OF UNDISTURBED GROUND AT EITHER SIDE OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE

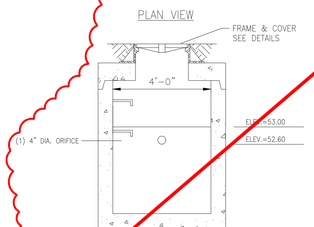
TYPICAL TRENCH FOR DRAINAGE INSTALLATION
NOT TO SCALE

ADD-10

REMOVED FROM BID DOCUMENTS

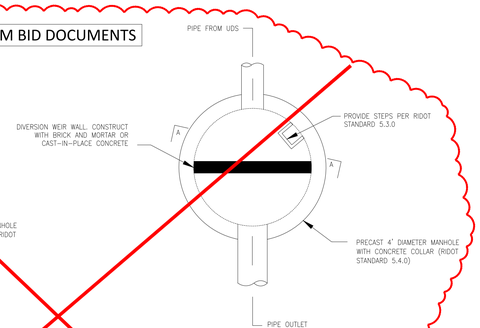


PLAN VIEW

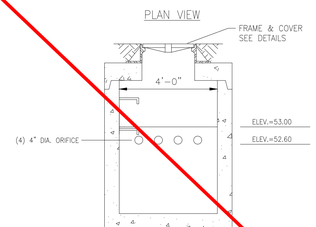


SECTION A–A DIVERSION WEIR WALL ELEVATION

UIC–2 OUTLET CONTROL STRUCTURE
NOT TO SCALE

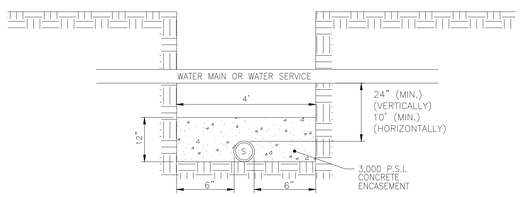


PLAN VIEW

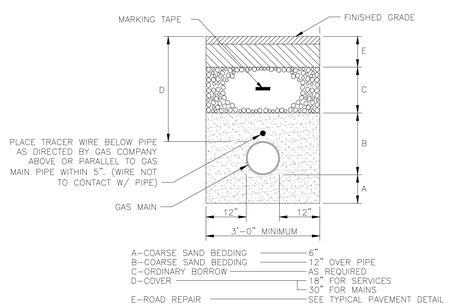


SECTION A–A DIVERSION WEIR WALL ELEVATION

UIC–1 OUTLET CONTROL STRUCTURE
NOT TO SCALE



MINIMUM DISTANCES FOR SEWER AND WATER LINE CROSSINGS
NOT TO SCALE



TYPICAL GAS MAIN TRENCH DETAIL
NOT TO SCALE

NOTE:
1. THIS DETAIL REPRESENTS A TYPICAL GAS TRENCH DETAIL. FINAL TRENCH MATERIALS AND DIMENSIONS SHALL BE COORDINATED WITH THE GAS COMPANY.
2. ALL LATERAL TRENCHES WITHIN THE RIGHT–OF–WAY OF PUBLIC WAYS, SHALL BE BACKFILLED WITH FLOWABLE FILL UP TO 4 INCHES BELOW BOTTOM OF PAVEMENT.

NOTE:
ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUIVALENT" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS.

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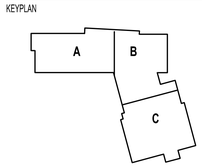
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024

100% CONSTRUCTION DOCUMENTS

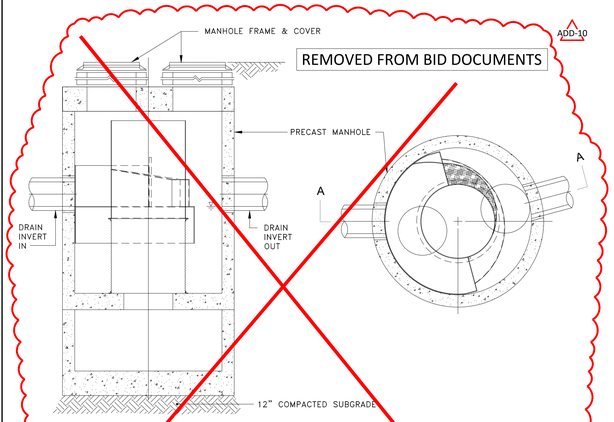
NORTH ARROW

KEYPLAN



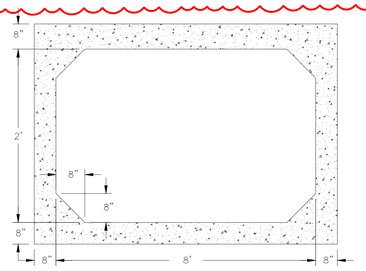
DRAWING NAME:
SITE DETAILS

DRAWN BY: SMC
REVIEWED BY: GBD
SCALE: AS NOTED
JOB NO.: 77997
DATE: OCTOBER 13, 2023
DRAWING NUMBER: C6.3



GENERAL NOTES
1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE SCHEMATIC DIMENSIONS. ACTUAL DIMENSIONS MAY VARY DEPENDING ON MANUFACTURER, DESIGN, AND STRUCTURE.
3. CONTRACTOR TO PROVIDE SHOP DRAWING AND CALCULATIONS FROM MANUFACTURER OF EACH HS
4. WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL CODES, LAWS, AND REGULATIONS OF MASSDEP, CITY OF WATERTOWN, AND ALL OTHER GOVERNING AGENCIES.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. SEE TABLE FOR SIZING AND BASIS OF DESIGN DATA.

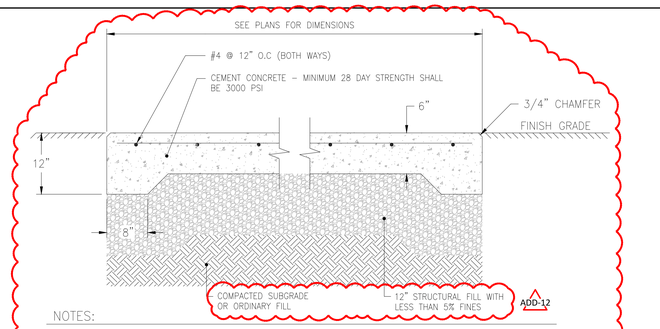
HDS-X HYDRODYNAMIC SEPARATOR DETAIL
NOT TO SCALE



NOTES:
1. CULVERT SECTIONS SHALL BE INSTALLED ON 12" STRUCTURAL FILL WITH LESS THAN 5% FINES OVER COMPACTED SUBGRADE OR ORDINARY FILL.
2. CONNECTION OF CULVERT SECTIONS SHALL BE GASKETED AND WATERTIGHT.
3. CONTRACTOR SHALL APPLY BITUMINOUS DAMP PROOFING TO EXTERIOR SURFACES IN ACCORDANCE WITH MANUFACTURERS REOMMENDATIONS.

ADD-12

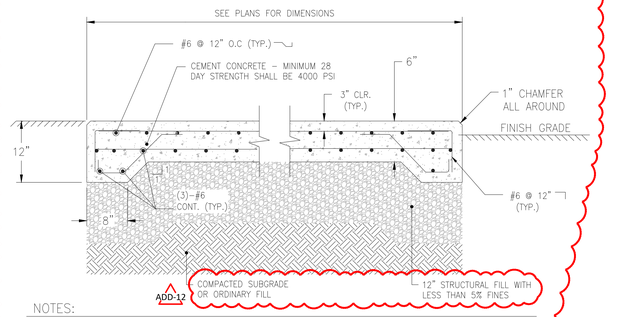
REINFORCED CONCRETE BOX CULVERT DETAIL
NOT TO SCALE



NOTES:
1. FOR DUMPSTER PAD, SEE PLANS.
2. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.

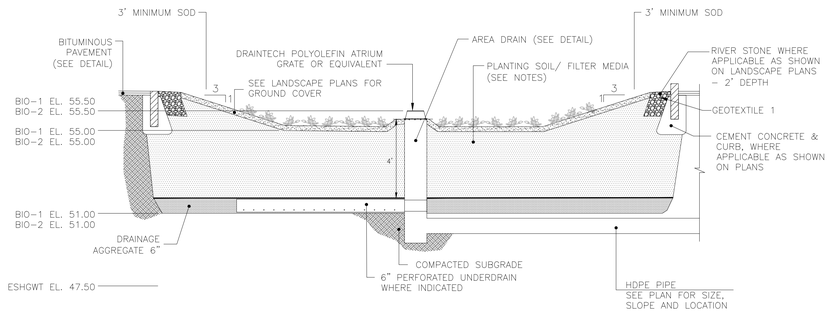
CEMENT CONCRETE PAD: STORAGE CONTAINER
NOT TO SCALE

ADD-9



NOTES:
1. FOR FREEZER AND FREIGHT FARM, SEE PLANS.
2. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.

CEMENT CONCRETE PAD: FREEZER AND FREIGHT FARM
NOT TO SCALE

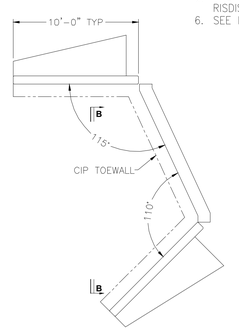


BIO-RETENTION AREA NOTES
1. THE PLANTING SOIL/FILTER MEDIA SHOULD BE A MIXTURE OF SAND, COMPOST, AND SOIL:
- 40% SAND *
- 20-30% TOPSOIL *
- 30-40% COMPOST *
* PERCENTAGES BY VOLUMES
2. THE SOIL MIX SHOULD BE UNIFORM, FREE OF STONES, STICKS, STUMPS, ROOTS, LARGER THAN 2 INCHES. CLAY CONTENT SHOULD NOT EXCEED 5%. SOIL PH SHOULD BE BETWEEN 5.5 AND 6.5 AND SHALL MEET ALL OTHER REQUIREMENTS OF SECTION 32.9320
3. THE SAND COMPONENT SHOULD BE GRAVELLY SAND THAT MEETS ASTM D 422.

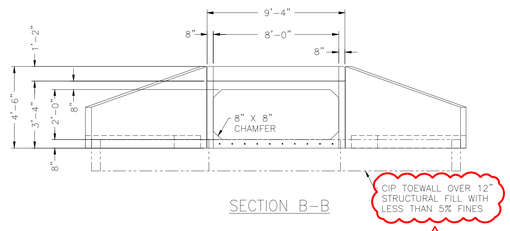
SIEVE SIZE	PERCENT PASSING
2 INCH	100
3/4 INCH	70-100
1/4 INCH	50-80
No. 40	15-40
No. 200	0-3

4. THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.
5. THE COMPOST COMPONENT MUST BE PROCESSED FROM 6af COMPOST MEETING THE RISDISM RULES AND REGULATIONS FOR AGRICULTURAL COMPOSTING.
6. SEE LANDSCAPE PLANS FOR PLANTING SCHEDULE.

BIORETENTION AREA DETAIL
NOT TO SCALE



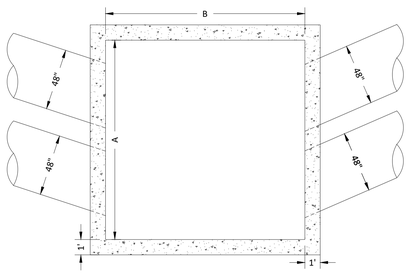
PLAN VIEW



SECTION B-B

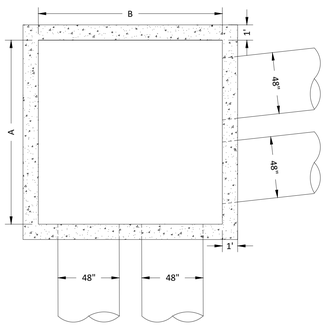
REINFORCED CONCRETE WINGWALL DETAIL
NOT TO SCALE

ADD-6



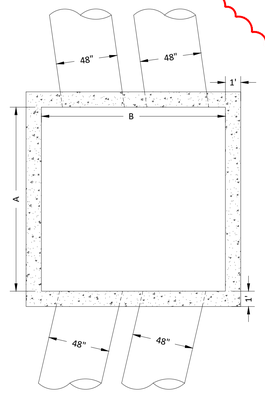
PLAN VIEW

TRANSITION CHAMBER TC-1 DETAIL
NOT TO SCALE



PLAN VIEW

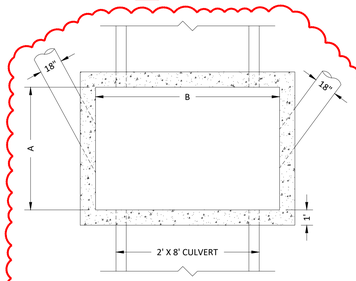
TRANSITION CHAMBER TC-2 DETAIL
NOT TO SCALE



PLAN VIEW

TRANSITION CHAMBER TC-3 DETAIL
NOT TO SCALE

ADD-10

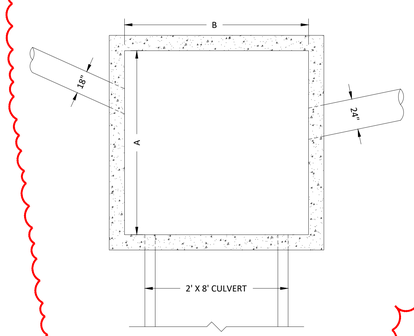


PLAN VIEW

TRANSITION CHAMBER DMH-316 DETAIL
NOT TO SCALE

STRUCTURE	INV IN*	INV OUT*	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
TC-1	44.96	44.96	13'	8'	8'-2"
TC-2	45.10	45.10	12'	12'	8'-0"
TC-3	45.95	45.95	8'	12'	9'-1"
DMH-313	SEE C5.2	SEE C5.2	8'	12'	3'-0"
DMH-316	SEE C5.2	SEE C5.2	8'	12'	3'-0"

*SEE DETAIL NOTES 1 AND 2

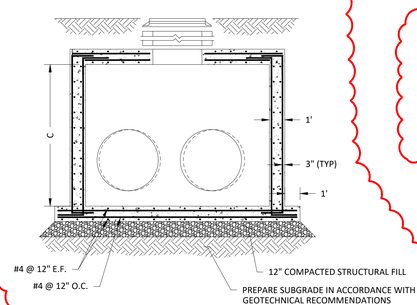


PLAN VIEW

TRANSITION CHAMBER DMH-313 DETAIL
NOT TO SCALE

NOTES:
1. TC-1 AND TC-3 SHALL BE CONSTRUCTED FOR CONNECTION TO THE EXISTING 48" COMBINED SEWER PIPES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING ALL EXISTING DATA PRIOR TO INSTALLATION. THIS SHALL INCLUDE BUT IS NOT LIMITED TO, ELEVATIONS, DIMENSIONS, SPACING, AND PIPE ANGLE. THIS EXISTING INFORMATION SHALL BE INCLUDED IN SHOP DRAWINGS FOR TRANSITION CHAMBERS.
2. PROPOSED INVERT ELEVATIONS OF THE TWIN 48" PIPES ARE BASED ON EXISTING CONDITIONS DATA OBTAINED DURING DESIGN. THE CONTRACTOR SHALL CONFIRM EXISTING PIPE ELEVATIONS AT POINTS OF CONNECTION. INVERT ELEVATIONS SHALL BE ADJUSTED BASED ON EXISTING PIPE ELEVATIONS DETERMINED DURING THIS FIELD CONFIRMATION AND SHALL BE PROVIDED IN SHOP DRAWINGS FOR TRANSITION CHAMBERS.
3. TC-1, TC-2, AND TC-3 MANHOLE COVERS SHALL BE BOLTED/GASKETED STYLE.

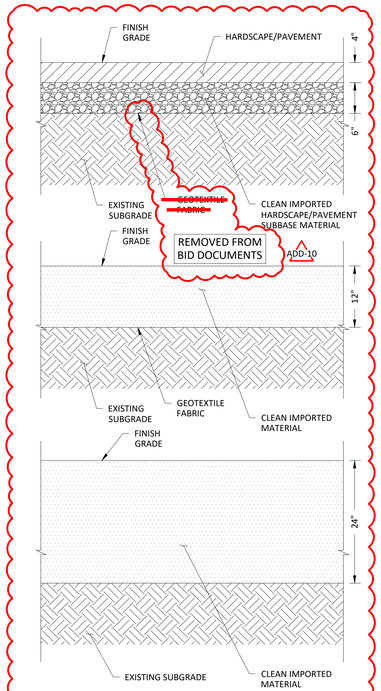
ADD-10



TRANSITION CHAMBER SECTION VIEW

NOTE:
ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUIVALENT" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS.

ADD-9



MINIMIUM CAPPING REQUIREMENTS
NOT TO SCALE

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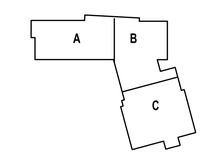
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-10	ADDENDUM #10	02.09.2024
ADD-9	ADDENDUM #9	02.06.2024
ADD-6	ADDENDUM #6	01.23.2024

100% CONSTRUCTION DOCUMENTS

NORTH ARROW

KEYPLAN



DRAWING NAME:
SITE DETAILS

DRAWN BY: SMC
REVIEWED BY: GBD
SCALE: AS NOTED
JOB NO.: 77997
DATE: OCTOBER 13, 2023
DRAWING NUMBER: C6.5

ADD 12

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

REFERENCE NOTES SCHEDULE

SYMBOL	WOOD FRAMING DESCRIPTION	QTY	DETAIL
06-20-13	WOOD DECKING - SEE SHEET L3.15	585 sf	

SYMBOL	ASPHALT PAVING DESCRIPTION	QTY	DETAIL
32-12-17	ASPHALT COURT PAVING	12,793 sf	1/L3.12
32-12-17B	BITUMINOUS ASPHALT PAVING	4,799 sf	3/L3.01

ADD 11

QUANTITY CHANGES TO SPLIT RAIL FENCE AND BITUMINOUS ASPHALT

SYMBOL	CONCRETE PAVING DESCRIPTION	QTY	DETAIL
32-13-13A	CONCRETE PAVING	26,973 sf	1/L3.01

SYMBOL	UNIT PAVING DESCRIPTION	QTY	DETAIL
32-14-00A	UNIT PAVERS- TYPE A	1,940 sf	4/L3.14
32-14-00B	UNIT PAVERS- TYPE B	1,286 sf	4/L3.14

SYMBOL	FENCES AND GATES DESCRIPTION	QTY	DETAIL
32-31-13B	8' BLACK CHAIN LINK FENCE	2,438 lf	8/L3.01
32-31-13C	10' BLACK CHAIN LINK FENCE	440 lf	2/L3.12
32-31-13D	METAL PRIVACY FENCE	98 lf	1/L3.10
32-31-13E	METAL PRIVACY GATES	32 lf	1/L3.10

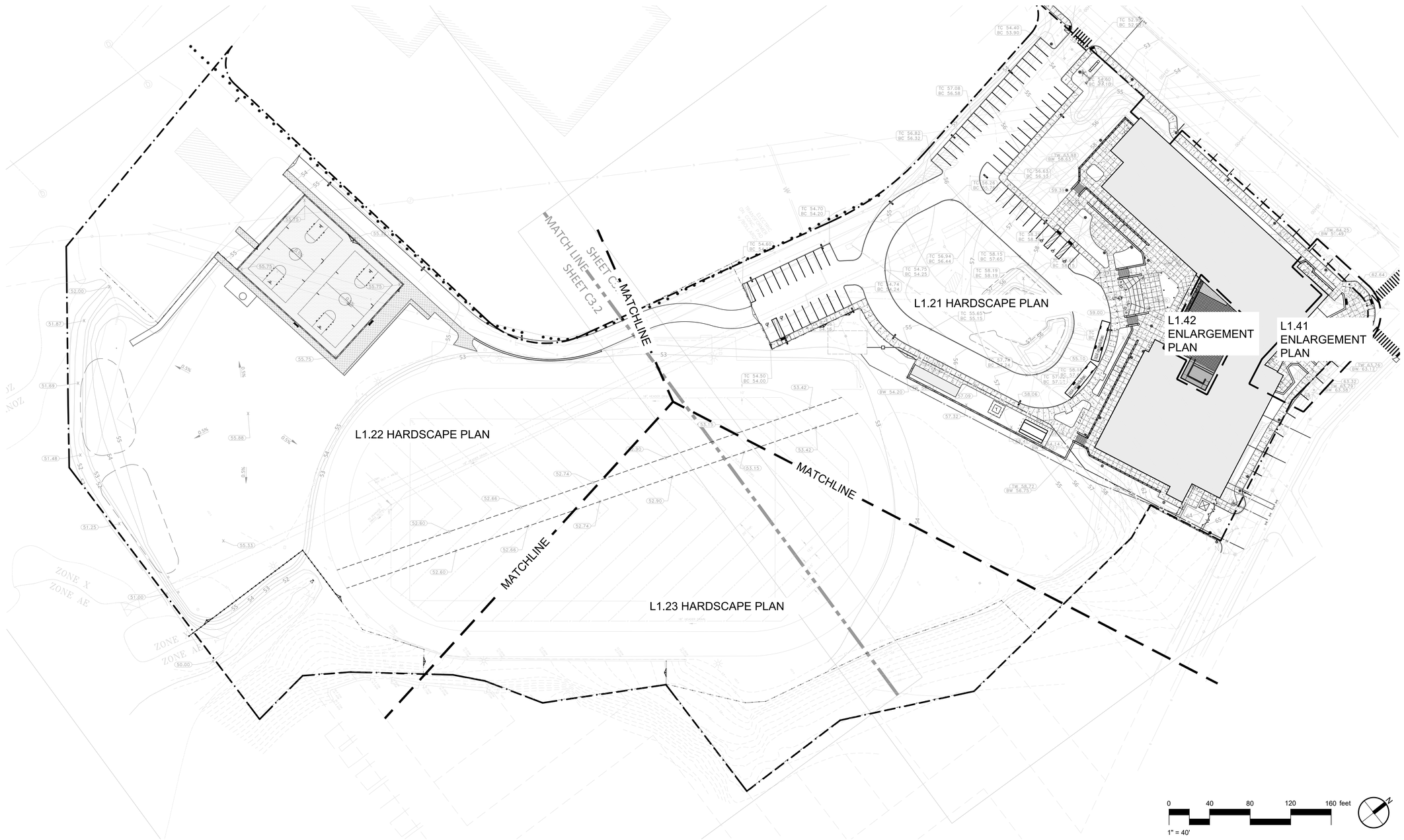
SYMBOL	FENCES AND GATES DESCRIPTION	QTY	DETAIL
32-31-13F	8' CHAIN LINK 20' WIDE DOUBLE GATE	3	9/L3.01
32-31-13G	8' CHAIN LINK 8' WIDE DOUBLE GATE	4	7/L3.01
32-31-13H	8' CHAIN LINK SINGLE GATE	1	6/L3.01
32-31-13I	10' FENCE CHAIN LINK SINGLE GATE	2	4/L3.12
32-31-13J	10' FENCE CHAIN LINK DOUBLE GATE	1	5/L3.12
32-31-13K	4' CHAIN LINK 10' WIDE DOUBLE GATE	2	10/L3.01
32-31-14	SPLIT RAIL FENCE	194 lf	5/L3.01

SYMBOL	RETAINING WALLS DESCRIPTION	QTY	DETAIL
32-32A	SMALL RETAINING WALL	131 lf	2/L3.10
32-32B	PARAPET WALL	206 lf	3/L3.02
32-32C	RETAINING WALL	627 lf	2/L3.02
32-32D	STAIR CHEEK WALL	48 lf	4/L3.02
32-32E	PARAPET STAIR CHEEK WALL	46 lf	2/L3.03
32-32F	LANDSCAPE CURB	234 lf	12/L3.01

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
32-33-00A	BIKE RACK	5	8/L3.11
32-33-00B	45' FLAG POLE	1	6/L3.11
32-33-00C	ORNAMENTAL BOLLARD	20	7/L3.11
32-33-00D	LITTER/RECYCLE RECEPTACLE	4	5/L3.11
32-33-00E	OUTDOOR BENCH A	2	2/L3.11
32-33-00F	OUTDOOR BENCH B	3	3/L3.11

SYMBOL	PLANTING ACCESSORIES DESCRIPTION	QTY	DETAIL
32-94-41	VEGETATED ROOF SYSTEM	200 sf	4/L3.14

SYMBOL	RAIL DESCRIPTION	QTY	DETAIL
R-01	GUARDRAIL ON WALL	371 lf	5/L3.02
R-02	GUARDRAIL FREESTANDING	80 lf	6/L3.02
R-03	RAMP HANDRAIL FREESTANDING	176 lf	7/L3.02
R-04	HANDRAIL ON CIP WALL	185 lf	8/L3.02
R-05	HANDRAIL ON BUILDING	93 lf	9/L3.02
R-06	HANDRAIL FREESTANDING	44 lf	10/L3.02



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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

OVERALL SITE REFERENCE

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: 1"=40'-0"
JOB NO.: K1031
DATE: OCTOBER 13, 2023

DRAWING NUMBER: L1.01

REFERENCE NOTES SCHEDULE L1.21

SYMBOL	CONCRETE PAVING DESCRIPTION	DETAIL
32-13-13A	CONCRETE PAVING	1/L3.01

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13B	8' BLACK CHAIN LINK FENCE	8/L3.01
32-31-13D	METAL PRIVACY FENCE	1/L3.10
32-31-13E	METAL PRIVACY GATES	1/L3.10

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13F	8' CHAIN LINK 20' WIDE DOUBLE GATE	9/L3.01
32-31-13G	8' CHAIN LINK 8' WIDE DOUBLE GATE	7/L3.01
32-31-13H	8' CHAIN LINK SINGLE GATE	6/L3.01

SYMBOL	RETAINING WALLS DESCRIPTION	DETAIL
32-32B	PARAPET WALL	3/L3.02
32-32C	RETAINING WALL	2/L3.02
32-32D	STAIR CHEEK WALL	4/L3.02
32-32E	PARAPET STAIR CHEEK WALL	2/L3.03

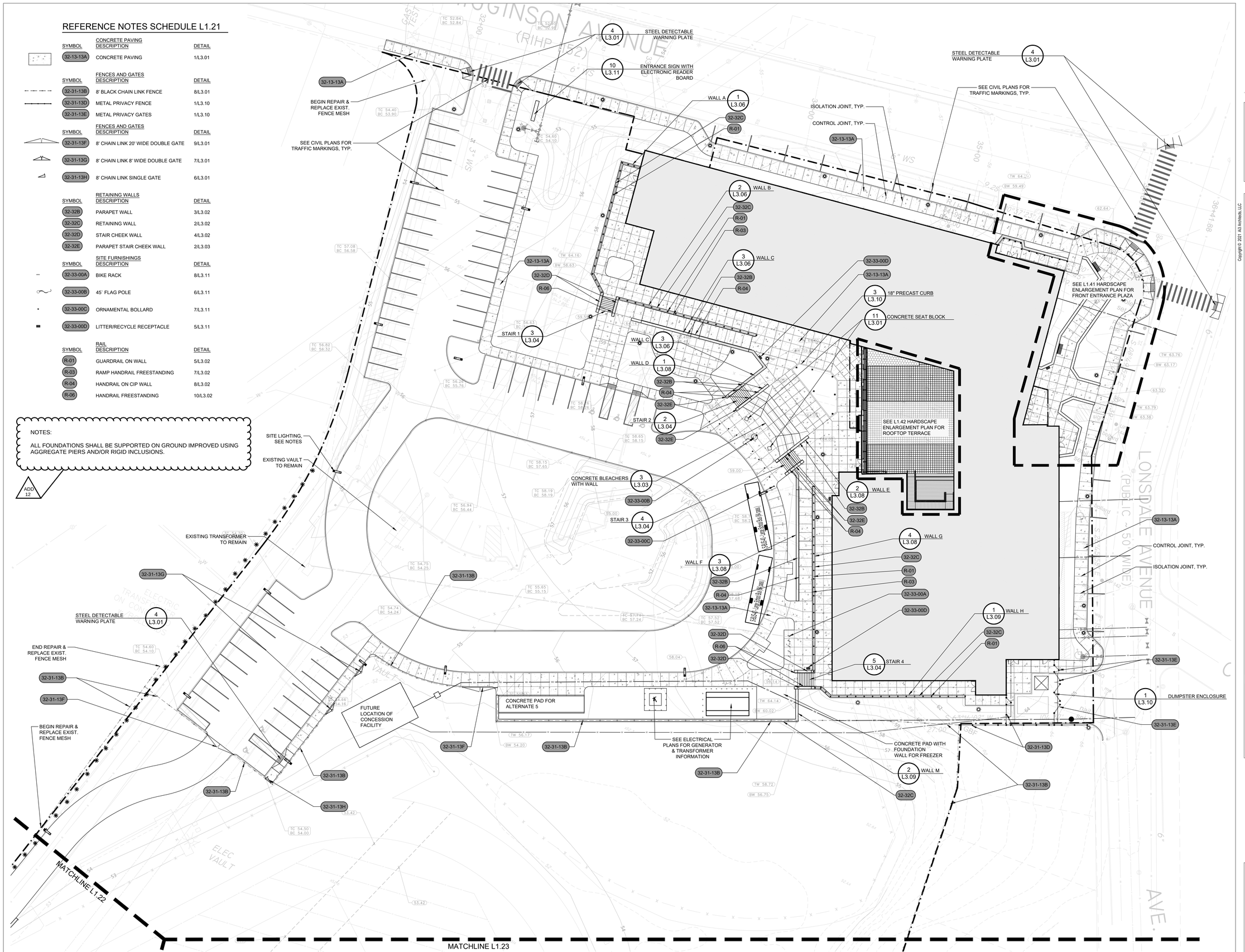
SYMBOL	SITE FURNISHINGS DESCRIPTION	DETAIL
32-33-00A	BIKE RACK	8/L3.11
32-33-00B	45' FLAG POLE	6/L3.11
32-33-00C	ORNAMENTAL BOLLARD	7/L3.11
32-33-00D	LITTER/RECYCLE RECEPTACLE	5/L3.11

SYMBOL	RAIL DESCRIPTION	DETAIL
R-01	GUARDRAIL ON WALL	5/L3.02
R-03	RAMP HANDRAIL FREESTANDING	7/L3.02
R-04	HANDRAIL ON CIP WALL	8/L3.02
R-06	HANDRAIL FREESTANDING	10/L3.02

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



NOTES:
1. SEE ELECTRICAL SITE PLAN FOR SITE LIGHTING, TYP.
2. SEE CIVIL PLANS FOR DRAINAGE, GRADING, UTILITIES, STORMWATER, TRAFFIC CONTROL, DEMOLITION, SERVICE AREA PADS
3. SEE ARCHITECTURAL PLANS FOR BUILDING

0 20 40 60 80 feet
1" = 20'

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE PLAN
BASE BID

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.21

REFERENCE NOTES SCHEDULE

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
32-33-00F	OUTDOOR BENCH B	7	3/L3.11
32-33-00G	OUTDOOR PICNIC TABLE	5	1/L3.11
32-33-00H	OUTDOOR GATHERING TABLE	3	4/L3.11
32-33-00J	ROOFTOP PICNIC TABLE	6	5/L3.15
32-33-00K	ROOFTOP SEAT A	5	1/L3.15
32-33-00L	ROOFTOP SEAT B	5	2/L3.15
32-33-00M	ROOFTOP PLANTER A	20	3/L3.15
32-33-00N	ROOFTOP PLANTER B	5	4/L3.15

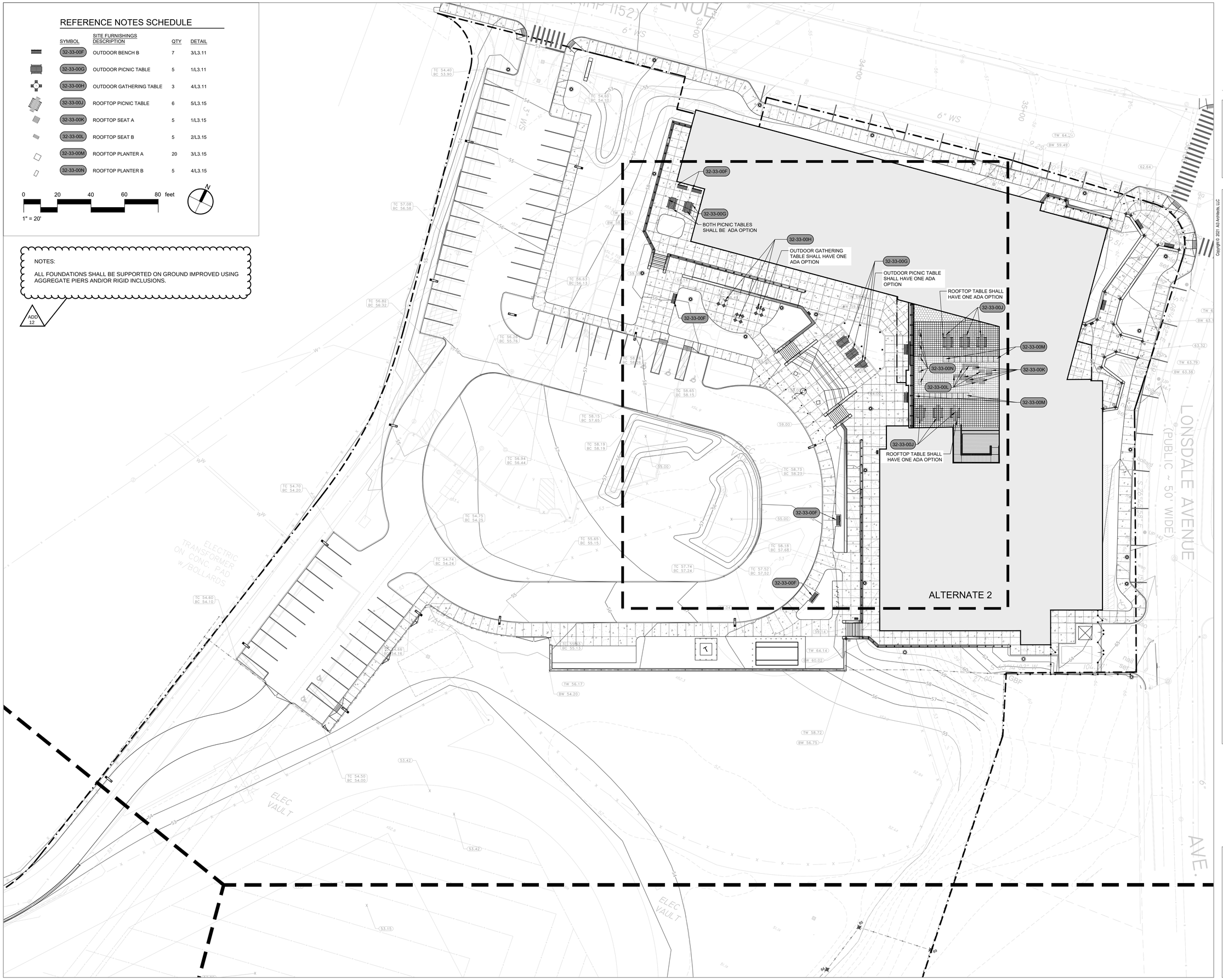
0 20 40 60 80 feet

1" = 20'

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



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CENTRAL FALLS HIGH SCHOOL
10 HIGGINSON AVE, CENTRAL FALLS, RI

KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE PLAN
ALTERNATE 2

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.21A

REFERENCE NOTES SCHEDULE

SYMBOL	CONCRETE PAVING DESCRIPTION	QTY	DETAIL
32-13-13A	CONCRETE PAVING	2,460 sf	1/L3.01

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
32-33-00C	ORNAMENTAL BOLLARD	5	7/L3.11
32-33-00D	LITTER/RECYCLE RECEPTACLE	1	5/L3.11
32-33-00G	OUTDOOR PICNIC TABLE	5	1/L3.11
32-33-00H	OUTDOOR GATHERING TABLE	3	4/L3.11
32-33-00I	SHADE STRUCTURE	1	9/L3.11

0 20 40 60 80 feet

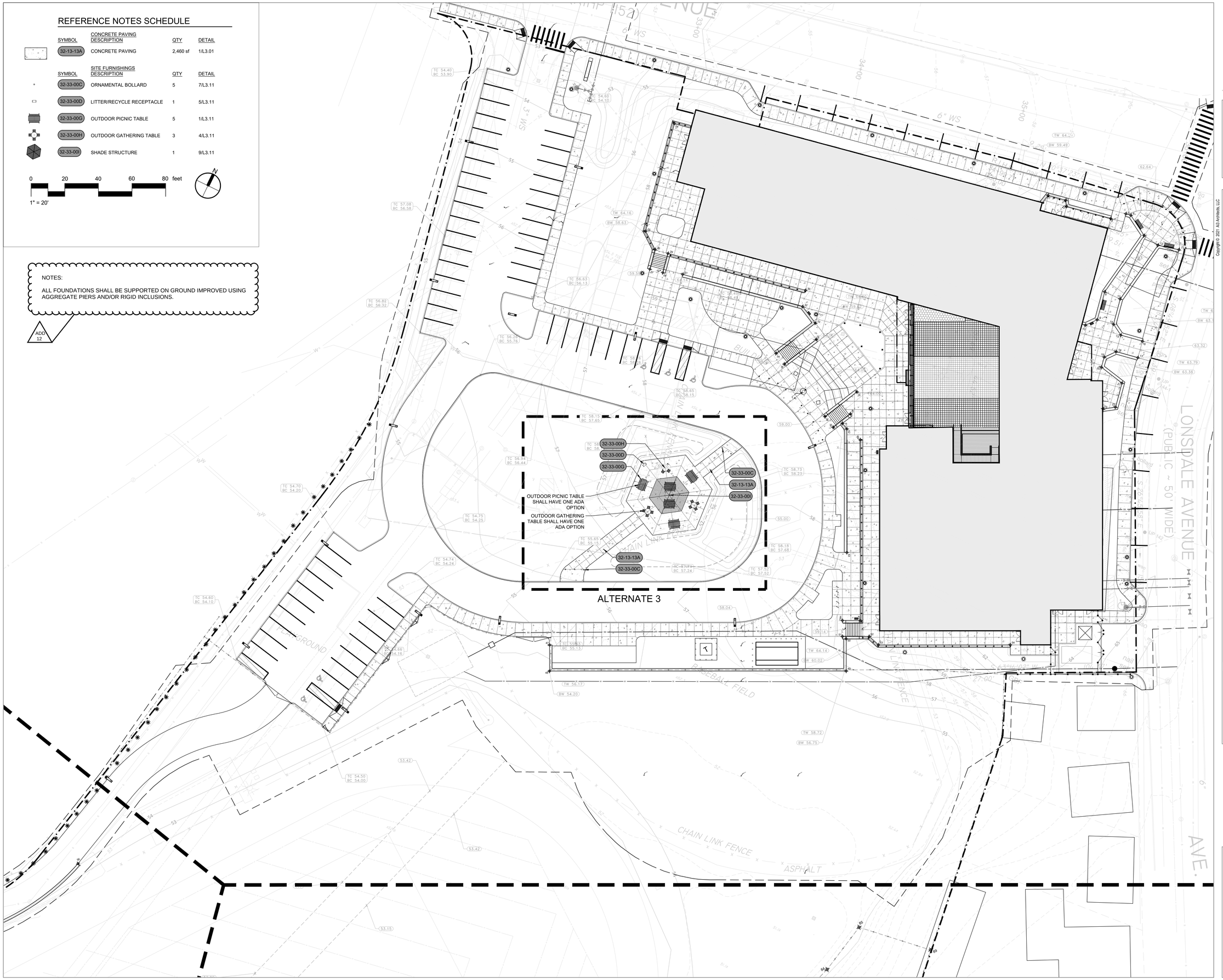
1" = 20'

N

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

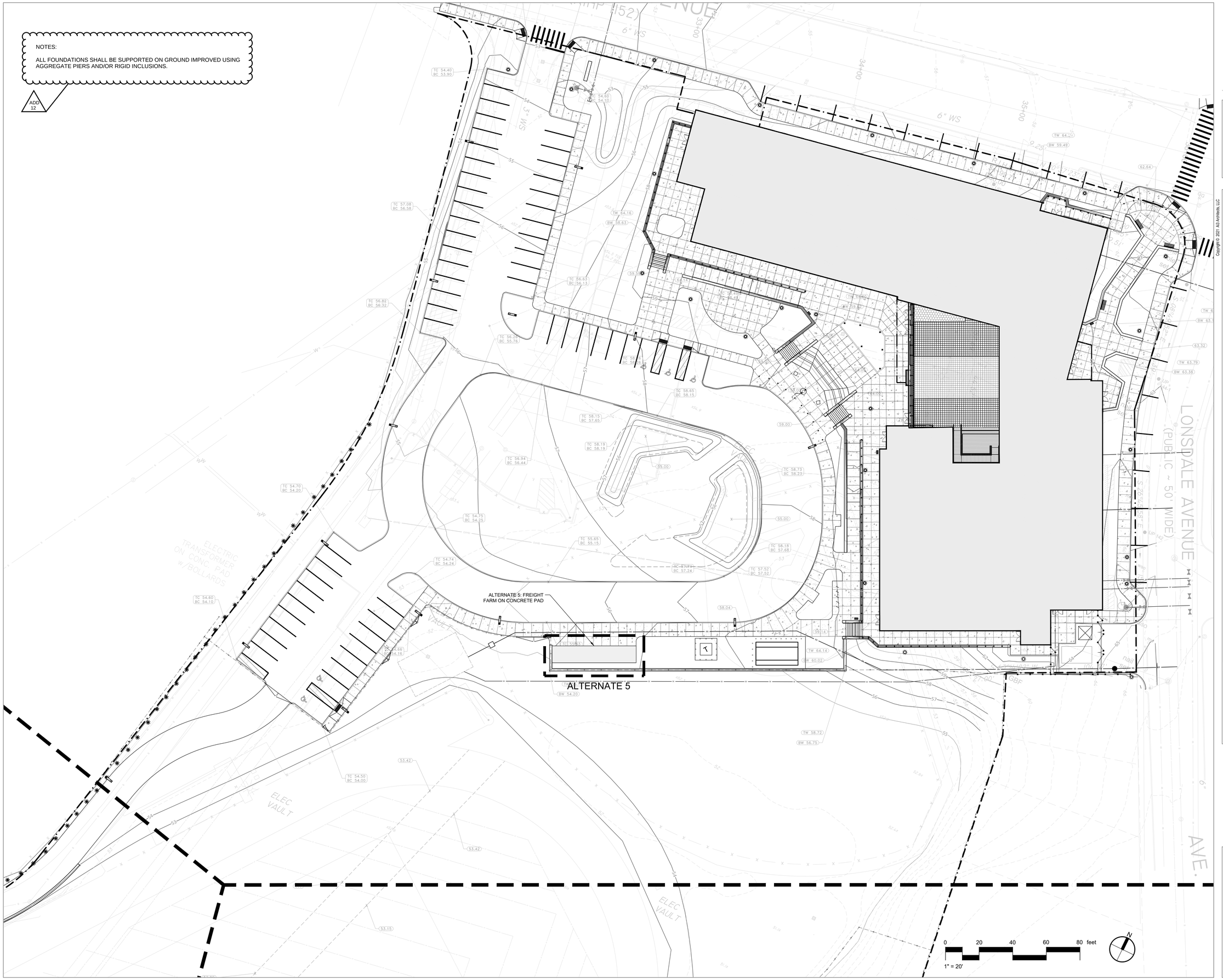
HARDSCAPE PLAN
ALTERNATE 3

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.21B

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

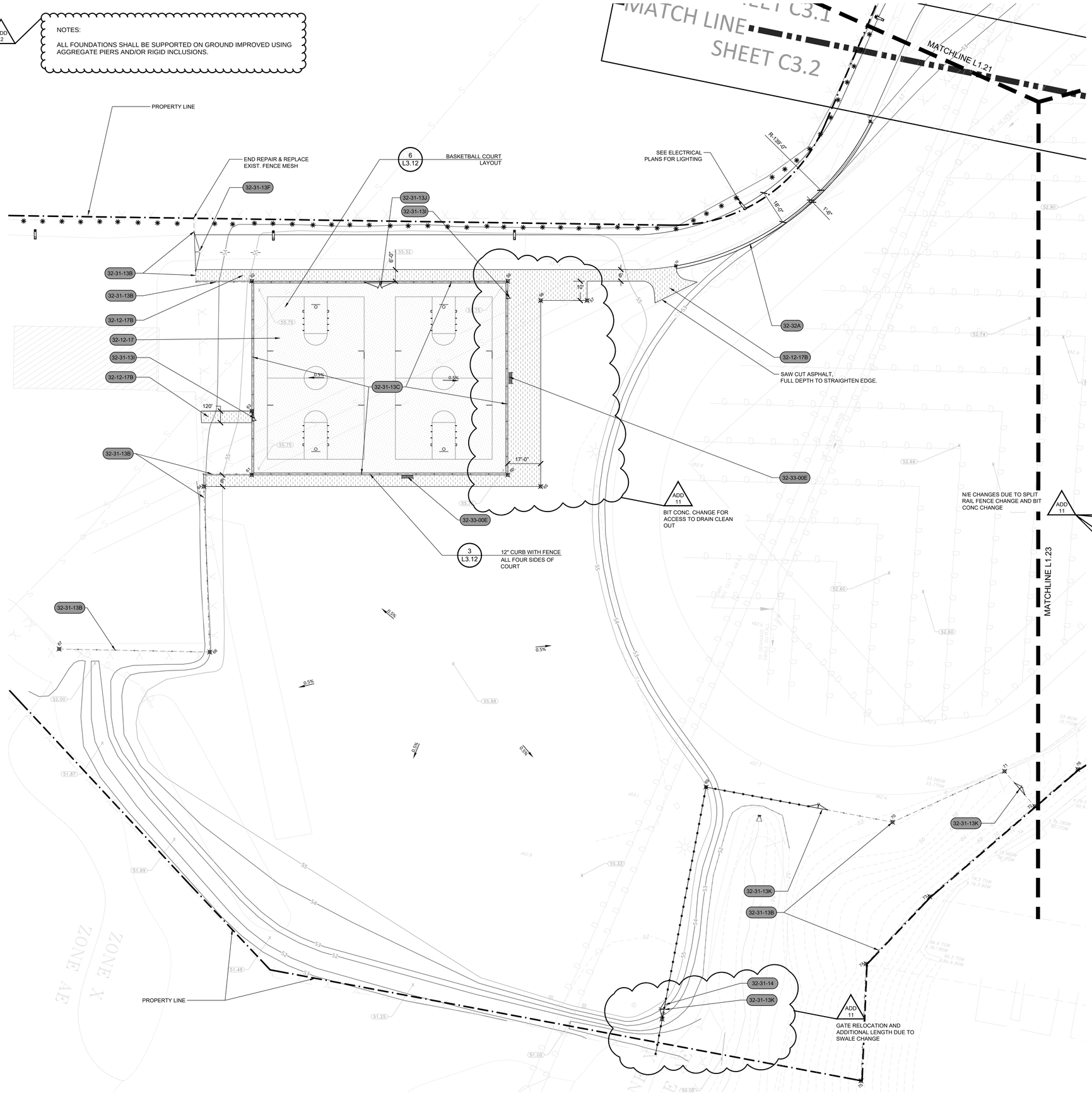
HARDSCAPE PLAN
ALTERNATE 5

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.21C

ADD 12

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.



REFERENCE NOTES SCHEDULE L1.22

SYMBOL	ASPHALT PAVING DESCRIPTION	DETAIL
32-12-17	ASPHALT COURT PAVING	1/L3.12
32-12-17B	BITUMINOUS ASPHALT PAVING	3/L3.01

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13B	8' BLACK CHAIN LINK FENCE	8/L3.01
32-31-13C	10' BLACK CHAIN LINK FENCE	2/L3.12

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13F	8' CHAIN LINK 20' WIDE DOUBLE GATE	9/L3.01
32-31-13G	8' CHAIN LINK 8' WIDE DOUBLE GATE	7/L3.01
32-31-13I	10' FENCE CHAIN LINK SINGLE GATE	4/L3.12
32-31-13J	10' FENCE CHAIN LINK DOUBLE GATE	5/L3.12
32-31-13K	4' CHAIN LINK 10' WIDE DOUBLE GATE	10/L3.01
32-31-14	SPLIT RAIL FENCE	5/L3.01

SYMBOL	RETAINING WALLS DESCRIPTION	DETAIL
32-32A	SMALL RETAINING WALL	2/L3.10

SYMBOL	SITE FURNISHINGS DESCRIPTION	DETAIL
32-33-00E	OUTDOOR BENCH A	2/L3.11

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
55		N 291999.31	E 354348.88
~~56~~		~~N 292002.56~~	~~E 354432.45~~
57		N 291972.64	E 354307.50
58		N 291967.86	E 354283.98
~~59~~		~~N 291974.27~~	~~E 354265.35~~
60		N 291876.12	E 354285.28
61		N 291849.76	E 354155.60
62		N 291947.91	E 354135.65
63		N 291882.10	E 354149.03
~~64~~		~~N 291838.05~~	~~E 354132.50~~
65		N 291873.63	E 354303.13
~~66~~		~~N 291753.09~~	~~E 354152.00~~
~~67~~		~~N 291741.73~~	~~E 354075.06~~
68		N 291616.33	E 354419.54
~~69~~		~~N 291735.36~~	~~E 354417.86~~
70		N 291739.84	E 354515.92
71		N 291777.13	E 354567.45
72		N 291762.47	E 354586.32
73		N 291705.94	E 354542.42
74		N 291665.32	E 354517.10
75		N 291605.53	E 354526.64

ADD 11

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE PLAN
BASE BID

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: 1"=20'-0"
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L1.22

ADD 12

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

REFERENCE NOTES SCHEDULE

SYMBOL	ASPHALT PAVING DESCRIPTION	QTY	DETAIL
32-12-17B	BITUMINOUS ASPHALT PAVING	716 sf	3/L3.01

SYMBOL	CONCRETE PAVING DESCRIPTION	QTY	DETAIL
32-13-13A	CONCRETE PAVING	968 sf	1/L3.01

SYMBOL	AGGREGATE SURFACE DESCRIPTION	QTY	DETAIL
32-15-40	DECOMPOSED GRANITE SURFACING	2,650 sf	1/L3.13

SYMBOL	ATHLETIC AND RECREATIONAL SURFACING DESCRIPTION	QTY	DETAIL
32-18-25	SYNTHETIC TRACK SURFACE	1,822 sf	2/L3.13

SHOT PUT PAD MATERIAL CORRECTION

ADD 9

ALTERNATE 6

32-12-17B

32-13-13A

ADD 9

SHOT PUT PAD MATERIAL CORRECTION

3 L3.13 SHOT PUT PAD

1 L3.13 SHOT PUT LANDING AREA

4 L3.13 DUAL RING DISCUS/HAMMER CAGE

32-13-13A

STORAGE CONTAINERS, SEE SPEC

32-18-25

ADD 11

RELOCATION OF JAVELIN RUNWAY AND THROWING FIELD - SEE L1.22

ALTERNATE 6:
JAVELIN RUNWAY & LAYOUT

SHOT PUT THROWING CIRCLE & LANDING AREA

DISCUS/HAMMER CAGE & LAYOUT

STORAGE CONTAINERS ON CONCRETE PAD

BITUMINOUS CONCRETE WALKWAY

PROPERTY LINE

ZONE X

ZONE AE

BROOK 66' PUBLIC STREET

0 20 40 60 80 feet

1" = 20'

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

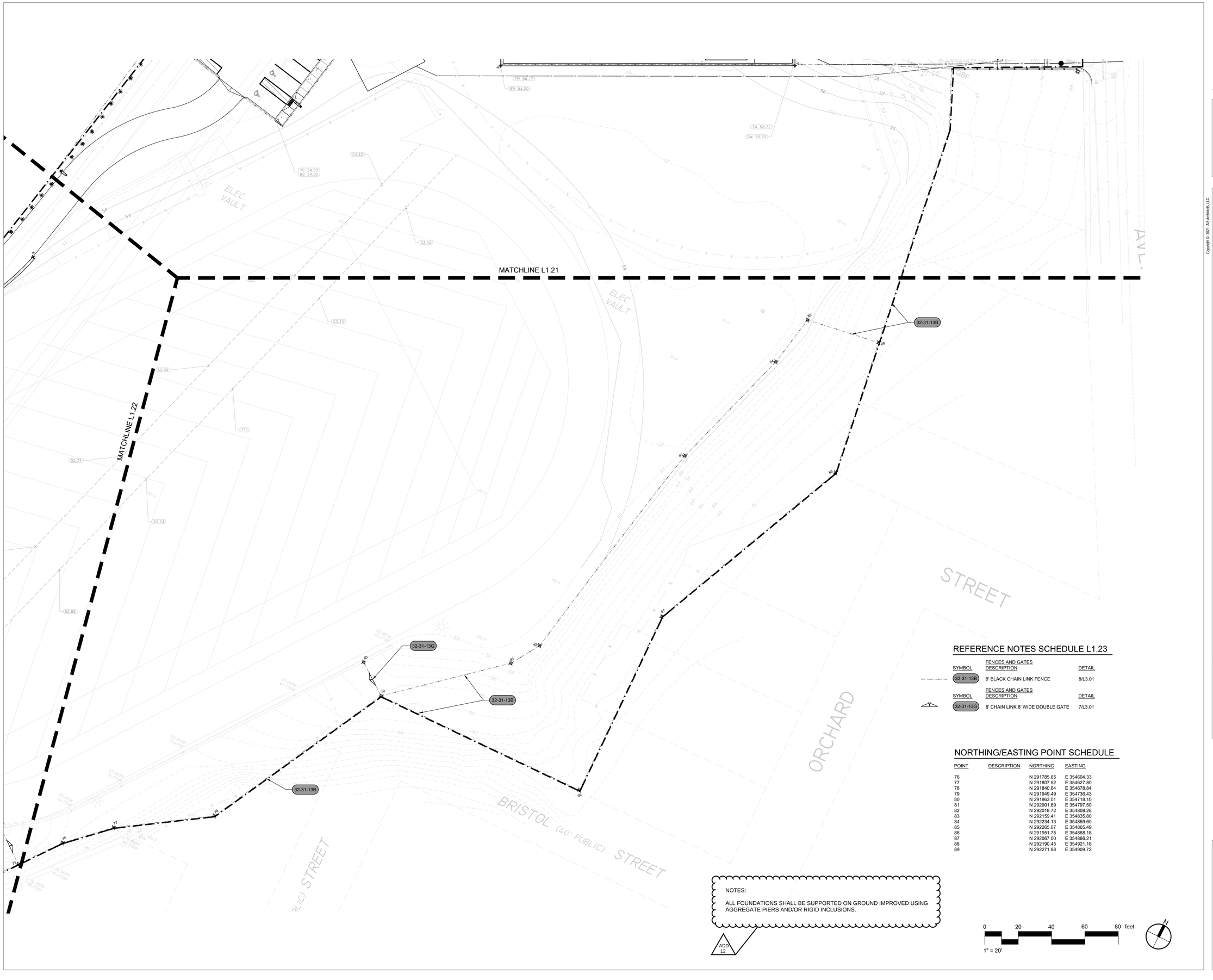
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE PLAN
ALTERNATE 6

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.22A



REFERENCE NOTES SCHEDULE L1.23

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13B	8' BLACK CHAIN LINK FENCE	8/L3.01

SYMBOL	FENCES AND GATES DESCRIPTION	DETAIL
32-31-13G	8' CHAIN LINK 8' WIDE DOUBLE GATE	7/L3.01

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
76		N 291785.65	E 354604.33
77		N 291807.52	E 354627.80
78		N 291840.64	E 354678.84
79		N 291949.49	E 354736.43
80		N 291963.01	E 354718.10
81		N 292001.69	E 354797.50
82		N 292018.72	E 354808.28
83		N 292159.41	E 354835.80
84		N 292234.13	E 354859.60
85		N 292265.07	E 354865.49
86		N 291951.75	E 354868.18
87		N 292067.00	E 354866.21
88		N 292190.45	E 354921.18
89		N 292271.88	E 354909.72

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

0 20 40 60 80 feet

1" = 20'

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KEYNOTE LEGEND:

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KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE PLAN
BASE BID

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: 1"=20'-0"
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L1.23

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

REFERENCE NOTES SCHEDULE L1.41

SYMBOL	CONCRETE PAVING DESCRIPTION	DETAIL
32-13-13A	CONCRETE PAVING	1/L3.01

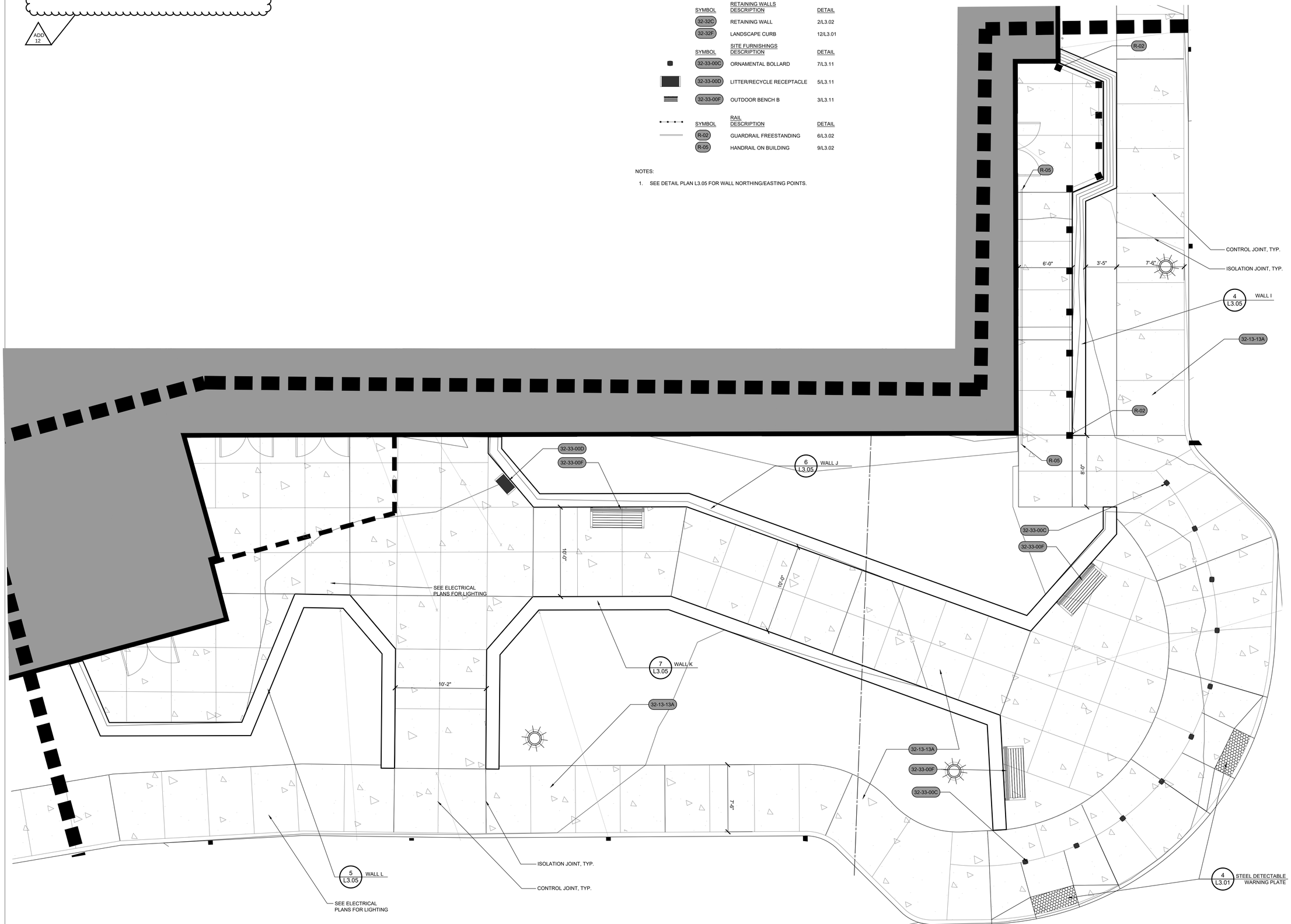
SYMBOL	RETAINING WALLS DESCRIPTION	DETAIL
32-32C	RETAINING WALL	2/L3.02
32-32F	LANDSCAPE CURB	12/L3.01

SYMBOL	SITE FURNISHINGS DESCRIPTION	DETAIL
32-33-00C	ORNAMENTAL BOLLARD	7/L3.11
32-33-00D	LITTER/RECYCLE RECEPTACLE	5/L3.11
32-33-00F	OUTDOOR BENCH B	3/L3.11

SYMBOL	RAIL DESCRIPTION	DETAIL
R-02	GUARDRAIL FREESTANDING	6/L3.02
R-05	HANDRAIL ON BUILDING	9/L3.02

NOTES:

1. SEE DETAIL PLAN L3.05 FOR WALL NORTHING/EASTING POINTS.



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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

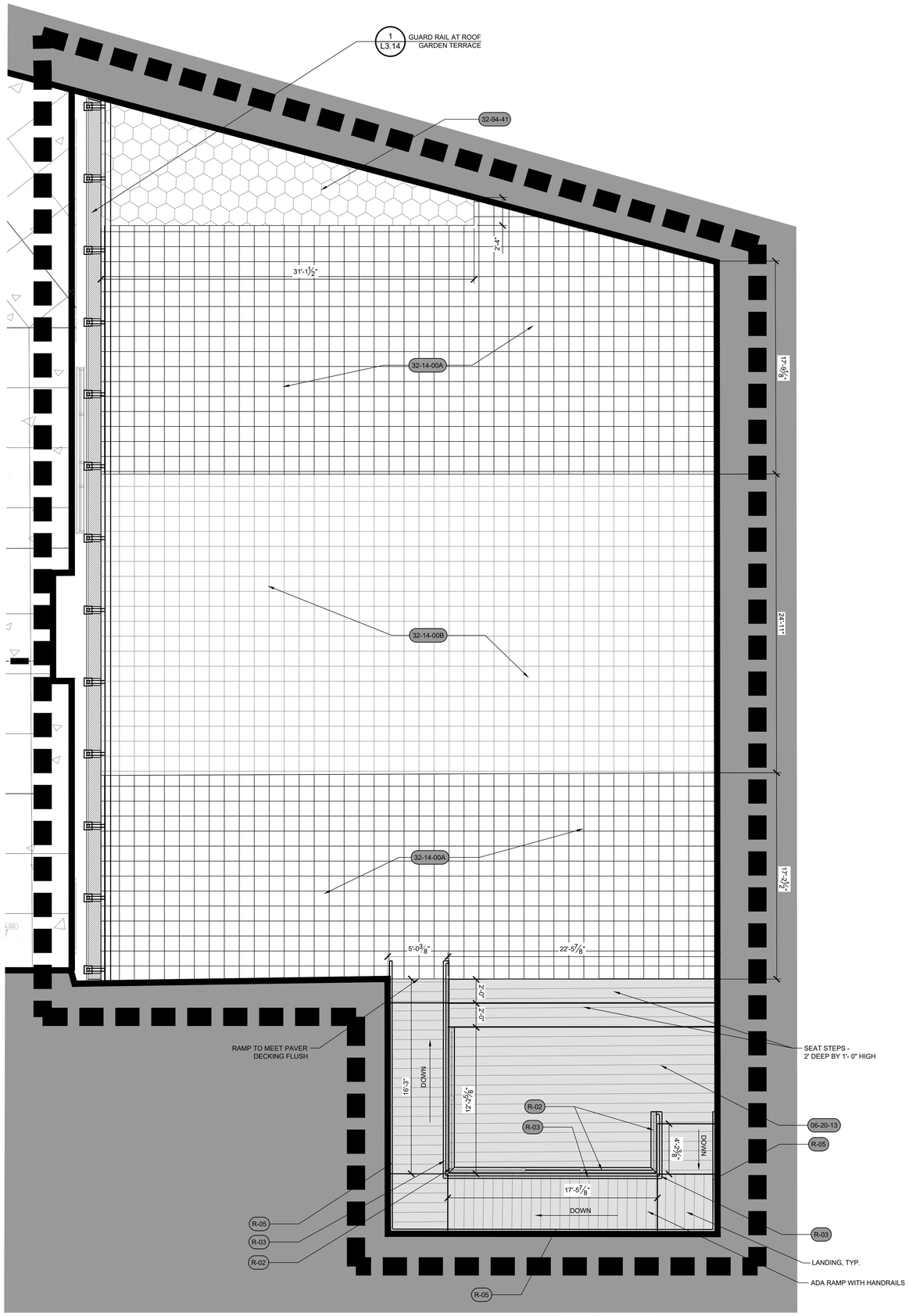
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

HARDSCAPE ENLARGEMENT PLAN

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1/4"=1'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.41



REFERENCE NOTES SCHEDULE L1.42

SYMBOL	WOOD FRAMING DESCRIPTION	DETAIL
06-20-13	WOOD DECKING - SEE SHEET L3.15	

SYMBOL	UNIT PAVING DESCRIPTION	DETAIL
32-14-00A	UNIT PAVERS- TYPE A	4/L3.14
32-14-00B	UNIT PAVERS- TYPE B	4/L3.14

SYMBOL	PLANTING ACCESSORIES DESCRIPTION	DETAIL
32-94-41	VEGETATED ROOF SYSTEM	4/L3.14

SYMBOL	RAIL DESCRIPTION	DETAIL
R-02	GUARDRAIL FREESTANDING	6/L3.02
R-03	RAMP HANDRAIL FREESTANDING	7/L3.02
R-05	HANDRAIL ON BUILDING	9/L3.02

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

N

0 4 8 12 16 feet

1/4"=1'-0"

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KEYNOTE LEGEND:

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100% CONSTRUCTION DOCUMENTS

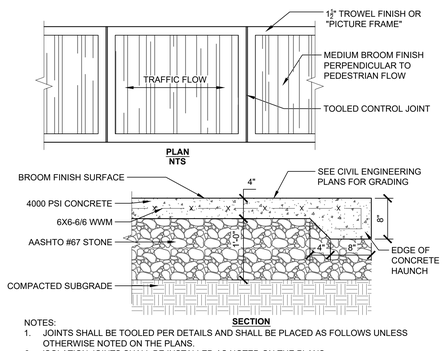
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

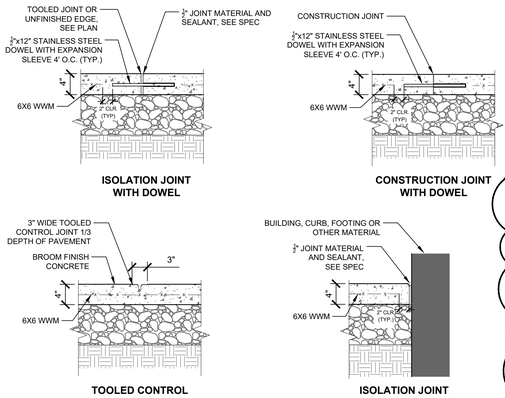
HARDSCAPE ENLARGEMENT PLAN

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1/4"=1'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L1.42



NOTES:
1. JOINTS SHALL BE TOOLED PER DETAILS AND SHALL BE PLACED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS.
4. BROOM FINISH SHALL BE PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW UNLESS OTHERWISE NOTED ON THE PLANS.

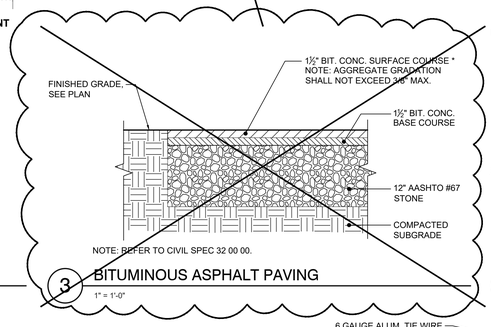
1 CONCRETE PAVING
1" = 1'-0"



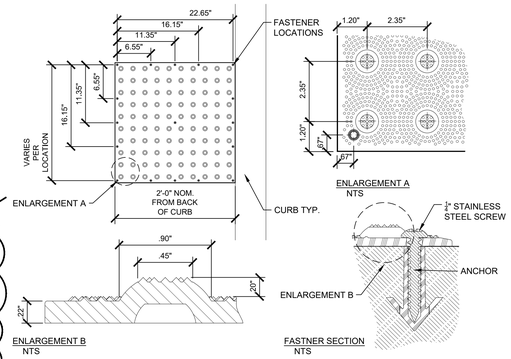
2 CONCRETE PAVEMENT JOINTS
1" = 1'-0"

OMIT THIS DETAIL - REFER TO CIVIL PLANS FOR GENERAL BITUMINOUS ASPHALT PAVING DETAIL REFER TO SHEET L3.12 FOR BITUMINOUS PAVING AT BASKETBALL COURTS

ADD 9

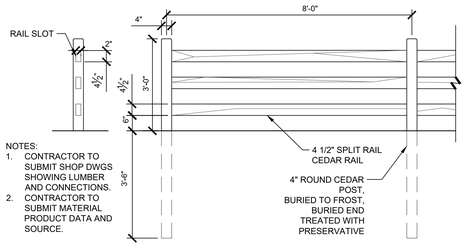


3 BITUMINOUS ASPHALT PAVING
1" = 1'-0"



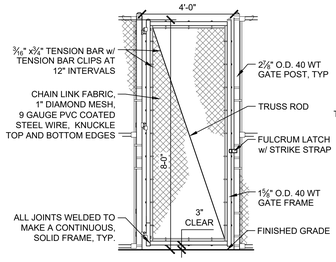
NOTES:
1. ALL DETECTABLE WARNING PLATES TO MEET MAAB REQUIREMENTS.
2. SEE CIVIL DETAILS FOR STANDARD CURB CUT.
3. SEE SPECIFICATIONS FOR MATERIAL AND MANUFACTURER.
4. DETECTABLE WARNING PLATES SHALL BE ABLE TO BE PLACED ON A RADIUS.

4 STEEL DETECTABLE WARNING PLATE
1" = 1'-0"



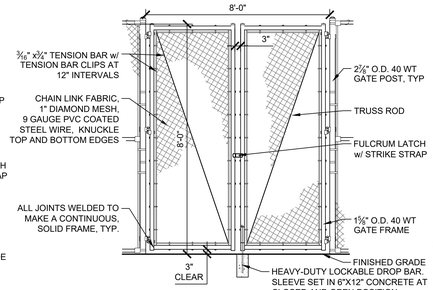
NOTES:
1. CONTRACTOR TO SUBMIT SHOP DWGS SHOWING LUMBER AND CONNECTIONS.
2. CONTRACTOR TO SUBMIT MATERIAL PRODUCT DATA AND SOURCE.

5 SPLIT RAIL FENCE
1/2" = 1'-0"



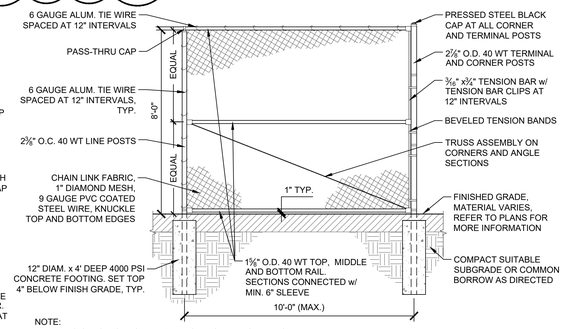
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

6 8' CHAIN LINK, 4' WIDE SINGLE GATE
3/8" = 1'-0"



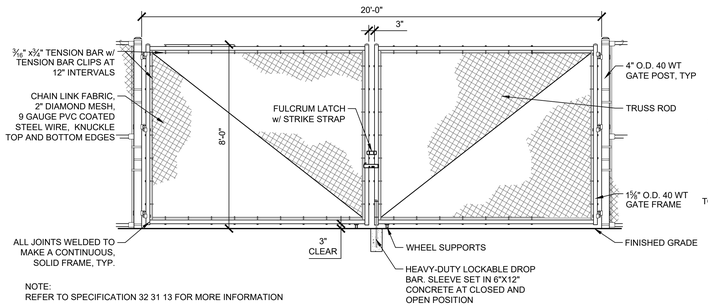
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

7 8' CHAIN LINK, 8' WIDE DOUBLE GATE
3/8" = 1'-0"



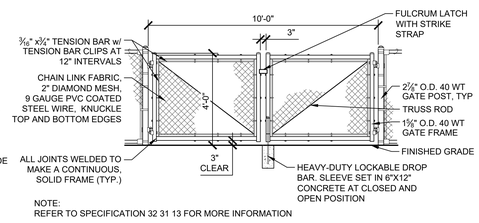
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

8 8' CHAIN LINK FENCE
3/8" = 1'-0"



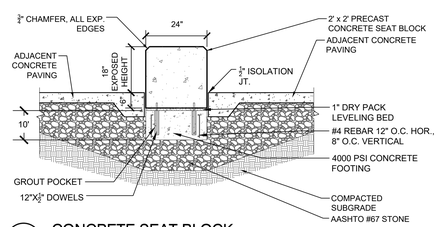
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

9 8' CHAIN LINK, 20' WIDE DOUBLE GATE
3/8" = 1'-0"

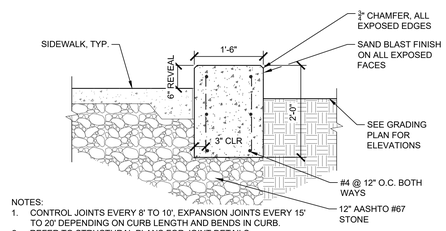


NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

10 4' CHAIN LINK, 10' WIDE DOUBLE GATE
3/8" = 1'-0"



11 CONCRETE SEAT BLOCK
1/2" = 1'-0"



NOTES:
1. CONTROL JOINTS EVERY 8' TO 10', EXPANSION JOINTS EVERY 15' TO 20' DEPENDING ON CURB LENGTH AND BENDS IN CURB.
2. REFER TO STRUCTURAL PLANS FOR JOINT DETAILS
3. REFER TO SPEC 03 30 00 - CAST IN PLACE CONCRETE

12 LANDSCAPE CURB
3/4" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

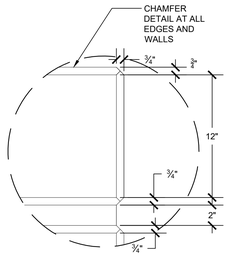
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

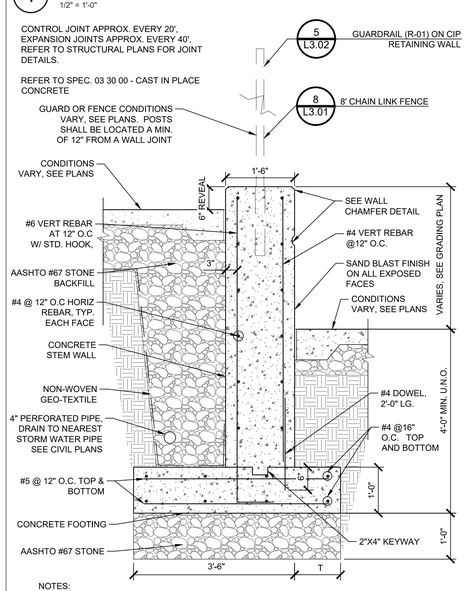
DETAILS

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.01



1 WALL CHAMFER DETAIL

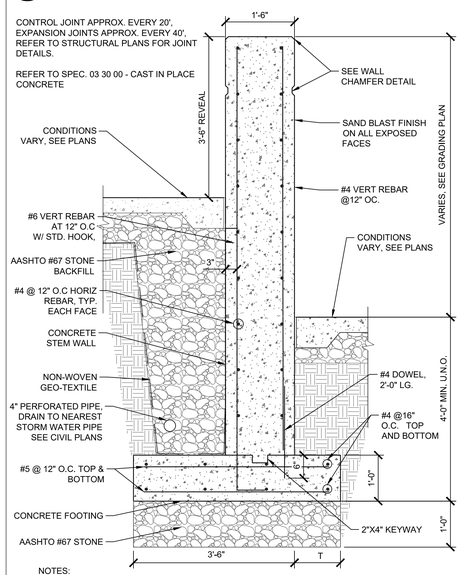
1/2" = 1'-0"



NOTES:
1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS.
2. REFER TO WALL UNFOLDED SECTIONS FOR "T" DIMENSION. IF NO DIMENSION IS PROVIDED, USE T=1'-0".

2 CIP CONCRETE RETAINING WALL

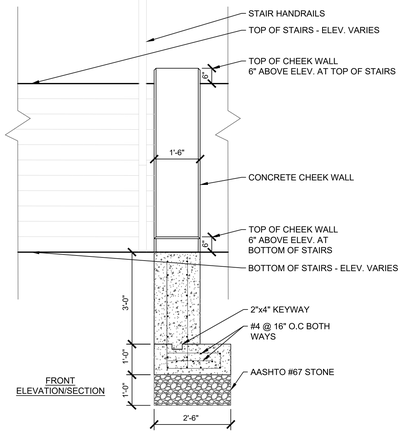
3/4" = 1'-0"

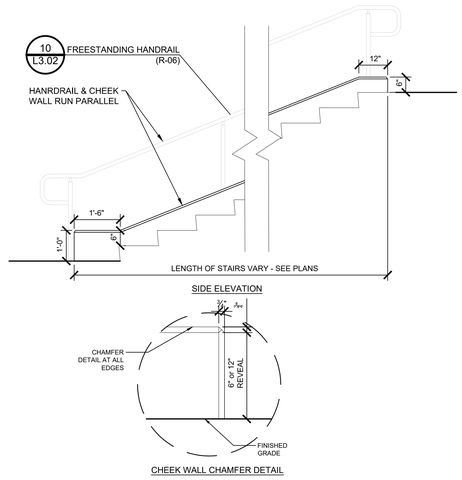


NOTES:
1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS.
2. REFER TO WALL UNFOLDED SECTIONS FOR "T" DIMENSION. IF NO DIMENSION IS PROVIDED, USE T=1'-0".

3 CIP CONCRETE PARAPET WALL

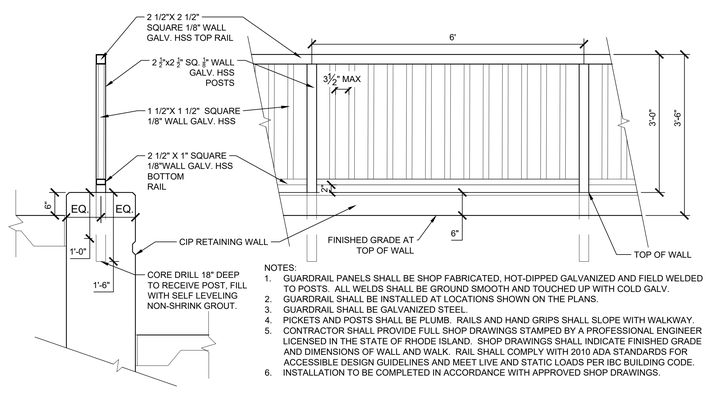
3/4" = 1'-0"





4 CHEEK WALL DETAIL

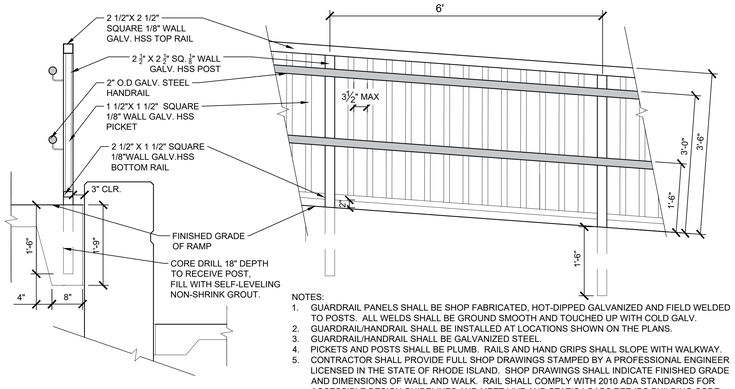
1/2" = 1'-0"



NOTES:
1. GUARDRAIL PANELS SHALL BE SHOP FABRICATED, HOT-DIPPED GALVANIZED AND FIELD WELDED TO POSTS. ALL WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH COLD GALV.
2. GUARDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
3. GUARDRAIL SHALL BE GALVANIZED STEEL.
4. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
5. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

5 GUARDRAIL ON CIP RETAINING WALL (R-01)

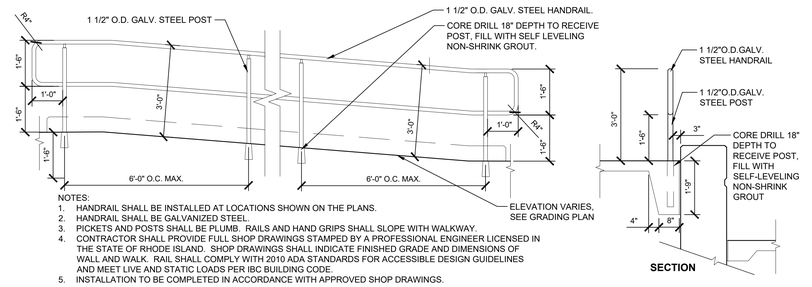
3/4" = 1'-0"



NOTES:
1. GUARDRAIL PANELS SHALL BE SHOP FABRICATED, HOT-DIPPED GALVANIZED AND FIELD WELDED TO POSTS. ALL WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH COLD GALV.
2. GUARDRAIL/HANDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
3. GUARDRAIL/HANDRAIL SHALL BE GALVANIZED STEEL.
4. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
5. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

6 GUARDRAIL WITH HANDRAIL (R-02)

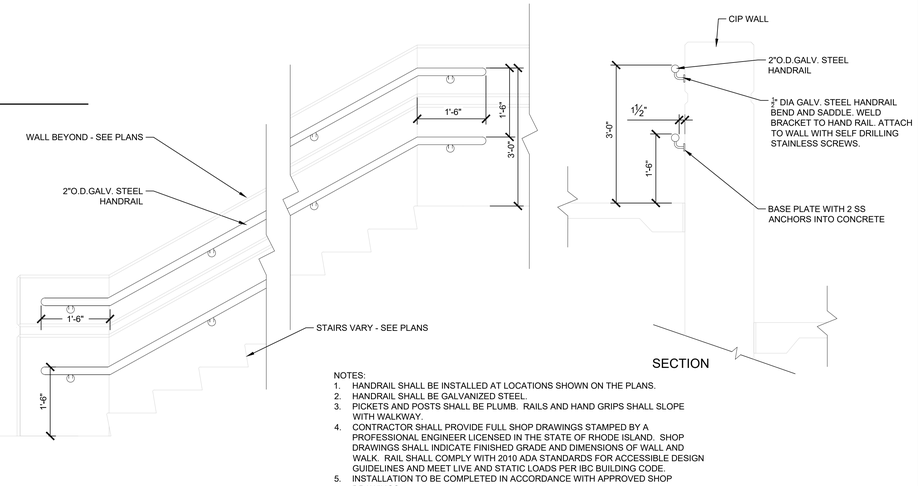
3/4" = 1'-0"



NOTES:
1. HANDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. HANDRAIL SHALL BE GALVANIZED STEEL.
3. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

7 FREESTANDING HANDRAIL AT RAMP (R-03)

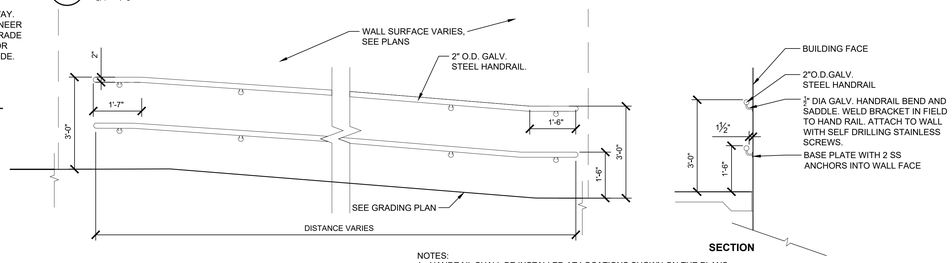
1/2" = 1'-0"



NOTES:
1. HANDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. HANDRAIL SHALL BE GALVANIZED STEEL.
3. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

8 HANDRAIL ON CIP WALL (R-04)

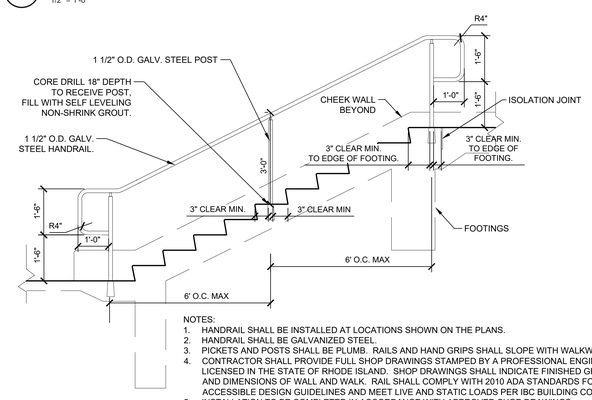
3/4" = 1'-0"



NOTES:
1. HANDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. HANDRAIL SHALL BE GALVANIZED STEEL.
3. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

9 HANDRAIL ATTACHED TO WALL (R-05)

1/2" = 1'-0"



NOTES:
1. HANDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. HANDRAIL SHALL BE GALVANIZED STEEL.
3. PICKETS AND POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH WALKWAY.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND DIMENSIONS OF WALL AND WALK. RAIL SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

10 FREESTANDING HANDRAIL AT STAIRS (R-06)

1/2" = 1'-0"

NOTES:

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ADD 12

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KEYNOTE LEGEND:

ADD 12	02/20/2024

100% CONSTRUCTION DOCUMENTS

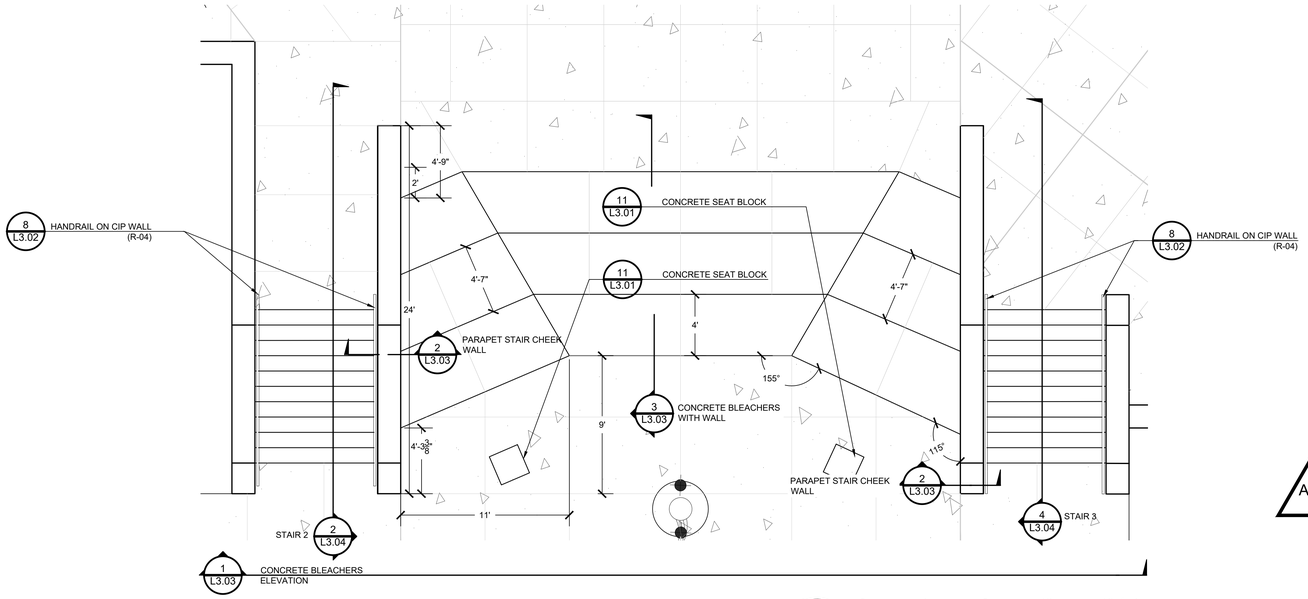
KEY PLAN NORTH ARROW

KEYPLAN

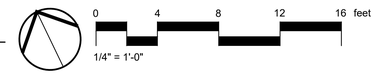
DRAWING NAME:

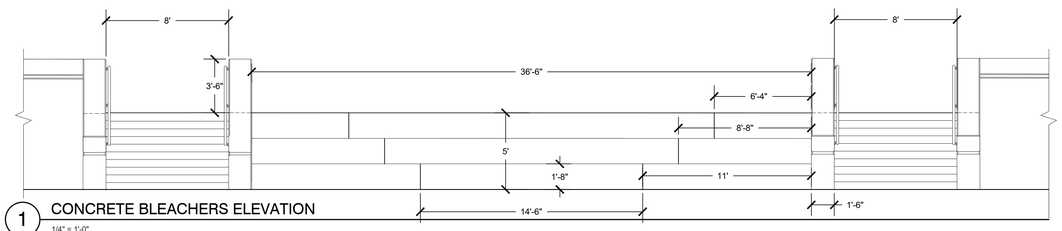
DETAILS

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.02



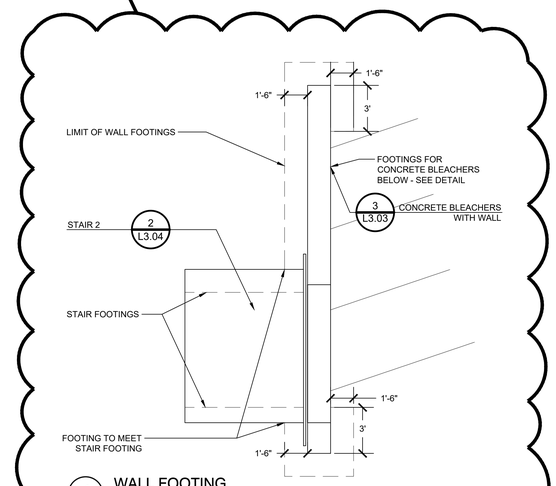
PLAN - CONCRETE BLEACHERS & STEPS AT BACK ENTRANCE





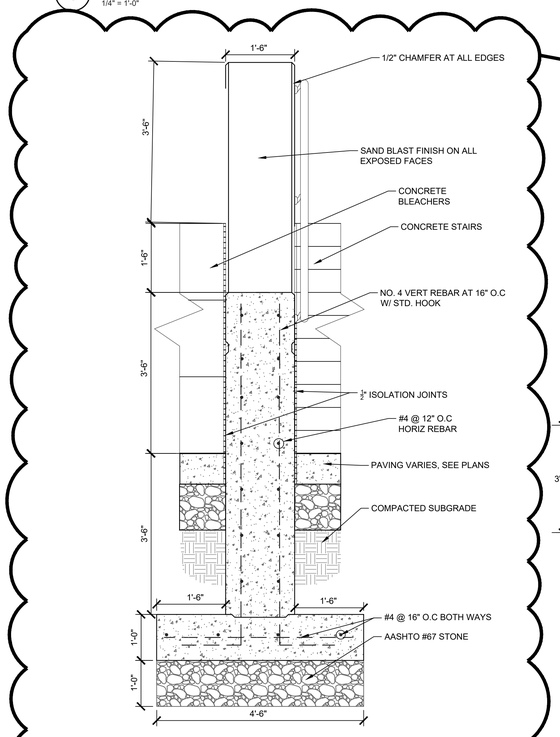
1 CONCRETE BLEACHERS ELEVATION
1/4" = 1'-0"

ADD 7 CLARIFICATION OF LIMITS OF FOOTINGS FOR PARAPET STAIR CHEEK WALL

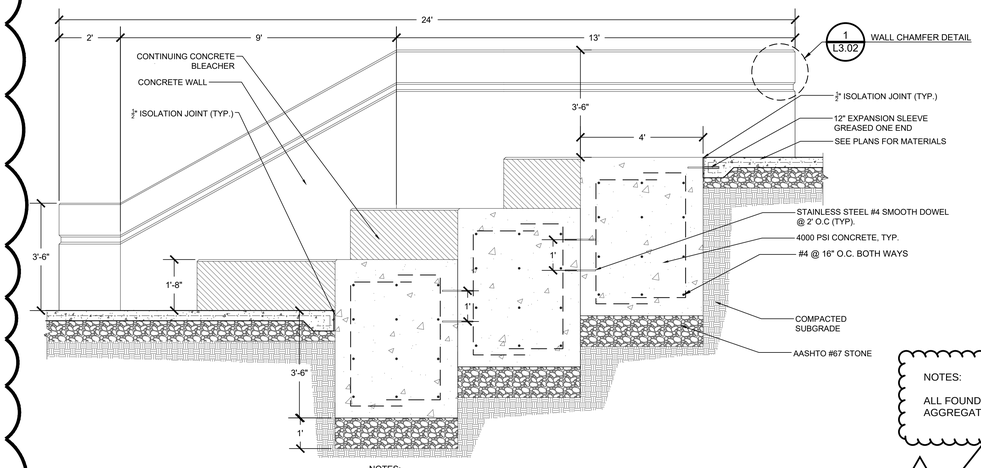


4 WALL FOOTING
1/4" = 1'-0"

ADD 7 FOOTING DEPTH CHANGED FROM 3' TO 3'-6"
ISOLATION JOINT CALLED OUT ON BLEACHER SIDE OF WALL
DIMENSIONAL CORRECTION FOR HEIGHT OF WALL



2 PARAPET STAIR CHEEK WALL
3/4" = 1'-0"



NOTES:
1. CONCRETE BLEACHERS SHALL BE UNIFORM IN HEIGHT. CONTRACTOR SHALL CONFIRM HEIGHTS AND ANY CHANGES SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
2. CONCRETE BLEACHERS SHALL HAVE A SAND BLAST FINISH ON EXPOSED SURFACES.
3. MOCK-UPS FOR ALL CONCRETE WORK SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
4. CONTRACTOR SHALL REFER TO CIVIL ENGINEERING PLANS FOR ANY UTILITY CONFLICTS WITH FOUNDATIONS.

3 CONCRETE BLEACHERS WITH WALL
1/2" = 1'-0"

NOTES:

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

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REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.03

NOTES:

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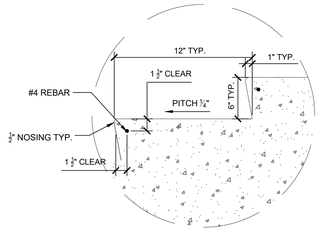
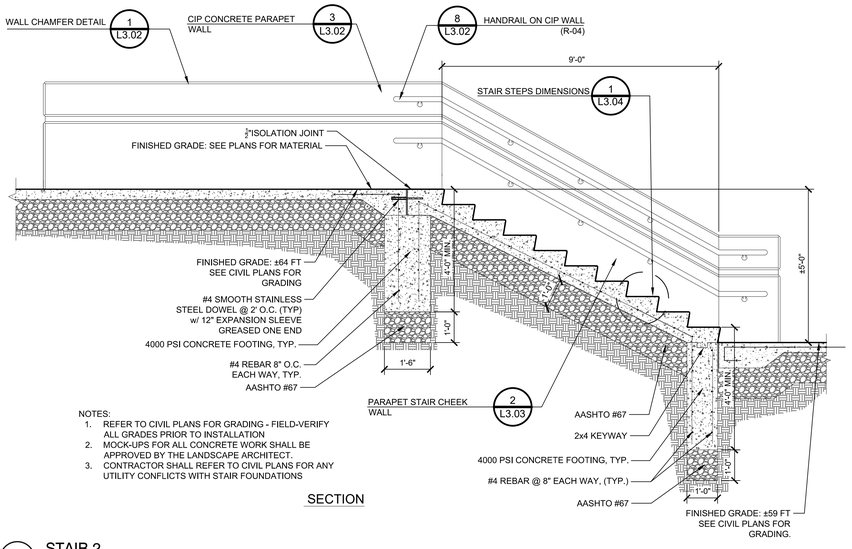
ADD 12

ADD 7



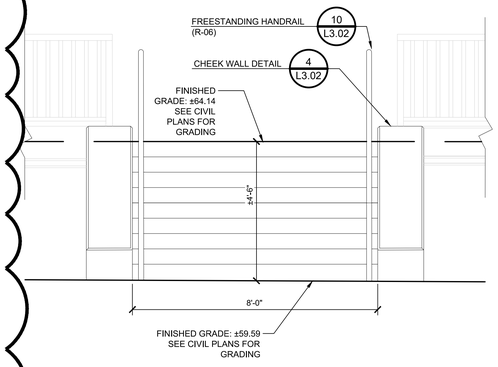
1 STAIR STEPS DIMENSIONS
1/2" = 1'-0"



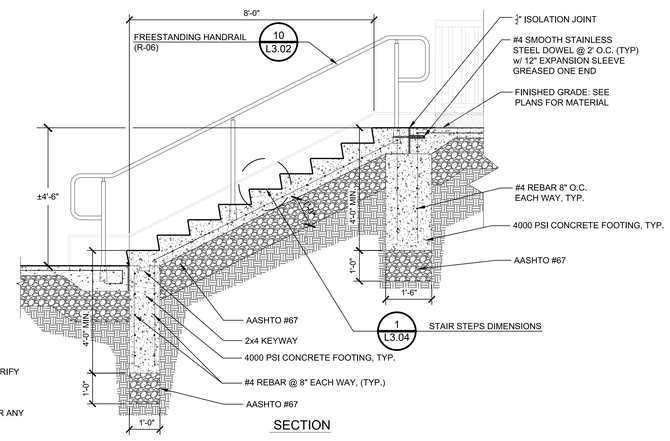
NOTES:
1. REFER TO CIVIL PLANS FOR GRADING - FIELD-VERIFY ALL GRADES PRIOR TO INSTALLATION
2. MOCK-UPS FOR ALL CONCRETE WORK SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR ANY UTILITY CONFLICTS WITH STAIR FOUNDATIONS

SECTION

2 STAIR 2
1/2" = 1'-0"



ELEVATION



NOTES:
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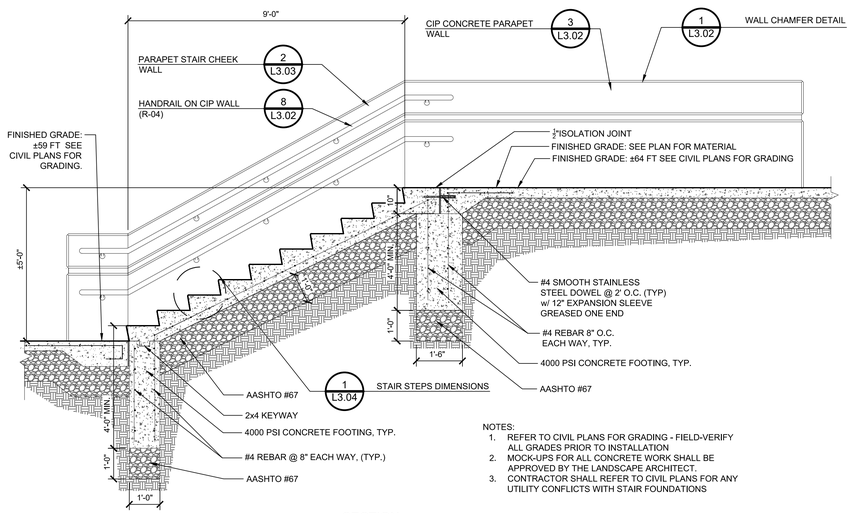
2. MOCK-UPS FOR ALL CONCRETE WORK SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR ANY UTILITY CONFLICTS WITH STAIR FOUNDATIONS

SECTION

3 STAIR 1
1/2" = 1'-0"



NOTES:
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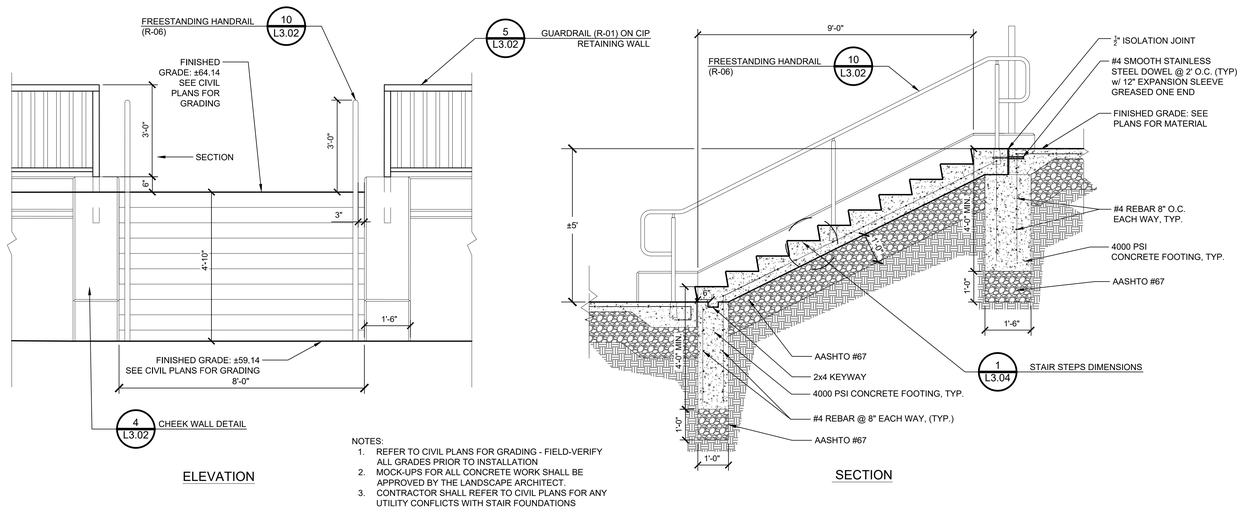
2. MOCK-UPS FOR ALL CONCRETE WORK SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR ANY UTILITY CONFLICTS WITH STAIR FOUNDATIONS

SECTION

4 STAIR 3
1/2" = 1'-0"



ELEVATION

NOTES:
1. REFER TO CIVIL PLANS FOR GRADING - FIELD-VERIFY ALL GRADES PRIOR TO INSTALLATION
2. MOCK-UPS FOR ALL CONCRETE WORK SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR ANY UTILITY CONFLICTS WITH STAIR FOUNDATIONS

SECTION

5 STAIR 4
1/2" = 1'-0"

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KEYPLAN

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DETAILS

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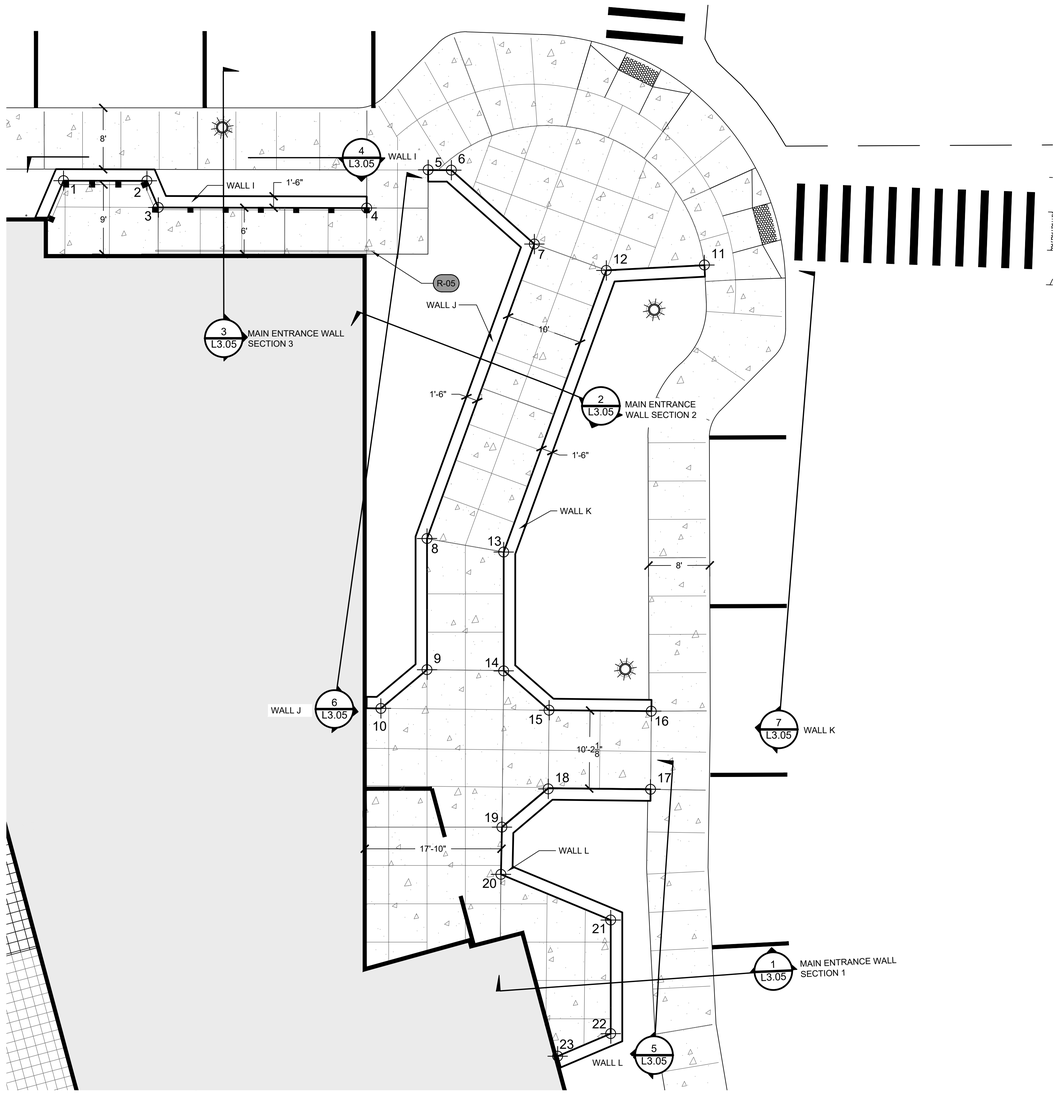
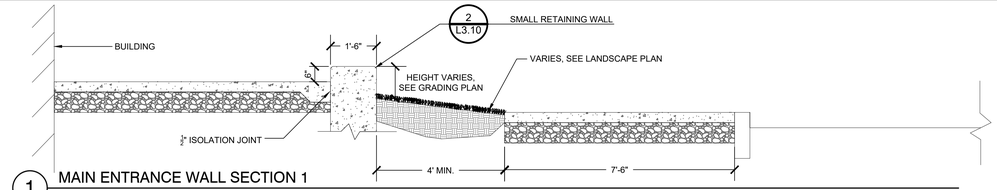
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.04



PLAN - FRONT ENTRANCE PLAZA

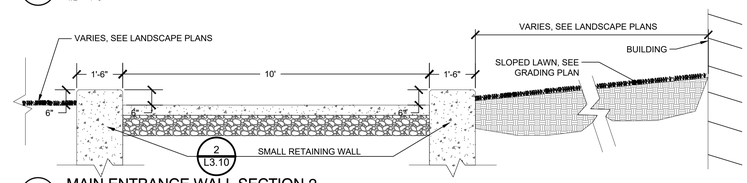
0 8 16 24 32 feet

1/8" = 1'-0"



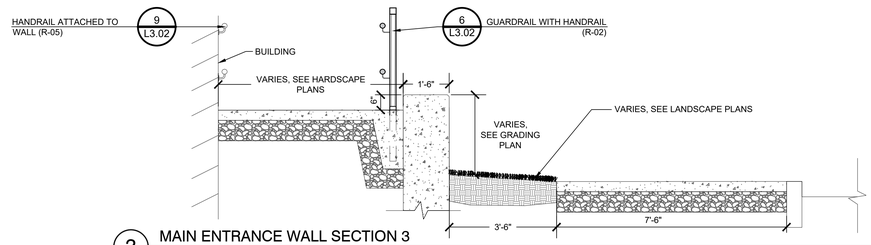
1 MAIN ENTRANCE WALL SECTION 1

1/2" = 1'-0"



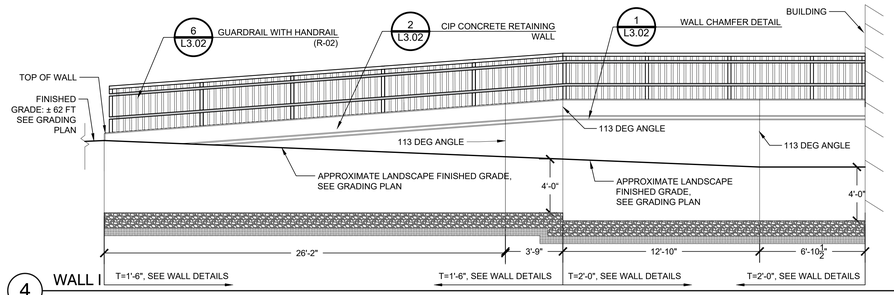
2 MAIN ENTRANCE WALL SECTION 2

1/2" = 1'-0"



3 MAIN ENTRANCE WALL SECTION 3

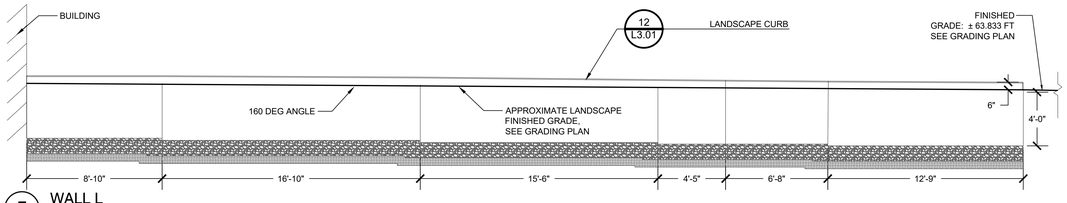
1/2" = 1'-0"



4 WALL I

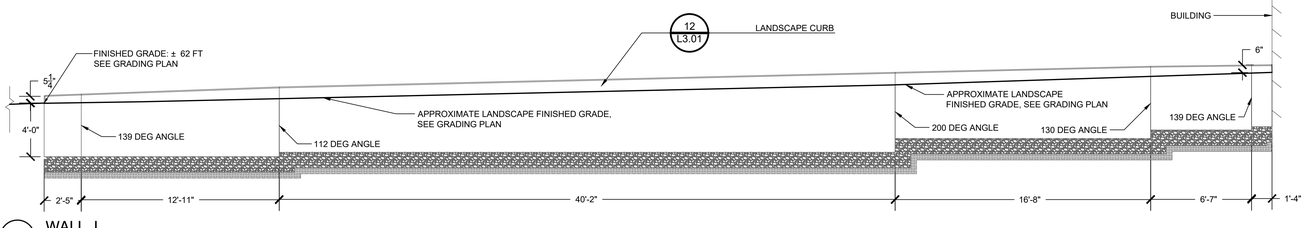
1/4" = 1'-0"

32-32A



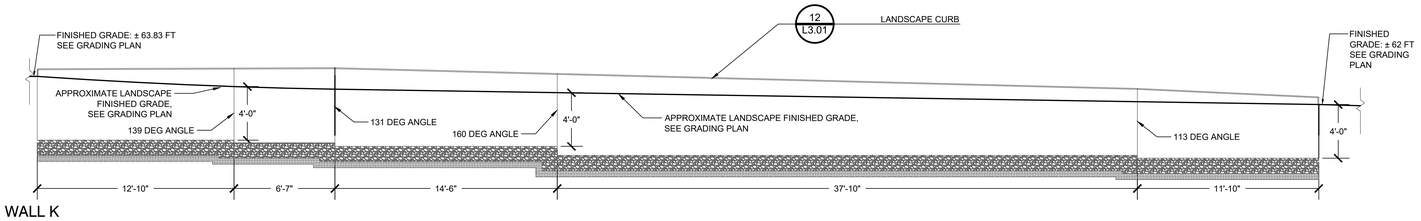
5 WALL L

1/4" = 1'-0"



6 WALL J

1/4" = 1'-0"



7 WALL K

1/4" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
1		N 292705.06	E 354772.78
2		N 292707.18	E 354783.45
3		N 292704.07	E 354785.59
4		N 292709.36	E 354812.24
5		N 292715.83	E 354819.12
6		N 292716.39	E 354822.10
7		N 292709.07	E 354834.61
8		N 292668.66	E 354828.47
9		N 292651.89	E 354831.84
10		N 292645.75	E 354826.93
11		N 292710.76	E 354856.89
12		N 292707.55	E 354844.49
13		N 292668.90	E 354838.62
14		N 292653.70	E 354841.68
15		N 292649.85	E 354848.49
16		N 292652.35	E 354861.59
17		N 292642.35	E 354863.49
18		N 292639.77	E 354850.41
19		N 292633.68	E 354845.47
20		N 292627.62	E 354846.56
21		N 292624.60	E 354861.77
22		N 292610.07	E 354864.70
23		N 292605.83	E 354858.49

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY: J. FIGLIOZZI, E. LIMON

REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW

SCALE: AS NOTED

JOB NO.: K1031

DATE: OCTOBER 13, 2023

DRAWING NUMBER: L3.05

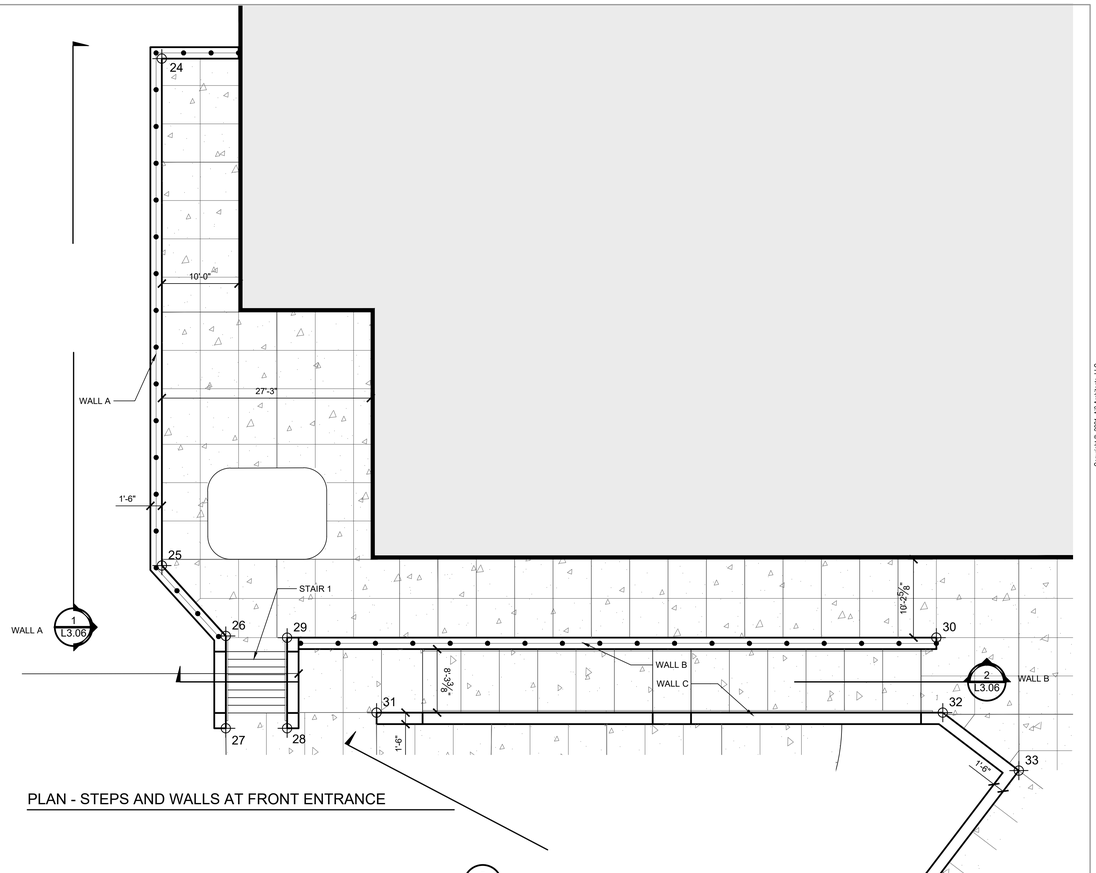
NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

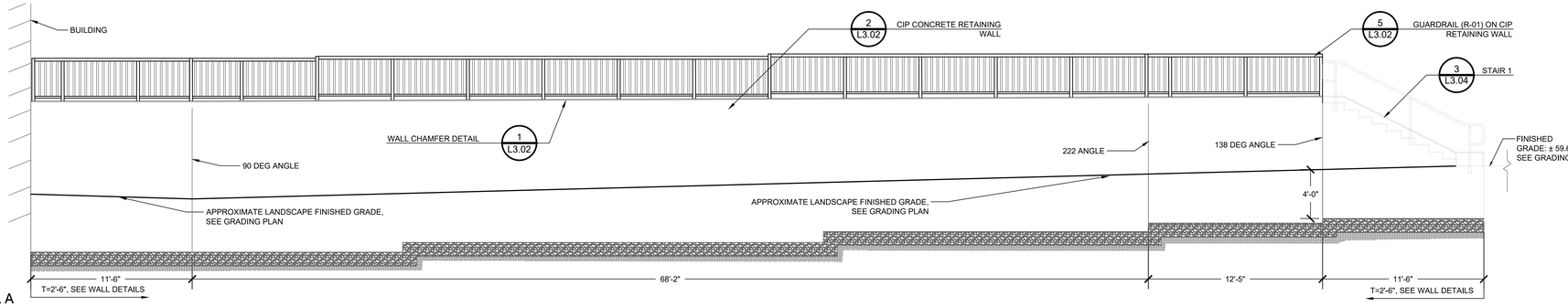
ADD 12

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
24		N 292644.53	E 354554.67
25		N 292579.71	E 354567.71
26		N 292572.35	E 354577.69
27		N 292560.55	E 354580.07
28		N 292562.12	E 354587.91
29		N 292573.71	E 354585.58
30		N 292590.42	E 354668.58
31		N 292566.43	E 354598.95
32		N 292580.99	E 354671.33
33		N 292575.54	E 354682.54
34		N 292549.00	E 354669.65

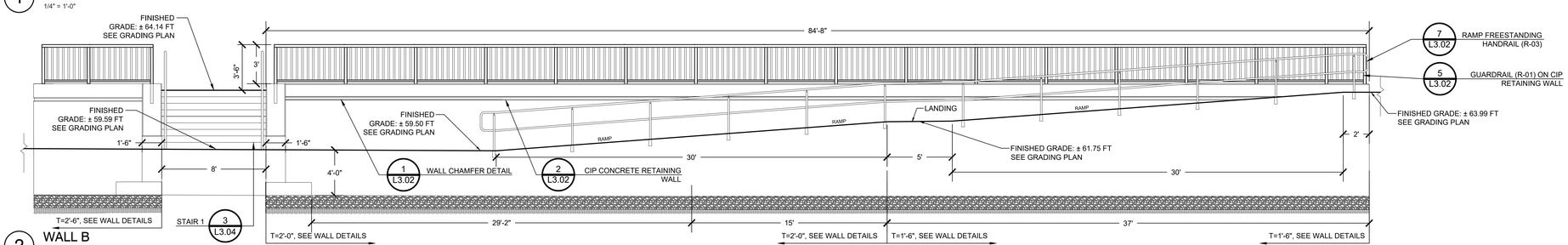


PLAN - STEPS AND WALLS AT FRONT ENTRANCE



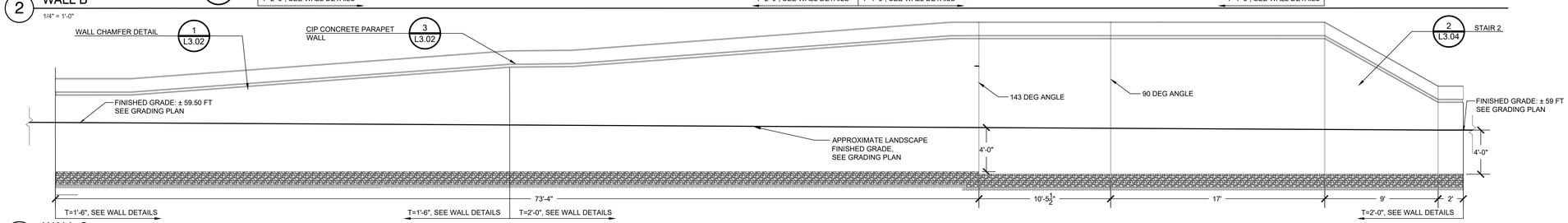
1 WALL A

1/4" = 1'-0"



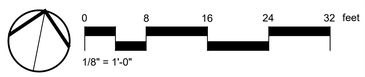
2 WALL B

1/4" = 1'-0"



3 WALL C

1/4" = 1'-0"



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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY: J. FIGLIOZZI, E. LIMON

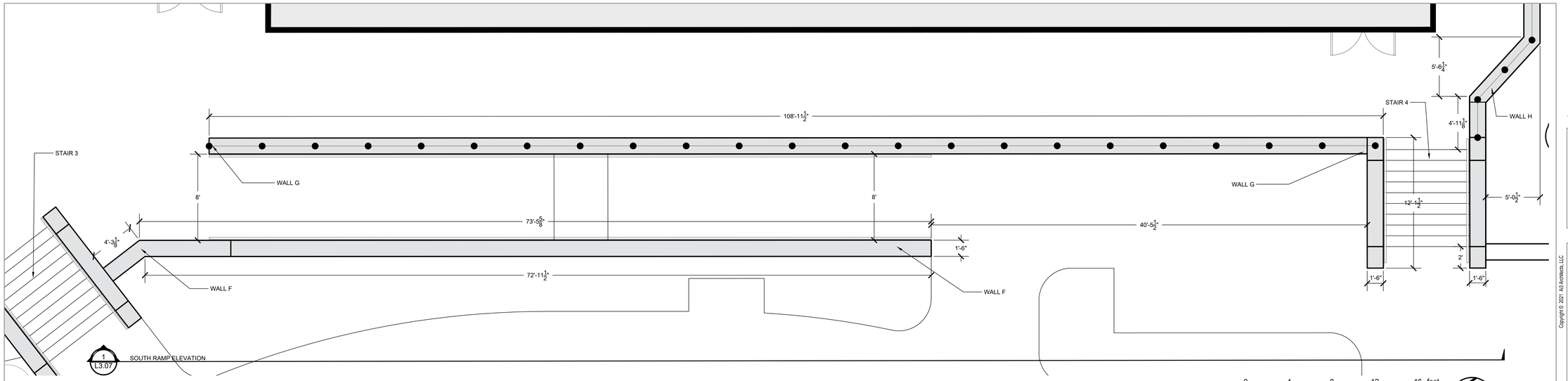
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW

SCALE: AS NOTED

JOB NO.: K1031

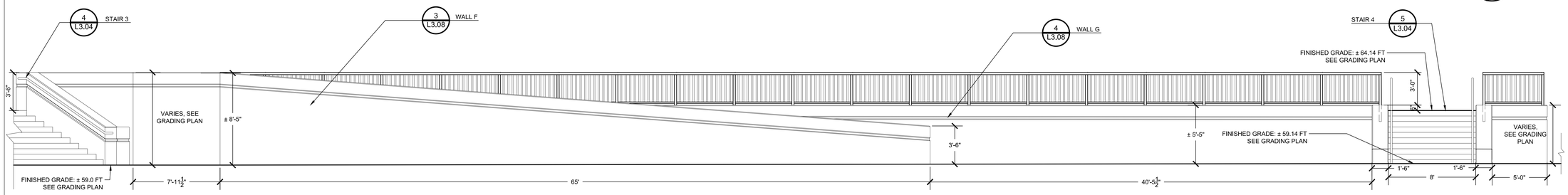
DATE: OCTOBER 13, 2023

DRAWING NUMBER: L3.06



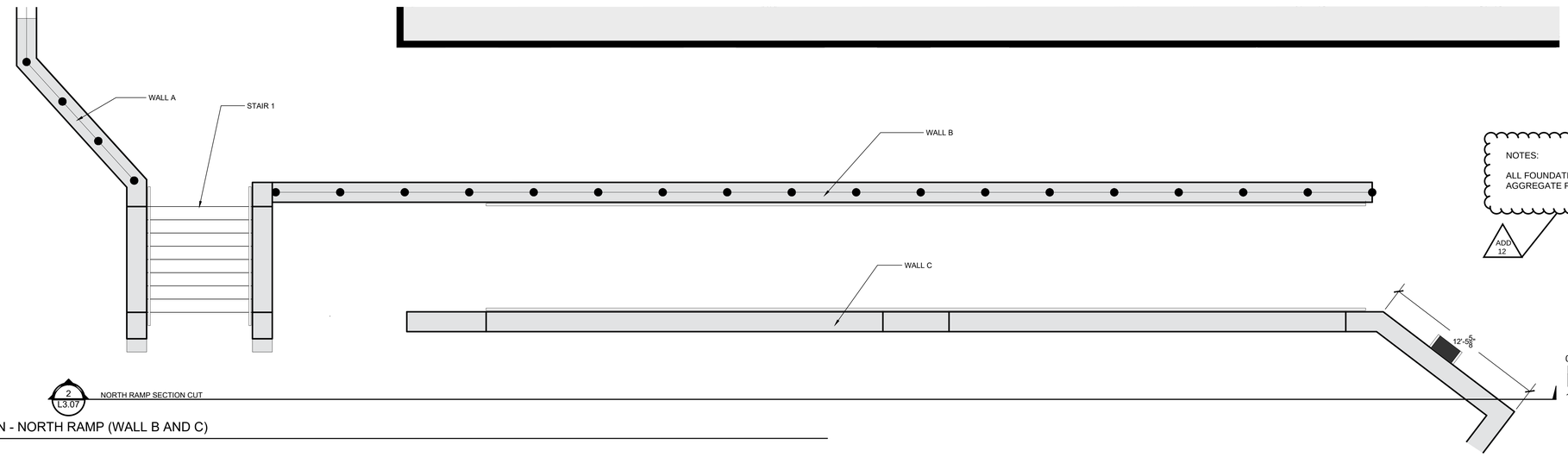
PLAN - SOUTH RAMP (WALL F AND G)

0 4 8 12 16 feet
1/4" = 1'-0"



1 SOUTH RAMP ELEVATION

1/4" = 1'-0"



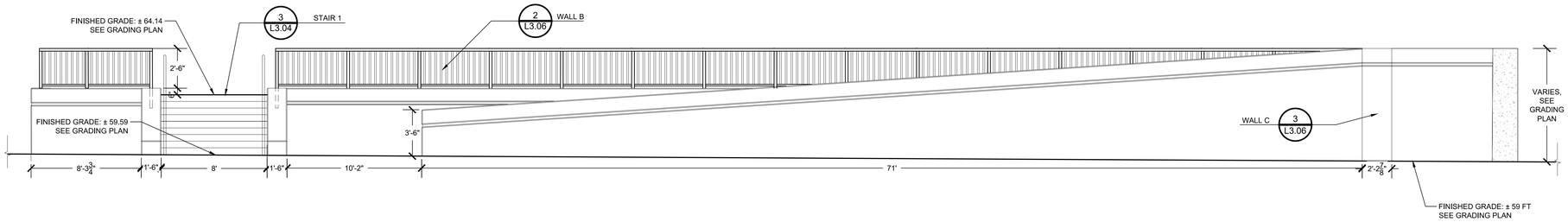
NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

0 4 8 12 16 feet
1/4" = 1'-0"

PLAN - NORTH RAMP (WALL B AND C)



2 NORTH RAMP SECTION CUT

1/4" = 1'-0"

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

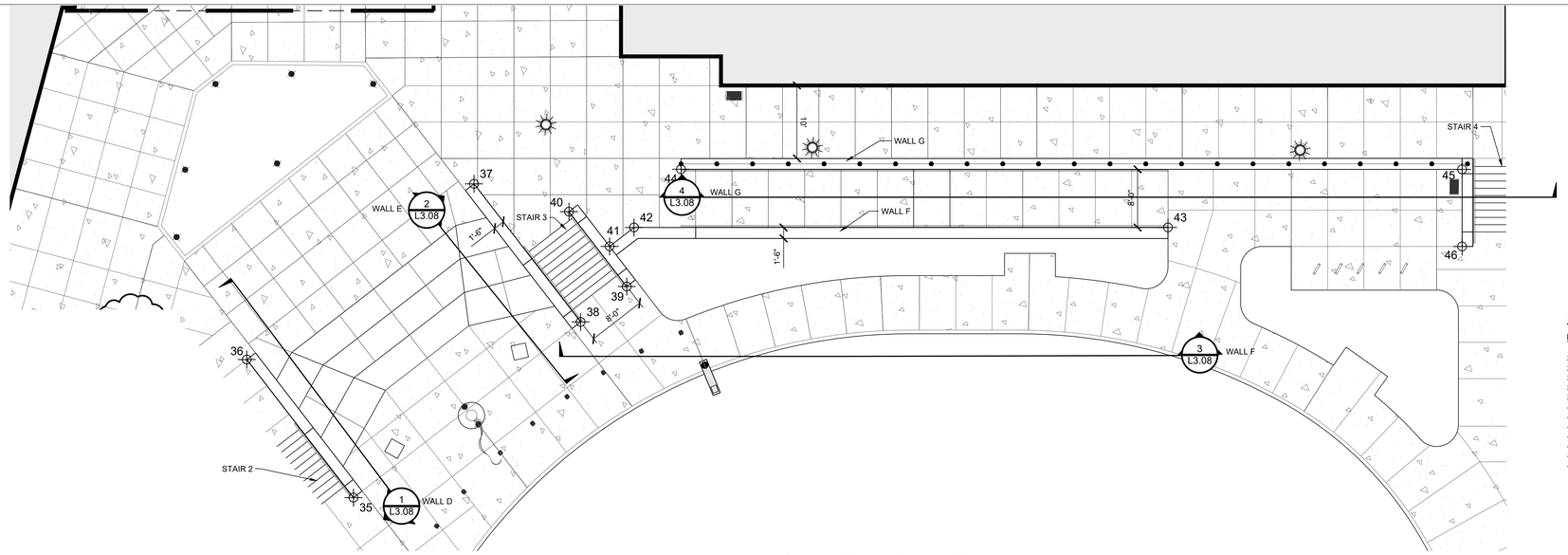
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.07



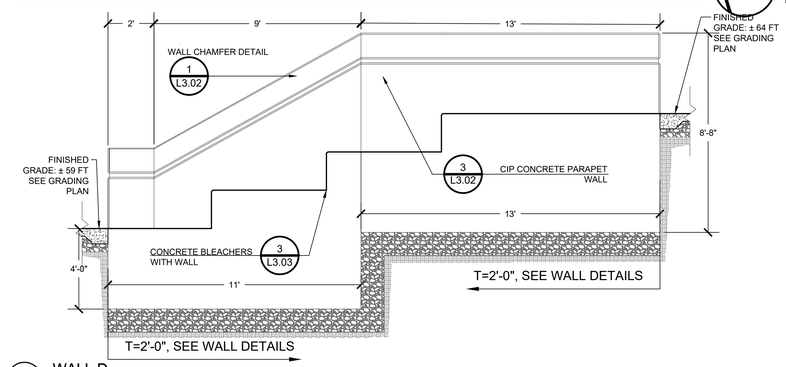
NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
35		N 292545.51	E 354676.84
36		N 292567.09	E 354687.33
37		N 292549.82	E 354722.86
38		N 292528.24	E 354712.37
39		N 292524.72	E 354719.55
40		N 292536.41	E 354725.24
41		N 292529.29	E 354723.44
42		N 292527.43	E 354727.27
43		N 292461.61	E 354759.91
44		N 292525.19	E 354737.31
45		N 292428.91	E 354785.04
46		N 292424.20	E 354775.55

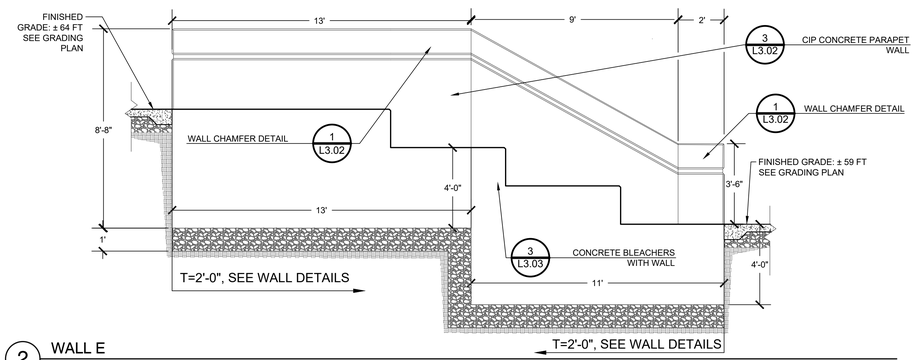
0 8 16 24 32 feet

1/8" = 1'-0"

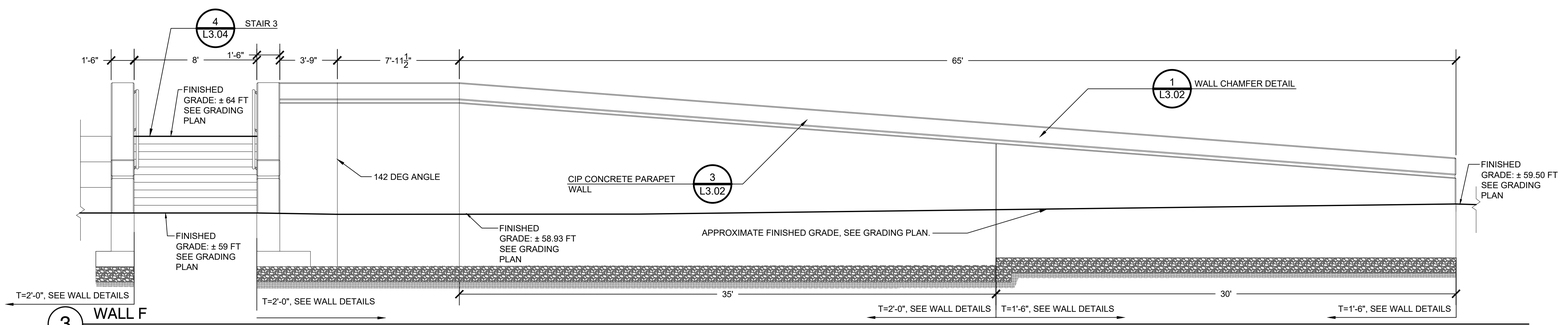
PLAN - STEPS AND WALLS AT FRONT ENTRANCE



1 WALL D
3/8" = 1'-0"



2 WALL E
3/8" = 1'-0"



3 WALL F
1/4" = 1'-0"

NOTES:

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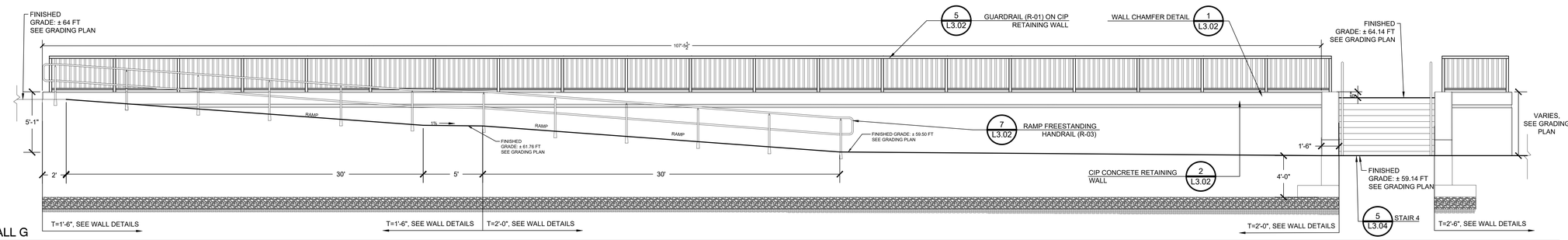
ADD 12



4 WALL G
1/4" = 1'-0"

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

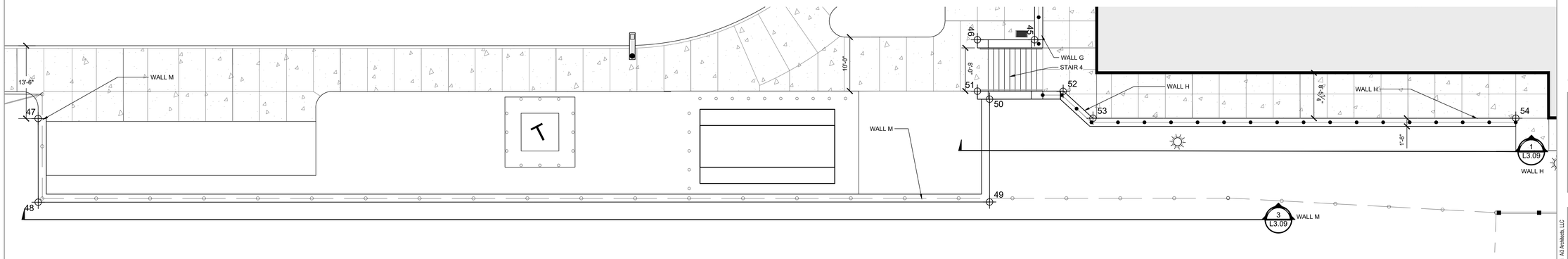
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

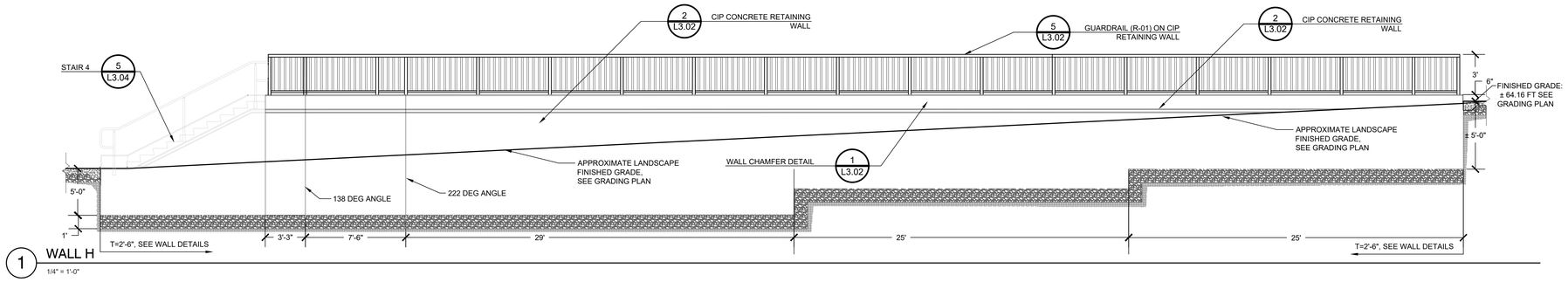
DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: AS NOTED
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L3.08



PLAN - (WALL H) AND (WALL N)

0 8 16 24 32 feet

1/8" = 1'-0"

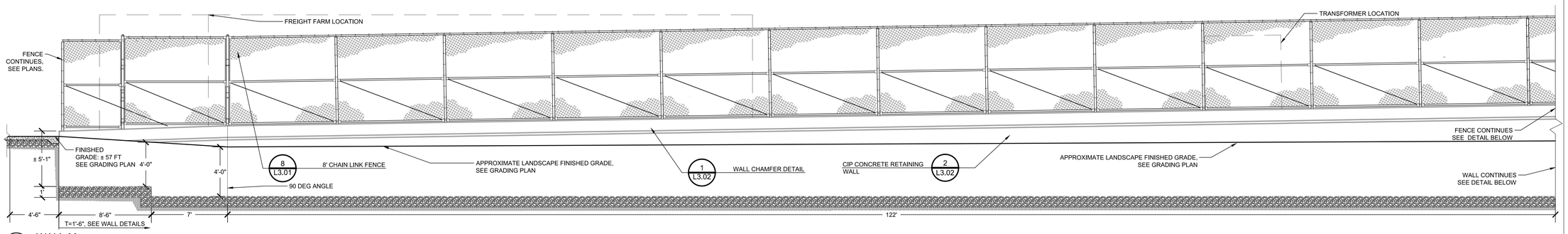


1 WALL H

1/4" = 1'-0"

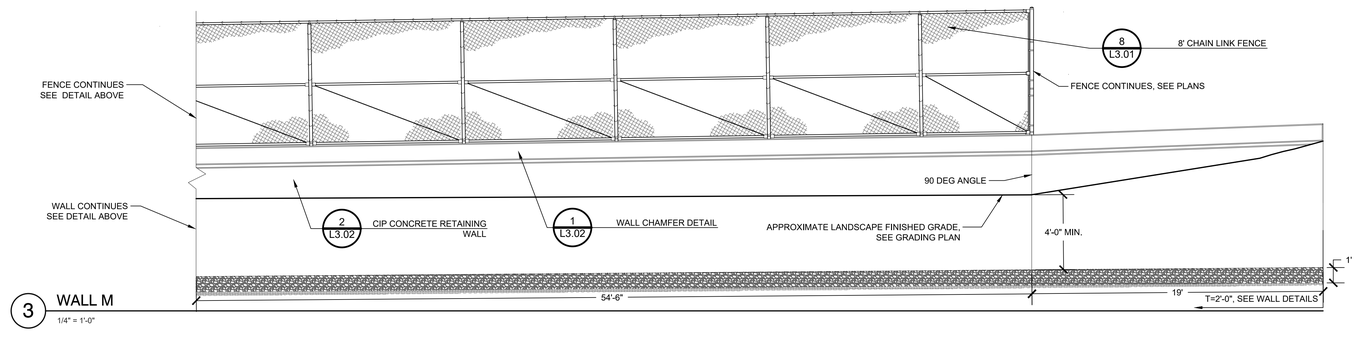
NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
47		N 292333.72	E 354625.95
48		N 292319.83	E 354632.83
49		N 292398.28	E 354790.92
50		N 292415.35	E 354782.45
51		N 292415.68	E 354779.78
52		N 292422.72	E 354794.04
53		N 292420.70	E 354801.22
54		N 292455.54	E 354871.47



2 WALL M

1/4" = 1'-0"



3 WALL M

1/4" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY: J. FIGLIOZZI, E. LIMON

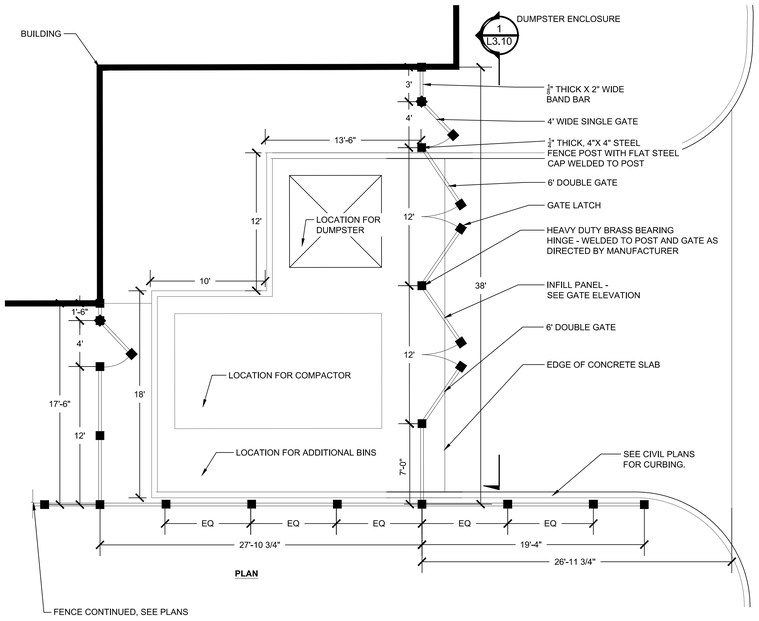
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW

SCALE: AS NOTED

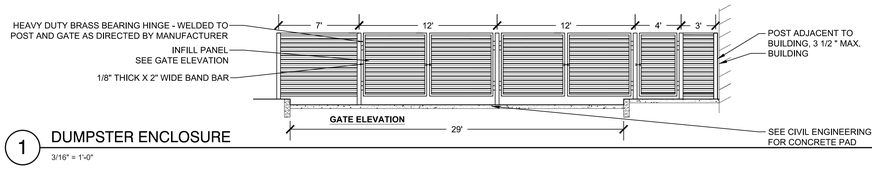
JOB NO.: K1031

DATE: OCTOBER 13, 2023

DRAWING NUMBER: L3.09



PLAN



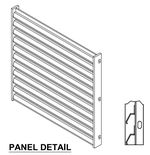
GATE ELEVATION

1 DUMPSTER ENCLOSURE

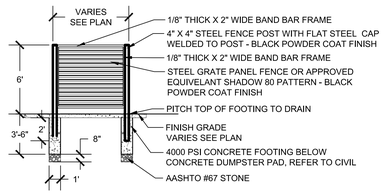
3/16" = 1'-0"

NOTES:

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR STEEL FENCE SYSTEM
2. STEEL FENCE SYSTEM - ALL STEEL COMPONENTS SHALL BE GALVANIZED AND SHALL HAVE A BLACK POWDER COAT FINISH
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR SWING GATE, INFILL FENCE PANEL, FOOTINGS, GATE LATCH AND S.S. BARREL HINGES
4. ALL FASTENERS AND HINGES TO BE MARINE GRADE STAINLESS STEEL (SAE 316)
5. CONTRACTOR TO COORDINATE FOUNDATIONS WITH FENCE/ GATE SYSTEM AND PROVIDE DRAWINGS FOR BOTH STAMPED BY LICENSED RI STRUCTURAL ENGINEER.



PANEL DETAIL

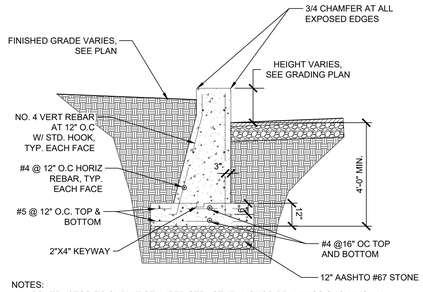


FENCE ELEVATION

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

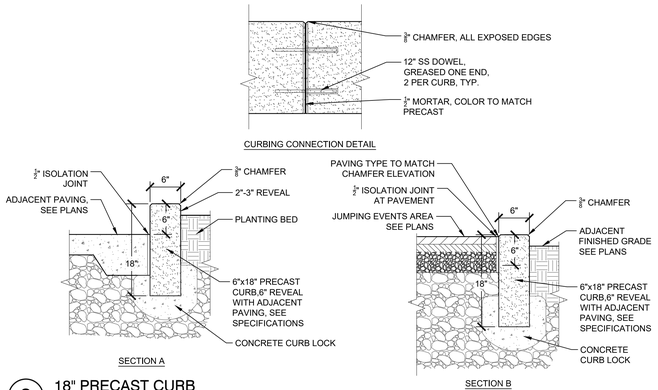


NOTES:

1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS.
2. REFER TO WALL UNFOLDED SECTIONS FOR "T" DIMENSION. IF NO DIMENSION IS PROVIDED, USE T=1'-0".
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40', REFER TO STRUCTURAL PLANS FOR JOINT DETAILS.
4. REFER TO SPEC. 03 30 00 - CAST IN PLACE CONCRETE

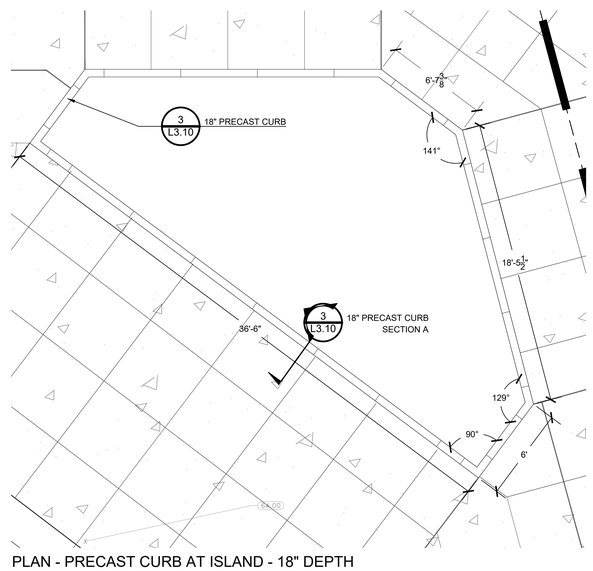
2 SMALL RETAINING WALL

3/8" = 1'-0"



3 18" PRECAST CURB

1" = 1'-0"



PLAN - PRECAST CURB AT ISLAND - 18" DEPTH

0 4 8 12 16 feet

1/4" = 1'-0"

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

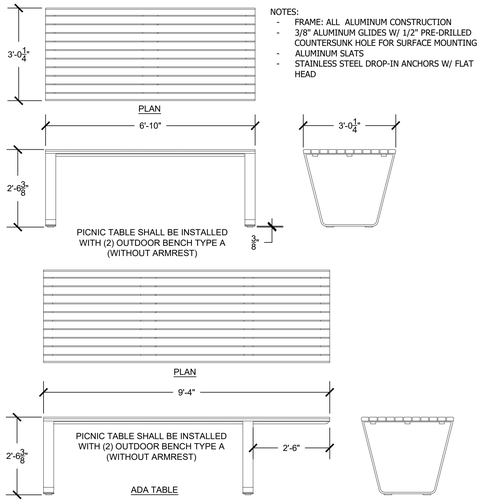
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

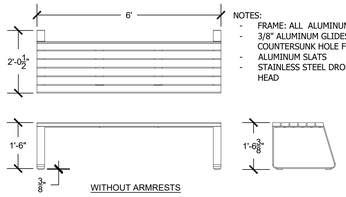
DETAILS

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.10



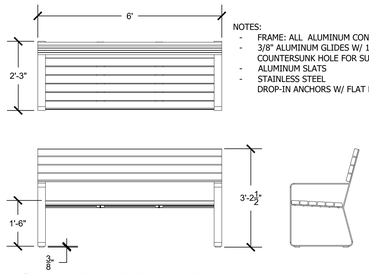
NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 3/8" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

1 OUTDOOR PICNIC TABLE
1/2" = 1'-0"



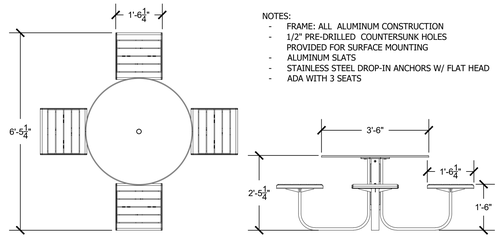
NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 3/8" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

2 OUTDOOR BENCH A
1/2" = 1'-0"



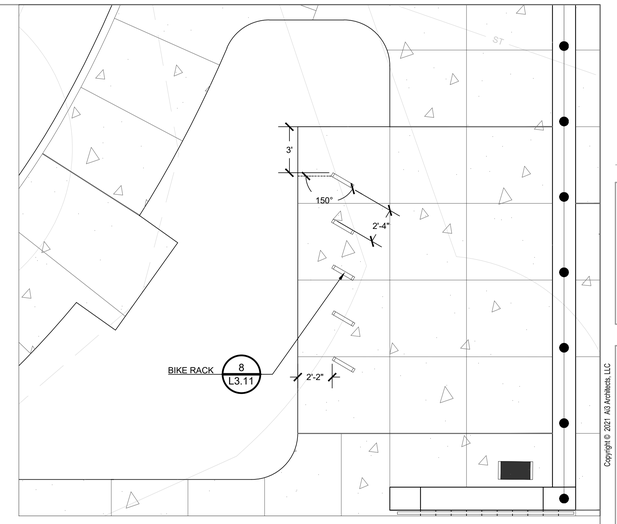
NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 3/8" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

3 OUTDOOR BENCH B
1/2" = 1'-0"



NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 1/2" PRE-DRILLED COUNTERSUNK HOLES PROVIDED FOR SURFACE MOUNTING
- ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD
- ADA WITH 3 SEATS

4 OUTDOOR GATHERING TABLE
1/2" = 1'-0"



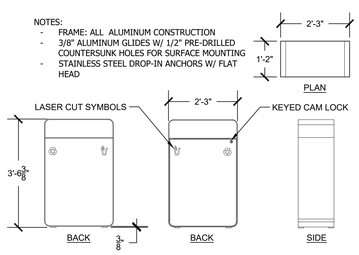
BIKE RACK PLAN VIEW
0 4 8 12 16 feet
1/4" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

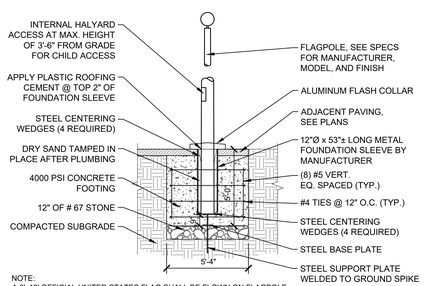
ADD 12

NOTES:
1. FOR ALL SITE FURNISHINGS SHOWN HERE, SEE SPECIFICATION 32 33 00 FOR MANUFACTURER INFORMATION, MODEL NUMBER AND FINISH.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



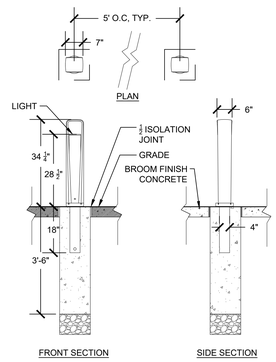
NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 3/8" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLES FOR SURFACE MOUNTING
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

5 LITTER/RECYCLE RECEPTACLE
1/2" = 1'-0"

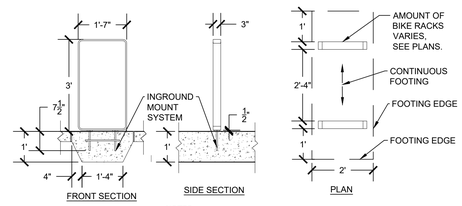


NOTE:
A 8'x12' OFFICIAL UNITED STATES FLAG SHALL BE FLOWN ON FLAGPOLE. FLAG PROVIDED BY OWNER.

6 FLAG POLE
1/4" = 1'-0"

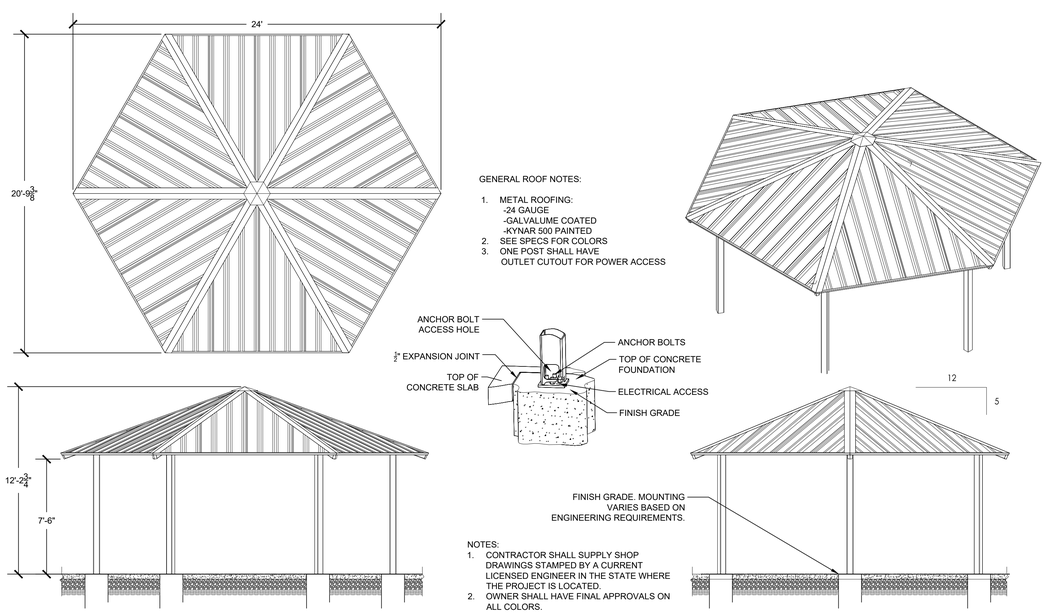


7 ORNAMENTAL BOLLARD
1/2" = 1'-0"



NOTES:
- ALL ALUMINUM CONSTRUCTION
- 1/2" PRE-DRILLED COUNTERSUNK HOLES FOR SURFACE MOUNTING
- STAINLESS STEEL FLAT HEAD DROP-IN ANCHORS

8 BIKE RACK
1/2" = 1'-0"

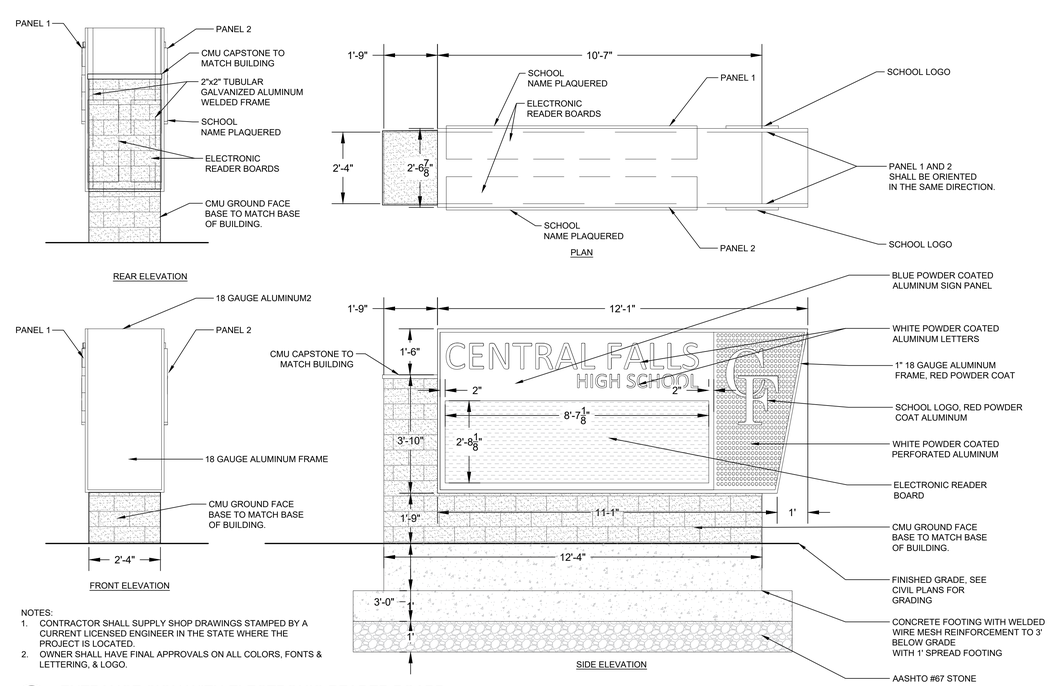


GENERAL ROOF NOTES:

1. METAL ROOFING:
   -24 GAUGE
   -GALVALUME COATED
   -KYNAR 500 PAINTED
2. SEE SPECS FOR COLORS
3. ONE POST SHALL HAVE OUTLET CUTOUT FOR POWER ACCESS

NOTES:
1. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS STAMPED BY A CURRENT LICENSED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED.
2. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

9 SHADE STRUCTURE
1/4" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS STAMPED BY A CURRENT LICENSED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED.
2. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS, FONTS & LETTERING, & LOGO.

10 ENTRANCE SIGN WITH ELECTRONIC READER BOARD
1/2" = 1'-0"

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10 HIGGINSON AVE, CENTRAL FALLS, RI

KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

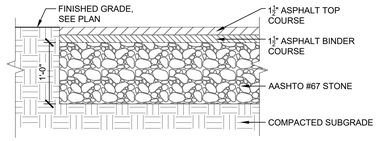
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

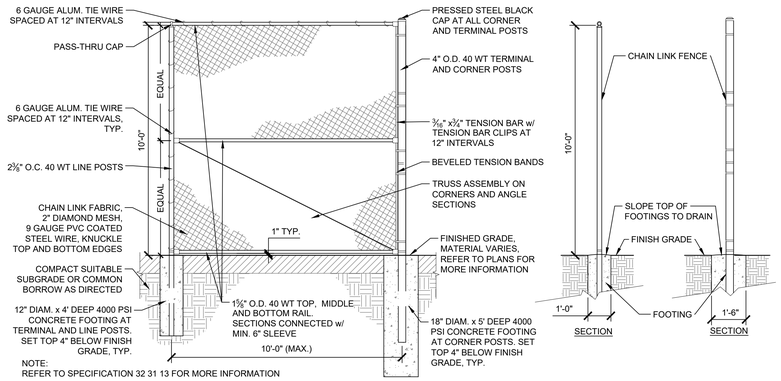
DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.11



NOTE:
SEE SPECIFICATIONS FOR TOLERANCES AND TECHNICAL INFORMATION.

1 ASPHALT COURT PAVING

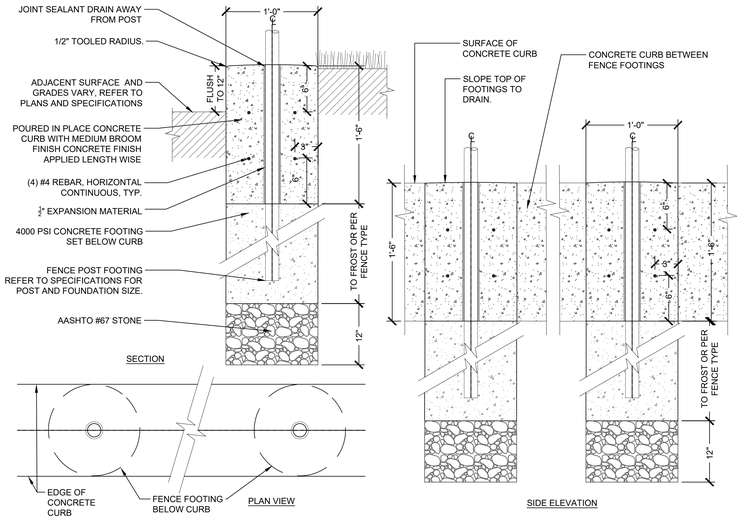
1" = 1'-0"



NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

2 10' CHAIN LINK FENCE

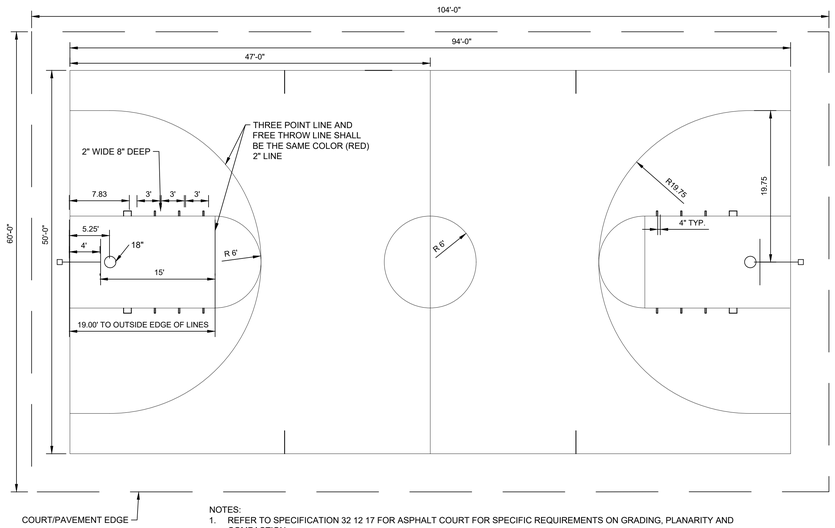
3/8" = 1'-0"



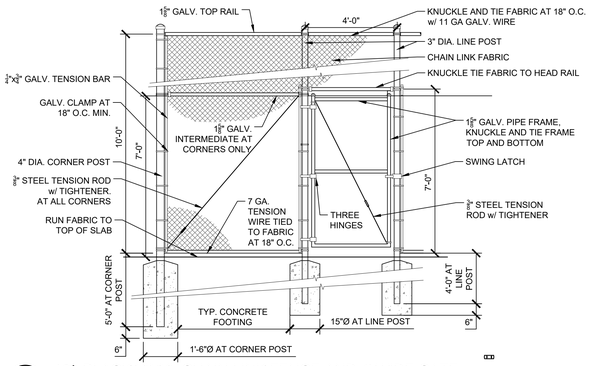
NOTES:
1. FULL FOOTING SIZE FOR ALL FENCE POST SHALL BE INSTALLED BELOW ANY EDGEBAND OR CURB

3 12" CURB WITH FENCE

1 1/2" = 1'-0"



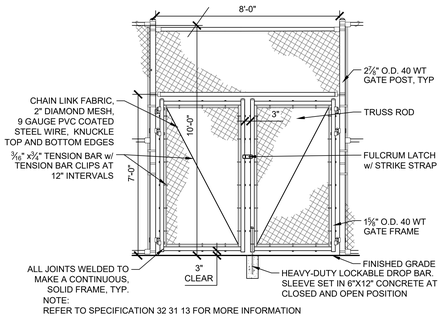
NOTES:
1. REFER TO SPECIFICATION 32 12 17 FOR ASPHALT COURT FOR SPECIFIC REQUIREMENTS ON GRADING, PLANARITY AND COMPACTION.
2. ALL LINES SHALL BE 2" WIDE WHITE WITH THE EXCEPTION OF THE 3' UNOBSTRUCTED LINE WHICH SHALL BE 1" DASHED LINE PAINTED RED.



4 10` BLACK VINYL CHAIN LINK FENCE AND 4' WIDE GATE

3/8" = 1'-0"

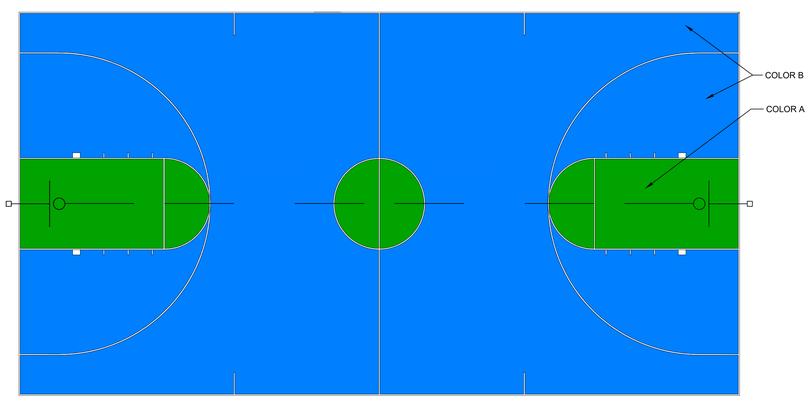
P-EDU-CFH-270



NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

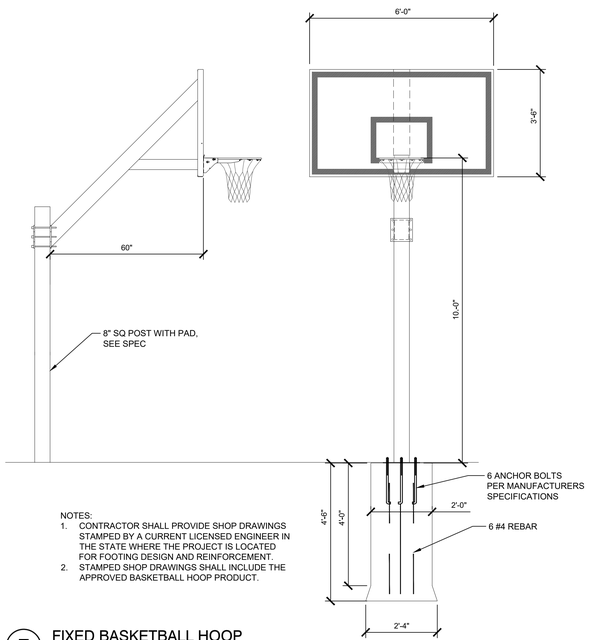
5 10' CHAIN LINK, 8' WIDE DOUBLE GATE

3/8" = 1'-0"



6 BASKETBALL COURT LAYOUT

1/8" = 1'-0"



NOTES:
1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS STAMPED BY A CURRENT LICENSED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED FOR FOOTING DESIGN AND REINFORCEMENT.
2. STAMPED SHOP DRAWINGS SHALL INCLUDE THE APPROVED BASKETBALL HOOP PRODUCT.

7 FIXED BASKETBALL HOOP

1/2" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

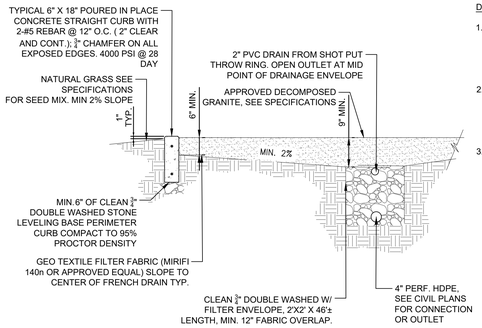
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	AS NOTED
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	L3.12



DECOMPOSED GRANITE (DG) SPECIFICATION:

1. THE SHOT PUT LANDING AREA SHALL CONSIST OF A DECOMPOSED GRANITE OR SIMILAR MATERIAL THAT MEETS THE APPROVAL OF THE DESIGN PROFESSIONAL, THAT IS FIRMLY COMPACTED, YET POROUS TO ALLOW VERTICAL DRAINAGE.
2. THE CONTRACTOR SHALL PROVIDE A ONE GALLON SAMPLE OF PROPOSED DECOMPOSED GRANITE FOR APPROVAL BY THE OWNER PRIOR TO INSTALLATION. AVAILABLE PRODUCT COLOR TO BE SELECTED AND APPROVED BY THE OWNER.
3. THE MATERIAL SHALL BE COMPACTED TO AT LEAST 90% OF STANDARD DENSITY WITH DISCING, SPRINKLING, AND ROLLING AS NECESSARY. ALL MATERIAL AGGREGATE LARGER THAN ONE-QUARTER (1/4") INCH IN DIAMETER THAT COMES TO THE SURFACE DURING DISCING SHALL BE REMOVED PRIOR TO COMPACTING OPERATIONS.

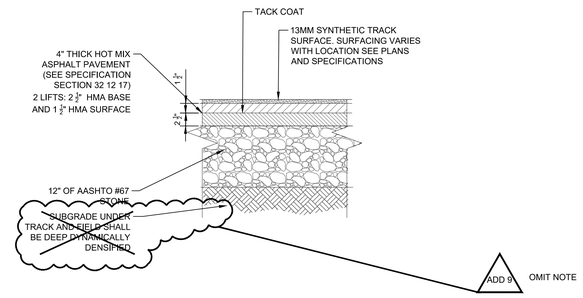
THE PRODUCT SHALL BE SIZED AS FOLLOWS:

SCREEN #	% PASSING
3/8	100
4	100
8	86
16	65
30	45
50	35
100	25
200	15

1 SHOT PUT LANDING AREA

1/2" = 1'-0"

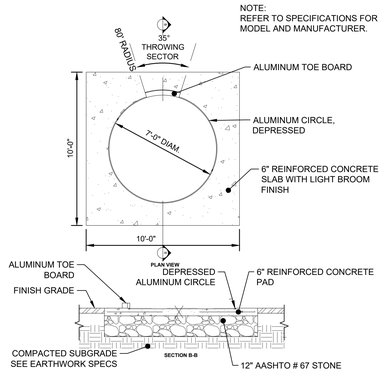
P-EDU-CFH-54



2 TYPICAL TRACK SURFACING CROSS SECTION

1 1/2" = 1'-0"

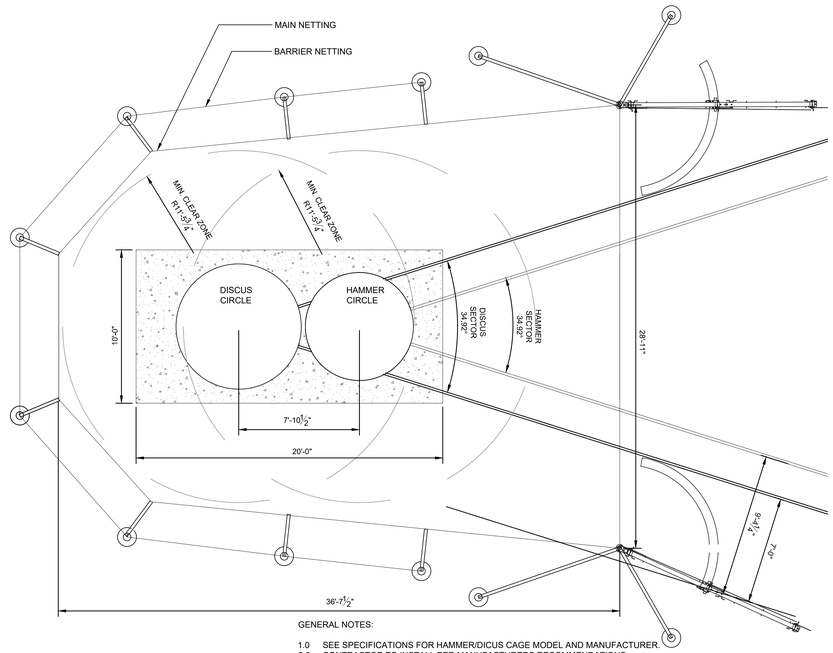
NOTE:
REFER TO SPECIFICATIONS FOR MODEL AND MANUFACTURER.



3 SHOT PUT PAD

1/4" = 1'-0"

P-EDU-CFH-53



GENERAL NOTES:

1.0 SEE SPECIFICATIONS FOR HAMMER/DICUS CAGE MODEL AND MANUFACTURER.
2.0 CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
3.0 CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR FOUNDATIONS.
4.0 ALL EQUIPMENT, LAYOUT AND INSTALLATION TO MEET NFHS AND RIIL RULES AND REGULATIONS.

4 DUAL RING DISCUS/HAMMER CAGE

1/4" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

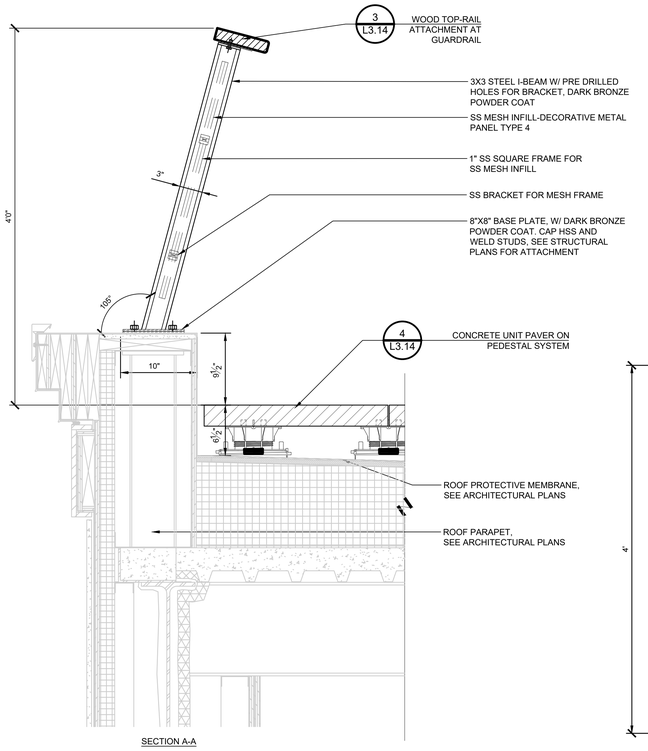
KEY PLAN NORTH ARROW

KEYPLAN

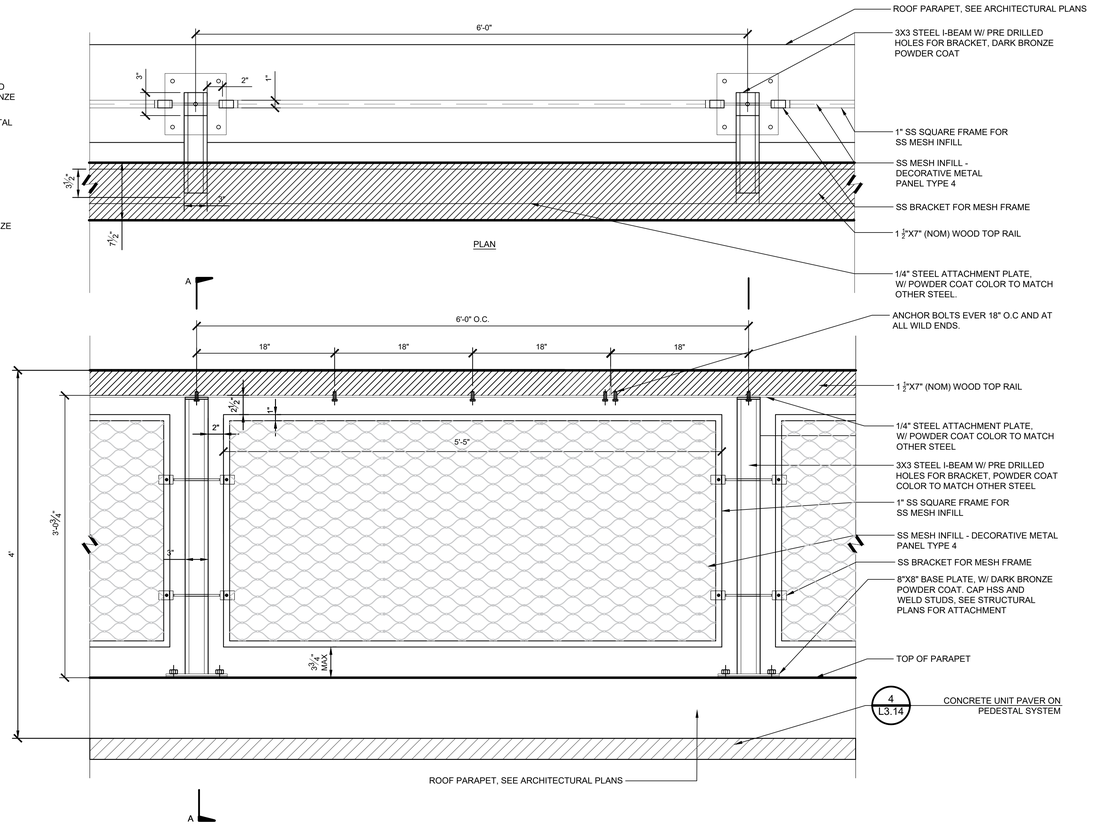
DRAWING NAME:

DETAILS

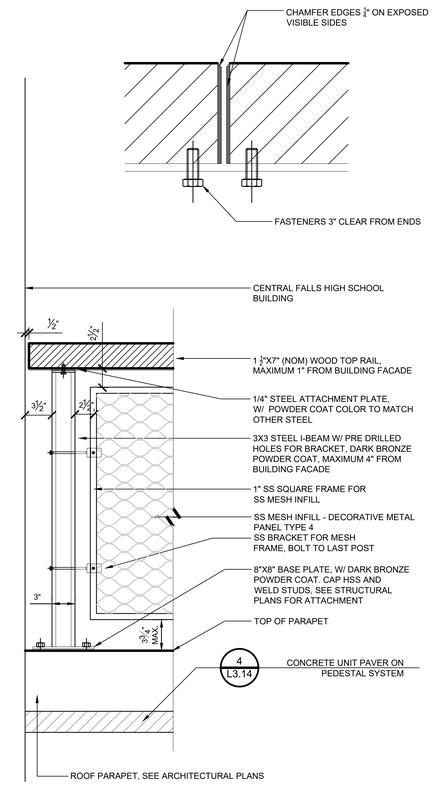
DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: AS NOTED
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L3.13



SECTION A-A



ELEVATION



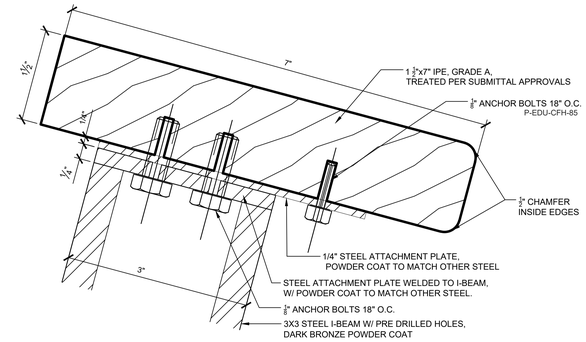
SECTION - TERMINATION DETAIL

NOTES:

1. ROOF GARDEN GUARDRAIL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. REFER TO SPECIFICATION SECTION 05 50 00 - Metal Fabrications FOR GUARDRAIL.
3. REFER TO SPECIFICATION SECTION 06 20 13 - Finish Carpentry FOR WOOD TOP-RAIL.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS INDICATING ALL DIMENSIONS, SIZES, FULL LAYOUT BASED ON SITE CONDITIONS, FINISHES AND POST FOUNDATIONS. SHOP DRAWING SHALL BE PROVIDED AND STAMPED BY A CURRENT LICENSED STRUCTURAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED.
5. ALL POSTS AND TO BE SET PLUMB.
6. ALL AREAS OF PAINTS OR POWERCOATED SURFACES SCRATCHED, DENTED OR OTHERWISE DEFECTED BY INSTALLATION SHALL BE CORRECTED BY CONTRACTOR AT NO EXPENSE TO THE OWNER.
7. ALL EXPOSED HARDWARE, POSTS TO BE PRIMED AND POLYESTER RESIN POWDER COATED COLOR. COLOR SELECTION TO BE APPROVED BY LANDSCAPE ARCHITECT.
8. ALL WELDS SHALL BE GROUND SMOOTH

1 GUARD RAIL AT ROOF GARDEN TERRACE

1/8" = 1'-0"



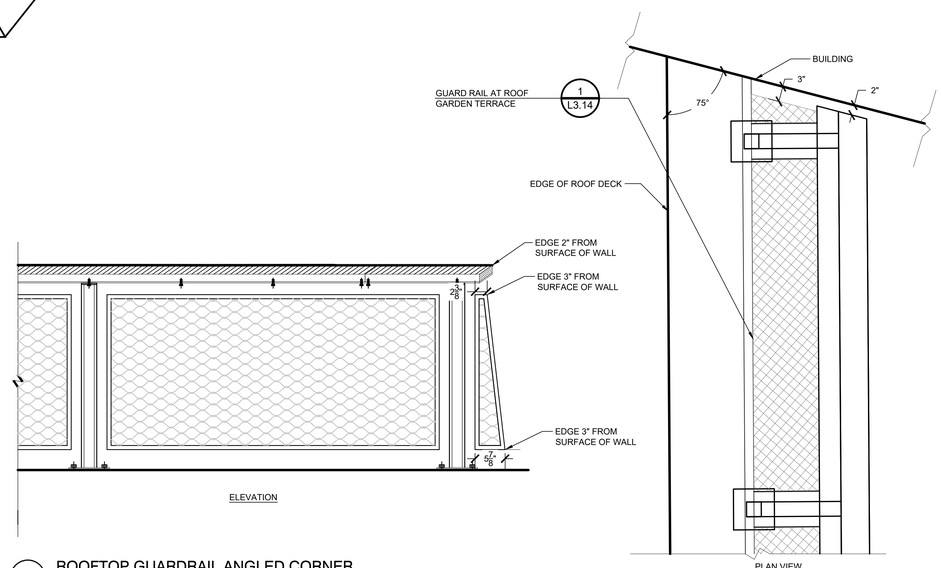
3 WOOD TOP-RAIL ATTACHMENT AT GUARDRAIL

1" = 1"

NOTES:

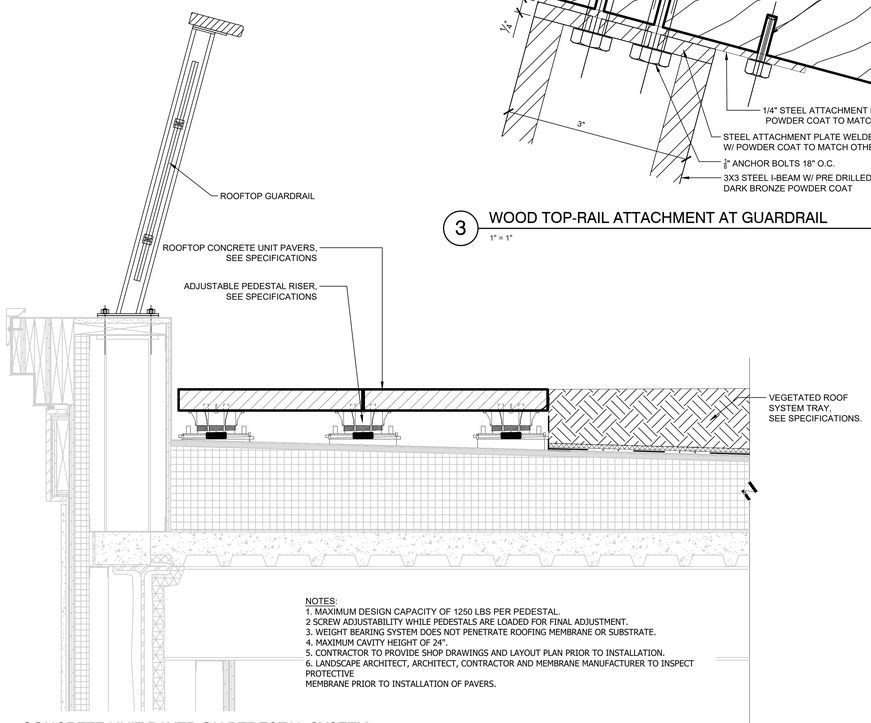
ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



2 ROOFTOP GUARDRAIL ANGLED CORNER

1" = 1'-0"



NOTES:
1. MAXIMUM DESIGN CAPACITY OF 1250 LBS PER PEDESTAL.
2 SCREW ADJUSTABILITY WHILE PEDESTALS ARE LOADED FOR FINAL ADJUSTMENT.
3. WEIGHT BEARING SYSTEM DOES NOT PENETRATE ROOFING MEMBRANE OR SUBSTRATE.
4. MAXIMUM CAVITY HEIGHT OF 24".
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS AND LAYOUT PLAN PRIOR TO INSTALLATION.
6. LANDSCAPE ARCHITECT, ARCHITECT, CONTRACTOR AND MEMBRANE MANUFACTURER TO INSPECT PROTECTIVE
MEMBRANE PRIOR TO INSTALLATION OF PAVERS.

4 CONCRETE UNIT PAVER ON PEDESTAL SYSTEM

1 1/2" = 1'-0"

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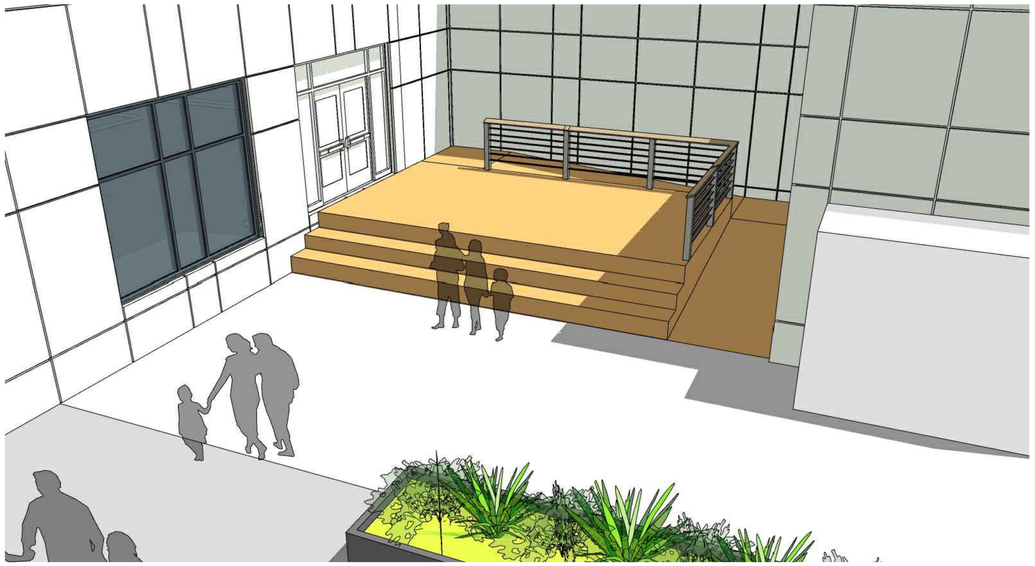
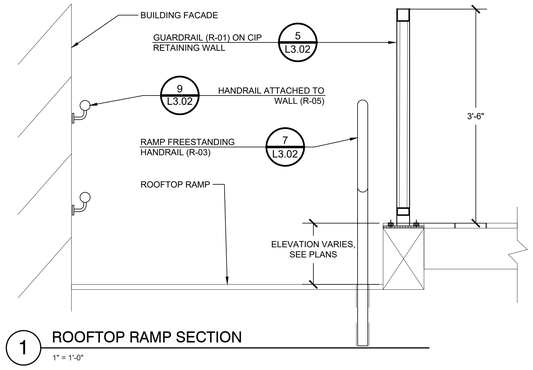
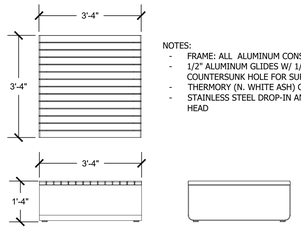
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: AS NOTED
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L3.14



WOOD DECKING ON ROOFTOP - RENDERING FOR DESIGN INTENT ONLY, NOT FOR CONSTRUCTION

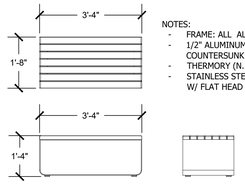


1 ROOFTOP RAMP SECTION
1" = 1'-0"



NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- 1/2" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- THERMORY (N. WHITE ASH) OR ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

1 ROOFTOP SEAT A
1/2" = 1'-0"



NOTES:
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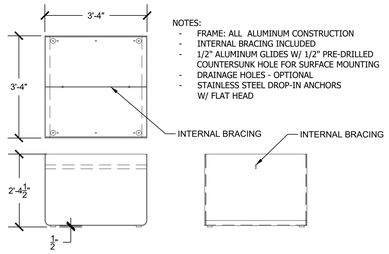
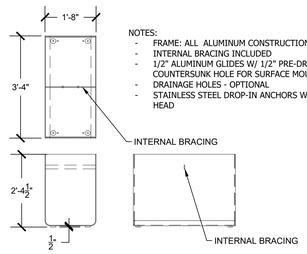
- THERMORY (N. WHITE ASH) OR ALUMINUM SLATS
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

2 ROOFTOP SEAT B
1/2" = 1'-0"



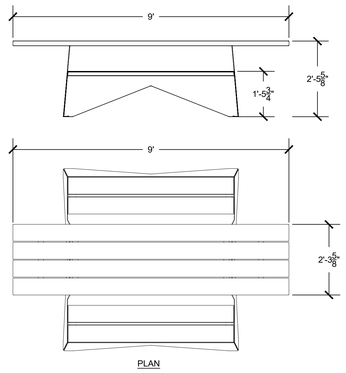
NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- INTERNAL BRACING INCLUDED
- 1/2" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- DRAINAGE HOLES - OPTIONAL
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

3 ROOFTOP PLANTER TYPE A
1/2" = 1'-0"

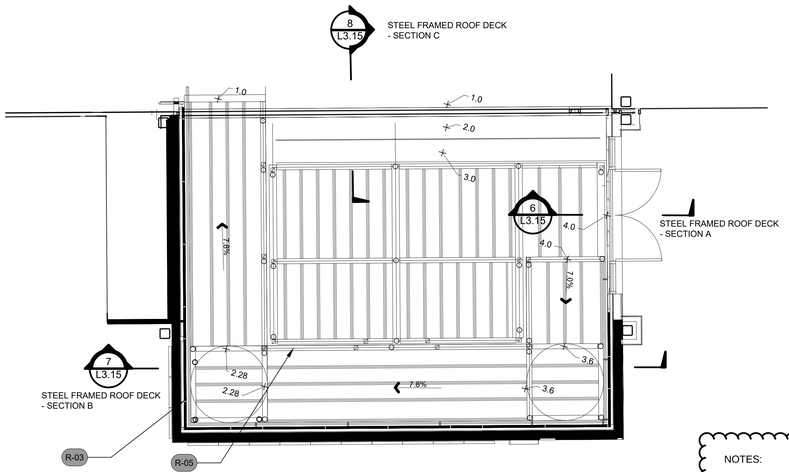


NOTES:
- FRAME: ALL ALUMINUM CONSTRUCTION
- INTERNAL BRACING INCLUDED
- 1/2" ALUMINUM GLIDES W/ 1/2" PRE-DRILLED COUNTERSUNK HOLE FOR SURFACE MOUNTING
- DRAINAGE HOLES - OPTIONAL
- STAINLESS STEEL DROP-IN ANCHORS W/ FLAT HEAD

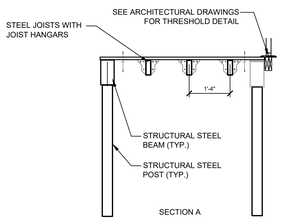
4 ROOFTOP PLANTER TYPE B
1/2" = 1'-0"



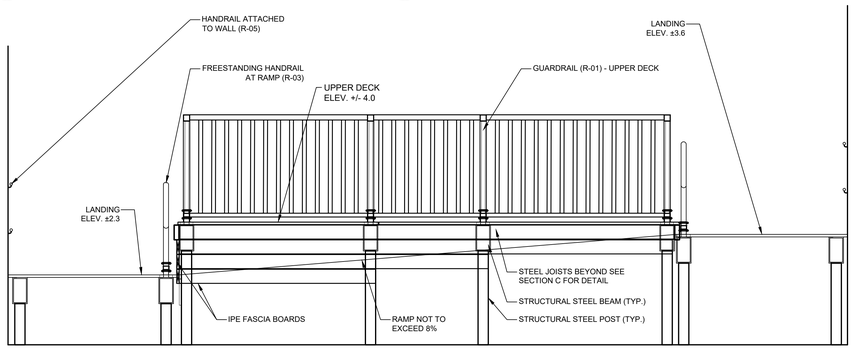
5 ROOFTOP PICNIC TABLE
1/2" = 1'-0"



0 4 8 12 feet
1/4" = 1'-0"



6 STEEL FRAMED ROOF DECK - SECTION A
1/2" = 1'-0"

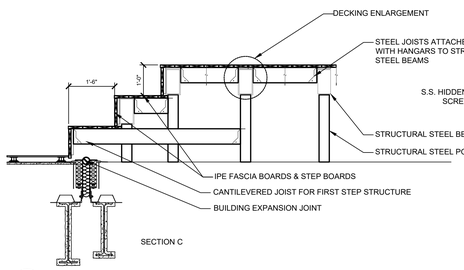


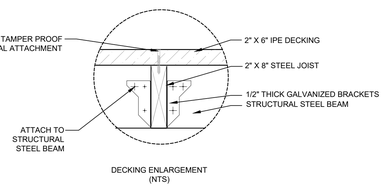
7 STEEL FRAMED ROOF DECK - SECTION B
1/2" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12





DECKING ENLARGEMENT (NTS)

8 STEEL FRAMED ROOF DECK - SECTION C
1/2" = 1'-0"

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10 HIGGINSON AVE, CENTRAL FALLS, RI

KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

DETAILS

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: AS NOTED
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: L3.15

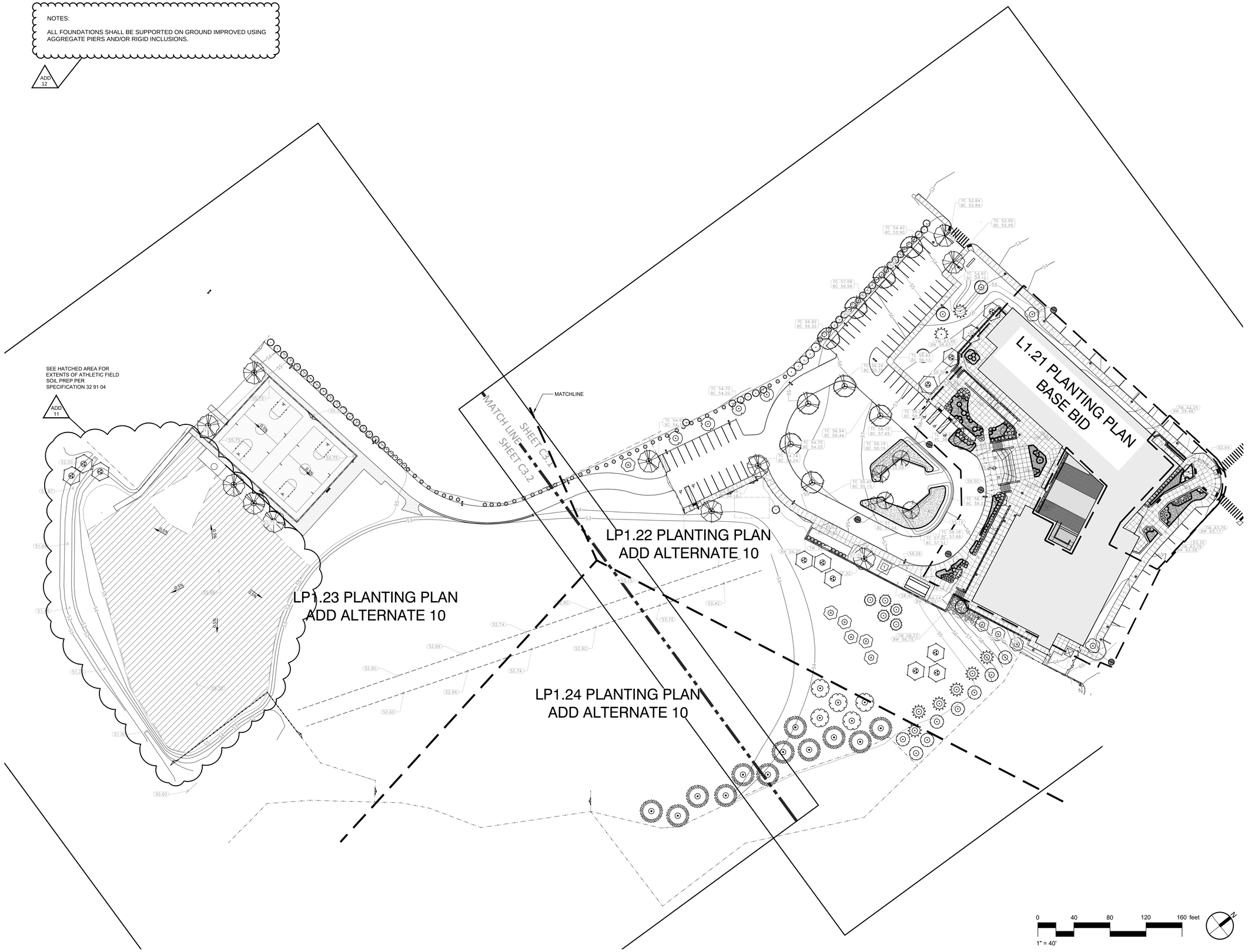
NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

SEE HATCHED AREA FOR EXTENTS OF ATHLETIC FIELD SOIL PREP PER SPECIFICATION 32 91 04

ADD 11



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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

OVERALL PLANTING PLAN

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=40'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	LP1.01

PLANT SCHEDULE LP1.21

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	CXV	6	Cornus x 'KN30-8' / Venus® Dogwood	B & B		7'-8' H
	GPS	2	Ginkgo biloba 'Princeton Sentry' / Princeton Sentry Maidenhair Tree	B & B	2.5-3" Cal.	
	UP	1	Ulmus americana 'Princeton' / Princeton American Elm	B & B	2.5-3" Cal.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Al	3	Aronia melanocarpa 'UCONNAM165' / Low Scape Mound® Black Chokeberry	5 gal	
	Ce	26	Cephalotaxus harringtonia 'Fastigiata' / Upright Plum Yew	5 gal	2'-3' H
	Cp	3	Comptonia peregrina / Sweet Fern	5 gal	
	Cb	5	Cornus alba 'Bailhalo' / Ivory Halo® Tatarian Dogwood	3 gal	
	Cs	12	Cornus sericea 'Artic Fire' / Artic Fire Dogwood	#3	
	Hs	22	Hydrangea quercifolia 'Snowflake' / Snowflake Oakleaf Hydrangea	#3	
	Ig	17	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	#5	
	Iw	5	Ilex verticillata 'Red Sprite' / Red Sprite Winterberry	#5	
	La	11	Leucothoe axillaris / Coastal Leucothoe	5 gal	
	Pi	2	Picea abies 'Pendula' / Weeping Norway Spruce	B & B	
	Rp	14	Rhododendron yakushimanum 'Princess' / Yaku Princess Rhododendron	#7	
	Rh	17	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	#3	
PERENNIALS/GRASSES					
	Ah	27	Amsonia hubrichtii / Arkansas Bluestar	#2	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES					
	Ch	17	Chelone lyonii 'Armltpp02' / Tiny Tortuga Pink Turtlehead	#1	48" o.c.
	Dg	59	Deschampsia cespitosa 'Goldtau' / Gold Dew Tufted Hair Grass	#1	42" o.c.
	Er	32	Echinacea purpurea 'Ruby Star' / Ruby Star Coneflower	#2	60" o.c.
	Go	13	Galium odoratum / Sweet Woodruff	#1	54" o.c.
	Gp	37	Gaultheria procumbens / Wintergreen	#2	24" o.c.
	Pa	13	Packera aurea / Golden Groundsel	#1	54" o.c.
	Pm	32	Pycnanthemum muticum / Blunt Mountainmint	#1	60" o.c.
	Rg	73	Rudbeckia fulgida sullivantii 'Goldsturm' / Goldsturm Coneflower	#1	42" o.c.
	Sn	43	Salvia nemorosa `East Friesland' / East Friesland Meadow Sage	#1	48" o.c.
	Ss	49	Schizachyrium scoparium 'Standing Ovation' / Standing Ovation Little Bluestem	#1	48" o.c.
	Sa	73	Sesleria autumnalis / Autumn Moor Grass	#1	36" o.c.
	Sh	41	Sporobolus heterolepis / Prairie Dropseed	#2	38" o.c.
	So	12	Symphyotrichum oblongifolium `October Skies` / October Skies Fall Aster	#2	72" o.c.
	Tr	24	Tiarella cordifolia 'Running Tapestry' / Running Tapestry Foamflower	#1	40" o.c.
	Za	54	Zizia aurea / Golden Alexander	#1	42" o.c.
SEED MIXES					
	Ns	3,183 sf	- - / NEW ENGLAND WETLAND SEED MIX	seed	

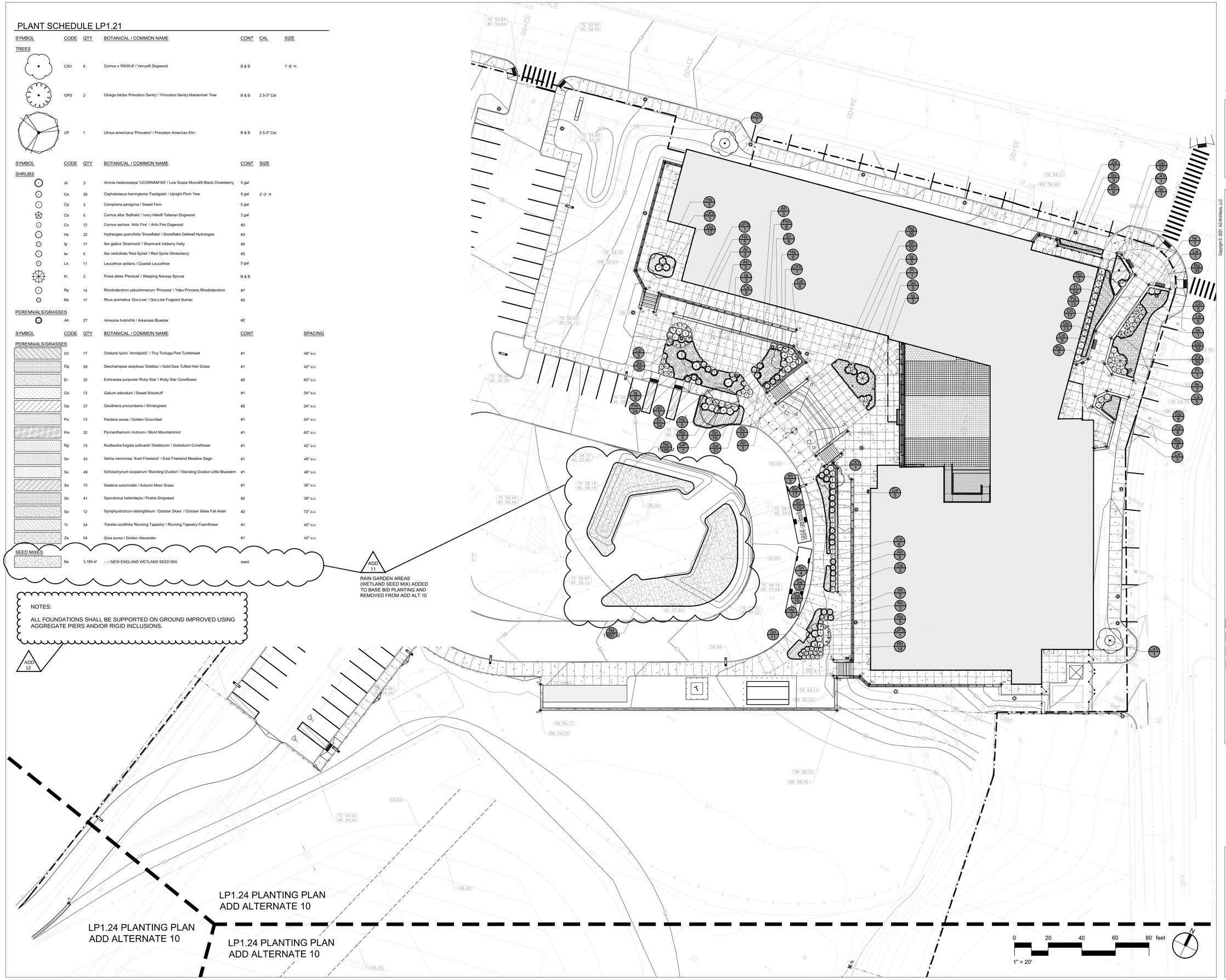
ADD 11

RAIN GARDEN AREAS (WETLAND SEED MIX) ADDED TO BASE BID PLANTING AND REMOVED FROM ADD ALT 10

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12



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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

PLANTING PLAN
BASE BID

DRAWN BY:	J. FIGLIOZZI, E. LIMON
REVIEWED BY:	S. D'AMBROSIA, J. ROBERTSHAW
SCALE:	1"=20'-0"
JOB NO.:	K1031
DATE:	OCTOBER 13, 2023
DRAWING NUMBER:	LP1.21

PLANT SCHEDULE LP1.22

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AC	7	Abies concolor / White Fir	B & B		6'-7' H
	AO	6	Acer rubrum 'October Glory' / October Glory Red Maple	B & B	2.5-3" Cal.	
	AFA	4	Acer x freemanii 'Armstrong' / Armstrong Freeman Maple	B & B	2.5-3" Cal.	
	BNC	4	Betula nigra 'Cully Improved' TM / Heritage Improved River Birch	Multi-stem B&B		10'-12'
	BW	10	Betula populifolia 'Whitespire' / Whitespire Gray Birch	Multi-stem B&B		8'-10'
	CC	4	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	B & B	2"-2.5" Cal.	
	CNG	1	Chamaecyparis nootkatensis 'Glauca Pendula' / Blue Weeping Nootka Cypress	B & B		7'-8' H
	CV	9	Crataegus viridis 'Winter King' / Winter King Hawthorn	B & B	2"-2.5" Cal.	
	JVI	12	Juniperus virginiana 'Idyllwild' / Idyllwild Eastern Redcedar	B & B		5'-6' H
	PG	5	Pinus parviflora 'Glauca' / Japanese White Pine	B & B		6'-7' H
	TE	5	Thuja occidentalis 'Elegantissima' / Elegantissima Arborvitae	B & B		7'-8' H
	TH	18	Thuja occidentalis 'Hetz Wintergreen' / Hetz Wintergreen Arborvitae	B & B		6'-7' H
	TS	35	Thuja occidentalis 'Smaragd' / Emerald Green Arborvitae	B & B		5'-6' H
	TP	5	Thuja plicata 'Green Giant' / Green Giant Western Red Cedar	B & B		5'-6' H
	UP	9	Ulmus americana 'Princeton' / Princeton American Elm	B & B	2.5-3" Cal.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Hv	3	Hamamelis vernalis / Ozark Witchhazel	B & B	4'-5' H
	Jha	25	Juniperus horizontalis 'Andorra' / Andorra Juniper	#5	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES					
	NE	3,183 sf	NEW ENGLAND WETLAND SEED MIX	seed	

ADD 11

RAIN GARDEN AREAS (WETLAND SEED MIX) ADDED TO BASE BID PLANTING AND REMOVED FROM ADD ALT 10

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

SEE PLANTING PLAN LP1.21

SEE PLANTING PLAN LP1.21

LP1.24 PLANTING PLAN ALTERNATE 10

LP1.24 PLANTING PLAN ALTERNATE 10

0 20 40 60 80 feet

1" = 20'

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

PLANTING PLAN ALTERNATE 10

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: 1"=20'-0"
JOB NO.: K1031
DATE: OCTOBER 13, 2023

DRAWING NUMBER: LP1.22

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

SHEET C3.1
MATCH LINE
SHEET C3.2

LP1.22 PLANTING PLAN
ADD ALTERNATE 10

LP1.24 PLANTING PLAN
ADD ALTERNATE 10

DUE TO BIO-RETENTION CHANGE (SEE CIVIL PLANS) QUANTITIES OF TREES HAVE CHANGED - SEE NEW COUNT IN SCHEDULE

ADD 11

RAIN GARDEN (WETLAND SEED MIX) HAS BEEN ELIMINATED IN THIS AREA

PLANT SCHEDULE LP1.23

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AO	5	Acer rubrum 'October Glory' / October Glory Red Maple	B & B	2.5-3" Cal.	
	BW	~~2~~ 3	Betula populifolia 'Whitespire' / Whitespire Gray Birch	Multi-stem B&B		8'-10'
	~~JVE~~	~~11~~	~~Juniperus virginiana 'Corcorcor' / Emerald Sentinel™ Eastern Redcedar~~	~~B & B~~		~~7'-8' H~~
	JVI	~~14~~ 5	Juniperus virginiana 'Idyllwild' / Idyllwild Eastern Redcedar	B & B		5'-6' H
	TH	18	Thuja occidentalis 'Hetz Wintergreen' / Hetz Wintergreen Arborvitae	B & B		6'-7' H
	TS	16	Thuja occidentalis 'Smaragd' / Emerald Green Arborvitae	B & B		5'-6' H

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES					
	Ns	8,396 sf	- - / NEW ENGLAND WETLAND SEED MIX	seed	

0 20 40 60 80 feet

1" = 20'

N

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

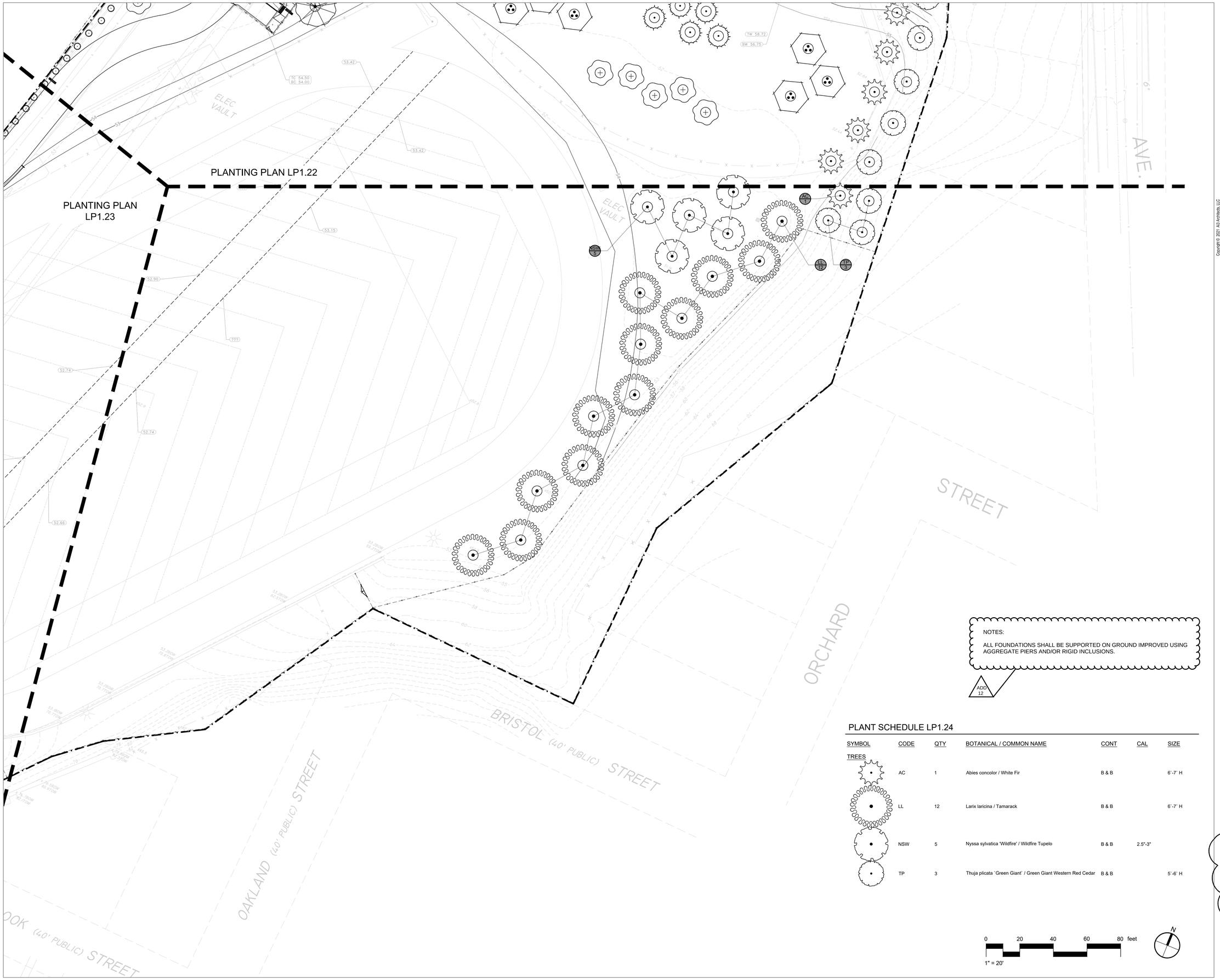
KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

PLANTING PLAN
ALTERNATE 10

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: 1"=20'-0"
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: LP1.23



NOTES:

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ADD 12

PLANT SCHEDULE LP1.24

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AC	1	Abies concolor / White Fir	B & B		6`-7` H
	LL	12	Larix laricina / Tamarack	B & B		6`-7` H
	NSW	5	Nyssa sylvatica 'Wildfire' / Wildfire Tupelo	B & B	2.5"-3"	
	TP	3	Thuja plicata `Green Giant` / Green Giant Western Red Cedar	B & B		5`-6` H

TITLE HAS BEEN CHANGED TO ALTERNATE 10 FROM BASE BID

ADD 11

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KEYNOTE LEGEND:

ADD 12	02/20/2024
ADD 11	02/13/2024
ADD 9	02/06/2024
ADD 7	01/26/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

PLANTING PLAN
ALTERNATE 10

DRAWN BY: J. FIGLIOZZI, E. LIMON

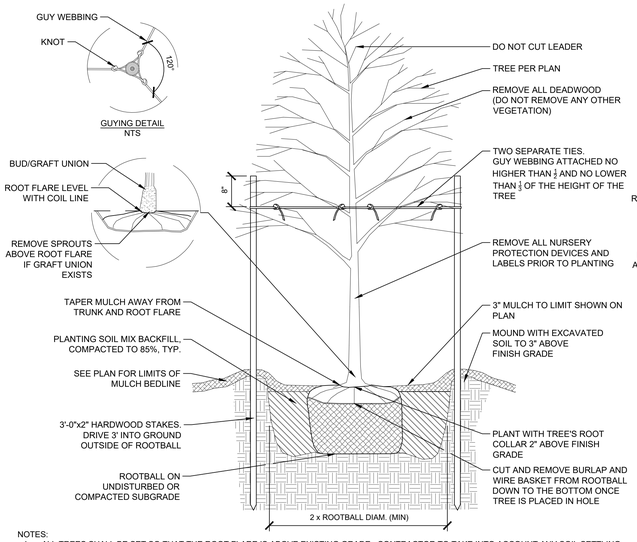
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW

SCALE: 1"=20'-0"

JOB NO.: K1031

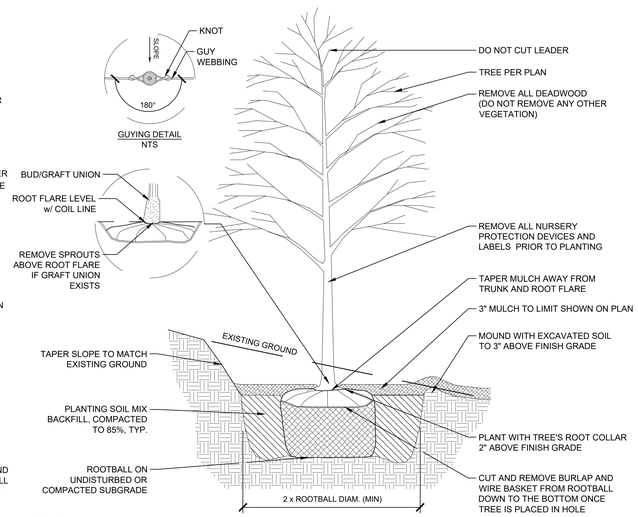
DATE: OCTOBER 13, 2023

DRAWING NUMBER: LP1.24



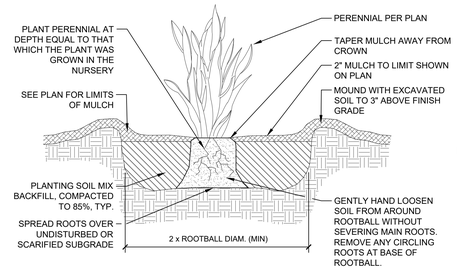
NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

1 DECIDUOUS TREE PLANTING AND STAKING
3/4" = 1'-0"

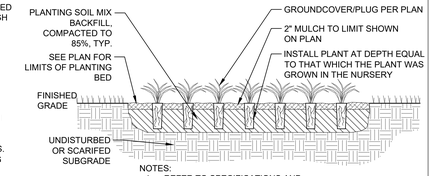


NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.
3. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
4. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

2 DECIDUOUS TREE PLANTING AND STAKING ON SLOPE
3/4" = 1'-0"

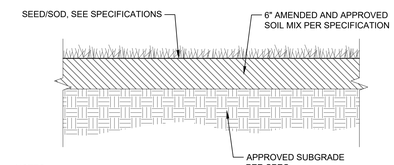


8 GRASS OR PERENNIAL PLANTING
1" = 1'-0"



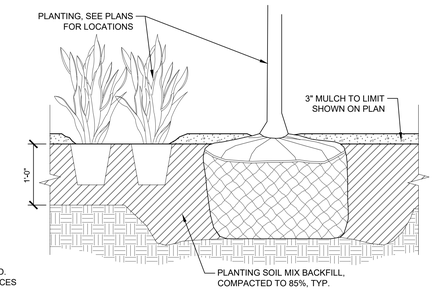
NOTES:
1. REFER TO SPECIFICATIONS AND DETAILS FOR SOIL DEPTHS.

9 GROUNDCOVER & PLUG PLANTING
1" = 1'-0"



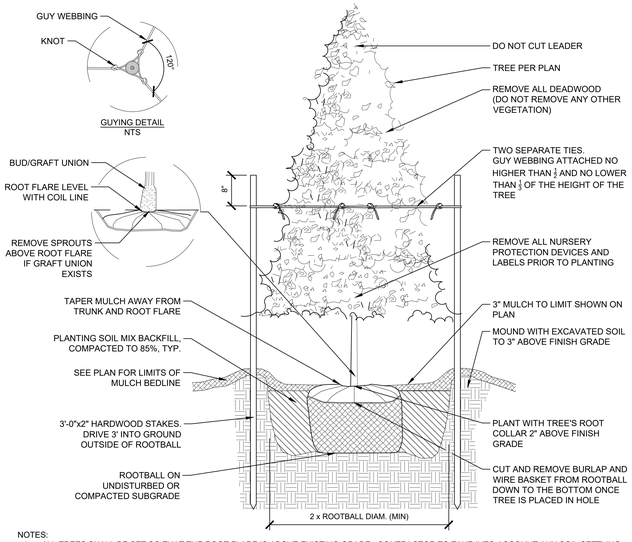
NOTES:
1. SEE PLANS FOR LIMITS OF SEEDED/SODDED AREAS.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED/SOD.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED/SOD.
4. CONTRACTOR SHALL ENSURE A FULL 6" DEPTH OF LOAM AFTER ROLLING, RAKING, AND WATERING. PREPARED SEED BED SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO SEEDING ACTIVITIES.

10 LOAM & SEED
1" = 1'-0"



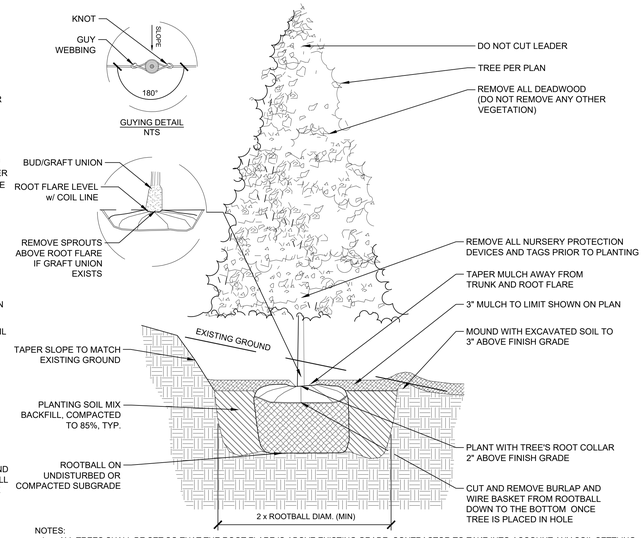
NOTE:
THIS SOIL PROFILE SHALL BE PROVIDED FOR MULCHED PLANTING BEDS.

11 SOIL PROFILE FOR PLANTING BEDS
1" = 1'-0"



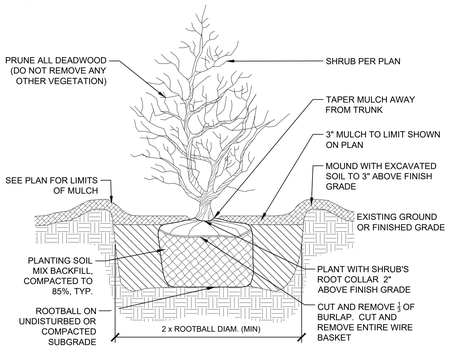
NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

3 EVERGREEN TREE PLANTING AND STAKING
3/4" = 1'-0"

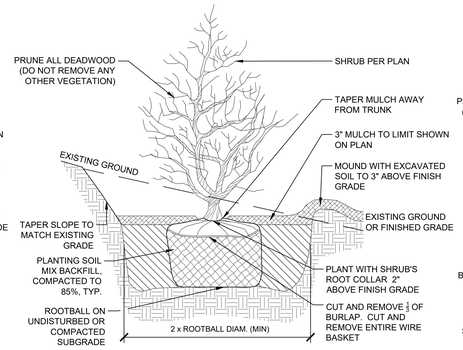


NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW THE ROOT BALL.
2. SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.
3. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
4. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

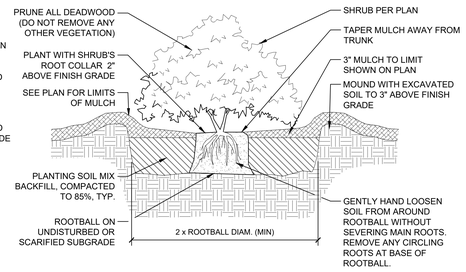
4 EVERGREEN TREE PLANTING AND STAKING ON SLOPE
3/4" = 1'-0"



5 SHRUB PLANTING
1" = 1'-0"



6 SHRUB PLANTING ON SLOPE
1" = 1'-0"



7 CONTAINER GROWN SHRUB PLANTING
1" = 1'-0"

NOTES:

ALL FOUNDATIONS SHALL BE SUPPORTED ON GROUND IMPROVED USING AGGREGATE PIERS AND/OR RIGID INCLUSIONS.

ADD 12

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KEYNOTE LEGEND:

ADD 12 02/20/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

PLANTING DETAILS

DRAWN BY: J. FIGLIOZZI, E. LIMON
REVIEWED BY: S. D'AMBROSIA, J. ROBERTSHAW
SCALE: AS NOTED
JOB NO.: K1031
DATE: OCTOBER 13, 2023
DRAWING NUMBER: LP3.01

TOILET ACCESSORY SCHEDULE - GENERAL NOTES

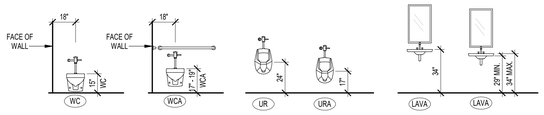
DESCRIPTION	NOTES
SOAP DISPENSERS AND PAPER TOWEL DISPENSERS	IN ADDITION TO ALL TOILET ROOM AND LOCKER ROOM LOCATIONS SHOWN, PROVIDE CONCEALED BLOCKING FOR ONE PAPER TOWEL AND ONE SOAP DISPENSER AT EACH SINK THROUGHOUT THE BUILDING.
SOAP DISPENSERS	ALL SOAP DISPENSERS SHALL BE OWNER FURNISHED AND INSTALLED. 06 10 00 - ROUGH CARPENTRY SHALL PROVIDE CONCEALED BLOCKING AS REQUIRED AT ALL SURFACE MOUNTED LOCATIONS.
TOILET TISSUE DISPENSERS AND SANITARY NAPKIN DISPOSALS	COORDINATE EXACT MOUNTING HEIGHT OF GRAB BARS WITH ARCHITECT. IN FIELD. NOTE: TOILET TISSUE DISPENSERS SHALL BE 15" A.F.F., WITH TOP OF DISPENSER 1 1/2" MIN. BELOW THE SIDE GRAB BAR AND 7" TO 9" FROM THE FRONT EDGE OF THE TOILET TO THE CENTERLINE OF THE DISPENSER.
GRAB BARS	PROVIDE 1 1/2" CLEARANCE FROM WALL WITH CONCEALED MOUNTING.
MOP HOLDER	PROVIDE ONE AT EACH MOP SINK LOCATION THROUGHOUT THE BUILDING TO BE MOUNTED OVER MOP SINK AT 5' - 6" A.F.F.
COAT HOOK	PROVIDE ONE AT EACH TOILET ROOM PARTITION STALL DOOR MOUNTED TO STALL SIDE OF DOOR AND PROVIDE ONE AT EACH SINGLE TOILET ROOM DOOR ON TOILET SIDE OF DOOR. CENTERED ON ALL DOORS. ALSO PROVIDE AT ADDITIONAL LOCATIONS SHOWN ON DRAWINGS.
PLUMBING FIXTURES	SEE PLUMBING DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHT AND LOCATION VERIFICATIONS.
STAINLESS STEEL SHELVES	PROVIDE ONE AT EACH CUSTODIAN CLOSET MOUNTED ABOVE THE SINK. PROVIDE ONE AT EACH SINGLE USER TOILET ROOM MOUNTED TO WALL ACROSS FROM TOILET. COORDINATE HEIGHT WITH OWNER / ARCHITECT IN THE FIELD.
SURFACE MOUNTED TOILET ACCESSORIES	06 10 00 - ROUGH CARPENTRY SHALL PROVIDE CONCEALED BLOCKING AS REQUIRED AT ALL SURFACE MOUNTED LOCATIONS.

FIXTURE LEGEND

WC	WATER CLOSET: ADULT
WCA	WATER CLOSET: ADULT ACCESSIBLE
UR	URINAL: ADULT
URA	URINAL: ADULT ACCESSIBLE
LAV	LAVATORY: ADULT
LAVA	LAVATORY: ADULT ACCESSIBLE
SHRA	SHOWER: ACCESSIBLE
SS	SERVICE SINK
FD	FLOOR DRAIN
HB	HOSE BIB
SHR	SHOWER

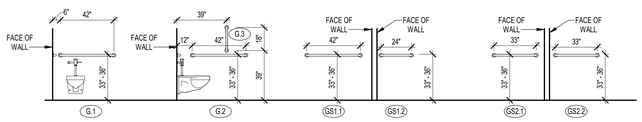
TOILET ACCESSORY LEGEND: SEE SPEC SECTION 10 28 13

G.1	STAINLESS STEEL HORIZONTAL GRAB BAR (REAR WALL)	TT	TOILET TISSUE DISPENSER
G.2	STAINLESS STEEL HORIZONTAL GRAB BAR (SIDE WALL)	CH	STAINLESS STEEL COAT HOOK
G.2	STAINLESS STEEL VERTICAL GRAB BAR (SIDE WALL)	SN1	SANITARY NAPKIN DISPOSAL (TYPE 1: SURFACE MOUNTED)
GS1.1	STAINLESS STEEL GRAB BAR: 2'-6" X 5' HC SHOWER STALL (WALL ADJ. SEAT)	SN2	SANITARY NAPKIN DISPOSAL (TYPE 2: PARTITION MOUNTED DUAL ACCESS)
GS1.2	STAINLESS STEEL GRAB BAR: 2'-6" X 5' HC SHOWER STALL (BACK WALL)	MH	MOP HOLDER
M	STAINLESS STEEL FRAMED MIRROR	SH	STAINLESS STEEL SHELF (COORDINATE MOUNTING HEIGHT & LOCATION IN FIELD, MIN 5'-0" AFF/ MAX 5'-6" A.F.F.)
SD	SOAP DISPENSER	PS	PADDED SEAT (MOUNTING HEIGHT 17"-19" AFF)
PT	SURFACE MOUNTED PAPER TOWEL DISPENSER	SCR	SHOWER CURTAIN AND ROD (COORDINATE MOUNTING HEIGHT WITH SHOWER CURTAIN LENGTH)
CTA	CHANGING TABLE: ADULT	HDI	HAND DRYER
FH1	FEMININE HYGEINE DISPENSER (TYPE 1)		
FH2	FEMININE HYGIENE DISPENSER (TYPE 2)		

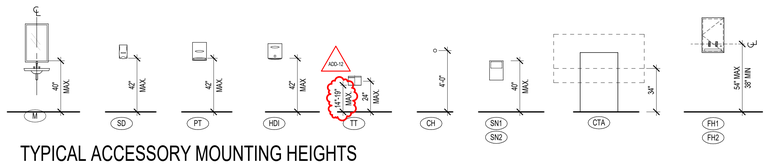


TYPICAL FIXTURE MOUNTING HEIGHTS

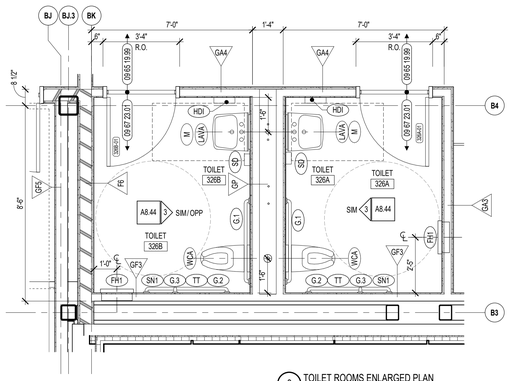
REFER TO PLUMBING DRAWINGS FOR FIXTURE INFORMATION



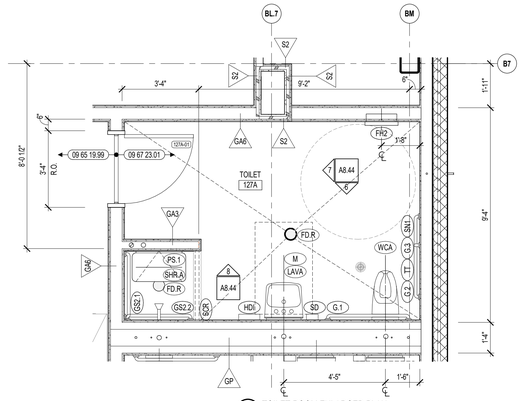
TYPICAL GRAB BAR MOUNTING HEIGHTS



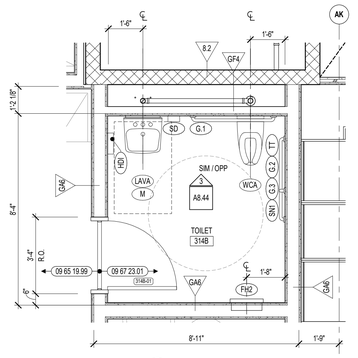
TYPICAL ACCESSORY MOUNTING HEIGHTS



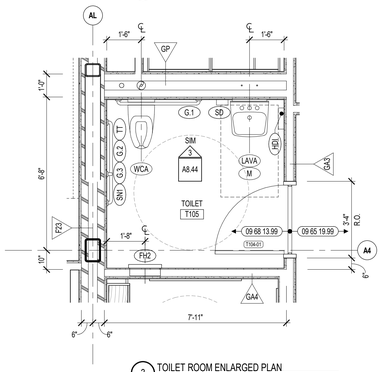
8 TOILET ROOMS ENLARGED PLAN
3/8" = 1'-0"



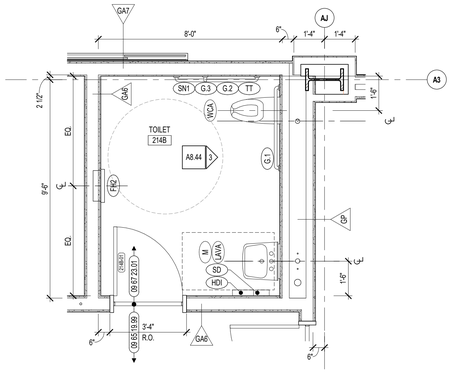
4 TOILET ROOM ENLARGED PLAN
3/8" = 1'-0"



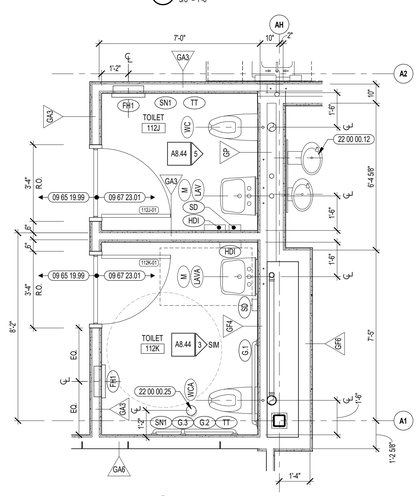
7 TOILET ROOM ENLARGED PLAN
3/8" = 1'-0"



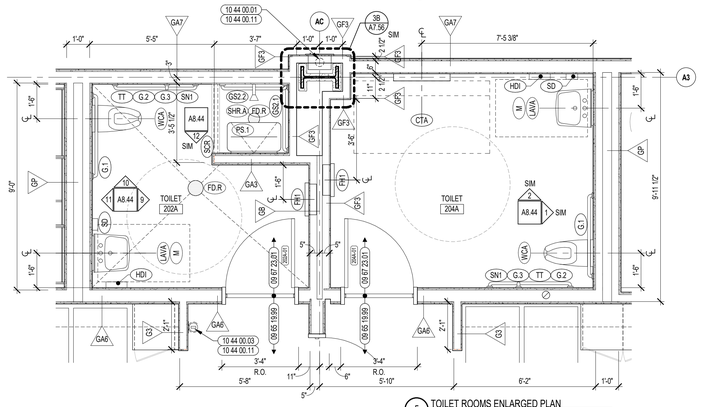
3 TOILET ROOM ENLARGED PLAN
3/8" = 1'-0"



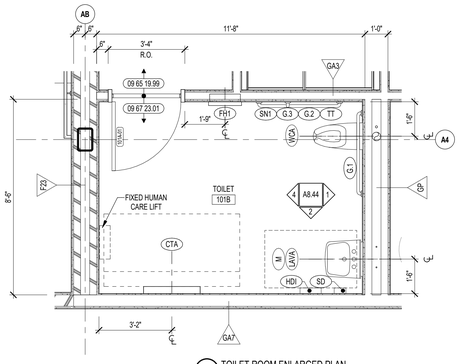
6 TOILET ROOM ENLARGED PLAN
3/8" = 1'-0"



2 TOILET ROOMS ENLARGED PLAN
3/8" = 1'-0"



5 TOILET ROOMS ENLARGED PLAN
3/8" = 1'-0"



1 TOILET ROOM ENLARGED PLAN
3/8" = 1'-0" SIMILAR TO 103B

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KEYNOTE LEGEND:

09 65 19.99	RTF - REFERENCE SCHEDULE AND SAMPLE PATTERNS FOR TYPE
09 67 23.01	FLUID APPLIED FLOORING - UCF-1
09 68 13.99	CPT - REFERENCE SCHEDULE AND SAMPLE PATTERNS FOR TYPE
10 44 00.01	FIRE EXTINGUISHER CABINET - FULLY RECESSED
10 44 00.03	FIRE EXTINGUISHER WALL MOUNTED BRACKET
10 44 00.11	FIRE EXTINGUISHER
22 00 00.12	HYDRATION STATION - SEE PLUMBING
22 00 00.25	PIPE CLEANOUT FLOOR COVER - SEE PLUMBING

GENERAL NOTES:

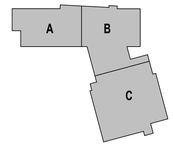
1. REFERENCE SAMPLE WALL CLADDING PATTERN DRAWINGS ON A7 SERIES FOR ADDITIONAL INFORMATION, TYPICAL.
2. NOT ALL POWER & DATA OUTLET/ SWITCHING LOCATIONS SHOWN. COORDINATE WITH ELECTRICAL AND TECHNOLOGY DRAWINGS FOR LOCATIONS.

ADD-12	ADDENDUM #12	02.20.2024
ADD-7	ADDENDUM #7	01.26.2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN



DRAWING NAME:

ENLARGED TOILET ROOM PLANS

DRAWN BY: CHR / NGA
REVIEWED BY: CHR / KK
SCALE: AS INDICATED
JOB NO.: 2202.02
DATE: OCTOBER 13, 2023
DRAWING NUMBER: A8.41

NOTES:

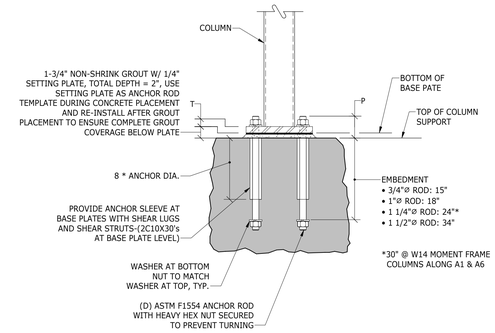
1. THE DIMENSIONS NOTED IN THE BASE PLATE SCHEDULE ARE TYPICAL, UNLESS NOTED OTHERWISE.
2. PROVIDE HOLES WITH ASTM A36 (TYP., A572 GR. 50 @ BRACED & MOMENT FRAMES) HEAVY PLATE WASHER IN BASE PLATES AS FOLLOWS:
   - 3/4"Ø ROD: 1 5/16"Ø HOLE, 2" X 2" X 1/4" WASHER
   - 1"Ø ROD: 1 13/16"Ø HOLE, 3" X 3" X 3/8" WASHER
   - 1 1/4"Ø ROD: 2 1/16"Ø HOLE, 3" X 3" X 1/2" WASHER
   - 1 1/2"Ø ROD: 2 5/16"Ø HOLE, 3 1/2" X 3 1/2" X 1/2" WASHER
   - 1 3/4"Ø ROD: 2 3/4"Ø HOLE, 4" X 4" X 5/8" WASHER

   SETTING/LEVELING PLATES SHALL BE USED AS AN ANCHOR ROD TEMPLATE AND SHALL BE FABRICATED WITH STANDARD HOLES (ROD DIAMETER + 1/16").
3. PLATE WASHERS SHALL BE WELDED TO THE BASE PLATES WITH TACK WELDS, TYP. ALL FOUR SIDES. AT BRACED AND MOMENT FRAME COLUMNS, USE 1/4" WELD ALL AROUND PLATE WASHER, EXCEPT AT COLUMN BASE PLATES WITH SHEAR LUGS OR SHEAR STRUTS - DO NOT WELD PLATE WASHER TO BASE PLATE AT THESE LOCATONS.
4. ANCHOR RODS ARE NOT PERMITTED TO BE TORQUED DURING COLUMN LEVELING OR INSTALLATION PROCESS. PROVIDE SNUG-TIGHT CONNECTION ONLY.

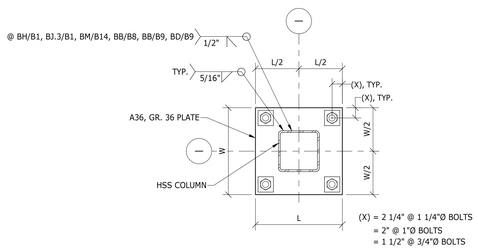
BASE PLATE SCHEDULE

	TYPE A			TYPE A1			TYPE A2			TYPE B			TYPE C			TYPE D			TYPE W		
	D		P	D		P	D		P	D		P	D		P	D		P	D		P
	*		7 1/2"	*		7 1/2"	*		7 1/2"	*		7 1/2"	*		7 1/2"	*		7 1/2"	*		8 1/2"
COLUMN SIZE	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T	L	W	T
HSS6X6	1'-0"	1'-0"	1"	-	-	-	-	-	-	1'-1"	7"	1 1/2"	-	-	-	-	-	-	-	-	-
HSS8X8	1'-4"	1'-4"	1 1/2"	-	-	-	-	-	-	1'-5"	9"	1 1/2"	1'-1"	9"	1 1/4"	1'-3"	1'-6"	1 3/4"	-	-	-
HSS10X10	1'-6"	1'-6"	1 3/4"	-	-	-	1'-7"	1'-7"	1 3/4"	1'-8"	1'-0"	2"	-	-	-	1'-3"	1'-8"	1 3/4"	-	-	-
HSS12X8				1'-6"	1'-6"	1 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSS12X12	1'-11"	1'-11"	1 3/4"	-	-	-	1'-11"	1'-11"	1 3/4"	1'-9"	1'-2"	1 1/2"	-	-	-	-	-	-	-	-	-
HSS14X10				-	-	-	-	-	-	1'-11"	1'-0"	1 1/2"	-	-	-	-	-	-	-	-	-
W10	-	-	ADD-12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1'-10"	1'-5"	1 3/4"
W14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2'-3"	1'-3"	2"
W18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2'-8"	1'-11"	2 1/4"

*** REFER TO BASE PLATE DETAILS FOR ANCHOR ROD DIAMETER**

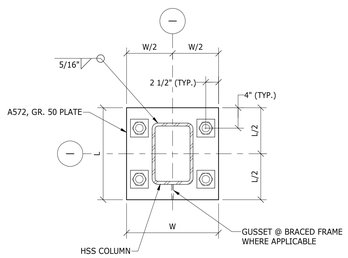


BASE PLATE ANCHORAGE



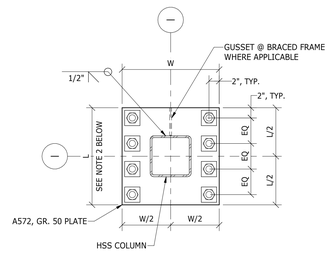
TYPE A

(4 - 1"Ø F1554 GR.36 A. BOLTS, TYP.)
(4 - 1 1/4"Ø F1554 GR.55 A. BOLTS @ BH/B1, BJ.3/B1, BM/B14, BB/B8, BB/B9, BD/B9, BR-7, BR-8, BR-9, BR-10, BR-12)
(4 - 3/4"Ø F1554 GR.36 A. BOLTS @ HSS6X6)



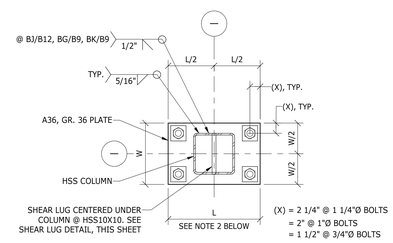
TYPE A1

(4 - 1 1/4"Ø F1554 GR.55 A. BOLTS)



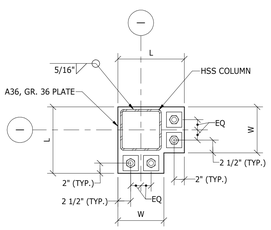
TYPE A2

(8 - 1 1/4"Ø F1554 GR.55 A. BOLTS, 4 BOLTS PER SIDE)



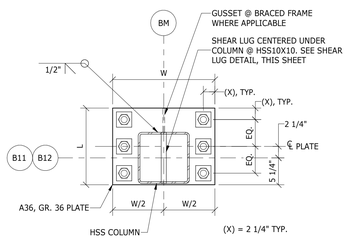
TYPE B

(4 - 1"Ø F1554 GR.36 A. BOLTS, TYP.)
(4 - 1"Ø F1554 GR.55 A. BOLTS @ HSS10X10)
(4 - 3/4"Ø F1554 GR.36 A. BOLTS @ HSS6X6)
(4 - 1 1/4"Ø F1554 GR.55 A. BOLTS @ HSS12X12 & HSS 14X10)



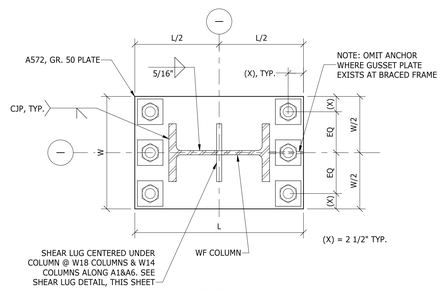
TYPE C

(4 - 1"Ø F1554 GR.36 A. BOLTS, TYP.)



TYPE D

(6 - 1 1/4"Ø F1554 GR.55 A. BOLTS, TYP.)



TYPE W

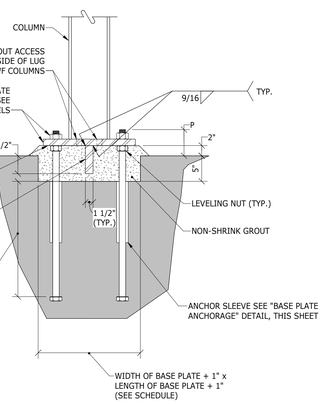
(WIDE-FLANGE COLUMN)
(8 - 1 1/2"Ø F1554 GR.55 A. BOLTS @ W18)
(6 - 1 1/4"Ø F1554 GR.55 A. BOLTS @ W14)
(6 - 1 1/4"Ø F1554 GR.55 A. BOLTS @ W10)

NOTES:

1. PLATE WASHERS SHALL BE WELDED TO BASE PLATES PER NOTE 3 OF BASE PLATE SCHEDULE.
2. LENGTH ("L") OF TYPE B BASE PLATE SHALL TYPICALLY BE ORIENTED PARALLEL TO FOUNDATION OR AS SHOWN IN DETAILS AT BRACED FRAME LOCATIONS (SEE GUSSET PLATE ORIENTATION). AT LOCATIONS LISTED BELOW, ORIENT AS FOLLOWS:
   - BH/B14: ALONG B14
   - COLUMNS ALONG B9&B10: ALONG B9&B10
   - COLUMNS ALONG B11&B12: ALONG B11&B12

TYPICAL BASE PLATE DETAILS

NOT TO SCALE



SHEAR LUG DETAIL

NOTES:

1. DETAIL ONLY APPLIES AT LOCATIONS SHOWN IN BASE PLATE DETAILS.
2. SEE BASE PLATE DETAILS FOR ORIENTATION OF SHEAR LUG (TYP.)
3. PIER REINFORCEMENT WITHIN FOOTPRINT OF SHEAR LUG BOX-OUT SHALL BEGIN BELOW BOX-OUT.

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PARE

CENTRAL FALLS HIGH SCHOOL
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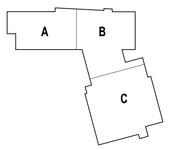
KEYNOTE LEGEND:

ADD-12	ADDENDUM #12	02.20.2024
ADD-6	ADDENDUM #6	01.23.2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN



DRAWING NAME:

BASE PLATE AND PIER DETAILS - 1

DRAWN BY: JDB / MSS
REVIEWED BY: MGM / BP
SCALE: AS INDICATED
JOB NO.: 2202.02
DATE: OCTOBER 13, 2023
DRAWING NUMBER: S2.20

KEYED NOTES

1. EC SHALL REMOVE EXISTING POLE AND LIGHTING FIXTURES, AND TURN OVER TO THE OWNER AT OWNER DESIGNATED LOCATION.
2. EC SHALL REMOVE EXISTING OVERHEAD CABLING.

ADD-13

EXISTING UTILITY POLE.

EXISTING PRIMARY CONDUIT DUCTBANK (2) 4"C FROM EXISTING UTILITY POLE TO EXISTING TRANSFORMER.

EXISTING ELECTRIC UTILITY COMPANY TRANSFORMER WITH METER

ELECTRIC TRANSFORMER ON CONC. PAD W/ BOLLARDS

UNDER BASE BID, EXISTING 480V, 3Ø, 60/3 SPORTS LIGHTER CIRCUIT TO BE EXTENDED VIA 4#1/0+#10G-2"C TO RELOCATED EXISTING SPORTS LIGHTING PANELBOARD VIA SPORTS LIGHTING CONTROL AND MONITORING CABINET. TERMINATE EXTENDED CIRCUIT ON EXISTING 60/3 CIRCUIT BREAKER. UNDER ADD ALTERNATE NO.9, REMOVE FOUR OF THE EXISTING EIGHT SPORTS LIGHTERS AND REPLACE WITH NEW INCLUDING 1500MZ LAMPS.

UNDER BASE BID, EXISTING 480V, 3Ø, 60/3 SPORTS LIGHTER CIRCUIT TO BE EXTENDED VIA 4#1/0+#10G-2"C TO RELOCATED EXISTING SPORTS LIGHTING PANELBOARD VIA SPORTS LIGHTING CONTROL AND MONITORING CABINET. TERMINATE EXTENDED CIRCUIT ON EXISTING 60/3 CIRCUIT BREAKER. UNDER ADD ALTERNATE NO.9, REMOVE FOUR OF THE EXISTING EIGHT SPORTS LIGHTERS AND REPLACE WITH NEW INCLUDING 1500MZ LAMPS.

EXISTING SPORTS LIGHTER CIRCUITS TO REMAIN

GENERAL CONTRACTOR SHALL REMOVE EXISTING SPORTS LIGHTER CIRCUITS TO EXISTING SPORTS LIGHTING PANELBOARD AND SPORTS LIGHTING CONTROL AND MONITORING CABINET AND EXTEND CIRCUITS TO TO RELOCATED EXISTING SPORTS LIGHTING PANELBOARD VIA SPORTS LIGHTING CONTROL AND MONITORING CABINET

GENERAL CONTRACTOR SHALL REMOVE EXISTING SECONDARY CONDUIT DUCTBANK FROM EXISTING TRANSFORMER TO EXISTING SPORTS LIGHTING PANELBOARD. E.C. SHALL REMOVE EXISTING SECONDARY CABLING FROM EXISTING TRANSFORMER TO EXISTING SPORTS LIGHTING PANELBOARD.

EXISTING 277/480 VOLT, 3Ø, 4W, 400 AMP SPORTS LIGHTING PANELBOARD AND SPORTS LIGHTING CONTROL AND MONITORING CABINET TO BE RELOCATED, REFER TO ELECTRICAL SITE POWER PLAN.

GENERAL CONTRACTOR SHALL REMOVE EXISTING ABANDONED CONCRETE LIGHTING POLE BASE

EXISTING ELECTRIC UTILITY COMPANY OVERHEAD SECONDARY ELECTRIC SERVICE AND METER TO BE REMOVED BY ELECTRIC UTILITY COMPANY

EXISTING UTILITY POLE WITH LIGHTING FIXTURE TO BE REMOVED BY ELECTRIC UTILITY COMPANY

REMOVE EXISTING SIGN POWER

EXISTING UTILITY POLE TO BE REMOVED BY ELECTRIC UTILITY COMPANY

REMOVE EXISTING SIGN POWER

EXISTING UTILITY POLE TO BE REMOVED BY ELECTRIC UTILITY COMPANY

EXISTING 120V, 20/1 SCOREBOARD CIRCUIT TO BE EXTENDED VIA 2#2+#10G-2"C TO NEW PANELBOARD SC. TERMINATE CIRCUIT ON 20/1 CIRCUIT BREAKER.

EXISTING SCOREBOARD

EXISTING SCOREBOARD CIRCUITS TO REMAIN

GENERAL CONTRACTOR SHALL REMOVE EXISTING SCOREBOARD CIRCUITS TO EXISTING SPORTS LIGHTING PANELBOARD AND EXTEND CIRCUITS TO NEW PANELBOARD SC

UNDER BASE BID, EXISTING 480V, 3Ø, 60/3 SPORTS LIGHTER CIRCUIT TO BE EXTENDED VIA 4#1/0+#10G-2"C TO RELOCATED EXISTING SPORTS LIGHTING PANELBOARD VIA SPORTS LIGHTING CONTROL AND MONITORING CABINET. TERMINATE EXTENDED CIRCUIT ON EXISTING 60/3 CIRCUIT BREAKER. UNDER ADD ALTERNATE NO.9, REMOVE FIVE OF THE EXISTING TEN SPORTS LIGHTERS AND REPLACE WITH NEW INCLUDING 1500MZ LAMPS.

AI3 ARCHITECTS
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10 HIGGINSON AVE, CENTRAL FALLS, RI

KEYNOTE LEGEND:

ADD-12	ADDENDUM 12	2/20/2024
ADD-3	ADDENDUM 3	1/9/2024

100% CONSTRUCTION DOCUMENTS

KEY PLAN NORTH ARROW

KEYPLAN

DRAWING NAME:

ELECTRICAL SITE DEMOLITION PLAN

DRAWN BY:	RCB
REVIEWED BY:	RCB
SCALE:	1" = 30'
JOB NO.:	2202.00
DATE:	OCTOBER 13, 2023

DRAWING NUMBER: EDS.01

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VOLUME 1 *(DIVISIONS 00 THROUGH 09)*

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BID ATTACHMENT
UNIT PRICES FORM

A. Unit prices: Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those upon which the Bid is based, as authorized by the Owner, the undersigned agrees that the following supplemental unit prices represent the exact net amount per unit to be paid the Contractor (in the case of additions or increases) or credited to the Owner (in the case of decrease), without further adjustment for overhead, profit, insurance, compensation insurance or other direct or indirect expenses of the Contractor.

B. SCHEDULE OF UNIT PRICES:

Item	Spec. Section	Unit of Measure	Unit Cost	Bid Quantity	Bid Price
1. Removal of unanticipated Unsuitable Soils.	31 00 00	Cubic Yard (CY)	$……	1,000 CY	$……
~~2. Removal of unanticipated Petroleum Contaminated Soils.~~ **[ADD #11]**	~~31 00 00~~	~~Cubic Yard (CY)~~	~~$……~~	~~100 CY~~	~~$……~~
2. Excavation of open rock removal.	31 00 00	Cubic Yard (CY)	$……	100 CY	$……
3. **Excavation of Trench Rock Removal [ADD #11]**	**31 00 00**	**Cubic Yard (CY)**	**$……**	**100 CY**	**$……**
4. **Containment Impacted Soil – Alternate Cover Soils [ADD #11]**	**31 00 00**	**Cubic Yard (CY)**	**$……**	**3,600 CY**	**$……**
5. **Containment Impacted Soil – Solid Waste Soils [ADD #11]**	**31 00 00**	**Cubic Yard (CY)**	**$……**	**700 CY**	**$……**
6. Unit Price for additional installed aggregate piers. **Category 1.**	31 60 00	Each	$……	ONE	$……
7. **Unit Price for additional installed aggregate piers. Category 2. [ADD #12]**	**31 60 00**	**Each**		**ONE**	
8. Unit Price Credit for aggregate piers. **Category 1.**	31 60 00	Each	$……	ONE	$……

9. Unit Price for additional Modulus Tests.	31 60 00	Square foot	$……	ONE	$……
10. Credit per foot for difference between actual length and length of aggregate piers/rigid inclusions. **Category 1.**	31 60 00	Linear foot (LF)	$……	100 LF	$……
11. Unit Price per foot difference between actual length and length of aggregate piers/rigid inclusions. **Category 1.**	31 60 00	Linear foot (LF)	$……	100 LF	$……
12. Unit Price for additional Mobilizations.	31 60 00	Each	$……	ONE	$……
13. Unit Price Credit for aggregate piers. Category 2. [ADD #12]	**31 60 00**	**Each**		**ONE**	
14. Credit per foot for difference between actual length and length of aggregate piers/ rigid inclusions. Category 2. [ADD #12]	**31 60 00**	**Linear foot (LF)**		**100 LF**	
15. Unit Price per foot difference between actual length and length of aggregate piers/ rigid inclusions. Category 2. [ADD #12]	**31 60 00**	**Linear foot (LF)**		**100 LF**	

End of Document

SECTION 31 60 00
GROUND IMPROVEMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

A. The work consists of improving the existing ground by means of aggregate pier soil reinforcement or by means of rigid inclusions as specified herein. Aggregate piers and/or rigid inclusions shall be installed below **the following:**

1. All building foundations and slabs;
2. All stairs, access ramps, retaining walls, and sidewalks attached/connected to buildings;
3. All utility structures, including catch basins, manholes, transition chambers, area drains, water treatment practice structures and underground vaults of any type;
4. All concrete pads;
5. Full length of all 48" pipe;
6. Full length of all culverts and associated wingwalls;
7. 18" drain pipe from DMH-304 to DMH-313 (DMH identification provided on the civil drawings); and
~~A.~~**8. 24" drain pipe from DMH-317 to DMH-313 (DMH identification provided on the civil drawings).**~~ building foundations and slabs, stairs, access ramps, retaining walls, sidewalk attached/connected to the proposed building, utility structures, and twin 48-inch combined sewer pipes.~~

B. Work shall consist of designing, furnishing, and installing aggregate pier and/or rigid inclusion ground improvements to the lines and grades designated on the project foundation plan and civil drawings as specified herein.

C. The installation of the ground improvement shall also include the removal and disposal of excavation spoils as a result of the installation process. The excavated material is all assumed to be unsuitable and shall either be wasted or used in accordance with the Earth Moving Specifications. The cost of installation of the ground improvement shall include the cost of hauling, stockpiling, and disposal of the excavated material.

D. The aggregate piers and/or rigid inclusions shall be in a columnar-type configuration and shall be used for support of **the following:**

1. All building foundations and slabs;
2. All stairs, access ramps, retaining walls, and sidewalks attached/connected to buildings;
3. All utility structures, including catch basins, manholes, transition chambers, area drains, water treatment practice structures and underground vaults of any type;
4. All concrete pads;
5. Full length of all 48" pipe;
6. Full length of all culverts and associated wingwalls;
7. 18" drain pipe from DMH-304 to DMH-313 (DMH identification provided on the civil drawings); and

~~D.~~**8. 24" drain pipe from DMH-317 to DMH-313 (DMH identification provided on the civil drawings).**~~building foundations, floor slabs, stairs, access ramps, retaining walls, sidewalk attached/connected to the proposed building, utility structures, and twin 48-inch combined sewer pipes.~~

E. Based on the borings and probes, the ground improvements are anticipated to extend to depths of about 40 feet over an area of about one half (1/2) to two thirds (2/3) of the proposed building footprint. Over the remainder of the proposed building footprint, the ground improvements are anticipated to extend to depths of up to 60 feet. For retaining walls and utilities, the ground improvements are anticipated to extend between 40 and 60 feet beneath the ground surface.

1.03 WORK INCLUDED

A. Provision of all equipment, material, labor, and supervision to design, furnish, and install aggregate piers and/or rigid inclusions for support of ~~building foundations, floor slabs, stairs, access ramps, retaining walls, sidewalk attached/connected to the proposed building, utility structures, and twin 48-inch combined sewer pipes~~**the following:**

1. All building foundations and slabs;
2. All stairs, access ramps, retaining walls, and sidewalks attached/connected to buildings;
3. All utility structures, including catch basins, manholes, transition chambers, area drains, water treatment practice structures and underground vaults of any type;
4. All concrete pads;
5. Full length of all 48" pipe;
6. Full length of all culverts and associated wingwalls;
7. 18" drain pipe from DMH-304 to DMH-313 (DMH identification provided on the civil drawings); and
~~A.~~**8. 24" drain pipe from DMH-317 to DMH-313 (DMH identification provided on the civil drawings)**.

B. The aggregate pier and/or rigid inclusion design and installation shall adhere to all methods and standards described in this Specification.

C. These ground improvements are installed by driving a mandrel and hammer to the design depth, feeding the backfill material through the hollow mandrel, and compacting the backfill in one-foot lifts using the hammer; thus, generating no spoils. If the aggregate piers are installed in augured holes, the testing, if needed, and disposal of the spoils should be included in the contractor's bid price.

D. The design of the ground improvement shall be verified with a modulus load test.

E. The subsurface conditions at the site included asphalt, topsoil, and existing fill, overlying organic soil, peat, and natural sand and silt. Based on the SPT data, the fill and some of the natural sand and silt were very loose to medium dense.

F. The existing fill contained organic soil, asphalt, brick, roots, glass, trash, wood, and metal, and may contain construction debris and other obstructions that need to be pre-trenched. The pre-trenching, if required, will be performed by the Contractor.

G. The ground improvement contractor shall monitor vibration through installation of seismographs at the nearby building during installation of aggregate piers and/or rigid inclusions.

~~G.~~H. The specialty subcontractor shall review the drawings, including the phasing drawings, to become familiar with the construction phases, and shall include the required number of mobilizations of the ground improvement equipment.

1.04 RELATED SECTIONS

A. Related Sections include the following:
1. Division 00 Section "Available Project Information"
2. Division 01 Section "Unit Prices" for unit prices.
3. Division 01 Section “Construction Progress Documentation” for recording pre-excavation and earthwork progress.
4. Division 01 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
5. Division 01 Section “Temporary Erosion and Sediment Control” for temporary erosion and sediment controls.
6. Division 31 Section “Site Clearing” for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above and below-grade improvements and utilities.
7. Division 31 “Earth Moving."

1.05 APPROVED INSTALLERS

A. The Aggregate Pier and/or rigid inclusion installer (the Installer) shall be approved by the Engineer. Prior to approval, Installers and their Designers are required to submit to the Owner a qualification statement to demonstrate 5 years experience on at least 10 projects of a similar scope and nature. Additionally, prior to approval, Installers and their Designers are required to submit to the Owner a preliminary design document. Without exception, no alternate installer will be accepted unless approved by the Owner.

B. Installers of aggregate pier and/or rigid inclusion foundation systems shall have a minimum of 5 years of experience with the installation of aggregate pier systems and shall have completed at least 10 projects in New England.

C. Local installer of aggregate piers include:
1. Vibro Stone Columns (VSC) (aggregate piers) or Controlled Modulus Column (CMC) (rigid inclusions) by Menard (Phone: (781) 281-0371 or (908) 603-8224).
2. Vibro Piers (VP) (aggregate piers) or Vibro Concrete Columns (VCC) (rigid inclusions) by Hayward Baker/Keller (Phone: (401) 334-2565).
3. Aggregate Piers (AP) (aggregate piers) or GeoConcrete Columns (GCC) (rigid inclusion)by Geopier (Phone: (860) 531-9137). The Local installer for Geopier Is HDI – (781) 848-2110.
4. Vibro Stone Columns (VSC) (aggregate Piers) Subsurface Constructors (Phone: (866) 421-2460).
5. Aggregate Piers by H. B. Fleming (Phone: (207) 799-8514).

1.06 REFERENCE STANDARDS

A. Design:
1. "Ground Modification Methods Reference Manual – Volume I, "U.S. Department of Transportation, Federal Highway Administration, FHWA-NHI-16-027, FHWA GEC 013, April 2017.
2. “Control of Settlement and Uplift of Structures Using Short Aggregate Piers,” by Evert C. Lawton (Assoc. Prof., Dept. of Civil Eng., Univ. of Utah), Nathaniel S. Fox (President, Geopier Foundation Co., Inc.), and Richard L. Handy (Distinguished Prof. Emeritus, Iowa State Univ., Dept. of Civil Eng.), reprinted from *IN-SITU DEEP SOIL IMPROVEMENT,*

Proceedings of sessions sponsored by the Geotechnical Engineering Division/ASCE in conjunction with the ASCE National Convention held October 9-13, 1994, Atlanta, Georgia.

3. "Settlement of Structures Supported on Marginal or Inadequate Soils Stiffened with Short Aggregate Piers," by Evert C. Lawton and Nathaniel S. Fox. *Geotechnical Special Publication No. 40: Vertical and Horizontal Deformations of Foundations and Embankments,* ASCE, 2, 962-974.
4. "Behavior of Geopier®-Supported Foundation Systems during Seismic Events," by Kord Wissmann, Evert C. Lawton, and Tom Farrell. Geopier Foundation Company, Inc. Blacksburg, VA ©1999.
5. "The design of vibro replacement." H.J. Priebe. *Ground Engineering*, London. Dec 1995.

B. Modulus Testing:
1. ASTM D 1143 – Pile Load Test Procedures
2. ASTM D 1194 – Spread Footing Load Test

C. Materials and Inspection:
1. ASTM D 1241 – Aggregate Quality
2. ASTM D 422 – Gradation of Soils
3. ASTM C39/C39M-12a – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C-150-05 – Standard Specification for Portland Cement
5. ASTM D1557 – Moisture Density Relationship for Soils

D. Where specifications and reference documents conflict, the Owner shall make the final determination of the applicable document.

1.07 DEFINITIONS

A. Aggregate Piers: VSC, VP, or AP. Rigid Inclusions: CMC, VCC, or GCC.

B. Test Element: Aggregate pier and/or rigid inclusion element installed as a non-production element for the purpose of performing a modulus test. Test elements shall be installed prior to the start of production elements at a location representative of the subsurface conditions and loading. Where different subsurface conditions are encountered that warrant different types of improvements, a modulus test shall be performed for each type of improvement.

1.08 SUBSURFACE INFORMATION

A. Subsurface explorations have been performed at the site by the Geotechnical Engineer. The results of the explorations are included in the geotechnical report prepared by Lahlaf Geotechnical Consulting, Inc. (LGCI) 100 Chelmsford Road, Suite 2, Billerica, MA 01862 dated August 4, 2023.

B. The subsurface explorations and geotechnical report were performed primarily for use in preparing the foundation design and are included for the convenience of the contractor. Use and interpretation of these data for purposes of the work shall be the responsibility of the Installer. Subsurface conditions and groundwater levels are not considered as accurate for any times or locations other than the specific time and location of each of the explorations.

C. The Owner assumes no responsibility for the Installer's failure to make his own site investigation and makes no representation other than the soils reports regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work. The

Installer shall refer to the Geotechnical Report. Failure by the Installer to be aware of existing site conditions shall not be cause for additional cost to the Owner.

D. Use and interpretation of these data for purposes of the work shall be the responsibility of the Installer. Subsurface conditions and groundwater levels are not considered as accurate for any times or locations other than the specific time and location of each of the explorations.

E. The installer may, at his own expense, conduct additional subsurface testing as required for his own information after approval by the Owner.

F. No claim for extra cost or extension of time resulting from reliance by the Installer on information presented herein shall be allowed, except as provided in the Contract.

1.09 CERTIFICATIONS AND SUBMITTALS

A. Shop drawings that include spacing, diameter, length, installation procedure and sequence of construction with sufficient details, planned cut off and tip elevations, material, proposed equipment, aggregate gradation, and mix design. The submittal shall also include a plan showing numbered locations of aggregate piers. The design shall conform to the criteria in Part 3.01 of this specification.

B. LEED Submittals:
   1. Complete “Sustainable Materials Attributes Submittal Form” attached to Section 01 81 13 “Sustainable Design Requirements”.
   2. Provide supporting documentation, as required in Section 01 81 13, from manufacturer for materials attributes data submitted.

C. Design Submittal: Design Calculations and Shop Drawings - The Installer shall submit detailed design calculations and construction drawings prepared by the ground improvement designer (the Designer) for review and approval by the Owner in accordance with Section 3.2 of these specifications. All plans shall be sealed by a Professional Engineer in the State of Massachusetts.
   1. The Installer shall submit detailed design calculations, construction drawings, and shop drawings (the Design Submittal), for approval at least two week(s) prior to the beginning of construction. A detailed explanation of the design parameters for settlement calculations shall be included in the Design Submittal. Additionally, the quality control test program for the aggregate piers, meeting these design requirements, shall be submitted. All computer-generated calculations and drawings shall be prepared and sealed by a Professional Engineer, licensed in the State of Massachusetts.
   2. The following shall be included in the design calculation submittal:
      a. A written summary report that describes the overall ground improvement design
      b. Applicable code requirements and design references. Design criteria including, soil shear strengths including friction angle and cohesion, unit weights, aggregate pier and/or rigid inclusion hole diameter, aggregate pier and/or rigid inclusion spacing, aggregate pier and/or rigid inclusion unit weight and friction angle/concrete compressive strength, composite shear strength parameters, and any other design assumptions.
      c. Design calculation sheets with project number, foundation location, designation, date of preparation, initials of designer and checker, and page number at the top of each page. An index page with the design calculations shall be provided.
      d. Design notes including an explanation of any symbols and computer programs used in the design.
      e. Detailed subgrade preparation notes and requirements.

f. A complete list of the equipment proposed for use, including a description of the characteristics of each piece of equipment.
g. Detailed description of the methods and equipment proposed for loading of the test element during the modulus test and load test. Any deviation from Section 3.7 of this specification shall be specifically noted with explanation for the requested deviation. Without exception, no deviations will be accepted unless approved by the Owner.

3. Working Drawings: Utility locations, right of way, and other applicable information are available on the plans. Working drawings shall include, but not be limited to the following items:
   a. A plan view of the aggregate pier ground improvement for identifying:
      1) Right of way, permanent or temporary construction easement limits, location of all known active or abandoned existing utilities, adjacent structures, or other potential interferences. Any drainage structure or drainage pipe centerline behind, passing through, or passing under the structure.
      2) Limits of the aggregate pier and/or rigid inclusion ground improvement and layout of the numbered individual aggregate piers and/or rigid inclusions.
   b. Subsurface exploration locations shown on a plan view of the proposed structure alignment with appropriate reference base lines to fix the locations of the explorations relative to the structure.
   c. Elevation view showing aggregate pier and/or rigid inclusion locations, elevations, and depth of improvement; location of drainage elements and expansion/contraction joints when applicable.
4. The submittal shall include a plan showing aggregate piers and/or rigid inclusions with aggregate pier and/or rigid inclusion numbers, and a schedule showing aggregate pier and/or rigid inclusion number, aggregate pier and/or rigid inclusion length, aggregate pier and/or rigid inclusion diameter, top and bottom design elevations, and top and bottom as-installed elevations.

D. Qualification Data:
   1. For qualified professional engineer licensed in the State of Massachusetts.
   2. For qualified Quality Control Representative.

E. Professional Liability Insurance Submittal: - The Designer and Installer shall have Errors and Omissions design insurance for the work. The insurance policy should provide a minimum coverage of $3 million per occurrence.

F. Modulus/Load Test Reports – A modulus test(s) is performed on a non-production aggregate pier and/or rigid inclusion element as required to verify the design assumptions. The Installer shall furnish the Owner a description of the installation equipment, installation records, complete test data, analysis of the test data, and verification of the design parameter values based on the modulus test results. Test elements shall be installed prior to the start of production elements at a location representative of the subsurface conditions and loading. The report shall be prepared under direction of a Registered Professional Engineer in the State of Massachusetts.

G. Daily Aggregate Pier and/or Rigid Inclusion Progress Reports – The Installer shall furnish a complete and accurate record of aggregate pier and/or rigid inclusion installation to the Owner. The record shall indicate the aggregate pier and/or rigid inclusion location, length, volume of aggregate/concrete used or number of lifts, densification forces during installation of the aggregate, and final elevations or depths of the base and top of aggregate piers and/or rigid inclusions. The record shall also indicate the type and size of the installation equipment used, and the type of aggregate used. The Installer shall immediately report any unusual conditions encountered during installation to the Designer and to the Owner.

H. Submit calibration records for the load cells, the hydraulic jacks, the pumps, and the pressure gauges At least two weeks before performing the modulus and load tests.

I. The Ground Improvement is a subcontractor design. The subcontractor is fully responsible for the adequacy of the design and the performance of the system.

J. If required, the Installer/Designer shall include in its submittal an instrumentation plan as they own the design of the ground improvement and the performance of the proposed footings and slabs.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS, AGGREGATE PIER AND/OR RIGID INCLUSION DESIGN

A. The design of the aggregate piers and/or rigid inclusions under the proposed building **and retaining walls** shall be based on a maximum allowable bearing pressure of 3,000 psf and the allowable total settlement of 1 inch or less and an allowable differential settlement of 3/4 inch or less over a distance of 25 feet under static loads for footings, and a maximum of 0.5-inch settlement under slabs. The aggregate pier and/or rigid inclusion design shall be based limiting the total earthquake-induced settlement to less than 3 inches and earthquake-induced differential settlement of less than ¾ inch over a distance of 25 feet. The design The aggregate piers and/or rigid inclusions for utilities should be designed ~~to reduce the potential for settlement between utilities and utility structures~~ **to meet the same settlement criteria as the proposed building and retaining wall foundations**.

B. The contractor is allowed to install a combination of rigid inclusions for foundation support and aggregate piers to reduce the earthquake induced settlement.

C. A load transfer platform (LTP) should be installed on top of the aggregate piers and/or rigid inclusions, under the footings and slabs, stairs, access ramps, retaining walls, utility structures, and sidewalk attached/connected to the proposed building, in accordance with the requirements of the specialty subcontractor's designing the aggregate piers and/or rigid inclusions.

D. The aggregate piers and/or rigid inclusions shall be designed in accordance with generally accepted engineering practice. The design life of the structure shall be 50 years.

E. The aggregate pier and/or rigid inclusion elements shall be designed using an aggregate pier and/or rigid inclusion stiffness modulus to be verified by the results of the modulus test and/or rigid inclusion load test described in Section 3.7 of these specifications.

2.02 AGGREGATE

A. Aggregate used by the Installer for aggregate pier construction shall be pre-approved by the Designer and Owner and shall demonstrate suitable performance during modulus testing. Typical aggregate consists of Type 1 Grade B in accordance with ASTM D-1241-68, No. 57 stone, or other graded aggregate approved by the Designer.

B. Potable water or other suitable source shall be used to increase aggregate moisture content where required. The Owner shall provide such water to the Installer.

2.03 PORTLAND CEMENT

A. Type I or Type II.

2.04 GROUT MIX

A. Minimum Compressive Strength:
   1. 4,000 psi at 28 days.
   2. 2,000 psi at 7 days.

PART 3 - EXECUTION

3.01 APPROVED INSTALLATION PROCEDURES

A. The following sections provide general criteria for the construction of the aggregate piers. Unless otherwise approved by the Designer, the installation method used for aggregate pier construction shall be that as used in the construction of the successful modulus test.

B. Aggregate Piers installed using Rammed Aggregate Pier Systems:
   1. Aggregate Pier (AP) systems shall be constructed by advancing a specially designed mandrel with a minimum 15-ton static force augmented by dynamic vertical ramming energy to the full design depth. The hollow-shaft mandrel, filled with aggregate, is incrementally raised, permitting the aggregate to be released into the shaft, and then lowered by vertically advancing and/or ramming to densify the aggregate and force it laterally into the adjacent soil. The cycle of raising and lowering the mandrel is repeated to the top of pier elevation. The cycle distance shall be determined by the Designer. The mandrel shall be raised at a rate determined from the demonstration pier testing or no faster than 1 foot in 5 seconds. The crowd pressure shall be recorded to provide a measure of the vertical densification force as the mandrel is driven on its compaction stroke.
   2. At AP element locations, water or compressed air shall be used, if necessary, as determined from the flow test, to enhance free flow of aggregate through the mandrel as determined during the performance of a flow test. Water or air flow shall be discontinued when the mandrel reaches the 3-foot raise height.
   3. At the completion of the pier installation, the hammer shall be turned off and the mandrel pushed downward applying full crowd pressure on the top of the pier to provide preloading.
   4. At completion of the pier installation, the remaining stone in the mandrel may be emptied outside the pier location to allow for a measure of the remaining volume of aggregate.
   5. Special high-energy impact densification apparatus shall be employed to densify the AP elements during installation. The apparatus shall apply direct vertical impact energy to each constructed lift of aggregate.
   6. Densification shall be performed using a chained mandrel.
   7. Downward crowd pressure shall be constantly applied to the mandrel shaft.
   8. The Installer shall provide a full-time Quality Control Representative on-site during the installation process.

C. Aggregate Piers Installed Using Vibrator:
   1. If a vibrator is used to construct the aggregate piers, the Installer shall use an electric down-hole vibrator capable of providing at least 80 HP of rated energy and a centrifugal force of 15 tons. The vibrator diameter must be at least 60% of the aggregate pier design diameter. An appropriate metering device should be provided at such a location that inspection of amperage increase may be verified during the operation of the equipment.

The metering device may be an ammeter directly indicating the performance of the vibrator. The vibrator shall be a minimum of 16 inches in diameter. Complete equipment specifications should be submitted to the Engineer prior to commencement of the fieldwork.

2. The probe and follower tubes shall be of sufficient length to reach the elevations shown on the Installer's approved construction drawings. The probe, used in combination with the available pressure to the tip jet, shall be capable of penetration to the required tip elevation.
3. The probe shall penetrate into the foundation soil layer to the minimum depths required in the Installer's construction plans. After penetration to the required depth, the probe shall not be withdrawn more than 2 feet at any time unless the stone stops flowing to the bottom of the probe.
4. Redriving the probe into the treated depth shall be attempted at approximately 12 to 18-inch intervals to observe resistance to penetration and amperage build-up. During redriving, the probe tip shall penetrate to within 1 foot of the previous redriving depth.
5. Amperage build-up and backfill quantities will be contingent upon the type of probe used and procedures. Prior to commencement of work, the subcontractor shall discuss the equipment capabilities with the to determine if trial probes will be necessary.
6. The Installer shall provide a full-time Quality Control Representative on-site during the installation process.

D. The as-built center of each aggregate pier and/or rigid inclusion shall be within 6 inches of the locations indicated on the plans. Aggregate piers and/or rigid inclusions installed outside of the above tolerances and deemed not acceptable shall be rebuilt at no additional expense to the Owner.

E. Rigid Inclusions

1. Install the rigid inclusions in accordance with the sequence detailed in the approved work plan. If adjacent rigid inclusions are observed to be influenced by the installation of a neighboring rigid inclusion, the installation sequence shall be modified to prevent disturbance of rigid inclusions. Modifications to the sequence, or replacement of rigid inclusions deemed unusable due to disturbance, shall be completed by the Contractor at no additional cost to the Owner.

2. Cutoff the rigid inclusions to the top elevation of the first layer of the load transfer pad, or slightly higher to allow any required trimming or removal of low strength material at the butt of the rigid inclusion. The cut-off elevation of each rigid inclusion shall be within +/- 0.1 feet. The cut-off shall be made before the concrete sets.

3. Protect the concrete at the top of rigid inclusions from mixing with surrounding soil.

3.02 REJECTED AGGREGATE PIERS

A. Aggregate Pier and/or rigid inclusion elements installed beyond the maximum allowable tolerances shall be abandoned and replaced with new aggregate piers and/or rigid inclusions unless the Designer approves the condition or provides other remedial measures. All material and labor required to replace rejected piers shall be provided at no additional cost to the Owner unless the cause of rejection is due to an obstruction or a mislocation.

3.03 QUALITY CONTROL REPRESENTATIVE

A. The Installer shall have a full-time, on-site Quality Control Representative to verify and report all installation procedures. The Installer shall immediately report any unusual conditions

encountered during installation to the Designer and to the Owner. The quality control procedures shall include the preparation of Aggregate Pier and/or rigid inclusion Progress Reports completed during each day of installation containing the following information.

1. Footing and aggregate pier and/or rigid inclusion location.
2. Pre-auger diameter and soil conditions encountered during drilling (if required).
3. Aggregate pier and/or rigid inclusion length.
4. Planned and actual aggregate pier and/or rigid inclusion elevations at the top and bottom of the aggregate pier and/or rigid inclusion.
5. Average lift thickness of each aggregate pier and/or rigid inclusion.
6. Volume of aggregate used in each aggregate pier.
7. Volume of concrete in each rigid inclusion.
8. Documentation of any unusual conditions encountered.
9. Type and size of densification equipment used.

3.04 AGGREGATE PIER MODULES TEST AND/OR RIGID INCLUSION LOAD TEST

A. A minimum of one (1) Modulus Test is required for this project. When authorized, an Aggregate Pier or Rigid Inclusion Modulus Test(s) shall be performed at locations agreed upon by the Designer and the to verify or modify Aggregate Pier designs. Modulus Test Procedures shall utilize appropriate portions of ASTM D 1143 and ASTM D 1194, as outlined in the aggregate pier and/or rigid inclusion design submittal. Aggregate piers shall be tested to 150 percent of the maximum design stress as shown in the aggregate pier design submittal. The modulus tests shall be of the type and installed in a manner specified herein.

B. A telltale shall be installed at the bottom of the test pier so that bottom-of-pier deflections may be determined. Acceptable performance is indicated when the bottom of the pier deflection is no more than 30% of the top of pier deflection at the design stress level, the total settlement is less than the design settlement, and the residual movement, i.e., movement after the unloading, is less than 0.5 inch.

C. ASTM D-1143 general test procedures shall be used as a guide to establishing load increments, load increment duration, and load decrements. As a minimum, the following loading increments, decrements and duration shall be used.

Increment	Approximate Load (percent design)	Minimum Duration (min)	Maximum Duration (min)
Seat	< 9	0	N/A
1	17	15	60
2	33	15	60
3	50	15	60
4	67	15	60
5	83	15	60
6	100	15	60
7	117	60	120
8	133	15	60
9	150	15	60
10	100	N/A	N/A
11	66	N/A	N/A
12	33	N/A	N/A
13	0	N/A	N/A

D. With the exception of the load increment representing approximately 117% of the design maximum top of aggregate pier stress, all load increments shall be held for a minimum of 15

minutes. Loads are then maintained until the rate of deflection reduces to 0.01 inch per hour or for the maximum of 1 hour, whichever is occurs first.

E. The load increment that represents approximately 117% of the design maximum stress on the Aggregate Pier shall be held for a minimum of 60 minutes. Loads are then maintained until the rate of deflection reduces to 0.01 inch per hour or for the maximum of 4 hours, whichever is occurs first.

F. A seating load equal to 5 percent of the total load shall be applied to the loaded steel plate prior to application of load increments and prior to measurement of deflections to compensate for surficial disturbance.

G. At least one rigid inclusion load test shall be performed on rigid inclusions in accordance with ASTM D 1143 to maximum load test of 200% of the design load at increments of 25% of the design load, when applicable.

H. The location of the aggregate pier modulus test and the rigid inclusion load test shall be approved by the geotechnical engineer.

I. Submit as-built plans showing layout, location, and numbers of installed aggregate piers.

3.05 BOTTOM STABILIZATION TESTING (BSTS) / CROWD STABILIZATION TESTING (CSTs)

A. Bottom stabilization testing (BSTs) or Crowd stabilization testing (CSTs) shall be performed during the installation of the modulus test pier and be observed by the Quality Control Representative and the Owner's geotechnical engineer. The tests are performed by applying downward vertical energy to the tamper, mandrel or probe following lift construction and monitoring the amount of additional deflection from the applied energy. Additional testing as required by the Designer (typically 10% of the production Aggregate Piers) shall be performed on selected production Aggregate Pier elements to compare results with the modulus test pier.

3.06 FIELD QUALITY ASSURANCE

A. The Owner will retain the geotechnical engineer to provide full-time monitoring of aggregate pier and/or rigid inclusion construction activities, including observing the aggregate pier modulus test and/or the rigid inclusion load test.

3.07 SITE PREPARATION AND PROTECTION

A. The Site Contractor shall locate and protect underground and aboveground utilities and other structures from damage during installation of the aggregate piers and/or rigid inclusions.

B. Site grades for aggregate pier and/or rigid inclusion installation shall be a minimum of 2 feet below the finished grade elevation to minimize aggregate pier and/or rigid inclusion installation depths. Ground elevations and bottom of footing elevations shall be provided to the aggregate pier and/or rigid inclusion Installer in sufficient detail to estimate installation depth elevations to within 3 inches.

C. The Owner's Site Contractor will provide site access to the Installer, after earthwork in the area has been completed. A working surface shall be established and maintained by the Owner's Site Contractor to provide wet weather protection of the subgrade and to provide access for efficient operation of the aggregate pier and/or rigid inclusion installation.

D. Prior to, during and following aggregate pier and/or rigid inclusion installation, the Owner's Site Contractor shall provide positive drainage to protect the site from wet weather and surface ponding of water.

E. If spoils are generated by aggregate pier and/or rigid inclusion installation, spoil removal from the aggregate pier and/or rigid inclusion work area shall occur in a timely manner to reduce the potential for interruption of aggregate pier and/or rigid inclusion installation is required.

F. The installer shall coordinate with Owner's Site Contractor the installation of support of excavation (SOE) system if required. The purpose of this coordination is to plan the workflow and avoid down time during construction.

G. The Owner's Site Contractor shall perform test pits within the areas slated for ground improvements to explore for the presence and remove obstructions.

H. The Owner's Site Contractor shall monitor vibration through installation of seismographs at the nearby buildings during installation of aggregate piers and/or rigid inclusions.

3.08 AGGREGATE PIER AND/OR RIGID INCLUSION LAYOUT

A. The location of aggregate pier and/or rigid inclusion supported foundations and slabs for this project, including layout of individual aggregate pier and/or rigid inclusion shall be marked in the field using survey stakes or similar means at locations shown on the drawings. The layout of aggregate piers and/or rigid inclusions shall be part of the base bid.

3.09 EXCAVATIONS FOR OBSTRUCTIONS

A. The existing fill may include below-ground structures and/or obstructions that need to be pre-trenched. Should any obstruction be encountered during aggregate pier and/or rigid inclusion installation, the Owner's Site Contractor shall be responsible for promptly removing such obstruction, or the aggregate pier and/or rigid inclusion shall be relocated or abandoned. Obstructions include, but are not limited to, abandoned utilities, existing and abandoned foundations or concrete structures, asphalt, demolition debris, cobbles, boulders, wood, metals, and other below-ground structures, and underground tanks which shall prevent placing the aggregate piers and/or rigid inclusions to the required depth or shall cause the pier to drift from the required location.

B. The specialty subcontractor shall mobilize an auger and equipment necessary to spin the auger in the ground to pre-auger and/or remove obstructions as needed. **There shall be no separate payment for pre-augering.**

C. Dense natural rock or weathered rock layers shall not be deemed obstructions, and aggregate piers and/or rigid inclusions may be terminated short of design lengths on such materials. Dense rock or weathered rock are not anticipated within the proposed depths of the aggregate piers and/or rigid inclusions.

D. The cost of pre-trenching and/or auguring shall be part of the base bid and there shall be no separate compensation for pre-trenching and/or auguring prior to installing aggregate piers and/or rigid inclusions.

3.10 UTILITY EXCAVATIONS

A. The Owner's Site Contractor shall coordinate all excavations made prior and subsequent to aggregate pier and/or rigid inclusion installations so that excavations do not encroach on the aggregate piers and/or rigid inclusions as shown in the aggregate pier construction drawings.

B. Protection of completed aggregate piers and/or rigid inclusions is the responsibility of the Owner's Site Contractor. If utility excavations are required in close proximity to the installed aggregate piers and/or rigid inclusions, the Owner's Site Contractor shall contact the aggregate pier and/or rigid inclusion Designer immediately to develop construction solutions to minimize impacts on the installed aggregate pier and/or rigid inclusion elements.

C. The Owner's Site Contractor shall repair damaged aggregate piers and/or rigid inclusions in accordance with procedure included in specialty subcontractor's submittal.

3.11 FOOTING BOTTOMS

A. Excavation and surface compaction of all improved subgrades shall be the responsibility of the Owner's Site Contractor.

B. Foundation excavations to expose the tops of aggregate pier and/or rigid inclusion shall be performed with a smooth edge bucket in a workman-like manner, and shall be protected, until the LTP is built on top of the aggregate piers and/or rigid inclusions, with procedures and equipment best suited to (1) avoid exposure to water, (2) prevent softening of the matrix soil between and around the aggregate piers and/or rigid inclusions before building the LTP, and (3) achieve direct and firm contact between the dense, undisturbed aggregate piers and/or rigidi inclusions and the LTP.

C. <u>The proposed footings shall be supported on a minimum of 6 inches of Structural Fill or 3/4-inch crushed stone wrapped in a filter fabric</u> placed directly over aggregate piers. The Structural Fill or crushed stone layer shall be thicker if required for the LTP installed in accordance with the requirements of the specialty subcontractor.

D. All excavations for footing bottoms supported by aggregate pier and/or rigid inclusion improved subgrades shall be prepared in the following manner by the Owner's Site Contractor. Recommended procedures for achieving these goals are to:
   1. Limit over-excavation below the bottom of the footing to 3-inches (including disturbance from the teeth of the excavation equipment).
   2. Compaction of surface soil and top of Aggregate Piers and/or Rigid Inclusions shall be prepared using a large vibratory plate compactor. Motorized impact compactors ("Wacker Packer," "Jumping Jack," or similar) shall only be used in cohesive soils and when approved by the Designer. Loose or soft surficial soil over the entire footing bottom shall be recompacted or removed, respectively. <u>The surface of the aggregate pier and/or rigid inclusion shall be recompacted prior to completing footing bottom preparation.</u>
   3. Place footing concrete immediately after footing excavation is made and approved, preferably the same day as the excavation. Footing concrete must be placed on the same day if the footing is bearing on moisture-sensitive soils. If same day placement of footing concrete is not possible, open excavations shall be protected from surface water accumulation. A lean concrete mud-mat may be used to accomplish this. Other methods must be pre-approved by the Designer.
   4. The aggregate piers and/or rigid inclusions shall be visible before placing Structural Fill or crushed stone over the top of the APs and/or RIs. Such Structural Fill or crushed stone shall not be placed until the geotechnical engineer has observed the subgrade.

E. The following criteria shall apply, and a written inspection report sealed by the Engineer shall be furnished to the Installer to confirm:
   1. That water has not been allowed to pond over the aggregate pier and/or rigid inclusion subgrade at any time. This statement shall be provided by the Owner's Site Contractor.
   2. That all aggregate piers and/or rigid inclusions designed for each structure have been exposed in the footing excavation or prior to fill placement.
   3. That immediately before footing construction or fill placement, the tops of aggregate piers and/or rigid inclusions have been inspected and recompacted as necessary with mechanical compaction equipment.
   4. That no excavations (elevator, pits, or trenches) have been made after installation of aggregate pier and/or rigid inclusion elements within the excavation limits described in the aggregate pier and/or rigid inclusion construction drawings, without the written approval of the Installer or Designer.

3.12 SLAB SUBGRADES

A. Slabs-on-grade shall be supported on a minimum of 12 inches of Structural Fill placed directly over aggregate piers. The Structural Fill layer shall be thicker if required for the LTP installed in accordance with the requirements of the specialty subcontractor.

B. The aggregate piers and/or rigid inclusions shall be visible before placing Structural Fill or crushed stone over the top of the APs or RIs. Such Structural Fill or crushed stone shall not be placed until the geotechnical engineer has observed the subgrade.

3.13 VIBRATION MONITORING

A. The Owner's Site Contractor shall perform vibration monitoring during installation of aggregate piers. The peak particle velocity should be less than two (2) inches per second (ips) for concrete foundations, 1 ips for masonry foundations, and 0.5 for rubble foundations.

3.14 UNIT PRICES

A. All unit prices must be coordinated and approved by ~~SMMA~~ **Ai3** Project Management~~, KAN.~~

B. For cost estimating purposes, aggregate piers/rigid inclusions shall be assumed on average to be 48 feet long. For average aggregate piers/rigid inclusions length that are shorter than 48 feet, a credit shall be provided in accordance with item 3.17 C.6. For piers that are on average longer than 48 feet, the Contractor shall be compensated for a portion of the total length of aggregate piers/rigid inclusions in excess of length calculated based on an average length of 48 feet in accordance with item 3.17 C.7.

C. Payment shall include all costs for design and installation of the aggregate piers and in accordance with requirements of the Contract Documents. Payment for the Work of this Section shall be made following approval by the Owner in accordance with requirements of the Contract Documents, and the following Schedule:

   Design of the aggregate piers shall be part of the base bid **and shall be broken down as follows:**

   1. Category 1 - Cost of Ground Improvement for all building foundations and slabs; and all stairs, access ramps, retaining walls, and sidewalks attached/connected to buildings:
   $_____Lump Sum

2. Category 2 - Cost of Ground Improvement for all ~~all~~ utility structures, including catch basins, manholes, transition chambers, area drains, water treatment practice structures and underground vaults of any type; All concrete pads; Full length of all 48" pipe; Full length of all culverts and associated wingwalls; 18" drain pipe from DMH-304 to DMH-313 (DMH identification provided on the civil drawings); and 24" drain pipe from DMH-317 to DMH-313 (DMH identification provided on the civil drawings):
$_____Lump Sum

~~1.~~**3.** Unit Price for additional installed aggregate piers or rigid inclusion **– Category 1** (w/o remobilization):
$_____ ~~Lump Sum~~**Per element**

4. Unit Price for additional installed aggregate piers or rigid inclusion – Category 2 (w/o remobilization):
$_____ Per Element

~~2.~~**5.** Unit Price Credit for aggregate piers or rigid inclusion not installed **– Category 1**:
$_____ ~~Lump Sum~~**Per Element**

6. Unit Price Credit for aggregate piers or rigid inclusion not installed – Category 2:
$_____ Per Element

~~3.~~**7.** Unit Price for additional Modulus Tests (w/o remobilization):
$_____ Lump Sum

8. Credit per foot for difference between actual length and length of aggregate piers/rigid inclusions based on average length of 48 feet and actual length for piers **– Category 1**.

~~4.~~**9. Credit per foot for difference between actual length and length of aggregate piers/rigid inclusions based on average length of 48 feet and actual length for piers – Category 2.**

10. Unit Price per foot difference between actual length and length of aggregate piers/rigid inclusions based on average length of 48 feet and actual length for piers **– Category 1**.

~~5.~~**11. Unit Price per foot difference between actual length and length of aggregate piers/rigid inclusions based on average length of 48 feet and actual length for piers – Category 2.**

~~6.~~**12.** Unit Price for additional Mobilizations
$_____ Each

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