

## **BID DOCUMNETS**

# CITYVIEW TOWERS COURTYARD PATIO

657 MERRIMACK STREET

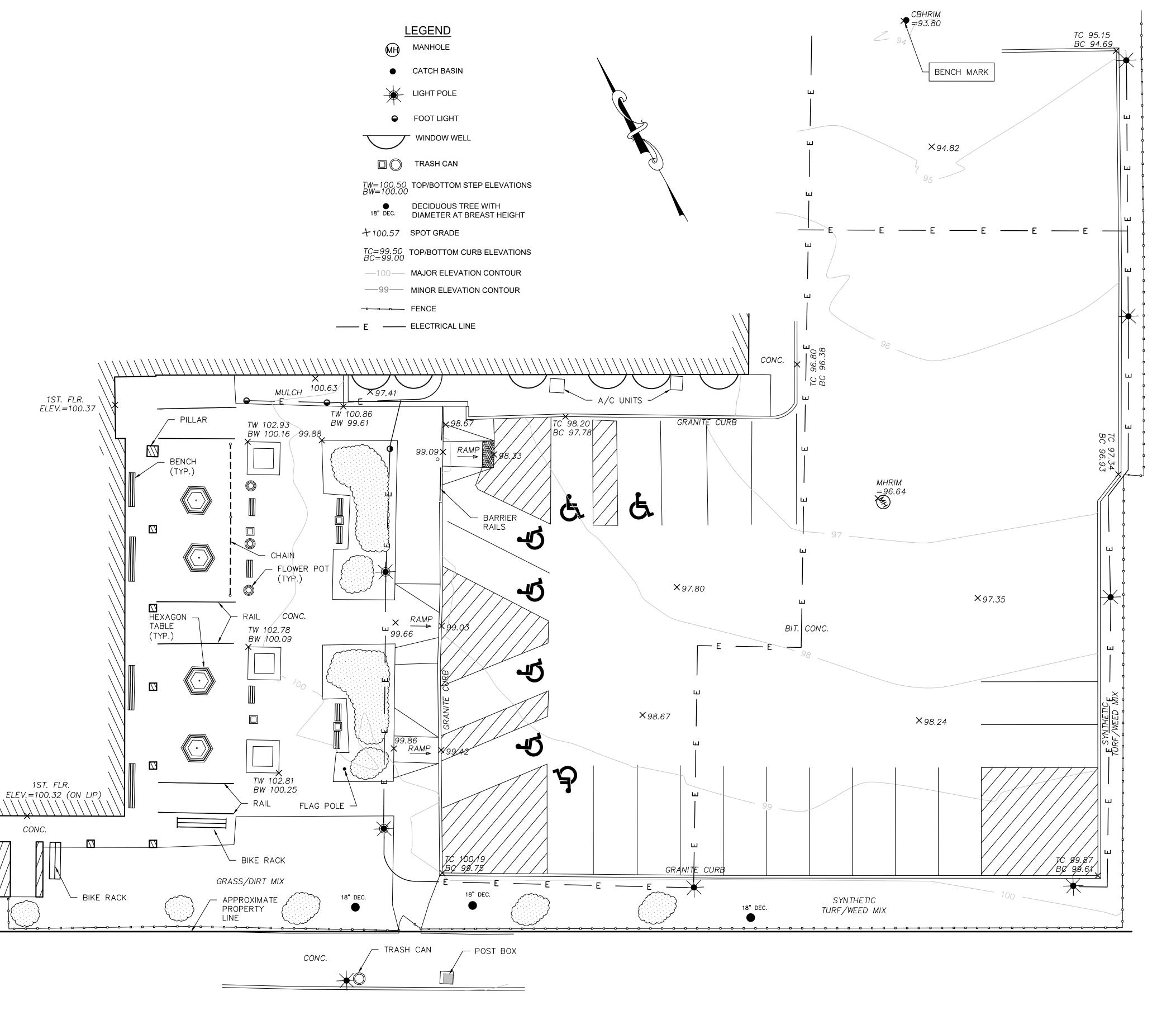
LOWELL, MASSACHUSETTS



#### SHEET INDEX

DRAWING NUMBER	SHEET TITLE
G-1	COVER SHEET
EC-1	EXISTING CONDITIONS
EC-2	EXISTING CONDITIONS
C-1	SITE PREPARATION & DEMOLITION
C-2	LAYOUT & MATERIALS
C-3	GRADING
D-1	DETAILS
D-2	DETAILS





#### MERRIMACK STREET (PUBLIC)

DESIGN BY: THW		EXISTING CONDITIONS	EXISTING CONDITIONS							
DRAWN BY: AM	REV		DATE	BY						
B1.7((V)										
CHECK										
BY: JRM										



**CITYVIEW TOWERS COURTYARD PATIO QSP 2023-19 657 MERRIMACK STREET LOWELL, MASSACHUSETTS** 



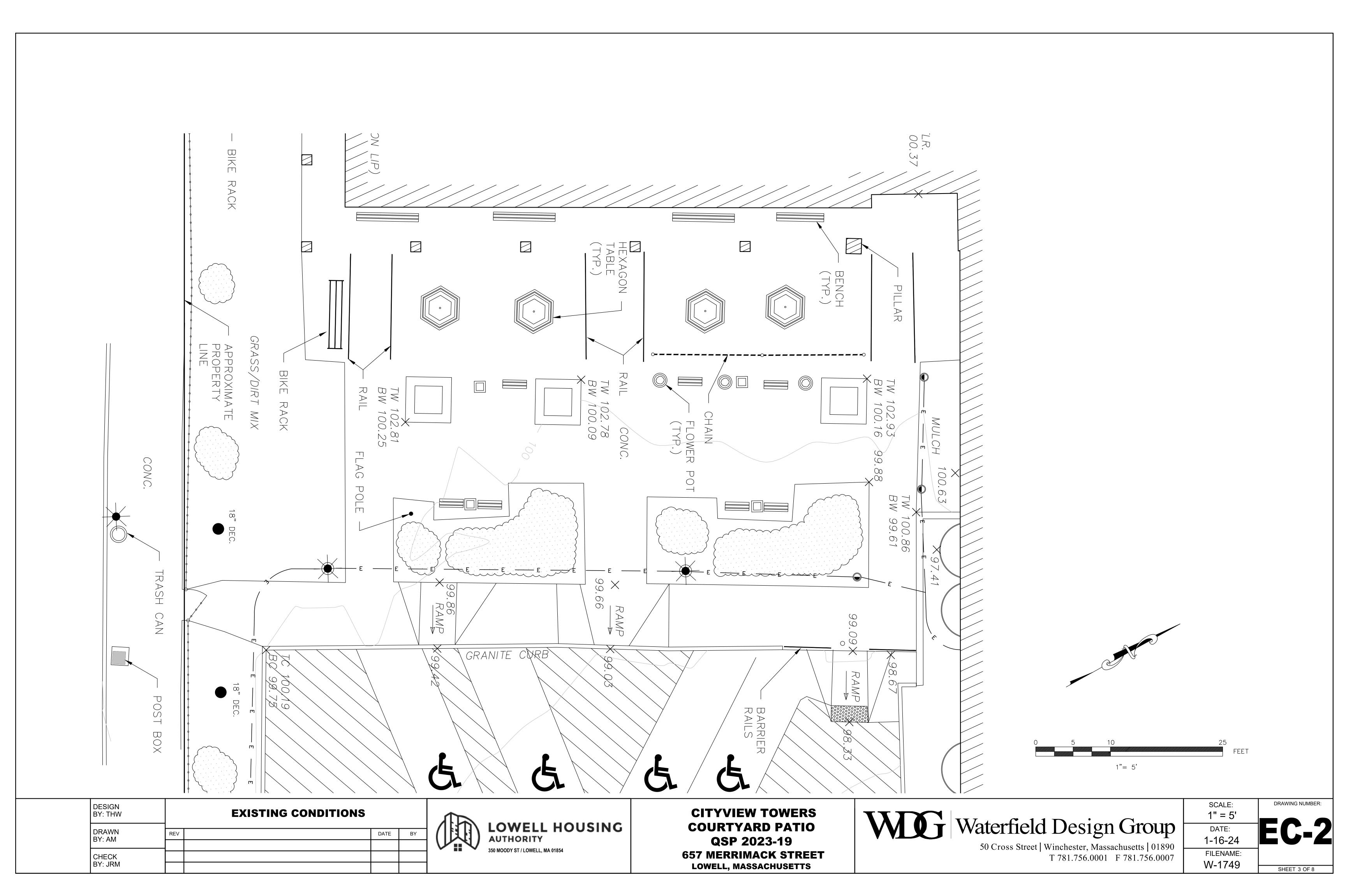
50 Cross Street | Winchester, Massachusetts | 01890 T 781.756.0001 F 781.756.0007

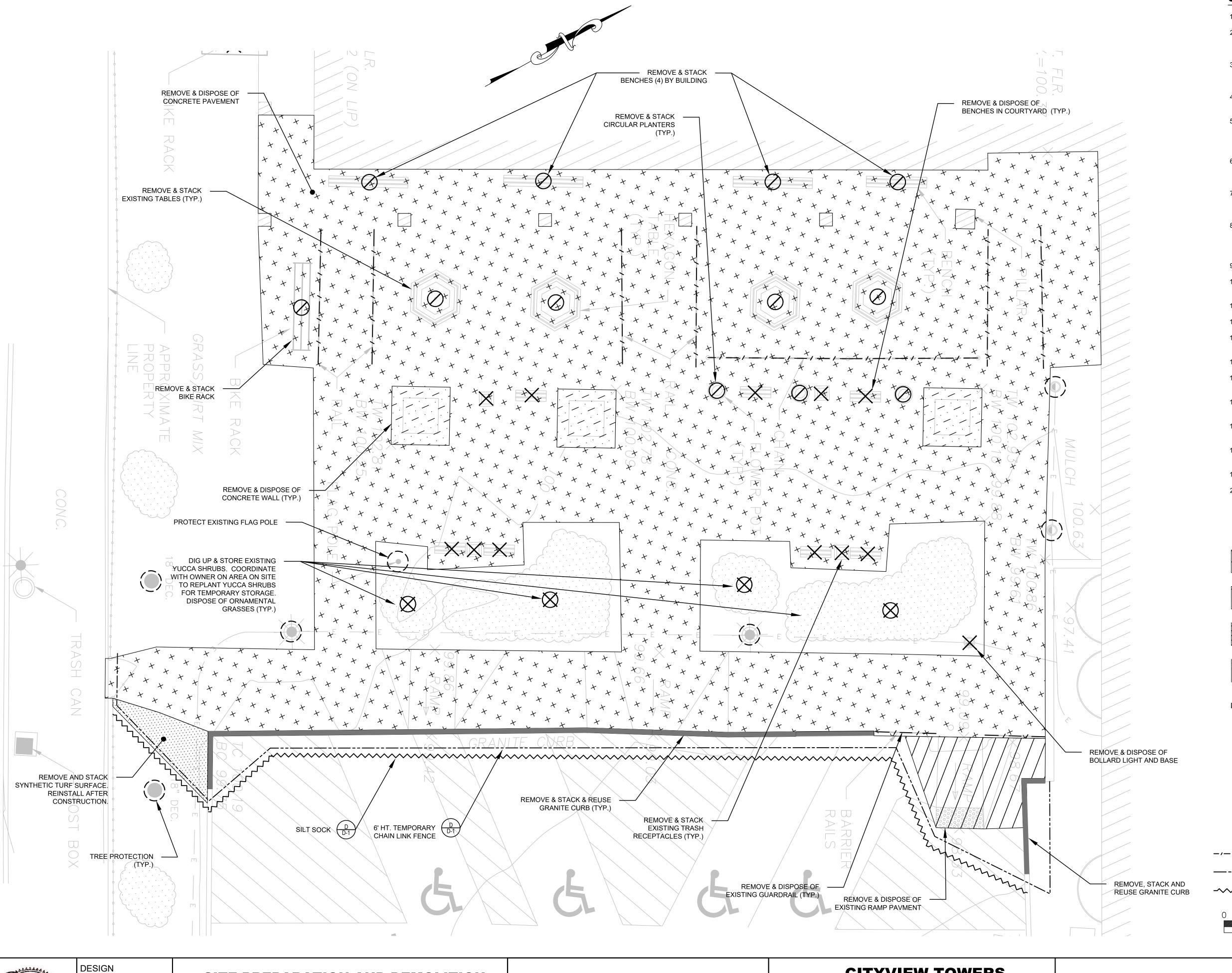
1"= 10'

SCALE:	DRAWING NUMBER:
1" = 10'	
DATE:	
1-16-24	
FILENAME:	] <b></b>
W-1749	211777
''''	SHEET 2 OF 8

**NOTES** 

- 1. THIS PLAN REPRESENTS THE SITE CONDITIONS FROM AN ON THE GROUND SURVEY CONDUCTED BY WATERFIELD DESIGN GROUP ON NOVEMBER 15, 2023.
- 2. ELEVATION DATUM IS ASSUMED. HORIZONTAL DATUM IS ASSUMED.
- 3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.
- 4. THE PROPER UTILITY COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD BEFORE ANY WORK ON THIS PROJECT IS PERFORMED. CONTACT THE DIG SAFE CENTER AT 1-888-344-7233 OR (811), SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.
- 5. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF WATERFIELD DESIGN GROUP. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PART FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFORE BY WATERFIELD DESIGN GROUP.
- 6. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS. SEE NOTE 1.
- 7. THE STATUS OF UTILITIES, (ACTIVE, ABANDONED, OR REMOVED) IS AN UNKNOWN CONDITION UNLESS OTHERWISE NOTED.
- 8. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILED UTILITY INFORMATION IS NOT EXACT AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.
- 9. UTILITY INFORMATION SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ENGINEER SHALL BE CONTACTED IN THE EVENT THAT THE UTILITY PLAN IS NOT ACCURATE.

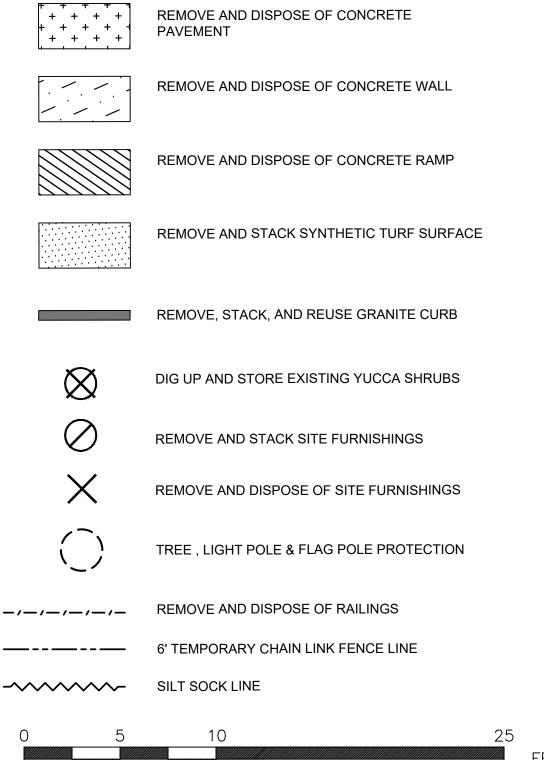




#### SITE PREPARATION & DEMOLITION NOTES

- ALL DEMOLITION DEBRIS SHALL BE LEGALLY DISPOSED OF OFF SITE AND SHALL BE CONSIDERED INCIDENTAL WORK.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES, FEES AND APPROVALS REQUIRED TO CORRECTLY COMPLETE THE WORK, INCLUDING STREET OPENING PERMITS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POLICE DETAIL FEES, IF REQUIRED BY CITY OF LOWELL.
- 3. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY AND LIABILITY FOR THE SAFETY OF ALL WHO WILL TRAVERSE THROUGH THE SITE AND THE STRUCTURAL INTEGRITY AND SAFETY OF ALL EXCAVATIONS, STORED ITEMS, WORK AND UTILITIES TO REMAIN DURING CONSTRUCTION.
- 4. SEE LAYOUT PLANS FOR ACCURATE DIMENSIONS TO NEW PAVING, CURBING, ETC. CONSULT ALL DRAWINGS FOR COORDINATING WORK PRIOR TO COMMENCING.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE INSIDE AND OUTSIDE OF LIMITS OF WORK DUE TO CONTRACT OPERATIONS. DAMAGED MATERIAL SHALL INCLUDE BUT IS NOT LIMITED TO PROTECTING GRANITE AND CONCRETE CURBS, WALLS, GATES, FENCES, PLANTERS, SIGNS, AND FIRE HYDRANTS. IF MATERIAL IS DAMAGED IT SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 6. CONTRACTOR SHALL CLEAN CONSTRUCTION SITE DAILY TO PREVENT DUST AND DEBRIS FROM LEAVING THE SITE. DUST CONTROL MUST BE AVAILABLE AT ALL TIMES. CONSTRUCTION AREA MUST BE BROOM SWEPT AND WASHED DOWN AS OFTEN AS REQUIRED TO MAINTAIN A CLEAN SITE ACCEPTABLE TO THE OWNER.
- 7. CONTRACTOR SHALL PROVIDE EMERGENCY ACCESS TO SITE AT ALL TIMES. ANY EQUIPMENT NOT IN USE MUST BE CONFINED TO THE LIMIT OF WORK AREA. CONTRACTOR SHALL COORDINATE EQUIPMENT, DISRUPTION, STAGING AREAS, AND SEQUENCE OF WORK DAILY WITH OWNER OR OWNER'S REPRESENTATIVE.
- 8. CONTRACTOR SHALL WHEN POSSIBLE CRUSH ONSITE AND REUSE CONCRETE AND BITUMINOUS CONCRETE MATERIAL. PRIOR TO REUSE SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER SHOWING THAT THE REUSED MATERIAL MEETS THE APPROPRIATE GRADIATION AND A 10 LB. SAMPLE OF THE MATERIAL TO BE REUSED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 9. ALL SHRUBS SHALL BE REMOVED TO THEIR FULL DEPTH.
- 10. TREE PROTECTION FOR EXISTING TREES TO REMAIN SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY AND SHALL REMAIN THROUGHOUT CONSTRUCTION.
- 11. ALL CONCRETE POSTS AND FOOTINGS WITHIN LIMIT OF WORK SHALL BE REMOVED AND DISPOSED OF.
- 12. APPROVED PLANS SHALL BE ON SITE AT ALL TIMES.
- 13. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES SHALL BE APPROVED BY
- 14. CALCIUM CHLORIDE/ WATER FOR DUST CONTROL SHALL BE AVAILABLE AT ALL TIMES.
- 15. ALL MATERIALS AND METHODS SHALL CONFORM TO CITY OF LOWELL DEPARTMENT OF PUBLIC INFRASTRUCTURE
- 16. THE CONTRACTOR SHALL ENSURE THE MAINTENANCE OF SAFETY AND TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
- 17. THE CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
- 18. ALL DRAINAGE STRUCTURES (CATCH BASINS / LEECHING BASINS) IN THE AREA SHALL BE PROTECTED FROM
- 19. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE RE-APPLIED.
- 20. MATERIALS CALLED TO BE REMOVED AND STACKED SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. CONTRACTOR SHALL REINSTALL ITEMS AS DIRECTED ON THE LAYOUT AND MATERIAL PLANS.

#### **LEGEND**



1"= 5'



DESIGN BY: THW	SITE PREPARATION AND DEMOLITION							
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BY: JRM								



**CITYVIEW TOWERS COURTYARD PATIO QSP 2023-19 657 MERRIMACK STREET LOWELL, MASSACHUSETTS** 



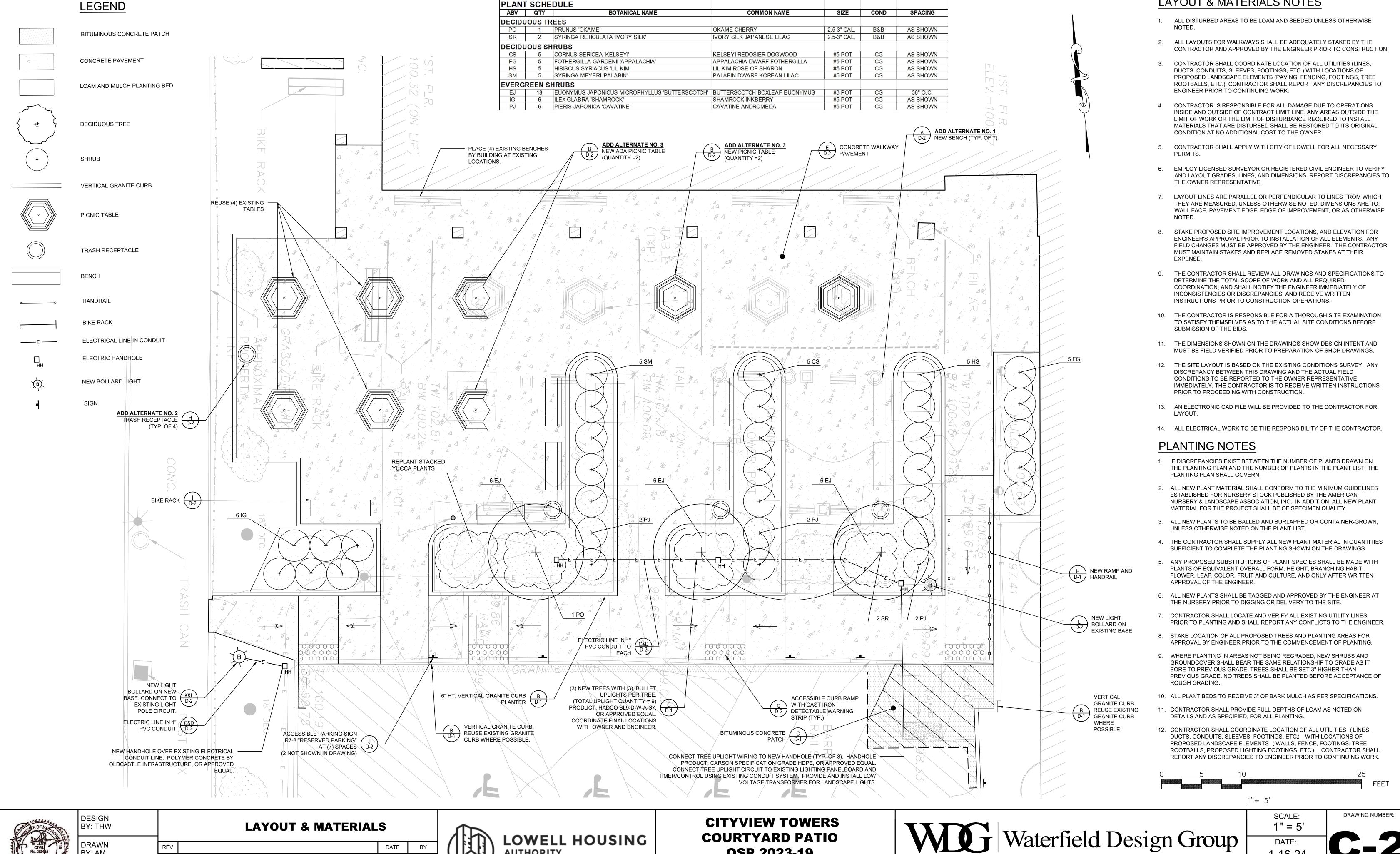
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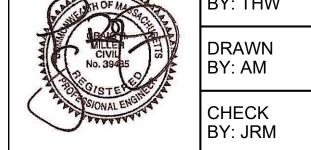
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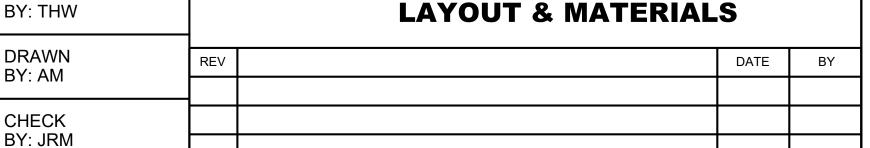
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SHEET 4 OF 8

DRAWING NUMBER:









PLANT SCHEDULE

**QSP 2023-19 657 MERRIMACK STREET LOWELL, MASSACHUSETTS** 

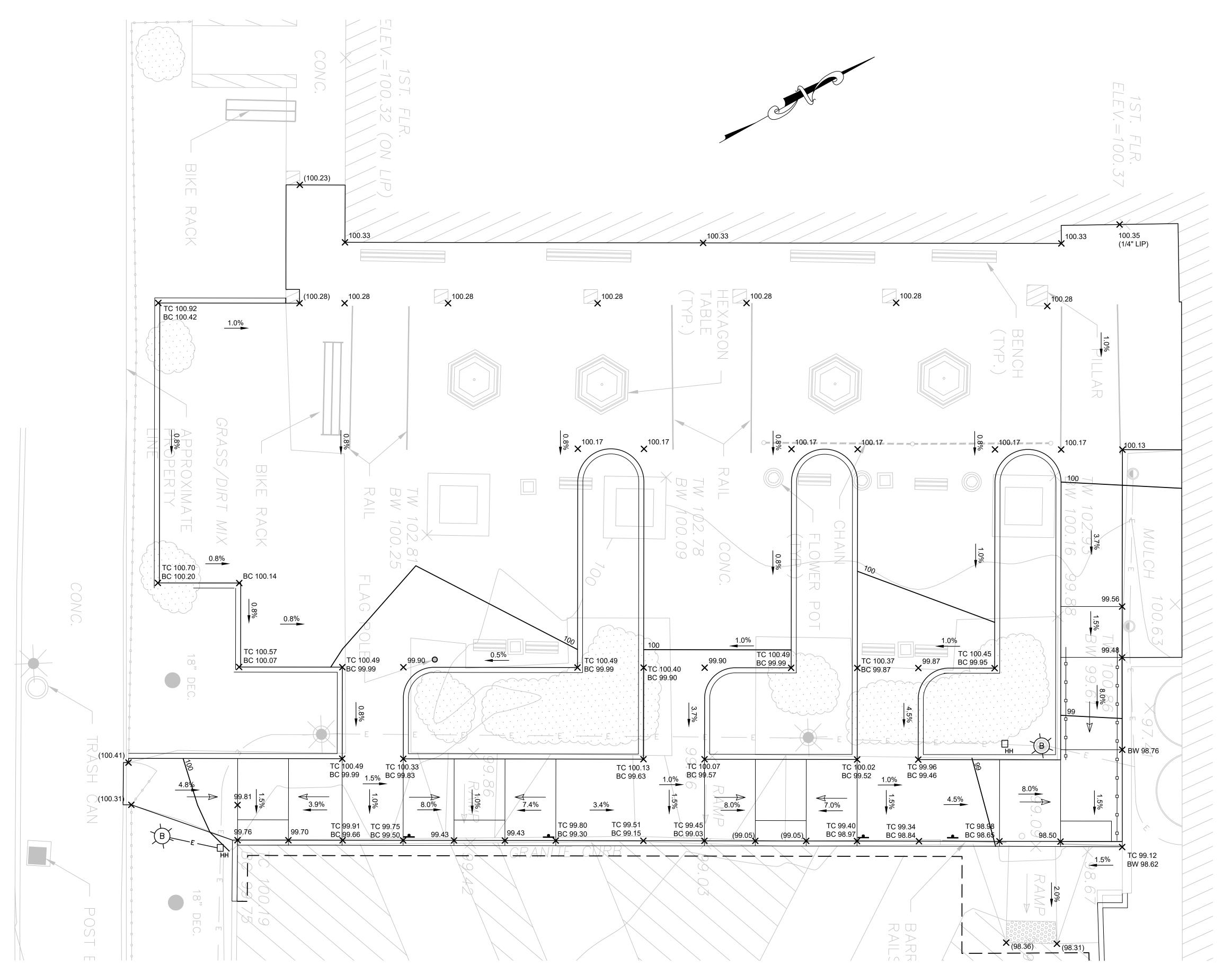


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LAYOUT & MATERIALS NOTES

SHEET 5 OF 8

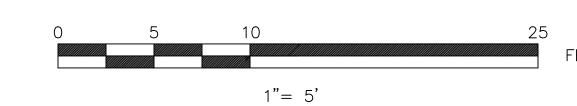


#### **GRADING NOTES**

- 1. EMPLOY A LICENSED SURVEYOR OR REGISTERED CIVIL ENGINEER TO VERIFY AND LAY OUT GRADES, LINES AND DIMENSIONS AS SHOWN ON DRAWINGS. GRADING INFORMATION SHALL BE VERIFIED IN THE FIELD. REPORT DISCREPANCIES TO THE OWNERS REPRESENTATIVE IMMEDIATELY AND RECEIVE WRITTEN INSTRUCTIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 2. GRADE EVENLY BETWEEN SPOT GRADES AS NOTED.
- 3. PROPOSED GRADES TO BLEND SMOOTHLY WITH EXISTING GRADES.
- 4. PROPOSED GRADES INDICATE INTENT. VERIFY ELEVATIONS AND MAKE ADJUSTMENTS AS APPROVED BY LANDSCAPE ARCHITECT TO MEET FIELD CONDITIONS AND PROVIDE POSITIVE
- 5. FINAL SHAPING OF EARTHWORK SHALL BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- 6. ALL GRADING SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG), LATEST EDITION. IN CASE OF CONFLICT BETWEEN REGULATIONS, THE GUIDELINE PROVIDING GREATER ACCESS SHALL
- 7. MAXIMUM CROSS SLOPE OF ALL WALKWAYS IS 2%; MINIMUM IS 1%. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- 8. MATCH EXISTING GRADES IN AREAS WHERE PROPOSED CONTOURS ARE NOT INDICATED.
- 9. PROVIDE POSITIVE PITCH TO CATCH BASINS AND AREA DRAINS FOR ALL AREAS.
- 10. AT ALL CURB CUTS CONTRACTOR SHALL MAINTAIN EXISTING GUTTER GRADES ALONG THE CURB LINE IN ORDER TO PROVIDE POSITIVE ROADWAY DRAINAGE TO EXISTING CATCH BASINS.
- 11. ALL EXISTING SURFACE CASTINGS (VALVE BOXES, MANHOLE COVERS, CATCH BASIN FRAMES, ETC.) LOCATED IN THE LIMIT OF WORK ARE TO REMAIN AND SHALL BE ADJUSTED OR MODIFIED TO MEET THE PROPOSED FINISH GRADES AND ELIMINATE ALL TRIP HAZARDS.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO ANY DISRUPTION OF EXISTING INDIVIDUAL UTILITY SERVICE CONNECTIONS, INCLUDING WATER, ELECTRICITY, TELEPHONE, GAS AND CABLE TELEVISION, RESULTING FROM THE CONTRACTOR'S WORK.
- 13. CONTRACTOR TO CONFIRM THAT EXISTING ABANDONED UNDERGROUND UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE SHUT OFF AT THE STREET.

#### **LEGEND**

<b>X</b> 100.29	PROPOSED GRADE
<b>X</b> (100.29)	EXISTING GRADE
3.8%	PROPOSED SLOPE
TC 102.19	TOP OF CURB SPOT GRADE
BC 102.19	BOTTOM OF CURB SPOT GRADE
100	EXISTING CONTOUR
100	PROPOSED CONTOUR



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CIVIL No. 39485	D B
SIONAL ENGLISH	C

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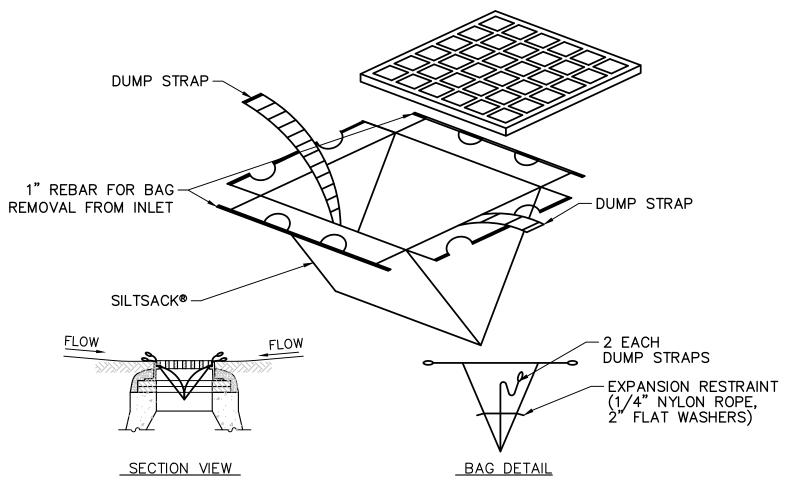
**CITYVIEW TOWERS COURTYARD PATIO QSP 2023-19 657 MERRIMACK STREET LOWELL, MASSACHUSETTS** 



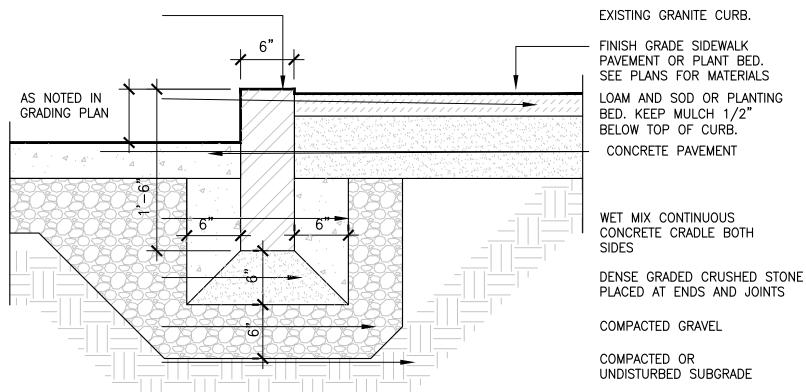
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SCALE:	DRAWING NUMBER:
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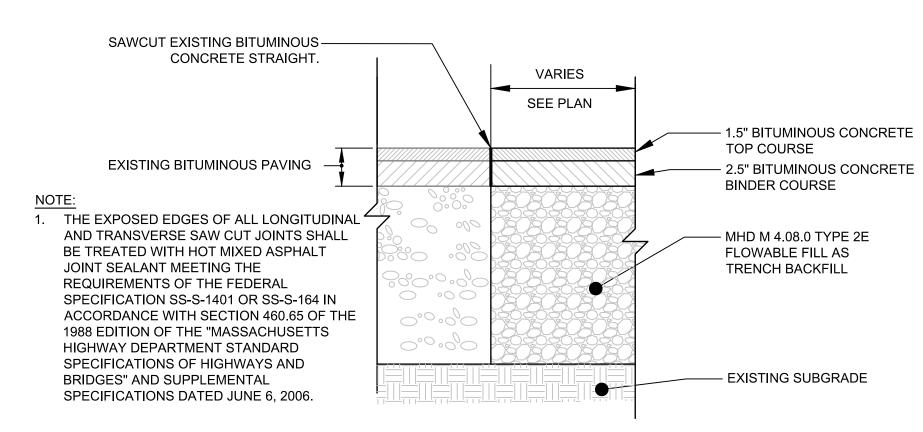
SHEET 6 OF 8



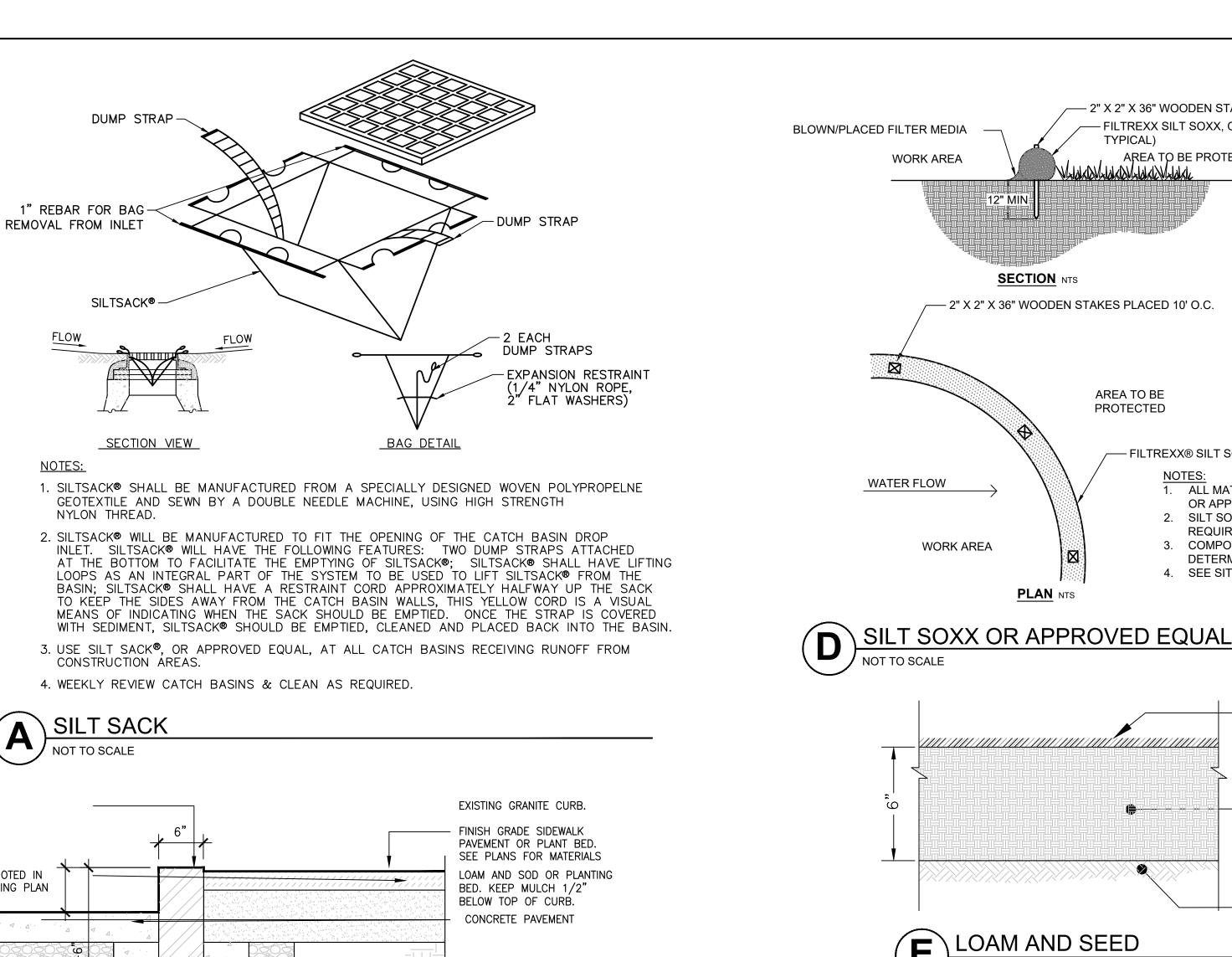


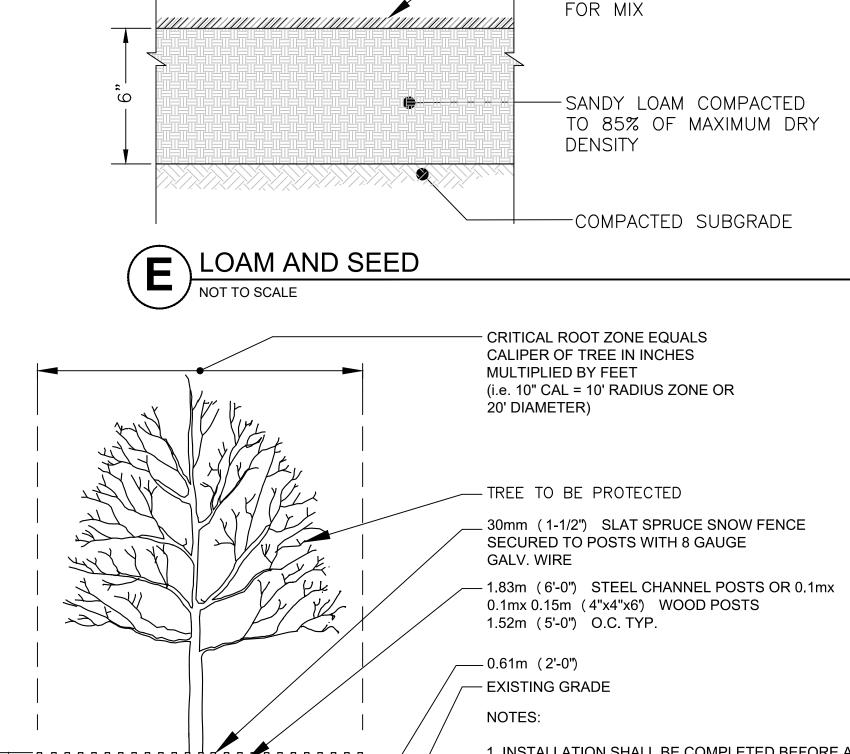


## **VERTICAL GRANITE CURB**









- 2" X 2" X 36" WOODEN STAKES PLACED 10' O.C.

AREA TO BE PROTECTED

WORK AREA

WATER FLOW

NOT TO SCALE

**WORK AREA** 

12" MIN

**SECTION** NTS

PLAN NTS

— 2" X 2" X 36" WOODEN STAKES PLACED 10' O.C.

AREA TO BE

**PROTECTED** 

- FILTREXX SILT SOXX, OR APPROVED EQUAL (12"

- FILTREXX® SILT SOXX™ (12" TYPICAL)

REQUIREMENTS.

OR APPROVED EQUAL.

DETERMINED BY ENGINEER.

2. SILT SOXX FILL TO MEET APPLICATION

. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS,

3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS

-SEED, SEE SPECIFICATION

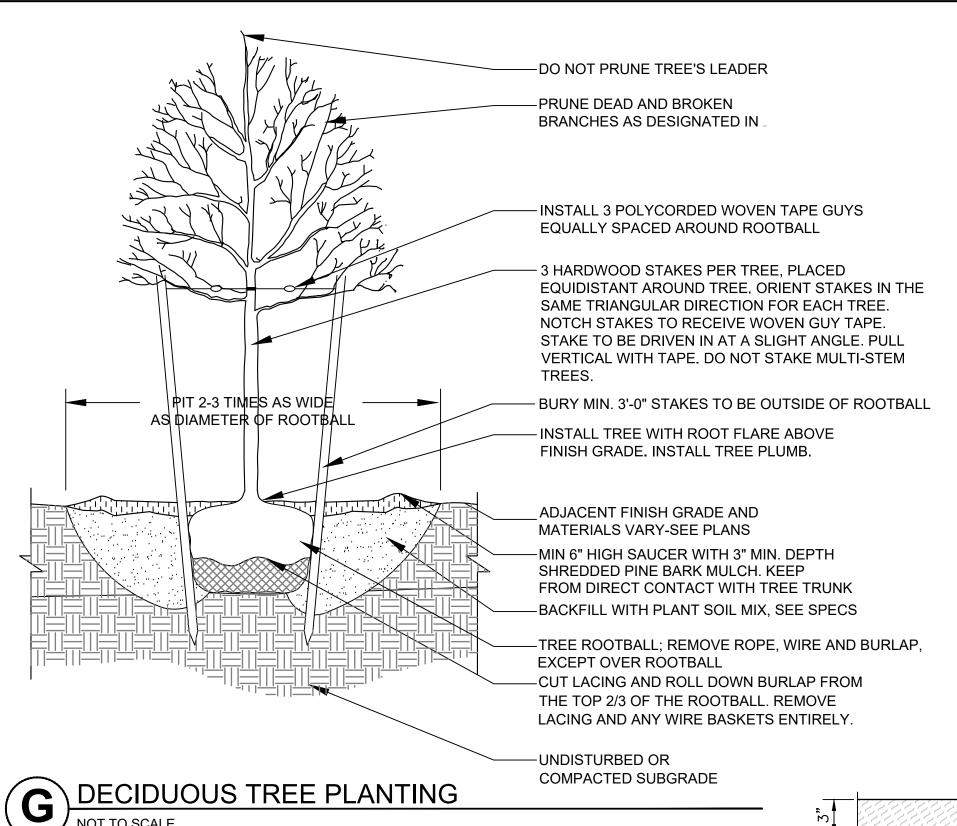
4. SEE SITE PREPARATION PLAN FOR LOCATION.

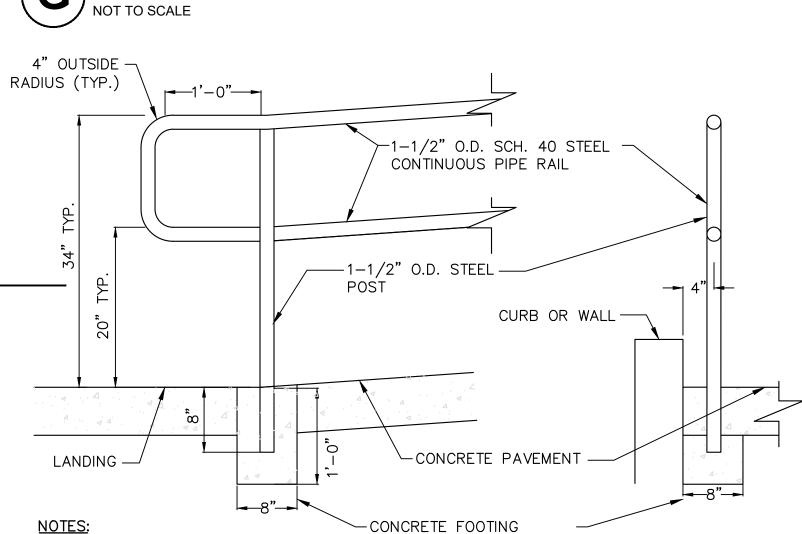
1. INSTALLATION SHALL BE COMPLETED BEFORE ANY CONSTRUCTION VEHICLES ACCESS THE SITE OR ANY OTHER SITE PREPARATION, DEMOLITION SALVAGE OR CONSTRUCTION COMMENCES.

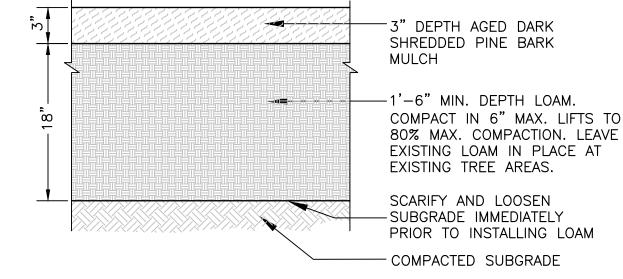
VINYL COATED ELECTRICAL WIRE.

2. PROVIDE A MIN. 1.52m (5'-0") WIDE MOVEABLE SECTION FOR MOWING PURPOSES AT EACH TREE. SECURE WITH LOOP OF

3. TREE ROOTS SHOULD BE PROTECTED UP TO ALL SIDES OF THE "CRITICAL ROOT ZONE WHENEVER POSSIBLE".





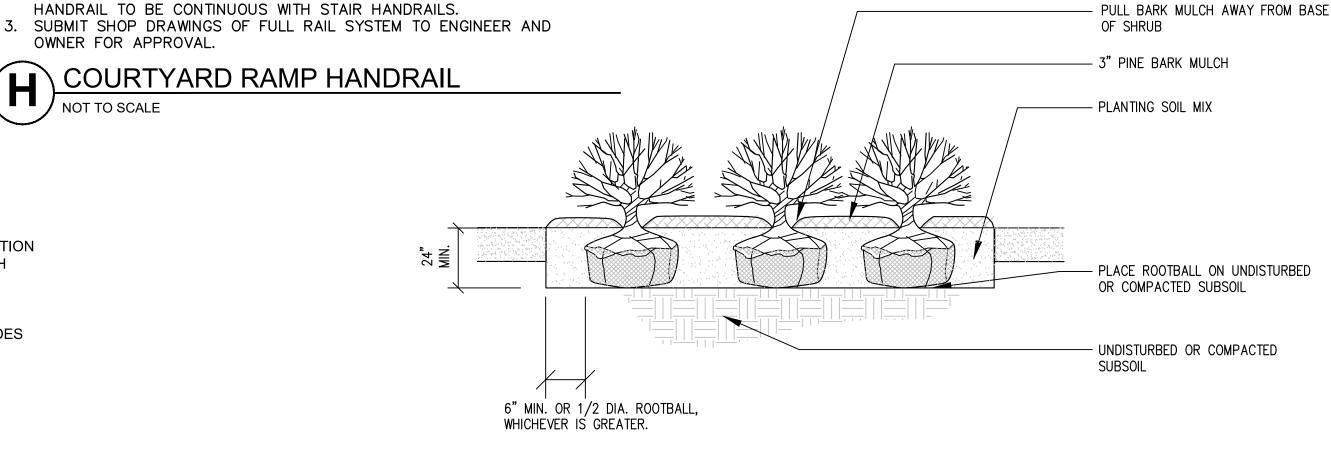






1. ALL PIPE TO BE GALVANIZED AND POWDER COATED BLACK.

2. TOP OF SOUTH SIDE RAMP HANDRAIL SIMILAR. NORTH SIDE RAMP



TREE PROTECTION
NOT TO SCALE



**CITYVIEW TOWERS COURTYARD PATIO QSP 2023-19 657 MERRIMACK STREET** LOWELL, MASSACHUSETTS



## Waterfield Design Group

SHRUB PLANTING

NOT TO SCALE

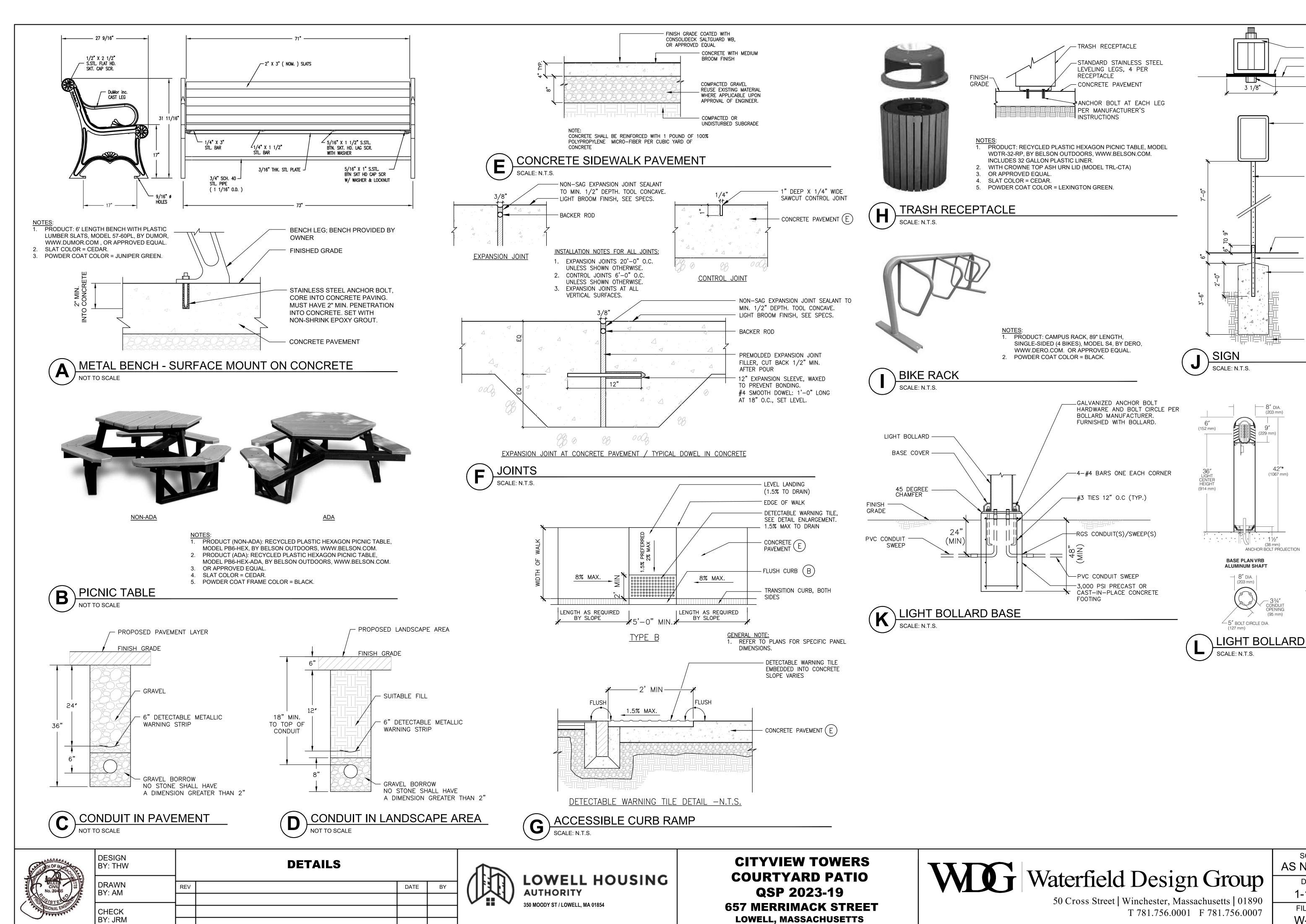
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SHEET 7 OF 8



DESIGN **DETAILS** BY: THW DRAWN DATE BY BY: AM CHECK BY: JRM



SCALE: DRAWING NUMBER: AS NOTED DATE: 1-16-24 FILENAME: W-1749 SHEET 8 OF 8

- 2"X2" SQ. STEEL POST

BOLT W/NUT

- WASHER AND "SIGN SAVER"

- 2 1/2" X 5/16" GALV. STEEL

SIGN DIFFERS. SEE MATERIALS PLAN &

SIGN SUMMARY DETAIL 'D' SHEET

2" SQUARE SIGN POST. GALVANIZED

STEEL, POWDER COATED BLACK W/

3/8" MOUNTING HOLES 1" O.C..

POLE LENGTH VARIES FOR MIN. 7'

HT. TO BOTTOM OF ALL TRAFFIC

- FINISHED GRADE, SEE PLANS

- 12" ø CONCRETE FOOTING

AND CONSTRUCTION

SUBGRADE

(1067 mm)

STREET SIGNS.

SIGNS; MIN. 10' HT. TO BOTTOM OF

1¾" SQUARE GALVANIZED STEEL POST

CONTRACTOR SHALL SUBMIT SHOP

DRAWINGS FOR APPROVAL BY THE

ENGINEER PRIOR TO FABRICATION

COMPACTED OR UNDISTURBED

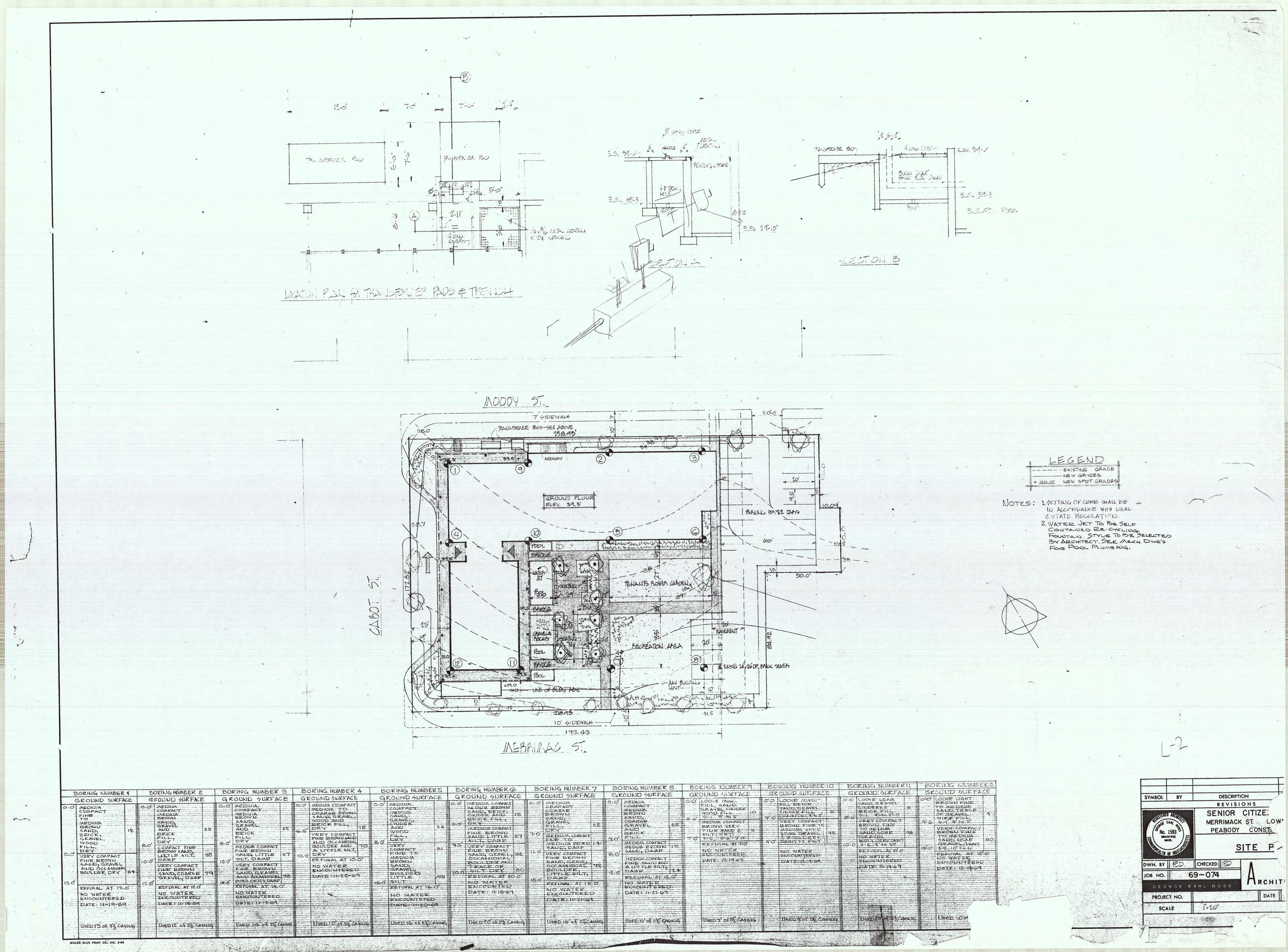
1. PRODUCT: KIM LIGHTING VRB1

LED ROUND BOLLARD. VANDAL RESISTANT, ALUMINUM SHAFT

MODEL: VRB-20L-4K-UV-BLS.

2. OR APPROVED EQUAL.

D1.05 FOR TYPE AND LOCATION.



## PARKING LOT LIGHTING AND SITE UPGRADES DEWEY ARCHAMBAULT TOWERS 350 MOODY STREET LOWELL, MA 01853

prepared for:

Lowell Housing Authority 350 Moody Street Lowell, Massachusetts 01853

**Board of Commissioners** Kristen J. Ross-Sitcawich, Chairperson Walter Timothy Green, Vice Chairperson Bopha Peou Rosaline J. Willie-Bonglo Patricia Sullivan Talty

**Executive Staff** 

Dr. Gary K. Wallace, Executive Director Jonathan C. Goldfield, Procurement Director Rene Chateauneuf, Director Facilities Operations

#### List of Drawings

- E-1 Title Sheet, Legend, Notes and Schedule
- E-2 Site Plan and Details
- E-3 Photometric Plan

	LIGHTING FIXTURE SCHEDULE							
SYMBOL	TYPE	MANUFACTURER	CATALOG NUMBER	LAMP TYPE	NO. OF LAMPS	INP VOLTS	WATTS	REMARKS
	В	KIM LIGHTING	SL5-18L-4K-UV-DB	LED	_	120	21	BOLLARD
⊕□	Р	KIM LIGHTING	SAR3E35-60L4K-120- DB-LS	LED	-	120	65	POLE MOUNTED FIXTURE ON 20' POLE
<b>⊕</b> □	P1	KIM LIGHTING	SAR3E35-60L4K-120-DB-NF0-LS	LED	_	120	65	POLE MOUNTED FIXTURE ON 20' POLE
⊚□	P2	KIM LIGHTING	SAR4E35-60L4K-120-DB-NF0-LS	LED	_	120	65	POLE MOUNTED FIXTURE ON 20' POLE
⊚□	Р3	KIM LIGHTING	SAR5E35-60L4K-120-DB-LS	LED	_	120	65	POLE MOUNTED FIXTURE ON 14' POLE
	S	BEACON	CDT-24NB-55-4K-2X2-UNV-TS-BZT-FV	LED	_	120	55	FLOOD LIGHT
	w	KIM LIGHTING	WD14D2E35-60L4K-120-DB	LED	_	120	65	WALL MOUNTED LIGHT MOUNTED AT FACE OF FIRST FLOOR PORCH
0	Х	EXISTING				120	•	EXISTING
	Х	EXISTING		•	•	120	•	EXISTING

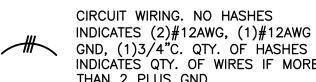
#### **GENERAL NOTES**

- EQUIPMENT PURCHASED/INSTALLED.
- PROVIDE A ONE YEAR MATERIAL AND LABOR GUARANTY AGAINST
- DEFECTS IN MATERIAL AND WORKMANSHIP
- DEMOLITION, AND CONDITIONS UNDER WHICH NEW WORK MUST
- OF A PRIVATE UNDERGROUND UTILITIES LOCATING SERVICE. ADJUST WORK AS REQUIRED BASED ON RESULTS OF UNDERGROUND UTILITIES

#### **ABBREVIATIONS**

- AWG AMERICAN WIRE GAUGE BFG BELOW FINISHED GRADE
- DND DO NOT DISTURB
- EMT ELECTRICAL METALLIC TUBING MIN MINIMUM
- MTD MOUNTED NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- POLE(S)
- PVC POLYVINYL CHLORIDE CONDUIT QUANTITY
- RGS RIGID GALVANIZED STEEL
- TO BE REMOVED TELEVISION
- UNO UNLESS NOTED OTHERWISE
- VOLT(S)
- VOLTAMPERE(S)
- WIRE WEATHERPROOF

#### **LEGEND**



PANELBOARD, ETR

HANDHOLE, SIZE AS SHOWN

AS-BUILT CERTIFICATION

REVISIONS

SEAL

LOWELL HOUSING **AUTHORITY** 350 MOODY STREET LOWELL, MA 01853

PARKING LOT LIGHTING AND SITE UPGRADES, **DEWEY ARCHAMBAULT TOWERS** 

DATE:	3/04/15
SCALE:	NONE
DRAWN BY:	CWN
CHECKED BY:	GPN

#### NANGLE ENGINEERING INCORPORATED

32 Prince Street Danvers, MA 01923 Tel. (978) 777-7650 www.nangleengineering.com

DRAWING TITLE

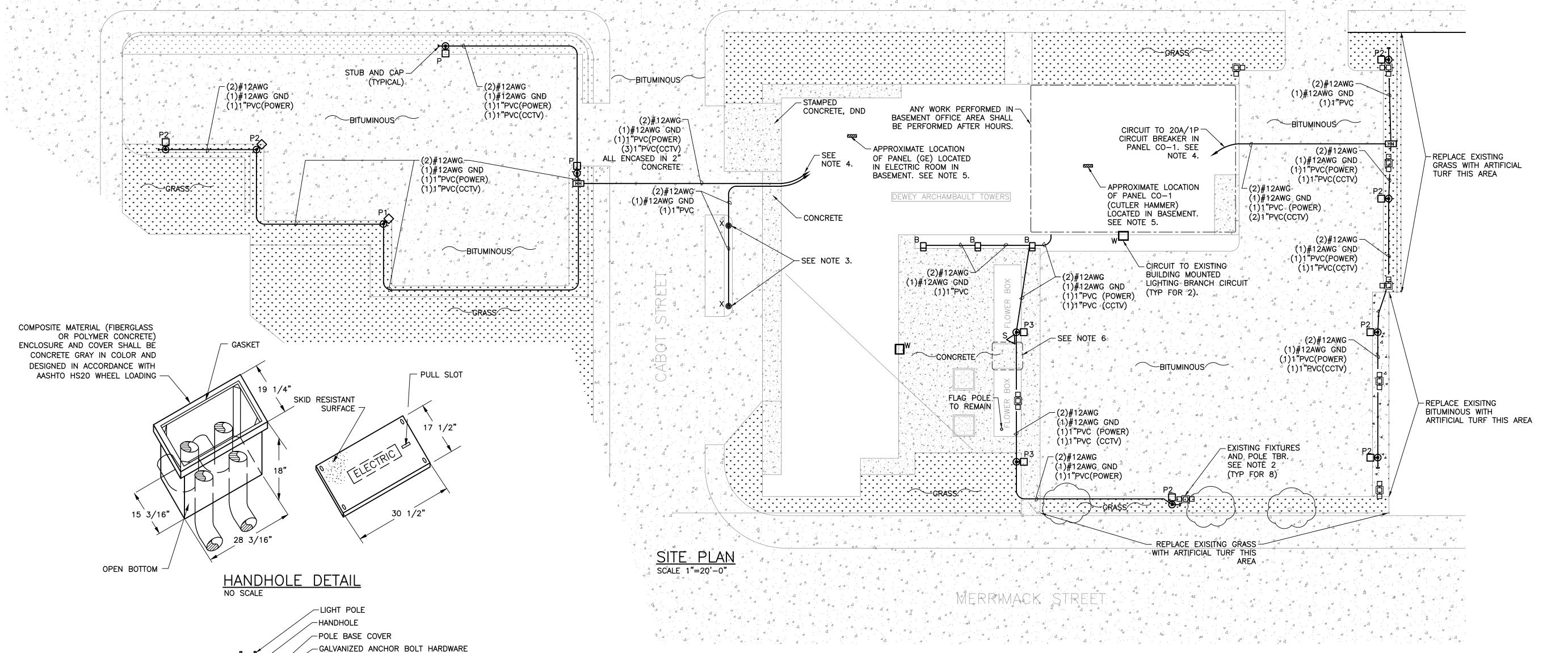
TITLE SHEET, LEGEND, NOTES AND SCHEDULE

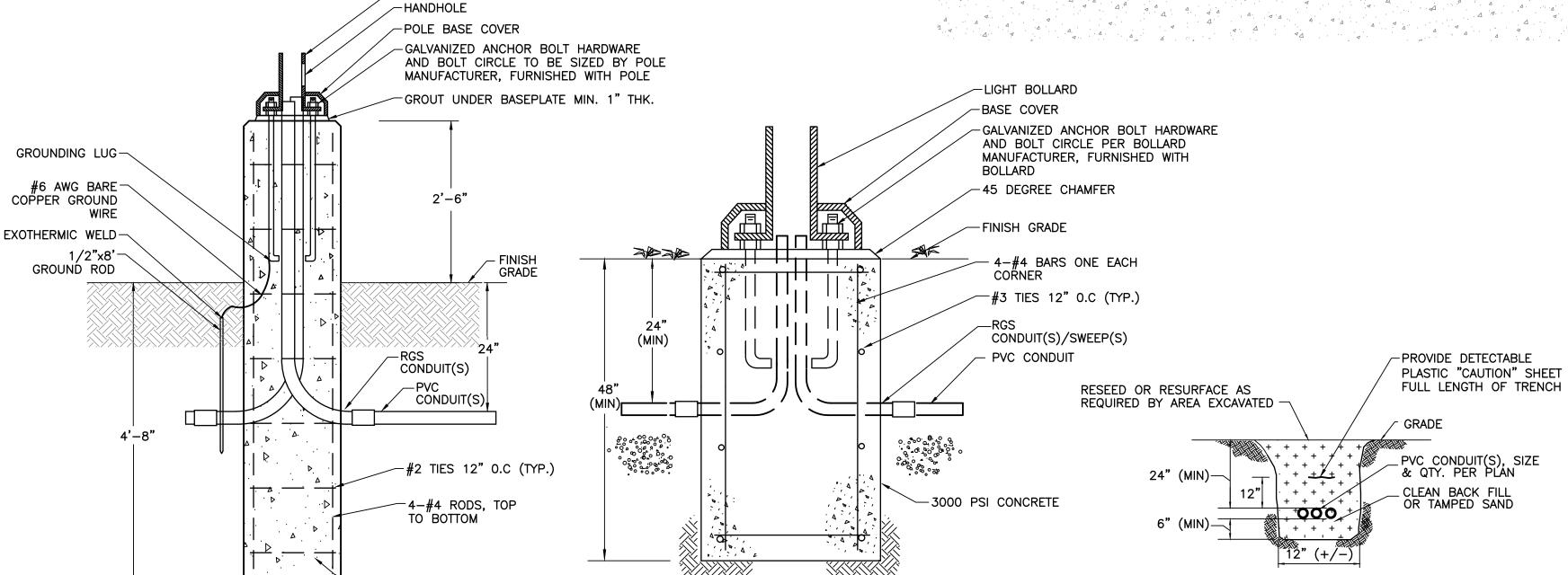
DRAWING NUMBER

E-1



#### MODAY STREET





LIGHT BOLLARD BASE DETAIL

----18"ø -----

LIGHT POLE BASE DETAIL
NO SCALE

#### **NOTES:**

1. 'CLEAN' BACK FILL SHALL MEAN NO MATERIAL OVER 3/4" DIAMETER

AROUND CONDUIT, AND NO MATERIAL OVER 2" IN TRENCH.

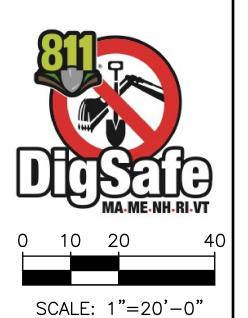
2. REFER TO SITE PLAN FOR QUANTITIES AND SIZES OF CONDUIT.

TYPICAL TRENCH DETAIL

NO SCALE

- REFER TO DRAWING E-1 FOR LEGEND GENERAL NOTES AND SCHEDULE
   DISCONNECT AND CAREFULLY REMOVE EXISTING FIXTURE, LIGHT POLE, FOUNDATION AND UNDERGROUND WIRING TO FULLEST EXTENT POSSIBLE TURN OVER POLES AND FIXTURES TO OWNER.
- 3. CAREFULLY REMOVE TWO (2) EXISTING POST LIGHTS AND STORE IN A SAFE LOCATION. DISCONNECT AND REMOVE EXISTING FOUNDATIONS AND UNDERGROUND WIRING TO FULLEST EXTENT POSSIBLE. PROVIDE NEW NEW UNDERGROUND WIRING AND FOUNDATIONS AS SHOWN. RE—INSTALL
- EXISTING POST LIGHTING ON NEW FOUNDATIONS.

  4. TERMINATE SPARE CONDUITS INSIDE BUILDING AND CAP WATERTIGHT. ALL BELOW GRADE PENETRATIONS SHALL BE SEALED WATERTIGHT WITH MECHANICAL SEALS. CONTINUE NEW EXTERIOR LIGHTING BRANCH CIRCUIT WIRING TO PANELBOARDS INDICATED.
- PROVIDE (1)20A/1P CIRCUIT BREAKER TO SERVE EXTERIOR LIGHTING CIRCUIT, LISTED COMPATIBLE WITH EXISTING PANELBOARD.
   SAW CUT CLEAN EDGES TO SOUND CONCRETE IN THIS AREA, REMOVE DAMAGED CONCRETE AND REPLACE TO MATCH EXISTING GRADE AND
- 7. ALL HARD SURFACES SHALL BE SAW CUT. RESTORATION OF CONCRETE SURFACES SHALL MATCH EXISTING ELEVATIONS AND FINISH. ALL BITUMINOUS REAPIRS SHALL BE INFRARED, WITH 2" BINDER, AND NOT LESS THAN 1" FINISH WEAR LAYER.
- 8. ALL CONDUITS NOTED FOR CCTV TO HAVE DIMENSIONED PULLSTRING.



No. Date Description

REVISIONS

SEAL

CLIENT:

LOWELL HOUSING AUTHORITY 350 MOODY STREET LOWELL, MA 01853

PROJECT:

PARKING LOT LIGHTING AND

SITE UPGRADES,

DEWEY ARCHAMBAULT

] (	OWERS
DATE:	3/04/15
SCALE:	1"=20'0"
DRAWN BY:	CWN
CHECKED BY:	GPN

#### NANGLE ENGINEERING INCORPORATED

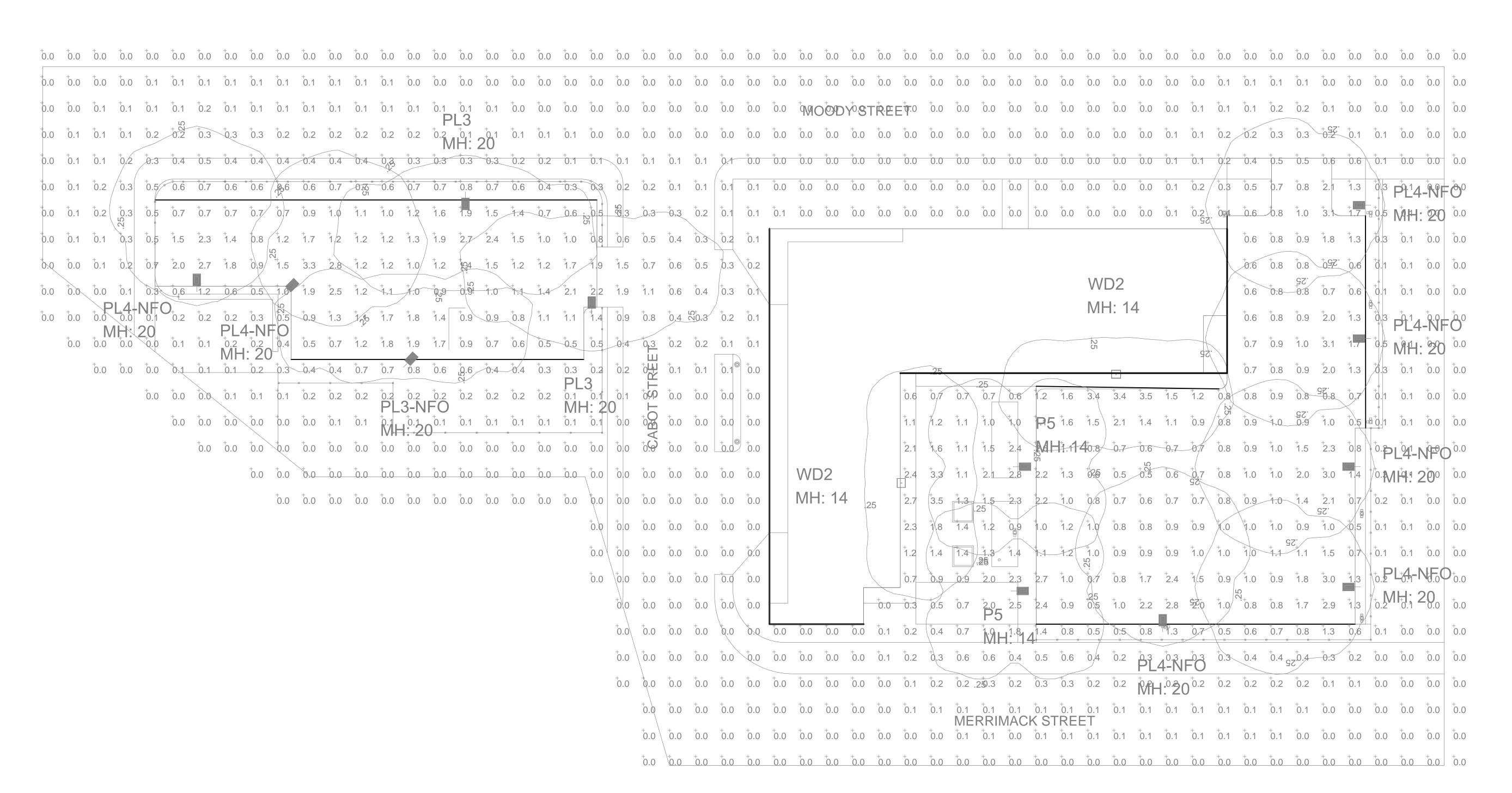
32 Prince Street
Danvers, MA 01923
Tel. (978) 777-7650
www.nangleengineering.com

DRAWING TITLE

## SITE PLAN AND DETAILS

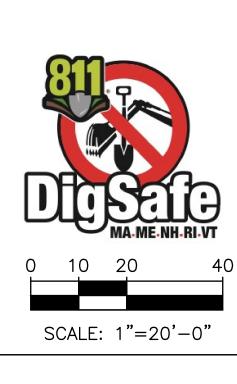
DRAWING NUMBER

E-2



Luminaire Schedule									
Symbol	Label	Qty	Arrangement	Description	Lum. Lumens	LLF	Lum. Watts	Arr. Watts	Total Watts
	PL3	2	SINGLE	SAR3E35-60L4K	4768	0.850	63.4	63.4	126.8
	PL3-NFO	1	SINGLE	SAR3E35-60L4K-NFO	3931	0.850	63.4	63.4	63.4
	PL4-NFO	7	SINGLE	SAR4E35-60L4K-NFO	3998	0.850	63.5	63.5	444.5
	P5	2	SINGLE	SAR5E35-60L4K	4869	0.850	63.5	63.5	127
-	WD2	2	SINGLE	WD14D2E35-60L4K	4713	0.850	63	63	126

Calculation Summary									
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
All CalcPts Extending Out To Zero Foot-Candles	Illuminance	Fc	0.42	3.5	0.0	N.A.	N.A.	10	10
StatArea - East Lot	Illuminance	Fc	1.17	3.5	0.5	2.34	7.00		
StatArea - West Lot	Illuminance	Fc	1.29	3.3	0.5	2.58	6.60		



No. Date Description

REVISIONS

SEAL

CLIENT:
LOWELL HOUSING
AUTHORITY
350 MOODY STREET
LOWELL, MA 01853

PROJECT:

PARKING LOT LIGHTING AND

SITE UPGRADES,

DEWEY ARCHAMBAULT

TOWERS

·	OVIENO
DATE:	3/04/15
SCALE:	NONE
DRAWN BY:	CWN
CHECKED BY:	GPN

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### PHOTOMETRIC PLAN

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E-3