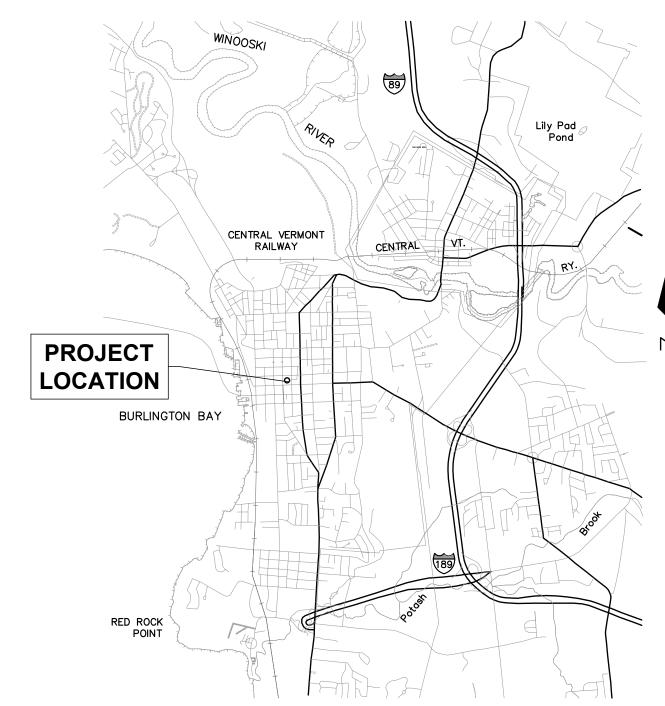


PROPOSED IMPROVEMENT CITY OF BURLINGTON COUNTY OF CHITTENDEN CITY HALL PARK

PROJECT LOCATION LOCATED ON THE EAST SIDE OF SAINT PAUL STREET, BETWEEN MAIN STREET AND COLLEGE STREET IN BURLINGTON, VERMONT.

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES THE DEMOLITION OF EXISTING SIDEWALK, ROADWAY, AND PARK FEATURES; THE CONSTRUCTION OF CONCRETE SIDEWALKS, SIDEWALKS WITH PAVERS, GRANITE CURBS, PARK LIGHTS, DRAINAGE IMPROVEMENTS, UNDERGROUND POWER AND COMMUNICATIONS, LANDSCAPING, FOUNTAIN INSTALLATION, WATER LINES, SEWER LINES, & IRRIGATION.



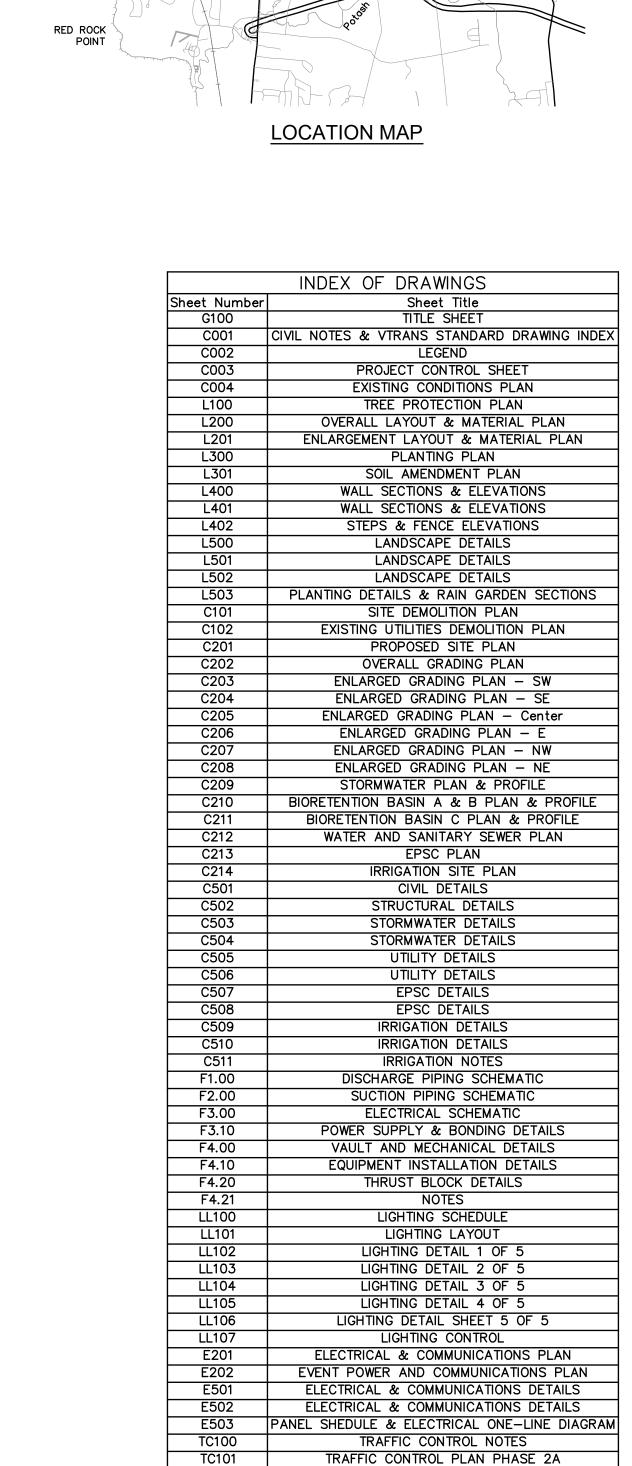
	INDEX OF DRAWINGS
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C001 C002	CIVIL NOTES & VTRANS STANDARD DRAWING INDEX LEGEND
C002	PROJECT CONTROL SHEET
C004	EXISTING CONDITIONS PLAN
L100	TREE PROTECTION PLAN
L200	OVERALL LAYOUT & MATERIAL PLAN
L201	ENLARGEMENT LAYOUT & MATERIAL PLAN
L300 L301	PLANTING PLAN SOIL AMENDMENT PLAN
L400	WALL SECTIONS & ELEVATIONS
L401	WALL SECTIONS & ELEVATIONS
L402	STEPS & FENCE ELEVATIONS
L500	LANDSCAPE DETAILS
L501	LANDSCAPE DETAILS
L502	LANDSCAPE DETAILS
L503 C101	PLANTING DETAILS & RAIN GARDEN SECTIONS SITE DEMOLITION PLAN
C101	EXISTING UTILITIES DEMOLITION PLAN
C201	PROPOSED SITE PLAN
C202	OVERALL GRADING PLAN
C203	ENLARGED GRADING PLAN — SW
C204	ENLARGED GRADING PLAN — SE
C205	ENLARGED GRADING PLAN - Center
C206 C207	ENLARGED GRADING PLAN — E ENLARGED GRADING PLAN — NW
C207	ENLARGED GRADING PLAN - NW ENLARGED GRADING PLAN - NE
C209	STORMWATER PLAN & PROFILE
C210	BIORETENTION BASIN A & B PLAN & PROFILE
C211	BIORETENTION BASIN C PLAN & PROFILE
C212	WATER AND SANITARY SEWER PLAN
C213	EPSC PLAN
C214 C501	IRRIGATION SITE PLAN CIVIL DETAILS
C502	STRUCTURAL DETAILS
C503	STORMWATER DETAILS
C504	STORMWATER DETAILS
C505	UTILITY DETAILS
C506	UTILITY DETAILS
C507	EPSC DETAILS
C508 C509	EPSC DETAILS IRRIGATION DETAILS
C510	IRRIGATION DETAILS
C511	IRRIGATION NOTES
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F2.00	SUCTION PIPING SCHEMATIC
F3.00	ELECTRICAL SCHEMATIC
F3.10	POWER SUPPLY & BONDING DETAILS
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F4.20	THRUST BLOCK DETAILS
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LL100	LIGHTING SCHEDULE
LL101	LIGHTING LAYOUT
LL102	LIGHTING DETAIL 1 OF 5
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E202	EVENT POWER AND COMMUNICATIONS PLAN
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E502	ELECTRICAL & COMMUNICATIONS DETAILS
E503	PANEL SHEDULE & ELECTRICAL ONE—LINE DIAGRAM TRAFFIC CONTROL NOTES
TC100	
TC101	I TRAFFIC CONTROL PLAN PHASE 2A
TC101 TC102	TRAFFIC CONTROL PLAN PHASE 2A TRAFFIC CONTROL PLAN PHASE 2B

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION APRIL, 2018, FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS ARE INCORPORATED IN THESE PLANS.

SURVEYED BY: DUBOIS & KING, INC. 2016-17

DATUM

VERTICAL : NAVD 86 (GEOID 12A) HORIZONTAL: NAD 83 (2011) EPOCH 2010.0



PARKS RECREATION WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

DESIGN TEAM

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

CIVIL ENGINEER DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661

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> FOUNTAIN CONSULTANT Delta Fountains 11494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

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PROJECT TITLE									

BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE TITLE SHEET

12/28/2018

SHEET NUMBER G100

GENERAL NOTES:

- 1. ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE VERMONT AGENCY OF TRANSPORTATION'S (VTRANS) STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2018 EDITION, LATEST REVISIONS; VTRANS' STANDARD DRAWINGS FOR CONSTRUCTION.
- 2. DISRUPTION OF ANY EXISTING UTILITY SERVICE (PRIVATE OR PUBLIC) WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF BURLINGTON AND/OR UTILITY COMPANY IS NOT ALLOWED.
- 3. SURFACE FEATURES SUCH AS SIGNS, FENCES, MAIL BOXES, PROPERTY CORNER MARKERS, ETC., ENCOUNTERED IN THE CONSTRUCTION OF THE PROJECT SHALL BE TAKEN DOWN, STORED AND RESET UNLESS OTHERWISE NOTED ON THE PLANS. THE COST OF REMOVING AND RESETTING ITEMS SHALL BE INCIDENTAL TO THE CONTRACT.
- 4. ALL UTILITY POLES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED IN THESE PLANS. REMOVAL OF UTILITY POLES WILL BE DONE BY OTHERS.
- 5. SUBSURFACE FEATURES SUCH AS ELECTRIC AND COMMUNICATION LINES, WATER LINES, SEWER LINES, STORM DRAIN AND CULVERTS, ETC., ENCOUNTERED IN THE CONSTRUCTION OF THE PROJECT SHALL BE PROTECTED, SUPPORTED, OR REMOVED AND REPLACED UNLESS OTHERWISE NOTED ON THE PLANS. WATER VALVE BOXES, GAS VALVE BOXES, AND SERVICE BOXES SHALL BE ADJUSTED TO FINAL GRADE. NOTIFY THE UTILITY COMPANIES AND/OR HIGHWAY DEPARTMENTS WHEN THE WORK INVOLVES THEIR RESPECTIVE FACILITIES.
- 6. CONTACT THE CITY OF BURLINGTON WATER AND SEWER DEPARTMENT, THE CITY OF BURLINGTON EXCAVATION INSPECTOR, "DIG SAFE" [1-888-DIG-SAFE (1-888-344-7233)] AND ALL AFFECTED UTILITY COMPANIES PRIOR TO PERFORMING ANY EXCAVATION, IN ACCORDANCE WITH DIG SAFE'S RULES OF NOTIFICATION. THE COST OF COORDINATING WITH DIG SAFE AND THE UTILITY COMPANIES SHALL BE INCIDENTAL TO ITEM 635.11, "MOBILIZATION/DEMOBILIZATION".
- 7. ANY SURFACE OR SUBSURFACE FEATURES DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF CONSTRUCTION. ALL COSTS ASSOCIATED WITH THE RESTORATION SHALL BE AT THE CONTRACTORS SOLE EXPENSE.
- 8. TOPOGRAPHIC SURVEY WAS PERFORMED BY DUBOIS & KING, INC., COMPLETED IN FEBRUARY, 2017.
- 9. REFERENCES:
- 9.1. "IMPROVEMENTS TO CITY HALL PARK SITE PLAN C2" DATED 8/14/92, BY CHAMPLAIN CONSULTING
- 9.2. "MANHOLE INVENTORY SHEETS" BY FARNSWORTH & ASSOCIATED, DATED 8/20/80.
- 9.3. MAIN AND ST. PAUL INFRASTRUCTURE SHEETS FROM CITY FOR STREET LIGHT UNDERGROUND ELECTRIC.
- 9.4. AUTOCAD DRAWING PROVIDED BY THE CITY DEPICTING EXISTING UNDERGROUND UTILITIES.
- 10. PRIOR TO CONSTRUCTION, COORDINATE WITH RESIDENT ENGINEER AND SURVEYOR TO OBTAIN DATA FOR LAYOUT INCLUDING BASELINE, HORIZONTAL AND VERTICAL CONTROL, AND BENCHMARKS ESTABLISHED DURING 2017 TOPOGRAPHIC SURVEY. COST TO LAYOUT. MAINTAIN. AND/OR RE-ESTABLISH CONTROL DISTURBED DURING CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO ITEM 635.11, "MOBILIZATION/DEMOBILIZATION".
- 11. PERFORM FIELD MEASUREMENTS OF ALL EXISTING CONDITIONS AFFECTING THE WORK. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK. SHOP DRAWINGS REQUIRED FOR VARIOUS ITEMS OF THE WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS PRIOR TO SUBMITTAL FOR THE ENGINEER'S APPROVAL AND SHALL BE SO NOTED.
- 12. ALL DIMENSIONS ARE HORIZONTAL AND VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS
- 13. RESTORATION OF DISTURBED AREAS: RESTORE DISTURBED AREAS WITH 4" OF TOPSOIL, SEED AND MULCH, UNLESS OTHERWISE NOTED IN LANDSCAPE ARCHITECTURE PLANS OR IF THE RESIDENT ENGINEER DIRECTS THE USE OF SUITABLE EXCAVATED MATERIAL.
- 14. AN ON-SITE PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITY WITH THE CONTRACTOR, RESIDENT ENGINEER, CITY MANAGER AND OTHER CITY DEPARTMENTS.
- 15. THIS PROJECT SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT.
- 16. ALL SIGNAGE AND STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION AND ITS LATEST REVISIONS.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND UNDERSTANDING ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION REQUIREMENTS ARE MET.
- 18. ALL WOODY DEBRIS (TREE LIMBS, BRANCHES) SHALL BE CHIPPED AND MULCHED ON-SITE AND USED FOR TEMPORARY EROSION CONTROL TO THE MAXIMUM EXTENT.
- 19. SEE TRAFFIC CONTROL DRAWINGS FOR TRAFFIC CONTROL NOTES.
- 20. SEE EROSION PREVENTION AND SEDIMENT CONTROL DRAWINGS FOR EROSION CONTROL NOTES.
- 21. REMOVAL OF EXISTING SIDEWALK AND PAVEMENT SHALL BE INCLUDED IN ITEM 203.15 COMMON EXCAVATION.
- 22. WHERE CONNECTIONS TO EXISTING DRAINAGE OR SANITARY STRUCTURES ARE REQUIRED, CUT NEATLY WITHOUT PERCUSSION INTO THE EXISTING STRUCTURE. THE MAXIMUM SIZE OF THE OPENING SHALL NOT EXCEED THE PIPE'S OUTER DIAMETER PLUS 3 INCHES. CONNECT THE NEW PIPE AND SEAL AROUND IT WITH CEMENT MORTAR.
- 23. OBTAIN ALL CONSTRUCTION PERMITS INCLUDING BUILDING TRADES, EXCAVATION, STORMWATER, AND CERTIFICATE OF OCCUPANCY. WORK ASSOCIATED WITH OBTAINING PERMITS INCLUDE PERMIT FEES SHALL BE CONSIDERED INCIDENTAL TO ITEM 635.11 "MOBILIZATION/DEMOBILIZATION".

VAOT STANDARDS:

STANDARD	DESCRIPTION	REVISION
B-5 B-71	SLOPE GRADING, EMBANKMENTS, MUCK STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	6-1-1994 7-8-2005
C-2A C-2B C-3A C-3B C-10	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP SIDEWALK RAMPS SIDEWALK RAMPS AND MEDIAN ISLANDS CURBING	10-14-2005 10-14-2005 3-10-2008 3-10-2008 2-11-2008
D-4 D-11 D-13 D-15 D-16 D-22	VARIOUS DRAINAGE DETAILS STEEL OR IRON GRATES& COVERS (TYPE A) CONCRETE CATCH BASIN PRECAST REINF. CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E DRAINAGE DETAILS, INCLUDING DROP INLETS, IRON GRATE TYPE B&C, CONC END SECTIONS, ETC. SANITARY SEWER SYSTEMS	8-13-2007 6-1-1994 1-3-2000 6-1-1994 6-1-1994 3-10-1995
E-121 E-161 E-163 E-173 E-191 E-192 E-193	STANDARD SIGN PLACEMENT — CONVENTIONAL ROAD W—SHAPED STEEL SIGN POST TUBULAR STEEL SIGN POST PULL BOXES AND JUNCTION BOXES PAVEMENT MARKING DETAILS PAVEMENT MARKING DETAILS PAVEMENT MARKING DETAILS	8-8-1995 8-18-1995 3-10-2017 8-9-1995 2-1-1999 10-12-2000 8-18-1995
T-1 T-2 T-10 T-17 T-28 T-29 T-30 T-31 T-33 T-56 T-133	TRAFFIC CONTROL GENERAL NOTES TRAFFIC SIGNS GENERAL NOTES CONVENTIONS ROADS CONSTRUCTION APPROACH SIGNING TRAFFIC CONTROL MISCELLANEOUS DETAILS CONSTRUCTION SIGN DETAILS MISCELLANEOUS SIGN DETAILS STANDARD SIGN PLACEMENT LIGHT POLE FOUNDATION DETAILS	4-25-2016 4-25-2016 8-6-2012 8-6-2012 8-6-2012 8-6-2012 8-6-2012 8-6-2012 10-26-2015 7-25-2016

BURLINGTON **PARKS** RECREATION

WATERFRON'

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

DESIGN TEAM

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

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FOUNTAIN CONSULTANT

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PROJECT TITLE									

BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

CIVIL NOTES & VTRANS STANDARD DRAWING INDEX

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	12/28/2018
CHECKED BY	PROJECT#
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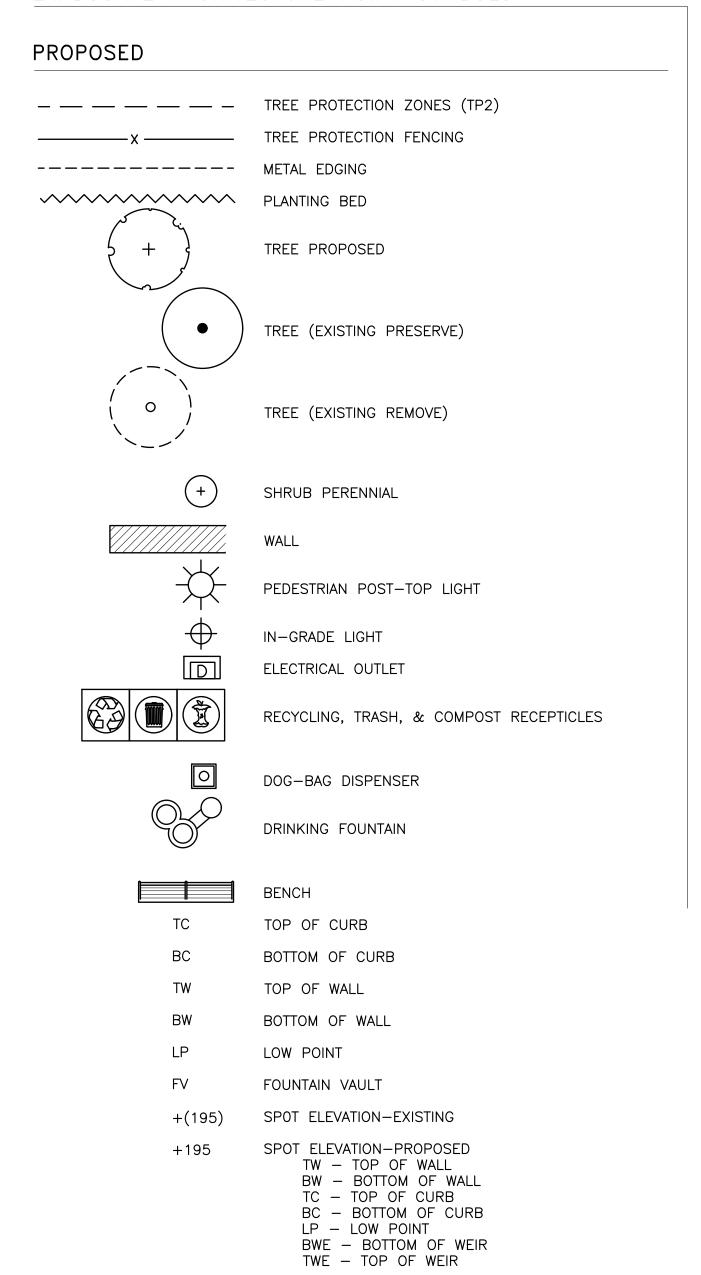
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SHEET NUMBER

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

LANDSCAPE ARCHITECTURE POINT SYMBOLS



R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE DESCRIPTION

N/A

COMMON TOPOGRAPHIC POINT SYMBOLS

OINT	CODE	DESCRIPTION
•	ВМ	BENCHMARK
_	BR	BIKE RACK
	СВ	CATCH BASIN
	СОМВ	COMBINATION POLE
(E)	ЕМН	MANHOLE - ELECTRICAL
150×02	FFE	FINISH FLOOR ELEVATION
< GV	GUY	GUY WIRE
₩ .	GV	VALVE - GAS
	Н	TREE - HARDWOOD
\triangle	HVCTRL	HORIZ. & VERT CONTROL
	HYD	FIRE HYDRANT
O\$	LI	LIGHT POLE
8	МВ	MAIL BOX
(PM)	РМ	PARKING METER
	S	TREE - SOFTWOOD
*	SH	SHRUB
- 0-	SIGN	SIGN - 1 POST
S	SMH	MANHOLE - SEWER
\bigcirc	ТМН	MANHOLE - TELEPHONE/COMMUNICATION
- 0 0 -	TSIGN	SIGN - 2 POST
w∨ ⊠	WV	VALVE — WATER
4°2°	WSO	WATER SHUT-OFF

POINT	CODE	DESCRIPTION
©		BOLLARD
\blacksquare		CATCH BASIN
•		YARD DRAIN (INLINE DRAIN OR DRAIN BASIN)
&		CLEANOUT
UH#		ELECTRICAL VAULT
©V ⊠		GATE VALVE
*		HYDRANT
(E)		MANHOLE - ELECTRICAL
©		MANHOLE - STORM DRAIN
\boxtimes		SOIL CELL
+		TREE GRATE
\Phi		UP-LIGHT, OR OTHER LIGHT TYPE
•		MANHOLE - TELEPHONE/COMMUNICATION
P		PARKING METER KIOSK

PULL BOX/HANDHOLD

SIGNS

WATER VALVE

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX

PROPOSED

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES **EXISTING** — UC — COMMUNICATION TELEPHONE ----- UE ----- ELECTRIC GAS (ABANDONED) ——— G ———— GAS -----USL ------- STREET LIGHT SIGNALING ----- W ---- W ---- W ---- W ---- W ---- W ----PROPOSED

I KOI OOLD	
	POWER - MAIN (DUCT BANK)
———— UGS ————	POWER - SECONDARY
UESL	UNDERGROUND ELECTRIC SITE LIGHTING
———— UE ————	UNDERGROUND ELECTRIC
ST	STORM MAIN
UD	UNDERDRAIN
——— w ———— w ———	WATER LINE
——s——s——	SEWER LINE
	TRENCH DRAIN

ABOVE GROUND UTILITIES (AERIAL)

EXISTING

———— OHC ————	COMMUNICATION
—— ОНЕ —— ОНЕ ——	ELECTRIC
OHE&C	ELECTRIC & COMMUNICATION
——————————————————————————————————————	MISC. WIRE OR UNKNOWN

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT CONSTRUCTION FEATURES

PROJECT DESIGN & LA	AYOUT SYMBOLOGY
MATCH LINE STA. X+XX: SEE NEXT SHEET	PLAN LAYOUT MATCH LINE

CONVENTIONAL BOUNDARY SYMBOLOGY

——o——o———o———— CONSTRUCTION FENCING

BOUNDARY LINES

	APPROXIMATE R.O.W.
1+00	DOADWAY DACELINE A CTATIONING
	ROADWAY BASELINE & STATIONING

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES FILTER BAG FILTER FABRIC DROP INLET PROTECTION SILT FENCE SILT FENCE WITH WOVEN WIRE STABILIZED CONSTRUCTION ENTRANCE STONE & DROP BLOCK INLET PROTECTION

ENVIRONMENTAL RESOURCES

ARCHEOLOGICAL & HISTORIC

N/A

CONVENTIONAL TOPOGRAPHIC SYMBOLS

EXISTING FEATURES	
	BUILDING EXTERIOR
155	CONTOUR LINE (MAJOR)
	CONTOUR LINE (MINOR)
	EDGE OF DRIVEWAY
	EDGE OF DRIVEWAY (CURBED)
	EDGE OF PAVEMENT
=========	EDGE OF PAVEMENT (CURBED)
	EDGE OF SIDEWALK
	PAVEMENT MARKING (DOUBLE)
	PAVEMENT MARKING (SINGLE)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	WALL - STONE
	BENCH

GRANITE POST RAIL FENCE

#### PROPOSED FEATURES

— — 154 — — —	CONTOUR LINE (MINOR)
	EDGE OF DRIVEWAY
	EDGE OF DRIVEWAY (CURBED)
	EDGE OF PAVEMENT
	EDGE OF PAVEMENT (CURBED)
	EDGE OF SIDEWALK
	PAVEMENT MARKING (DOUBLE)
	PAVEMENT MARKING (SINGLE)
	BITUMINOUS ASPHALT
	CONCRETE SIDEWALK (6 INCH)
	CONCRETE SIDEWALK (COLORED)
\$20202020202020202020202020202020202020	DETECTABLE WARNING STRIP
	CONCRETE PAVERS
	PERVIOUS PAVERS
	RAINGARDEN
	SIDEWALK RAMP

BURLINGTON **PARKS** RECREATION WATERFRON'

CLIENTS

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**DESIGN TEAM** 

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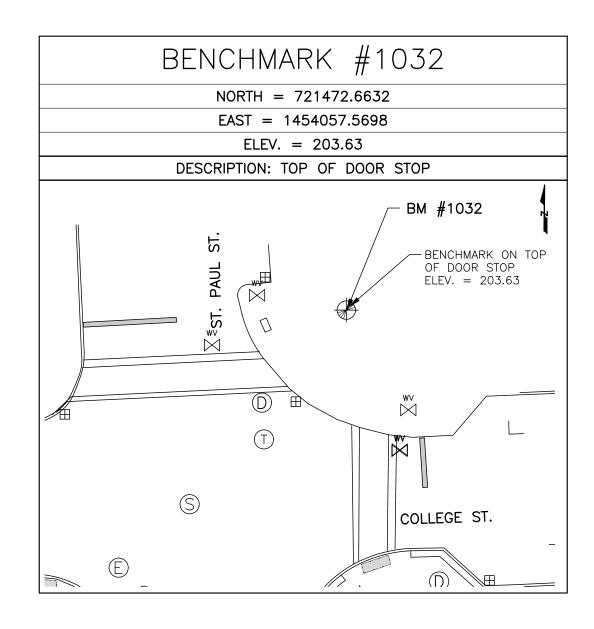
BURLINGTON **GREAT STREETS** CITY HALL PARK

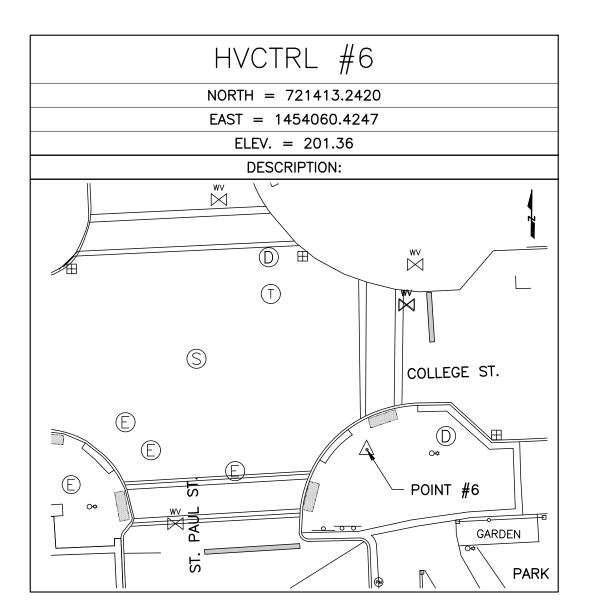
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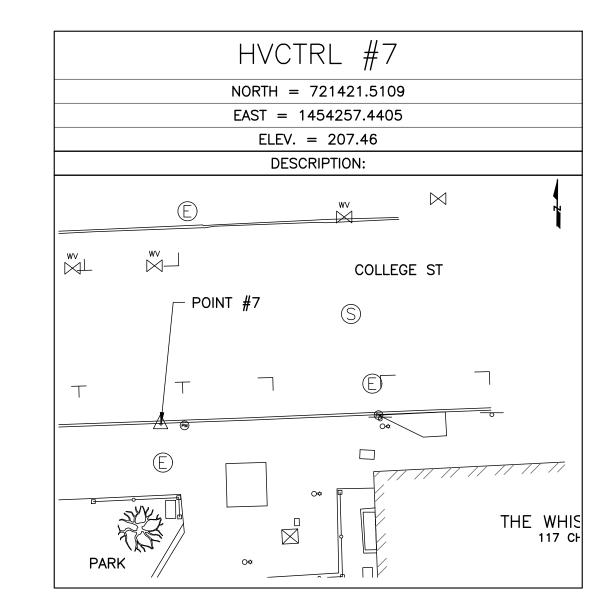
LEGEND

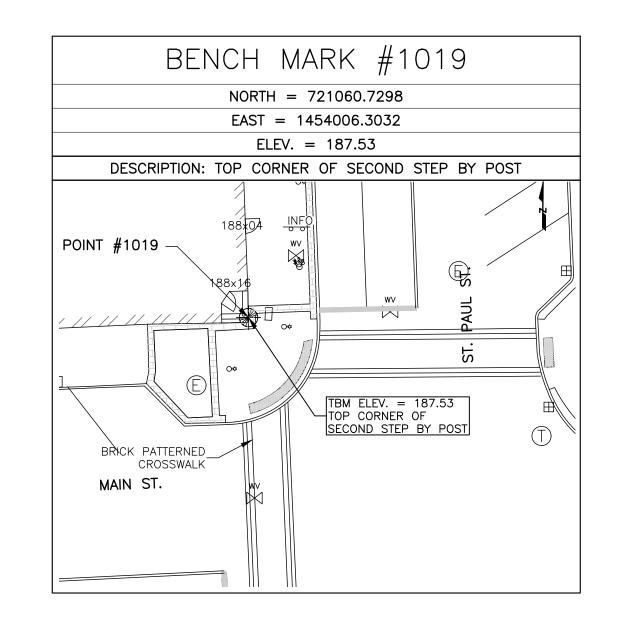
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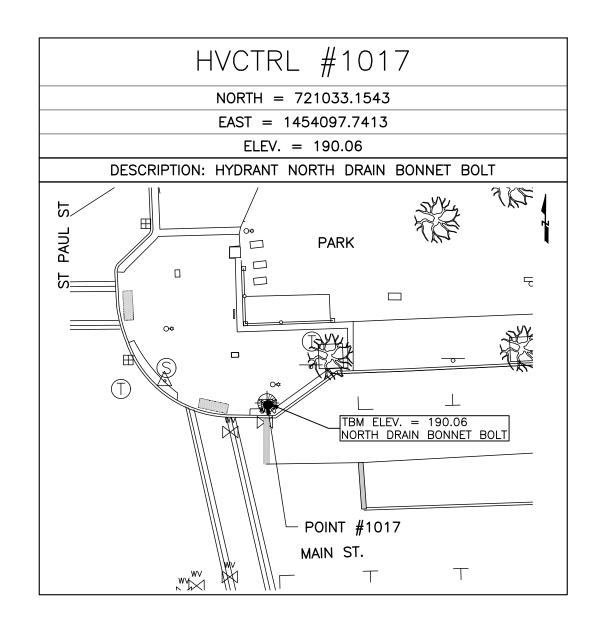
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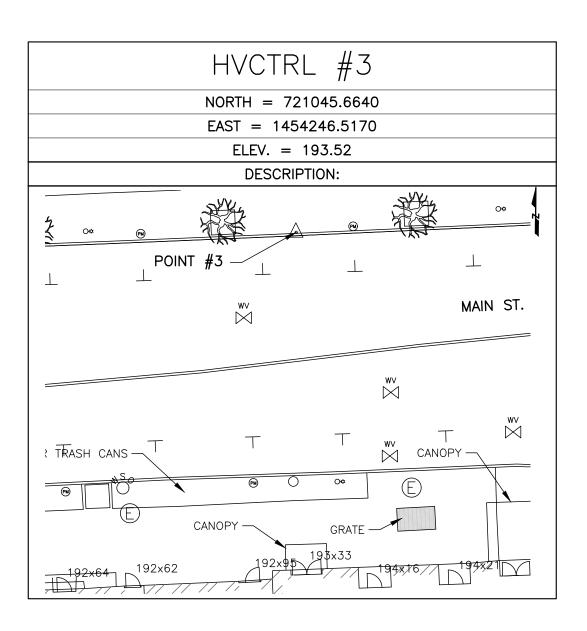


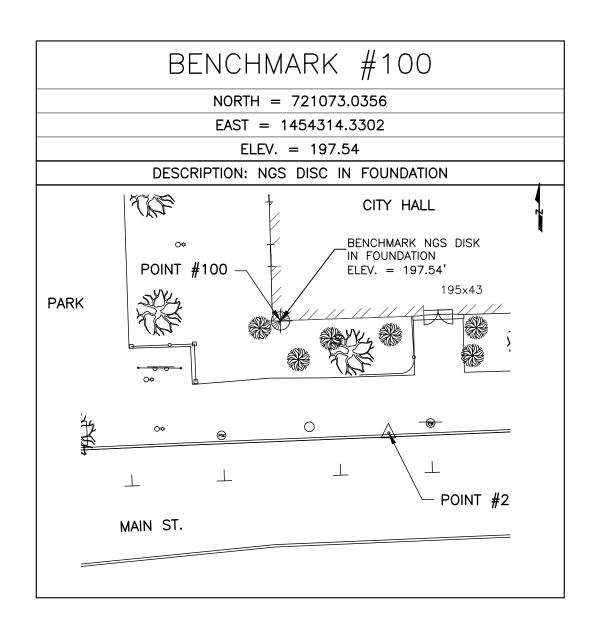


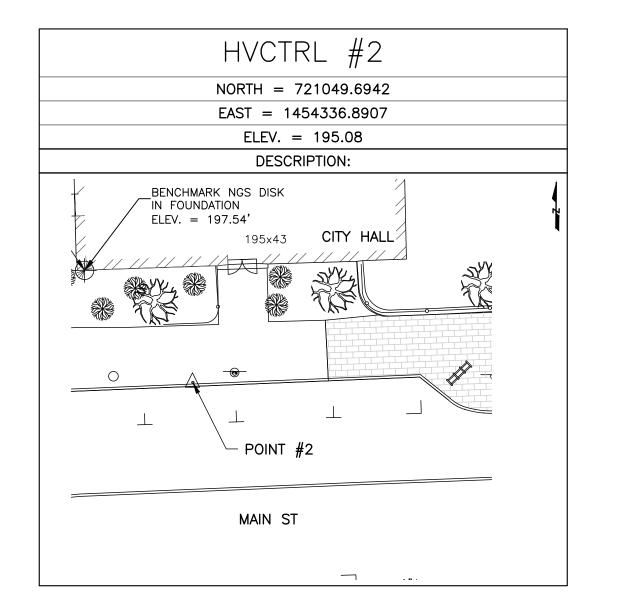


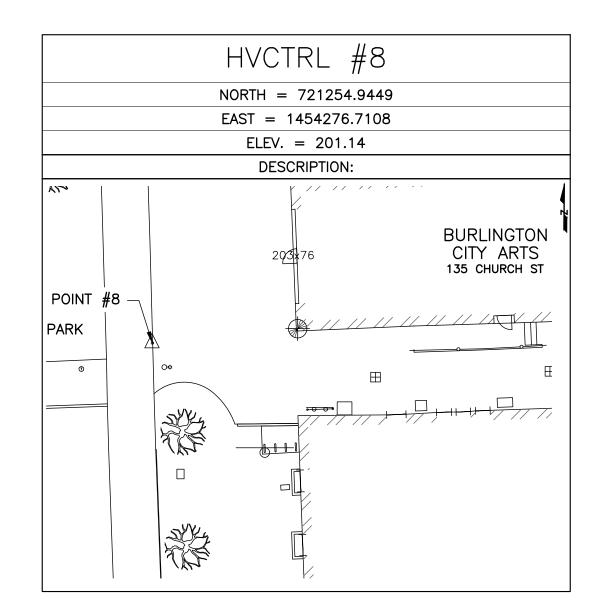


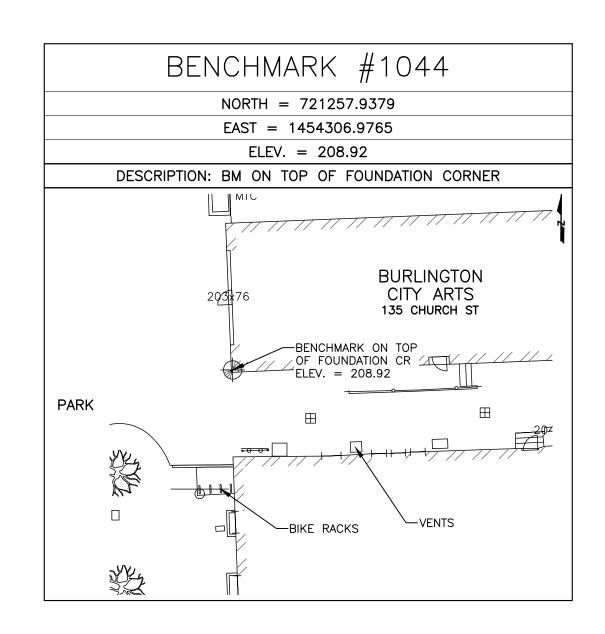


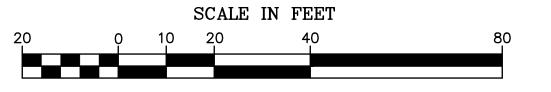












PROJECT CONTROL SHEET

> 12/28/2018 CHECKED BY 623263L3

DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661 **URBAN DESIGNER** 

BURLINGTON **PARKS** 

RECREATION WATERFRONT

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Burlington, VT 05401

Department of Public Works

645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

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PROFESSIONAL SEAL

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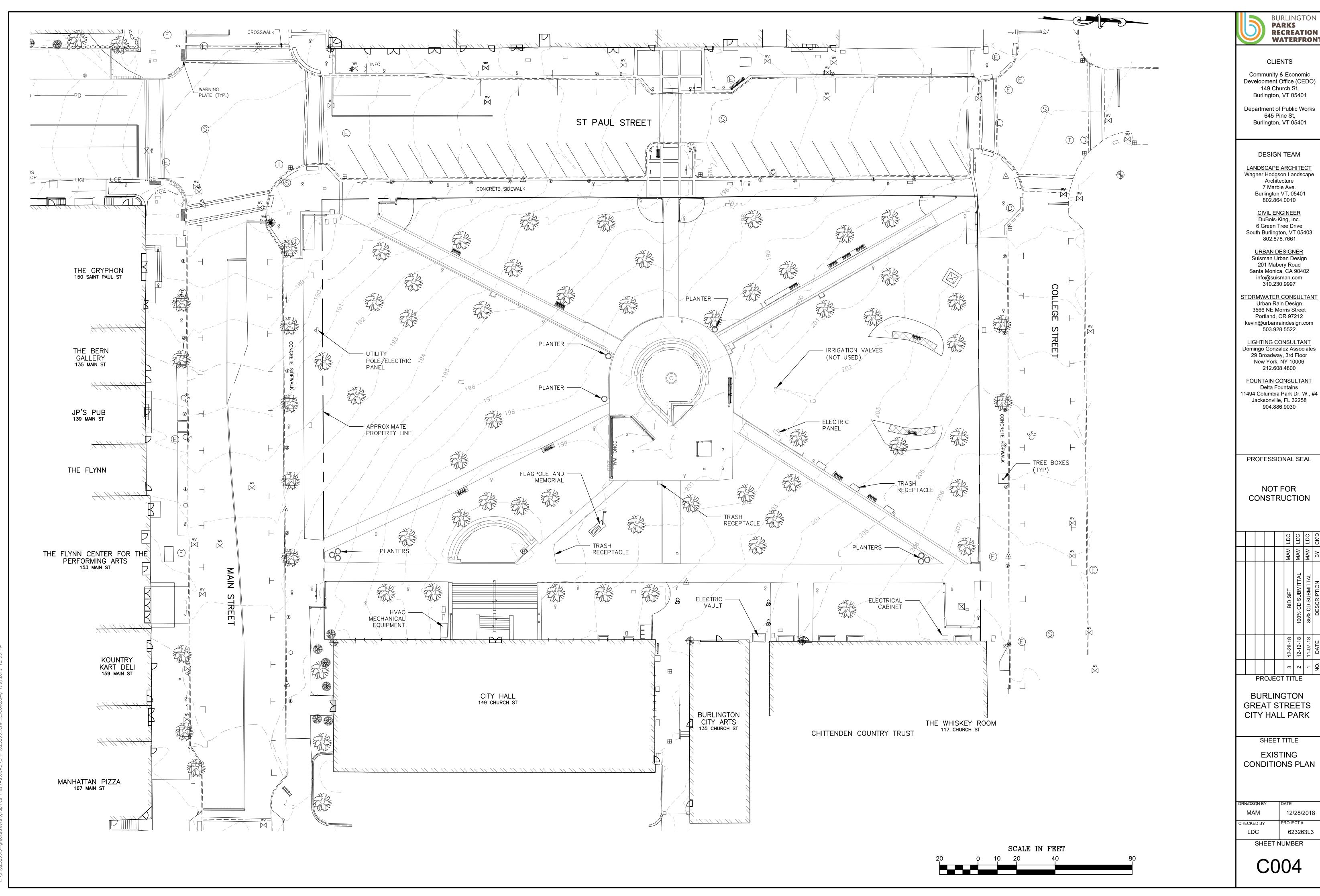
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BURLINGTON **GREAT STREETS** 

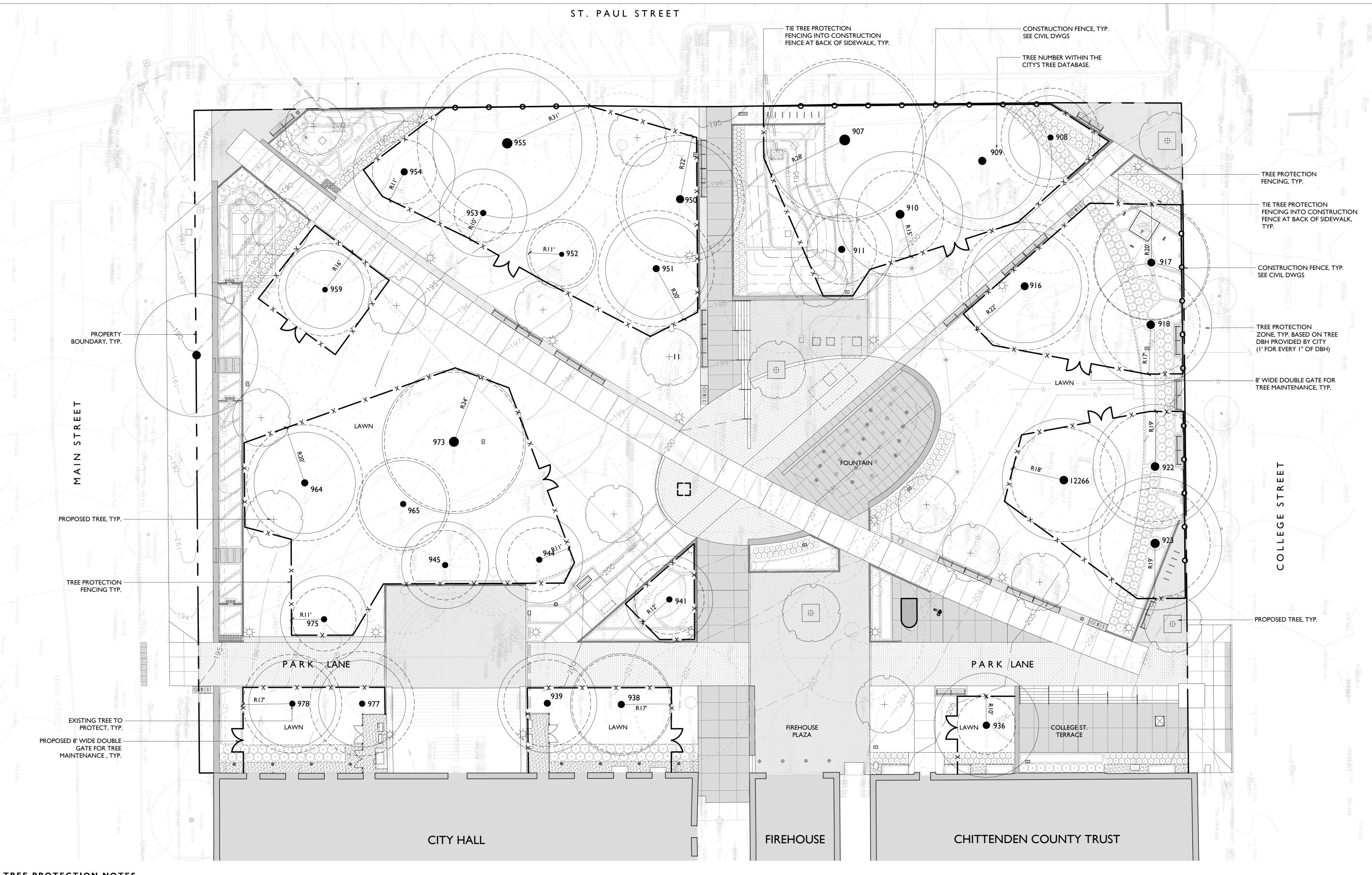
CITY HALL PARK

SHEET TITLE

SHEET NUMBER



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#### TREE PROTECTION NOTES

- 1. Proposed methods, and schedule for effecting tree and plant protection shall be submitted for approval.
- Proposed methods, materials, and schedule for root pruning, construction pruning, and tree fertilization shall be submitted for approval.
- All existing trees shall be protected. Any damages by construction operations shall result in a fine to the Contractor. Liquid damages shall be based on the tree value specified by the City's Tree Value Inventory.
- Damages to trees, shrubs, and other vegetation will be assessed by the Architect and Owner in accordance with the International Society of Arboriculture (ISA) Guide. Trees or roots visibly damaged will cause the Owner to withhold from the Contractor
- an assessed amount conforming to the requirements stipulated above for a period of two years. After that period the impact of the damaged to any tree will be assessed Designated areas of tree protection are to remain untouched and unharmed.
- Clearly mark all clearing limits in the field and accompany Architect on a joint review of clearing limits before clearing operations have commenced. Limit of clearing is generally
- defined as the limit of grading.

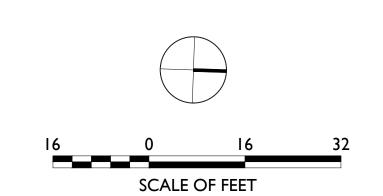
  Galvanized chain link fencing, See Specifications.

on the Drawings.

- Prior to start of demolition work and clearing and grubbing operations, tree protection fencing shall be installed in accordance with the following: a) Fencing shall be installed just outside of the Tree Protection Zones (TPZ) as indicated
- b) Where construction will be in close proximity to existing trees designated to remain, the contractor shall use an air spade for grading around roots and suitable pruning shall be required as directed by the City Arborist and or Landscape Architect in the field. c) Suitable means for root pruning include, trenching, vibrating plow, and water jetpruning. Any method which tears roots or disturbs the soil beyond the grading limit
- d) Trees to receive root pruning shall be reviewed by the City arborist for canopy pruning, fertilization and trench backfill recommendations.

is unacceptable.

- e) Selective clearing within tree protection areas shall only be performed when and as directed by the City Arborist.
- f) Except as otherwise indicated or requested by Landscape Architect, temporary protection devices and facilities installed during course of the work shall be removed only after all work which may injure or damage trees and plants is completed.



BURLINGTON **PARKS** RECREATION WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

**CIVIL ENGINEER** DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661

URBAN DESIGNER Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com

310.230.9997 STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com 503.928.5522

LIGHTING CONSULTANT Domingo Gonzalez Associates 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains 11494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE TREE PROTECTION

DRN/DSGN BY 12/28/2018

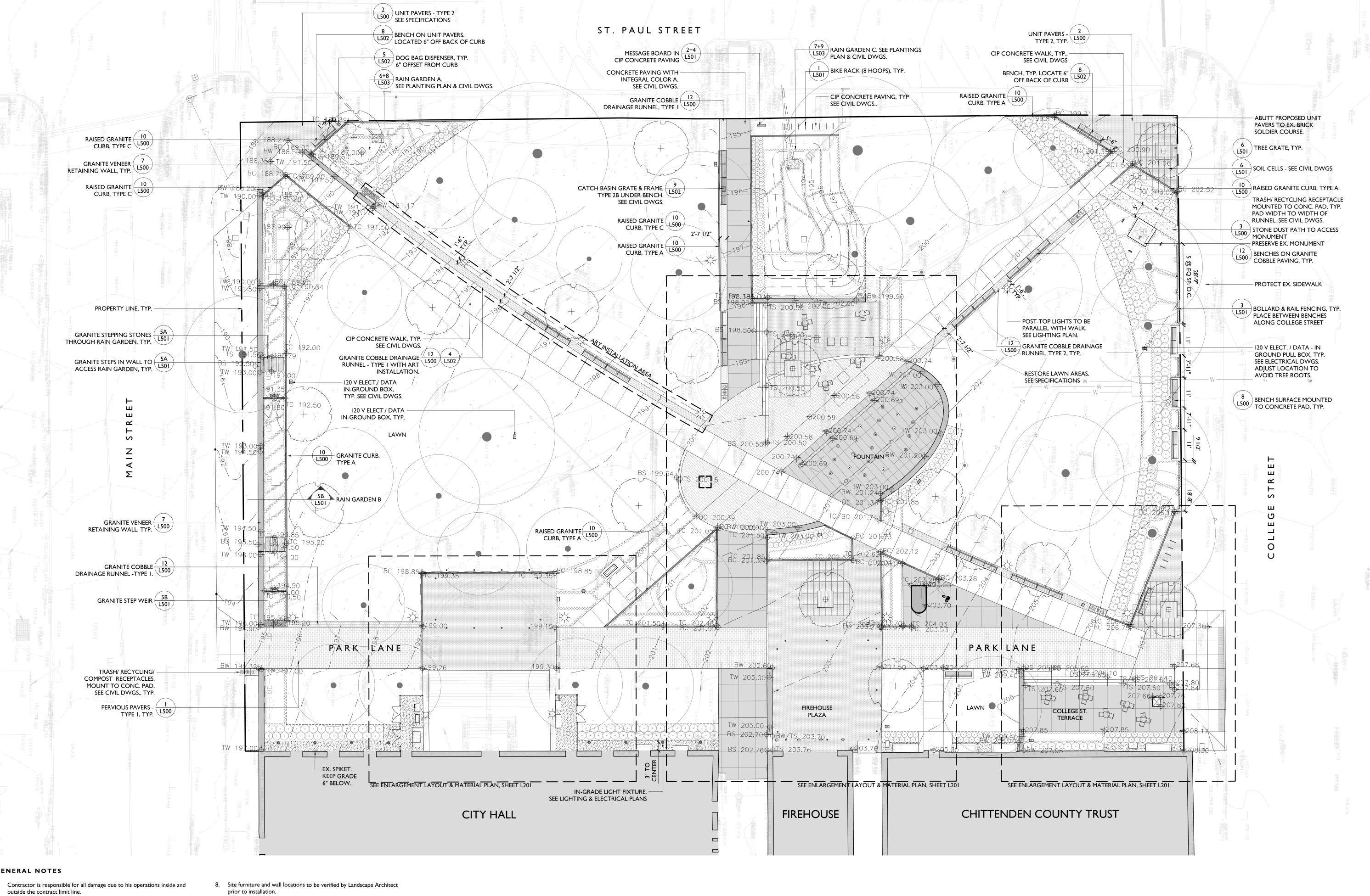
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PROJECT#

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#### **GENERAL NOTES**

construction.

- Contractor is responsible for checking spot elevations and verifying proposed grades by providing grade stakes. Grades must be approved by Landscape Architect prior to proceeding.
- Contractor shall blend new work smoothly with existing grades at contract limit line and/or limit of construction line. Contractor to verify that subgrades are 6 inches below finished grade
- prior to spreading top soil for seeded areas. All walks shall have 2% cross pitch, and all step treads and wall caps shall have 1% cross pitch unless otherwise noted.
- Architect approval. Walkway layout to be approved by Landscape Architect prior to

6. Light fixture locations may be field adjusted with prior Landscape

- 9. General Contractor is responsible for all erosion control measures during
- construction. 10. It is the intent of this contract to avoid any disturbance to existing trees or shrubs on site other than those specifically designated for transplant or
- 11. All existing trees shall be protected. Any damages by construction operations shall result in a fine to the contractor. Liquidated damages shall be based on the tree value specified by the City's Tree Value
- Inventory. Shrubs shall be \$100 each. 12. Base survey prepared by DuBois & King Inc. and Mapping in August 2016



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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

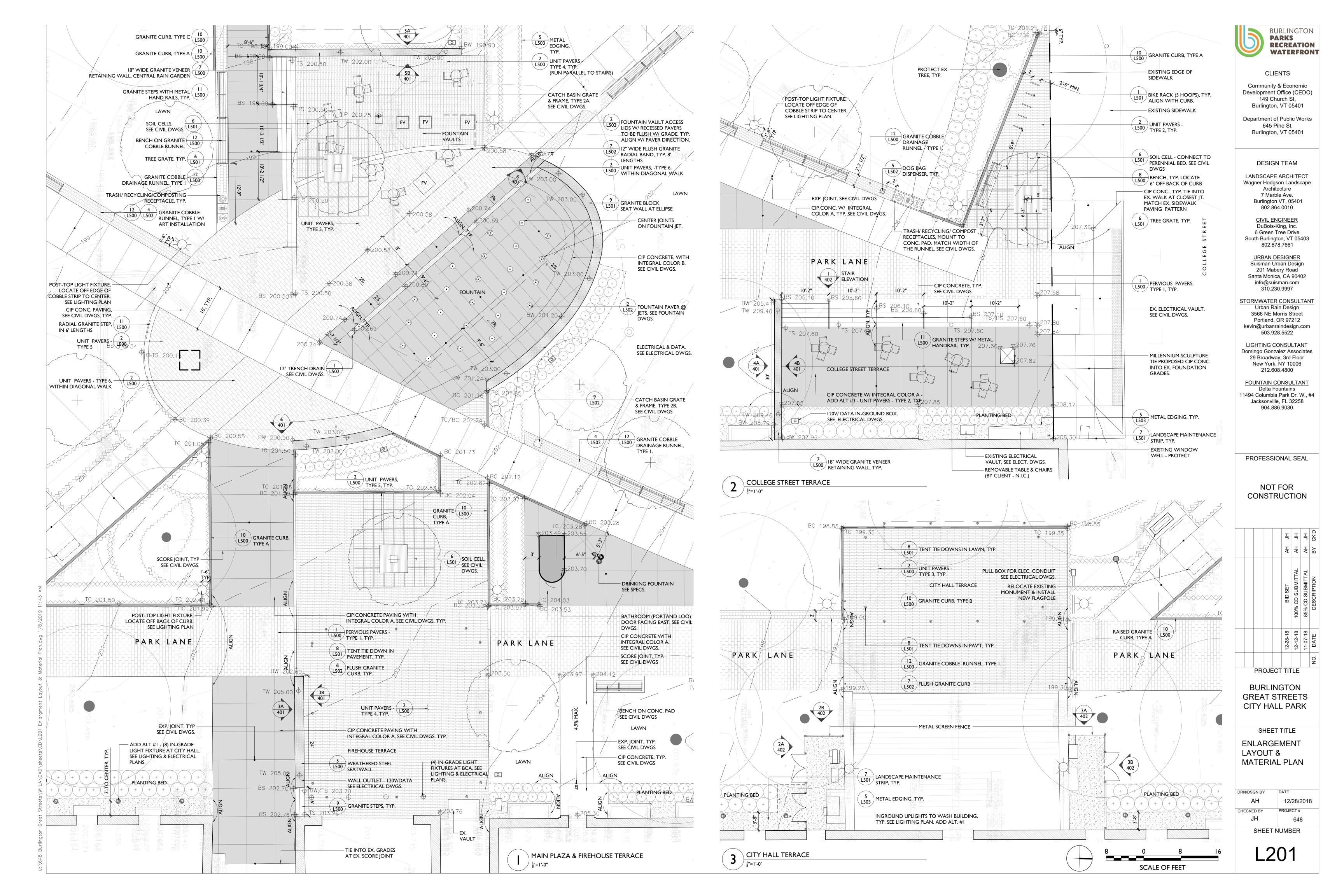
**OVERALL LAYOUT** & MATERIAL PLAN

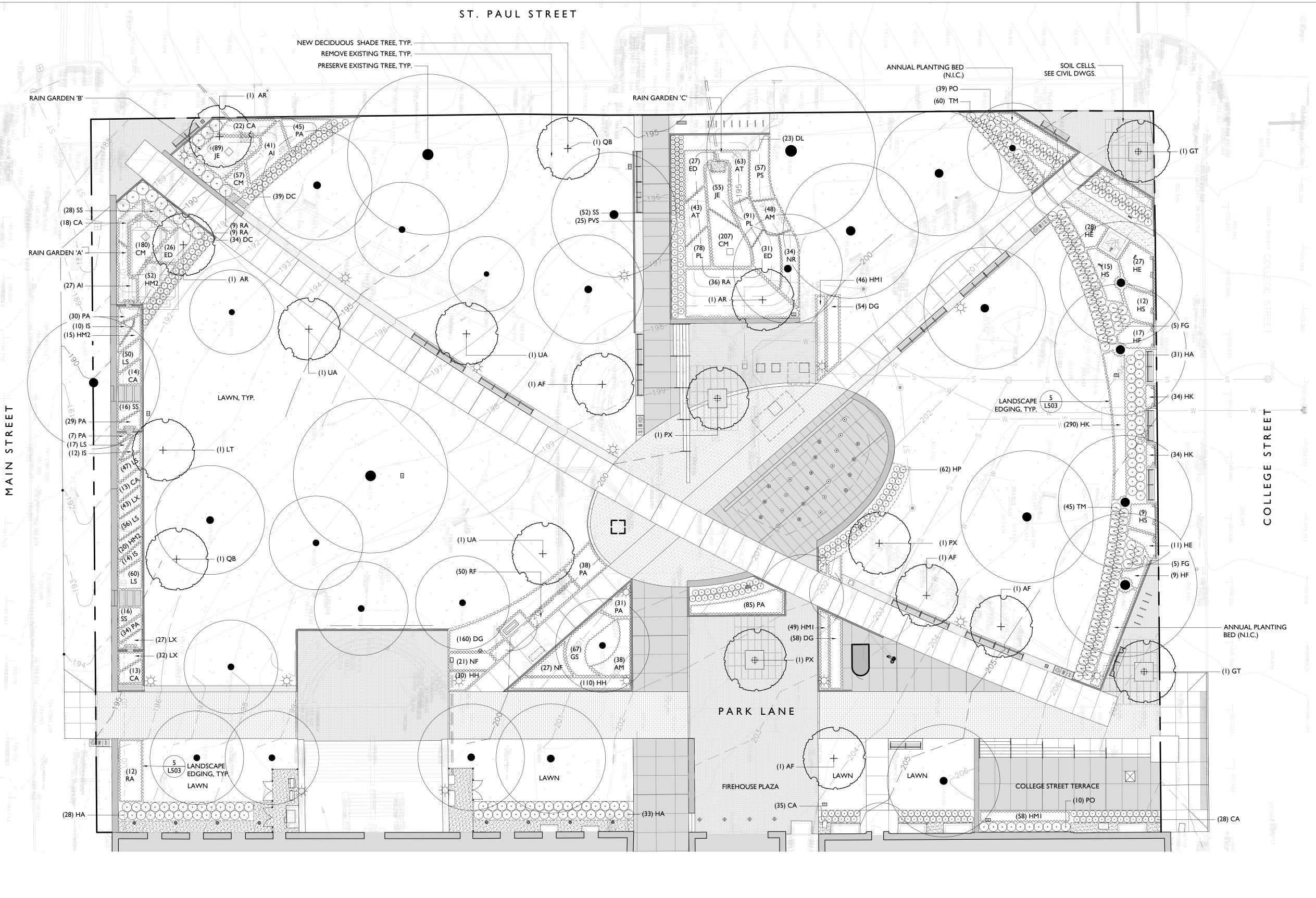
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### PLANT SCHEDULE

QTY.	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING
CII	DUOUS TREES (Supplied b	by City)		
4	Acer x freemanii 'Celebration'	CELEBRATION MAPLE	3.5-4" CAL.	AS SHOWN
3	Acer rubrum 'Redpointe'	RED MAPLE	3.5-4" CAL.	AS SHOWN
2	Gleditsia triacanthos f. inermis 'Shademaster'	THORNLESS HONEYLOCUST	4-4.5" CAL.	AS SHOWN
3	Platanus X Acerfolia 'Exclamation'	LONDON PLANETREE	4-4.5" CAL.	AS SHOWN
2	Quercus bicolor	SWAMP WHITE OAK	4-4.5" CAL.	AS SHOWN
I	Liriodendron tulipifera	TULIP TREE	4.5-5" CAL.	AS SHOWN
3	Ulmus americana 'Accolade'	PRINCETON AMERICAN ELM	4.5-5" CAL.	AS SHOWN
R U	BS			<u>I</u>
	4 3 2 3 2 1 3	Acer x freemanii 'Celebration' Acer rubrum 'Redpointe' Gleditsia triacanthos f. inermis 'Shademaster' Platanus X Acerfolia 'Exclamation' Quercus bicolor Liriodendron tulipifera	Acer x freemanii 'Celebration' Acer rubrum 'Redpointe' Clebration' CELEBRATION MAPLE RED MAPLE Cleditsia triacanthos f. inermis 'Shademaster' Platanus X Acerfolia 'Exclamation' CELEBRATION MAPLE RED MAPLE LHORNLESS HONEYLOCUST CONDON PLANETREE COURT SWAMP WHITE OAK Liriodendron tulipifera Ulmus americana 'Accolade' PRINCETON AMERICAN ELM	Acer x freemanii 'Celebration' Acer rubrum 'Redpointe' Celebration' Red MAPLE Color MAPLE

TM	105	Taxus x media 'Tauntonii	TAUNTON DWARF YEW	24"-30" B&B	30" O.C.			
FG	10	Fothergilla gardenii	DWRF FORTHERGILLA	#3	3' O.C.			
НА	92	Hydrangea arborescens 'NCHAI' Invincibelle Spirit II	SMOOTH HYDRANGEA	#3	3' O.C.			
HP	62	Hydrangea paniculata 'Little Quickfire'	DWARF QUICKFIRE HYDRANGEA	#3	2' O.C.			
PO	49	Physocarpus opulifolius 'Little Devil'	LITTLE DEVIL NINEBARK	#3	30" O.C.			
RA	12	Rhus aromatica 'Gro-Low'	FRAGRANT SUMAC	#3	4' O.C.			
O R	ORNAMENTAL GRASSES							

#### OKNAMENIAL GRASSES

CA	63	Calamagrostis x acutiflora ' Karl Foerster'	FEATHER REED GRASS	#2	18" O.C.
DG	272	Deschampsia cespitosa 'Goldtau'	GOLD DEW TUFTED HAIR GRASS	#I	18" O.C.
HK	358	Hanconechloa macra 'Aureola'	JAPANESE FOREST GRASS	#I	12" O.C.

#### PERENNIALS

. —		ITITALS			
AM	38	Alchemilla mollis	LADY'S MANTLE	#1	2' O.C.
GS	67	Geranium sanguineam	BLOODY CRANSBILL	#1	18" O.C.
HH	140	Hemerocallis 'Happy Returns'	DAYLILY	#1	16" O.C.
HMI	153	Hemerocallis 'Mix'	SHORT DAYLILY MIX	#1	18"-24" O.C.
		('Pardon Me', Always Afternoon' & 'Rosy Returns')			
HE	58	Hosta 'Elegans'	HOSTA	#2	30" O.C.
HF	26	Hosta fortunei 'Albo Marginata'	HOSTA	#2	30" O.C.
HS	36	Hosta 'Sum & Substance'	HOSTA	#2	3' O.C.
NF	48	Nepetax fassenii ' Walkers Low'	CATMINT	#1	2' O.C.
PA	154	Perovskia atriplicifolia 'Little Spire'	RUSSIAN SAGE	#1	18" O.C.
RF	50	Rudbeckia fulgida 'Goldsturm'	BLACK-EYED SUSAN	#I	18" O.C.

Vista Seed Partners

(800) 975-6939

www.vistaseedpartners.com

#### LAWN AREAS

Base Bid: hydroseed compying with VTrans 651.06(b) Add Alt #2: Sod complying with VTrans 651.08

Hydroseed Seed Mix - Grounds Mixture by greenspace. Tall Fescue: 30%, Falcon IV & 20%, Dallas Kentucky Bluegrass: 20% Diva Kentucky Bluegrass Perennial Ryegrass: 20% Metolius Perennial Ryegrass Turf Type Tetra ploid Perennial Ryegrass: 10% Double Time

Sod (Add Alt.) - Bluegrass/Fescue mix. Submit specifications to landscape architect for approval

#### RAIN GARDENS A, B & C

AM	48	Alchemilla mollis	LADY'S MANTLE	# I	18" O.C.
Al	68	Asclepias incarnata	SWAMP MILKWEED	# I	2' O.C.
AT	106	Athyrium filix-femina	LADY FERN	#1	18" O.C.
CA	80	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	# I	2' O.C.
CM	444	Carex muskingumensis 'oehme'	PALM SEDGE	# I	12" O.C.
DC	73	Deschampsia cespitosa	TUFTED HAIR GRASS	# I	18" O.C.
DL	23	Diervilla Ionicera	BUSH HONEYSUCKLE	#3	30" O.C.
ED	84	Eutrochium dubium 'Little Joe'	JOE PYE WEED	# I	2' O.C.
HM2	87	Hemerocallis mix ( 'Halcyon', 'Catherine Woodbury')	DAYLILY	# I	18" O.C.
IS	36	Iris sibirica 'Butter & Sugar'	SIBERIAN IRIS	# I	18" O.C.
JE	144	Juncus effusus	COMMON RUSH	# I	18" O.C.
LX	102	Leucanthemum x superbum 'Snowcap'	SHASTA DAISY	# I	12" O.C.
LS	230	Liatris spicata 'Kobold'	BLAZING STAR	#1	12" O.C.
NR	34	Nepeta racemosa 'Walker's Low'	CATMINT	# I	2' O.C.
PA	145	Perovskia atriplicifolia 'Little Spire'	russian sage	# I	12" O.C.
PL	169	Polygonatum odoratum 'Variegatum'	VARIEGATED SOLOMON'S SEAL	# I	12" O.C.
PS	57	Pulmonaria saccharata 'Mrs. Moon'	BETHLEHEM SAGE	#1	18" O.C.
PVS	25	Panicum virgatum 'Shenandoah'	SWITCH GRASS	#2	18" O.C.
RA	54	Rhus aromatica 'Gro-Low'	FRAGRANT SUMAC	#3	4' O.C.
SS	112	Schizachyrium scoparium	LITTLE BLUESTEM	#I	18" O.C.

#### **PLANTING NOTES**

- I. All plant material in the plant schedule shall be nursery grown in accordance with ANSI in accordance with Z.60.1 Standards for measurement of nursery stock.
- 2. All plants purchased by the Contractor shall be guaranteed by the Contractor for a period of one year from date of receipt of Provisional
- Acceptance of the completed installation by the Owner. 3. Replacement plantings will be required prior to Final Acceptance for any plants which are missing, not true to specifications, have died or are unhealthy or uncharacteristic of the species (due to excessive
- pruning, dieback or other reasons). 4. All plant materials shall be selected and tagged at the nursery by Landscape Architect.
- 5. The Landscape Architect's approval is required for any plant material substitutions.
- 6. The Contractor is responsible for immediately notifying the Landscape Architect if any plant quantity discrepancies exist between the planting plan and the plant list.
- 7. The Landscape Contractor shall have the General Contractor locate all underground utilities in areas to be landscaped prior to commencing any excavation. Adjustments to tree locations will be allowed where utility conflicts are clearly a problem and with prior site approval by Landscape Architect.
- 8. All plant bed, shrub and tree location shall be staked in the field by Contractor for Landscape Architects approval prior to installation. 9. Adjustments to plant beds shall be approved by Landscape Architect.
- 10. General Contractor is responsible for all erosion control measures during construction. 11. All disturbed areas are to be topsoiled and seeded or sodded, as
- indicated in the planting plan.
- 12. Use available bark mulch, Hemlock, cedar or pine bark mulch shall consist of double-shredded hardwood mulch or approved equal. Contractor is responsible for providing samples of mulch to Landscape Architect. Mulch plant materials as shown on plan and details.

13. It is the intent of this contract to avoid any disturbance to existing

- trees or shrubs on site other than those specifically designated for transplant or removal. 14. All existing trees shall be protected. Any damages by construction operations will result in a fine to the contractor. These liquidated
- damages shall be based on the tree value specified by the City's Tree Value Inventory. Shrubs shall be \$100 each. 15. During construction, and until the end of warranty period, existing trees that are showing signs of stress as determined by the Landscape Architect are to be deep root fertilized, two injections per caliper inch
- per tree at 18" 24" depth with Peter's 20/20/20 fertilizer or Landscape Architect approved equal. 16. Contractor is responsible for verifying and confirming all plant counts as supplied by the Landscape Architect with field conditions as
- constructed. Any discrepancies shall be reported to Landscape Architect for approval and direction. 17. Prior to commencement of any construction, all existing trees to

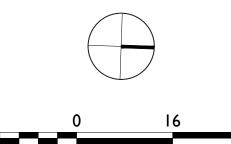
remain shall receive tree protection fence at outer edge of dripline

whenever possible. 18. For all plantings in Bioretention swales & basins top dress with

#### TREE PROTECTION NOTES

- I. Proposed methods, and schedule for effecting tree and plant protection shall be submitted for approval.
- 2. Proposed methods, materials, and schedule for root pruning, construction pruning, and tree fertilization shall be submitted for
- 3. All existing trees shall be protected. Any damage by construction operations shall result in a fine to the contractor. Liquid damages shall be based on the tree value specified by the City's Tree Value
- 4. A fine of \$1,000 will be levied against the Contractor for each incident of construction inside tree protection areas, that has not been appproved by the client.
- 5. Damages to trees, shrubs, and other vegetation will be assessed by the Architect and Owner in accordance with the International Society of Arboriculture (ISA) Guide.
- 6. Trees or roots visibly damaged will cause the Owner to withhold from the Contractor an assessed amount conforming to the requirements stipulated above for a period of two years. After that period the impact of the damaged to any tree will be assessed accordingly.
- 7. If any trees or shrubs designated to be saved are damaged and replacement is required, a number and diameter of trees or shrubs of the same species and variety, as specified by the Owner and Architect, shall be furnished and planted by the Contractor. The total inch diameter of the replacement trees or shrubs shall equal the diameter of the tree or shrub to be replaced. The Contractor shall not be liable for any loss or damage which occurs while the Contractor is complying with instructions given by the Owner,
- Architect, or arborist working on the Project. 8. The Contractor's attention is called to the fact that certain areas on the site exist as natural woodland spaces and are to remain as natural woodlands. Therefore, all construction operations must be performed in such a manner, which will preserve these existing natural environments as wood preserves.
- 9. Designated areas of trees, understory, and wildflowers are to remain untouched and unharmed. 10. Clearly mark all clearing limits in the field and accompany Architect on a joint review of clearing limits before clearing operations have
- commenced. Limit of clearing is generally defined as the limit of grading.

  11. Galvanized chain link fencing, 4 feet high. Stakes for fencing shall be 8
- feet galvanized steel posts, driven a minimum of 3 feet into the ground. Posts shall be spaced 10 feet on center maximum. 12. Prior to start of demolition work and clearing and grubbing operations, tree protection fencing shall be installed in accordance
- with the following: 13. Fencing shall be installed at the tree protection areas indicated on the 14. Fencing shall be installed a minimum of 15 feet beyond the drip line of
- the trees to be protected, unless otherwise approved by the Architect. 15. Where construction will be in close proximity to existing trees designated to remain, roots shall be pruned. Proximity shall be as
- determined in the field by the Landscape Architect or Arborist. 16. Suitable means for root pruning include, trenching, vibrating plow, water jet pruning and air spading with compressed air. Any method
- which tears roots or disturbs the soil beyond the grading limit is unacceptable. 17. Trees to receive root pruning shall be reviewed by an arborist for
- canopy pruning, fertilization and trench backfill recommendations. 18. Selective clearing within tree protection areas shall only be performed when and as directed by the Landscape Architect.
- 19. Except as otherwise indicated or requested by Landscape Architect, temporary protection devices and facilities installed during course of the work shall be removed only after all work which may injure or damage trees and plants is completed.



SCALE OF FEET

BURLINGTON **PARKS** RECREATION WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT

Wagner Hodgson Landscape Architecture

7 Marble Ave. Burlington VT, 05401

802.864.0010

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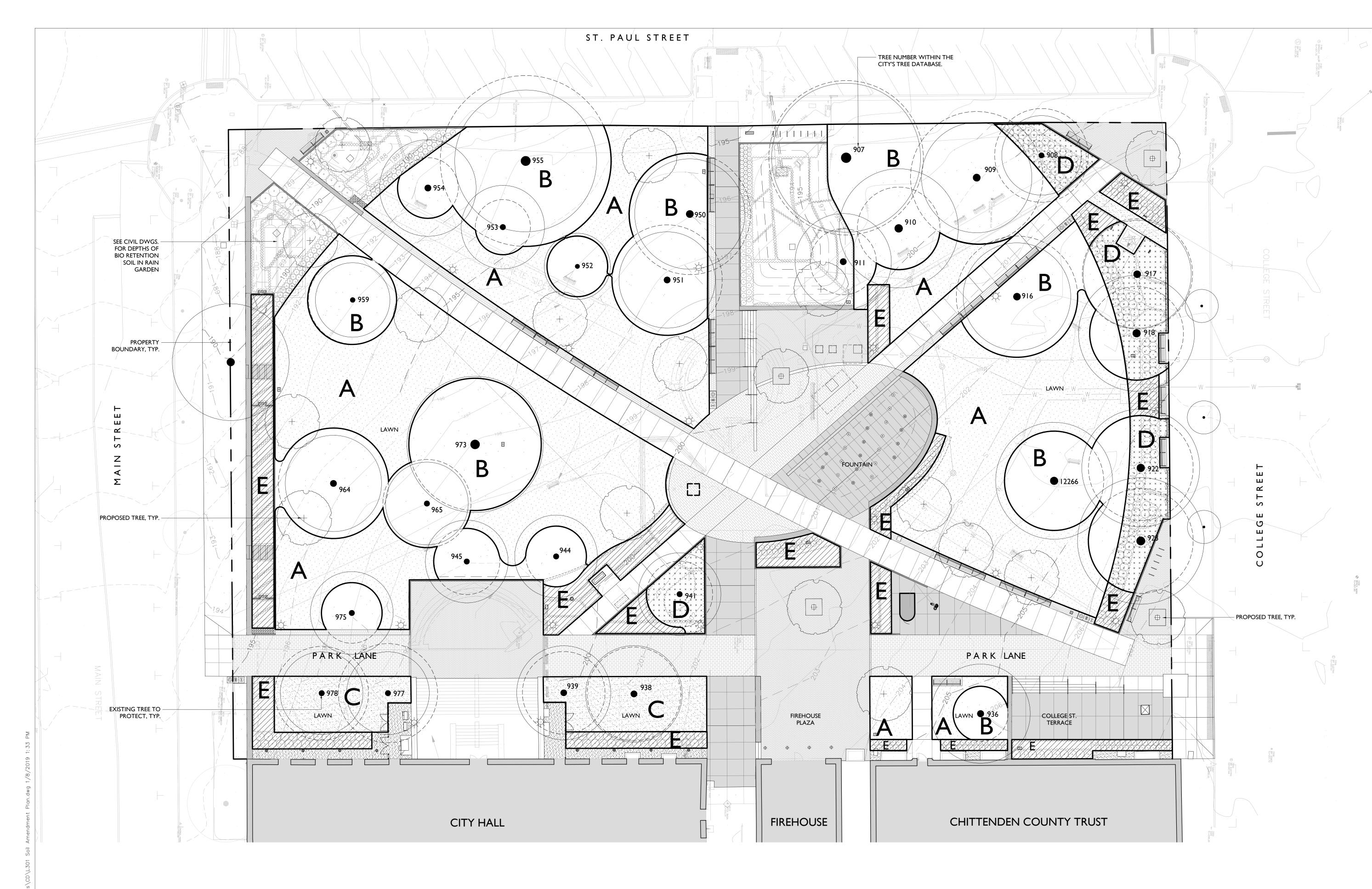
BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

PLANTING PLAN

DRN/DSGN BY 12/28/2018 PROJECT# CHECKED BY 648

SHEET NUMBER



### **SOIL AMENDMENT ZONES**

- A: PROVIDE 6" TOPSOIL, TAPERING TO LESS AS NECESSARY DUE TO PRESENCE OF TREE ROOTS OR TO MEET EXISTING GRADE WITHIN TREE CANOPY. SCARIFY SUBGRADE TO RECEIVE TOPSOIL.
- B: DO NOT CHANGE GRADE OVER ROOTS OF EXISTING TREES TO REMAIN. CONSULT CITY ARBORIST REGARDING AERATION AND APPLYING AMENDMENTS TO PROMOTE TURF ESTABLISHMENT.
- C: REMOVE MULCH & TOPDRESS WITH TOPSOIL FOR TURF ESTABLISHMENT.
- D: DO NOT CHANGE GRADE OVER ROOTS OF EXISTING TREES TO REMAIN. INSTALL PLANTS BETWEEN EXISTING TREE ROOTS AND AMEND WITH HORTICULTURAL SOIL PER PLANTING DETAILS.
- E: PROVIDE 18" DEEP HORTICULTURAL SOIL IN PLANTING BED.



CLIENTS

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BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

SOIL AMENDMENT PLAN

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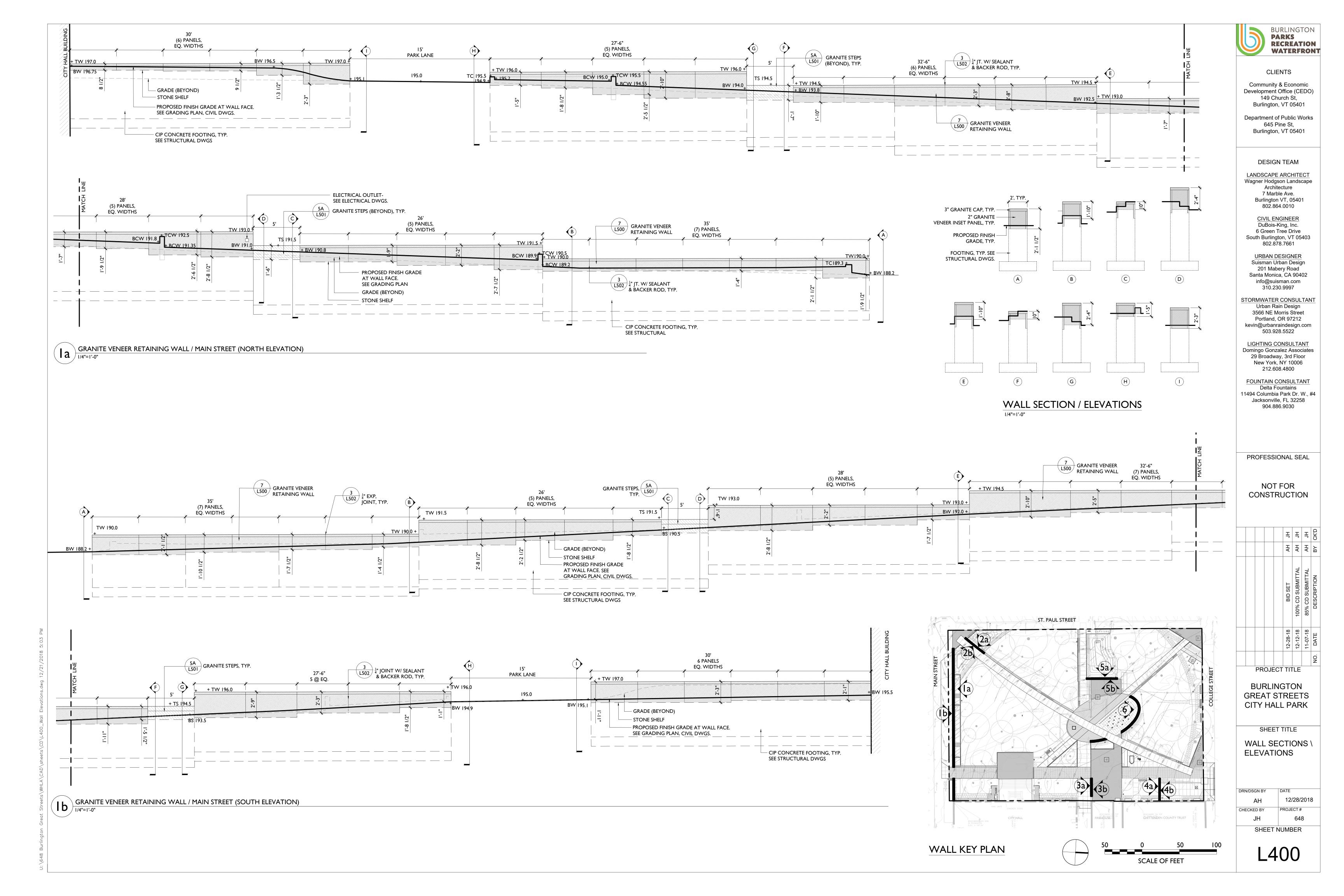
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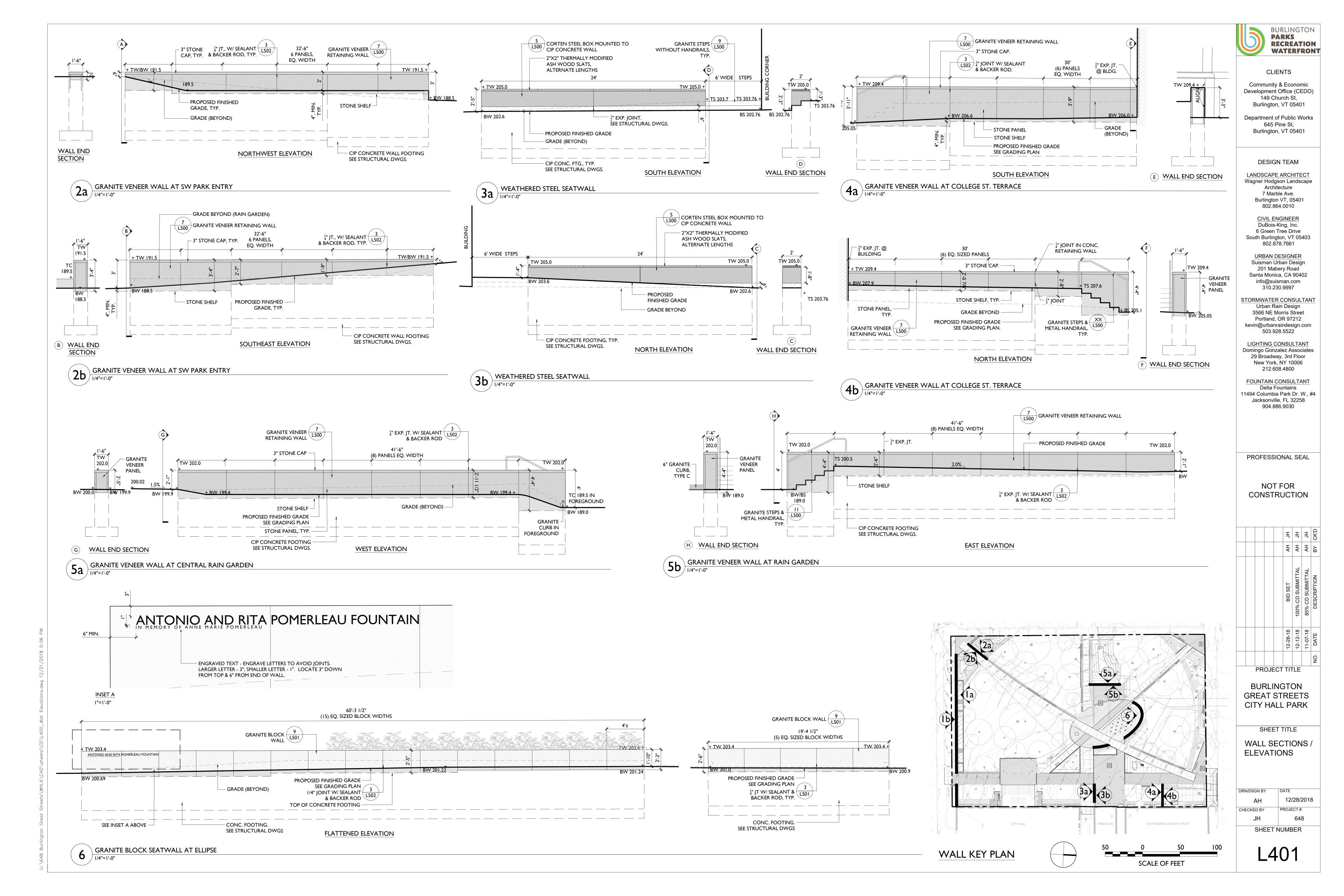
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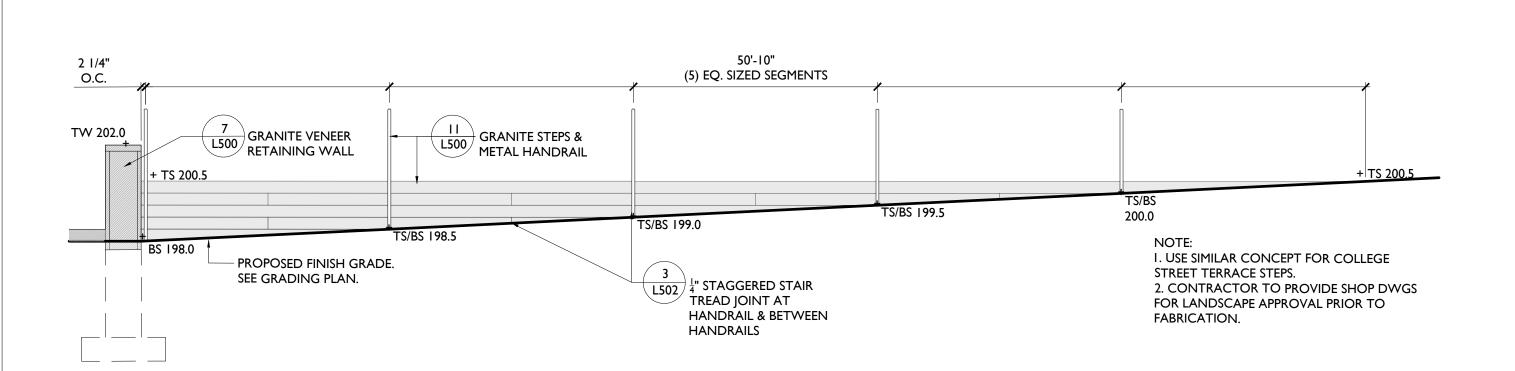
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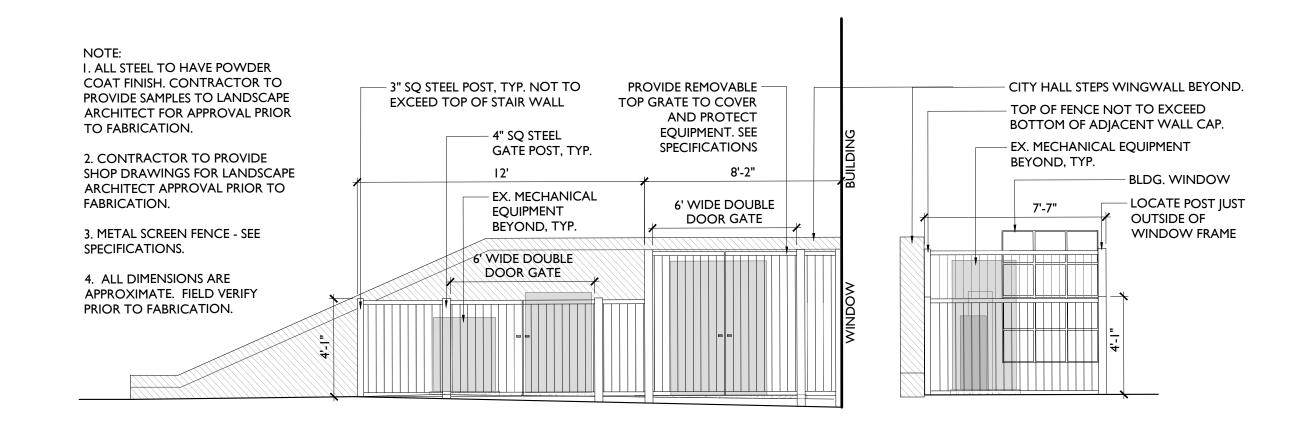
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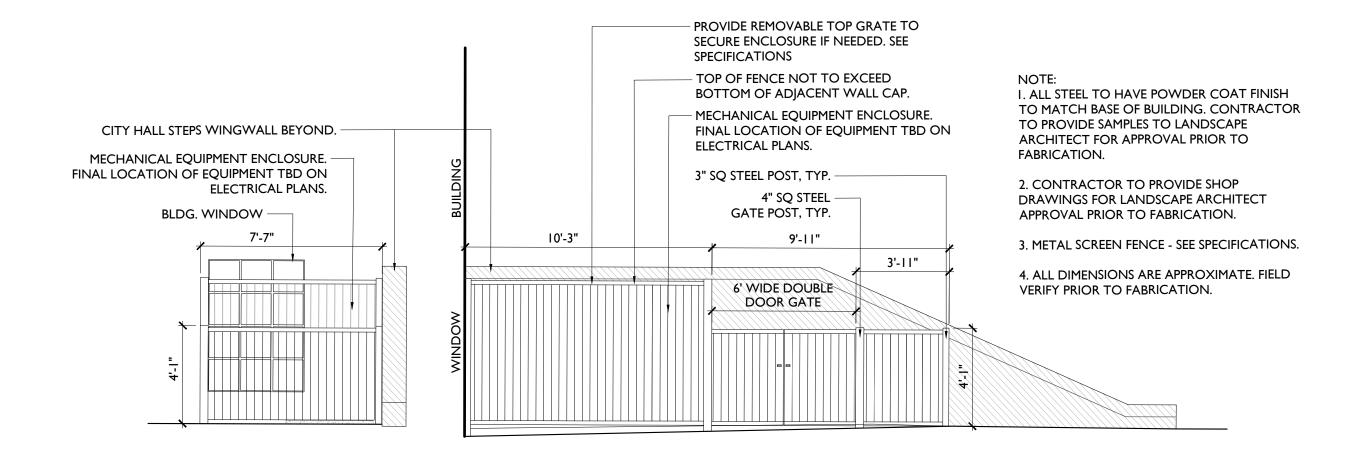


CENTRAL TERRACE STEPS ELEVATION / 1/4"=1'-0"



METAL SCREEN FENCE ELEVATION / SOUTH

METAL SCREEN FENCE ELEVATION / SOUTH



METAL SCREEN FENCE ELEVATION / NORTH

(3b) METAL SCREEN FENCE ELEVATION / NORTH

BURLINGTON **PARKS RECREATION** WATERFRONT

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BURLINGTON **GREAT STREETS** CITY HALL PARK

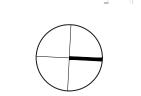
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STEPS & FENCE **ELEVATIONS** 

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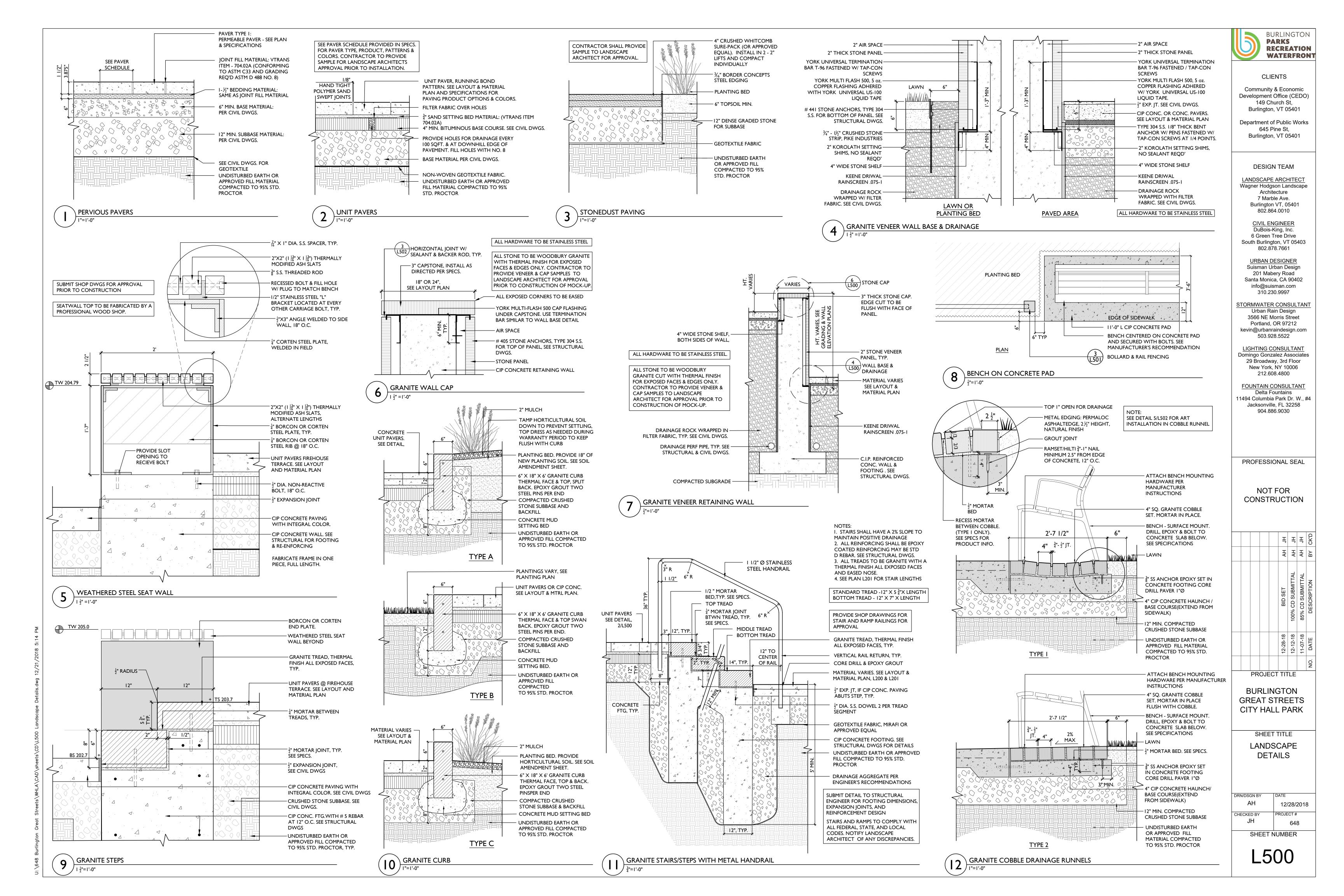
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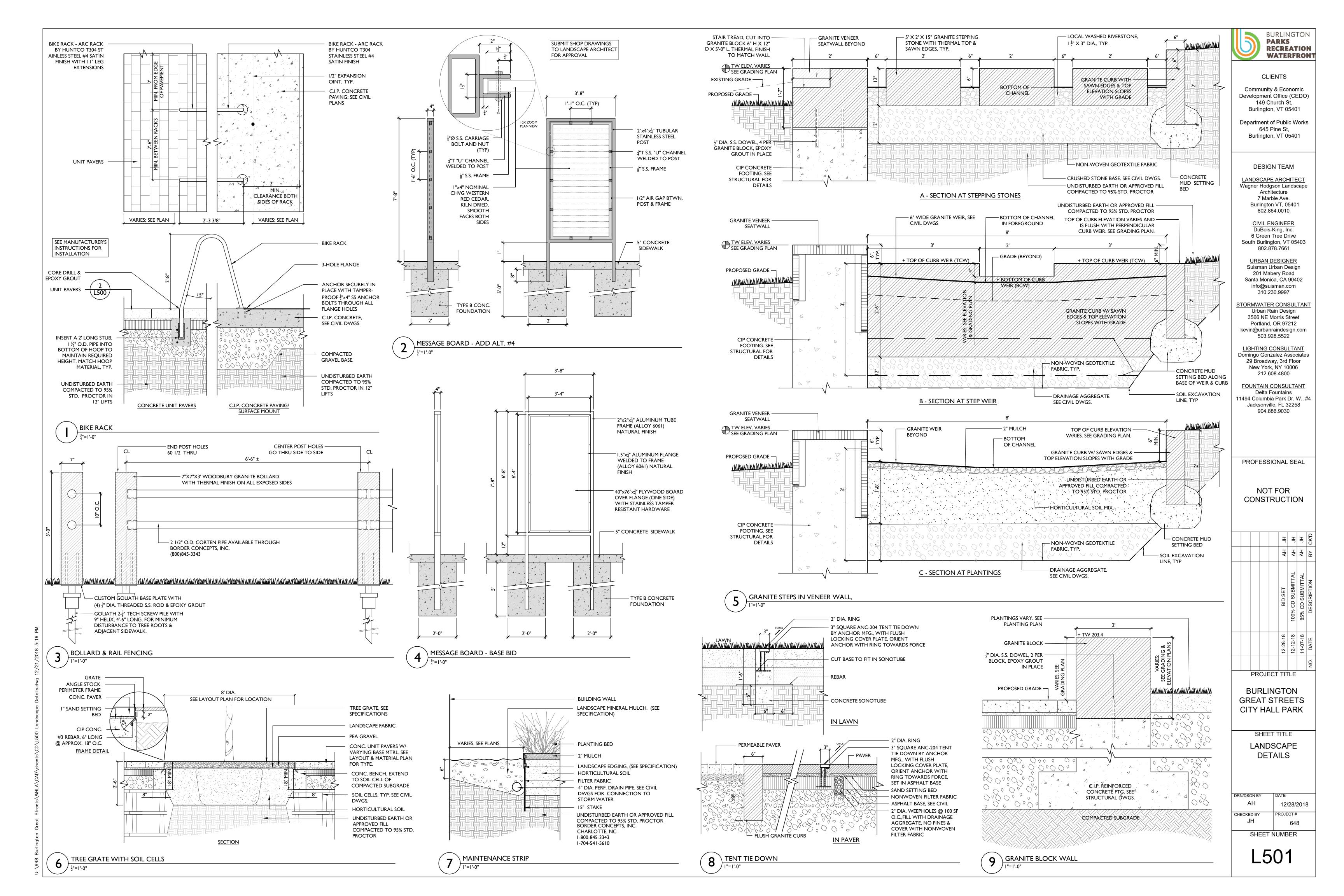


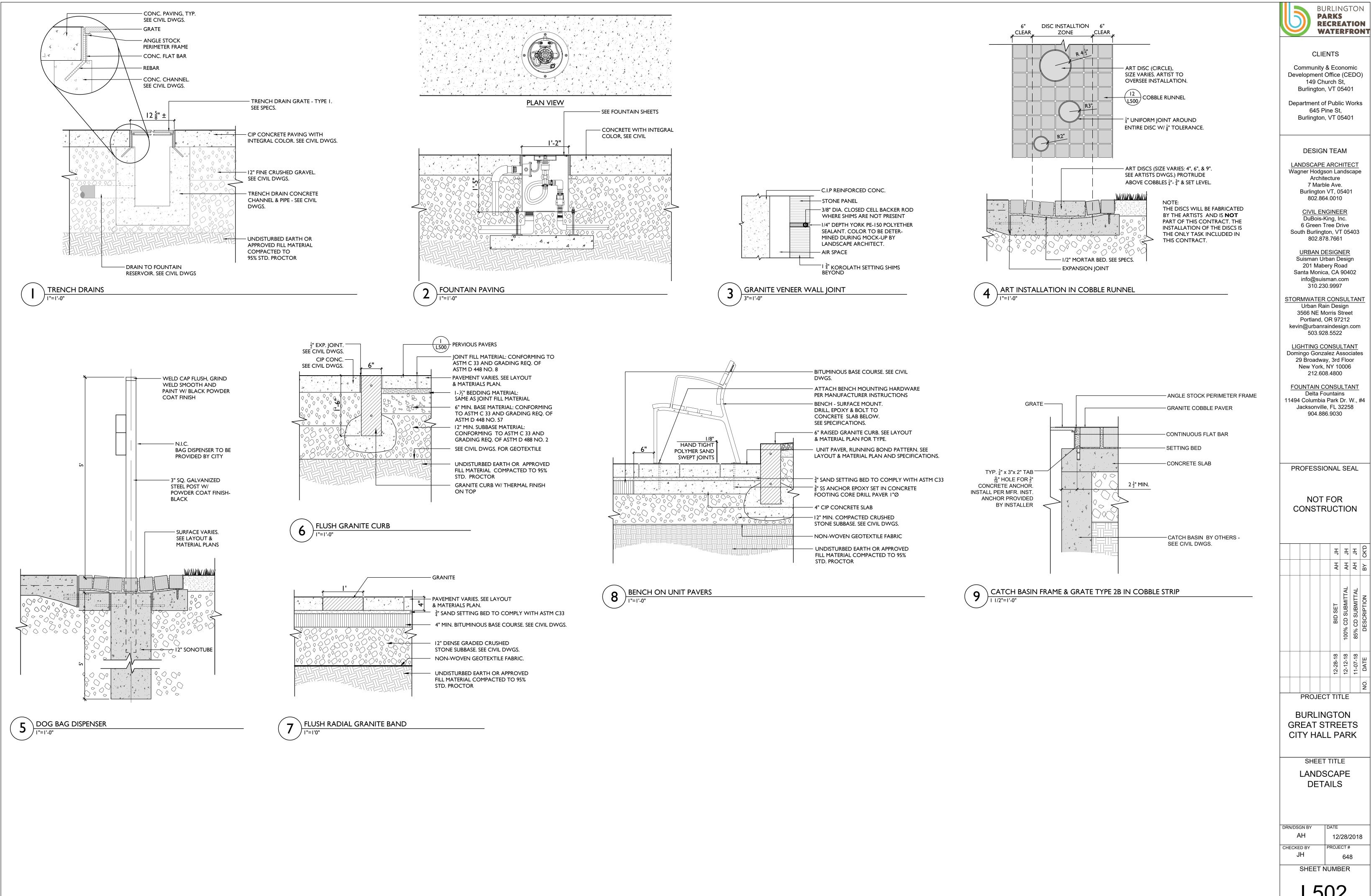


SCALE OF FEET

L402







CLIENTS Community & Economic

149 Church St, Burlington, VT 05401

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave.

**CIVIL ENGINEER** DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403

URBAN DESIGNER Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com

LIGHTING CONSULTANT Domingo Gonzalez Associates 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains 11494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

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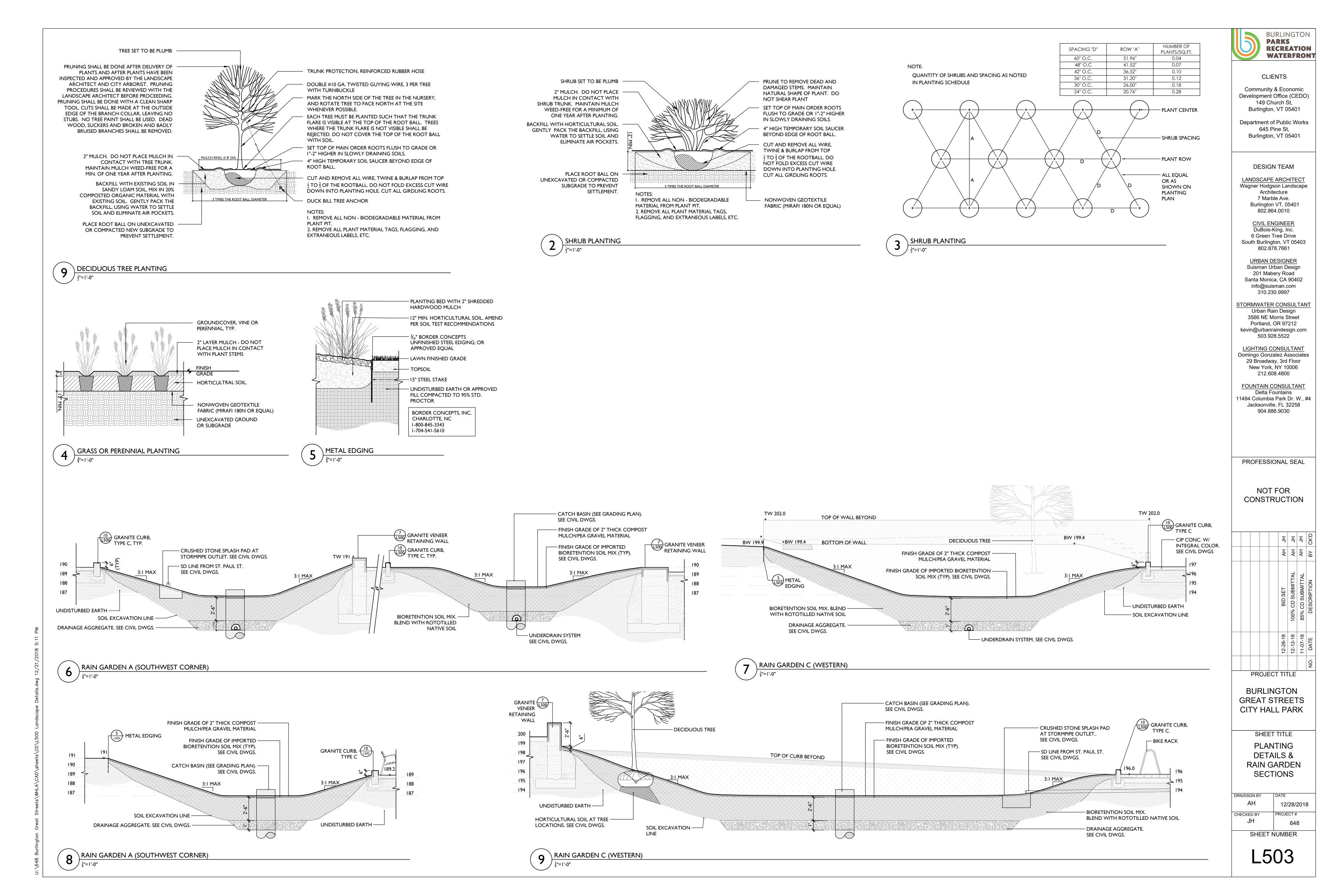
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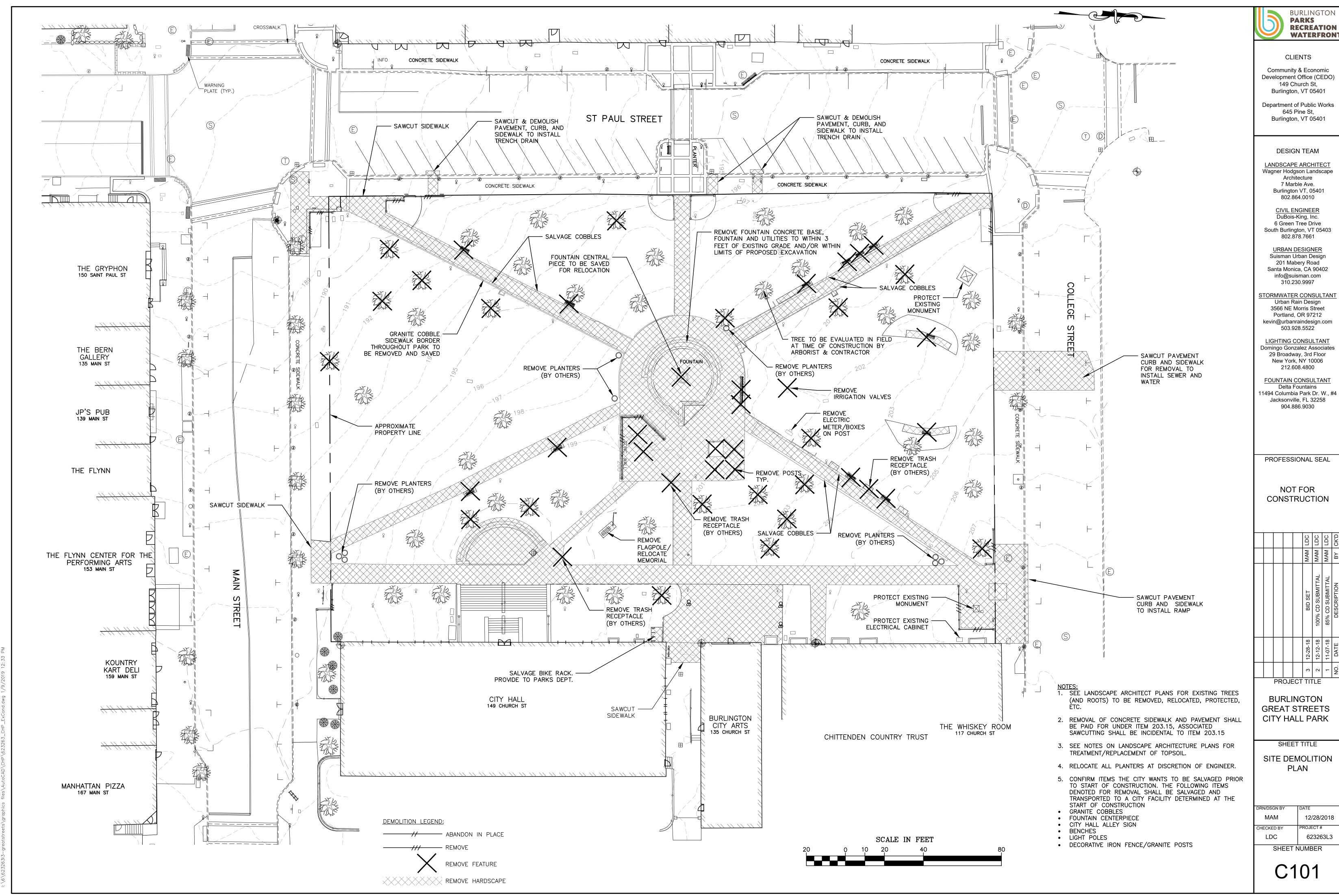
BURLINGTON

SHEET TITLE LANDSCAPE

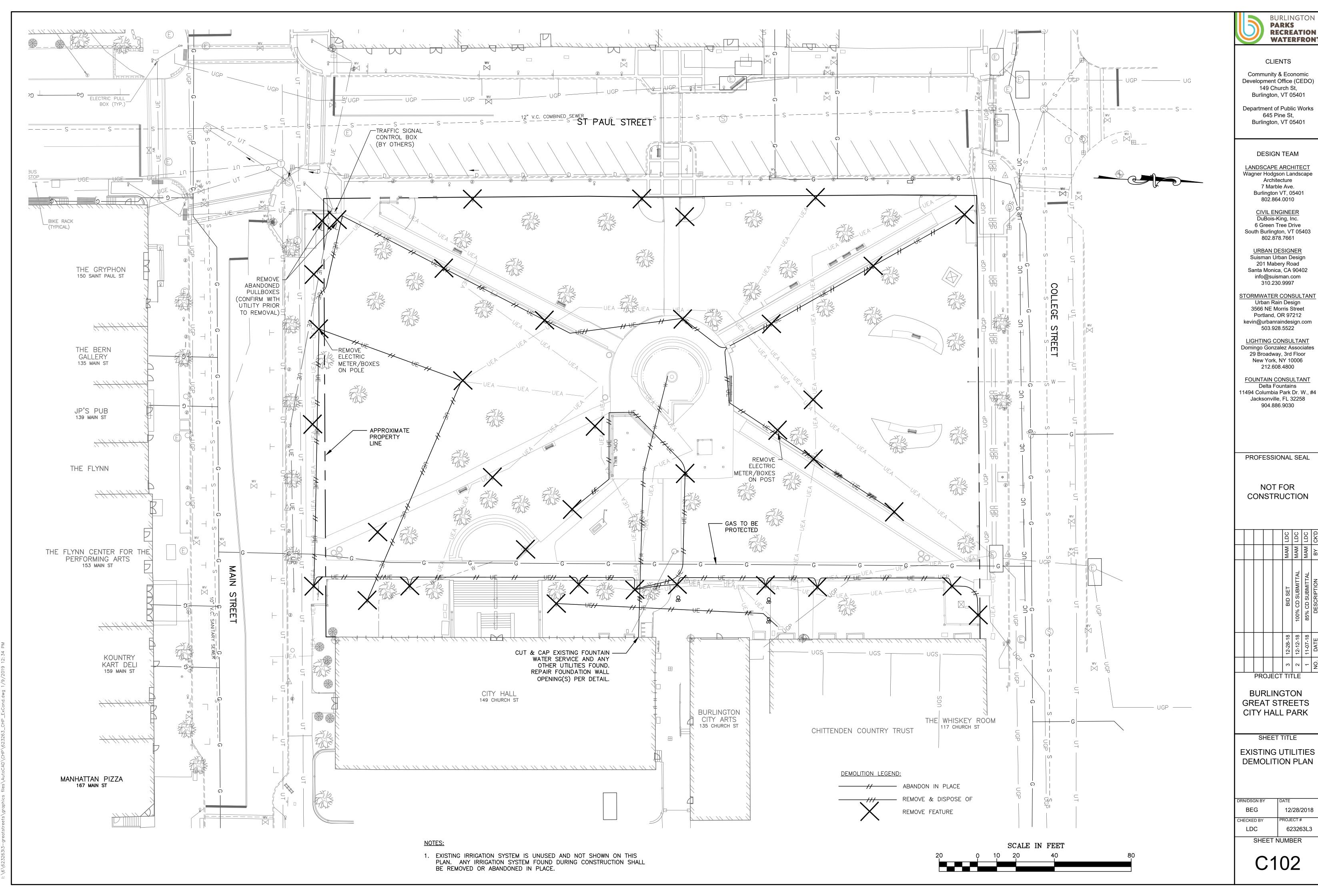
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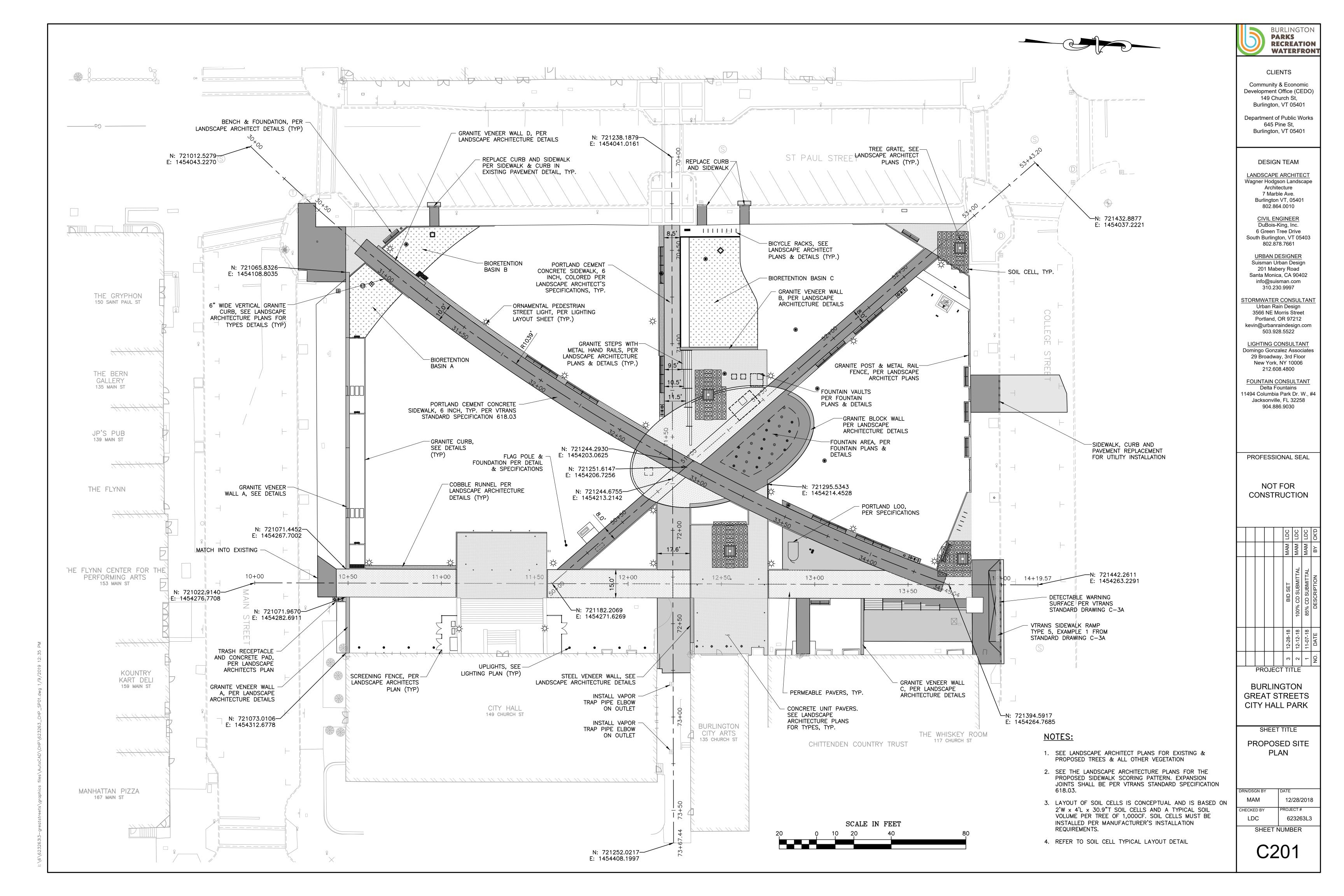


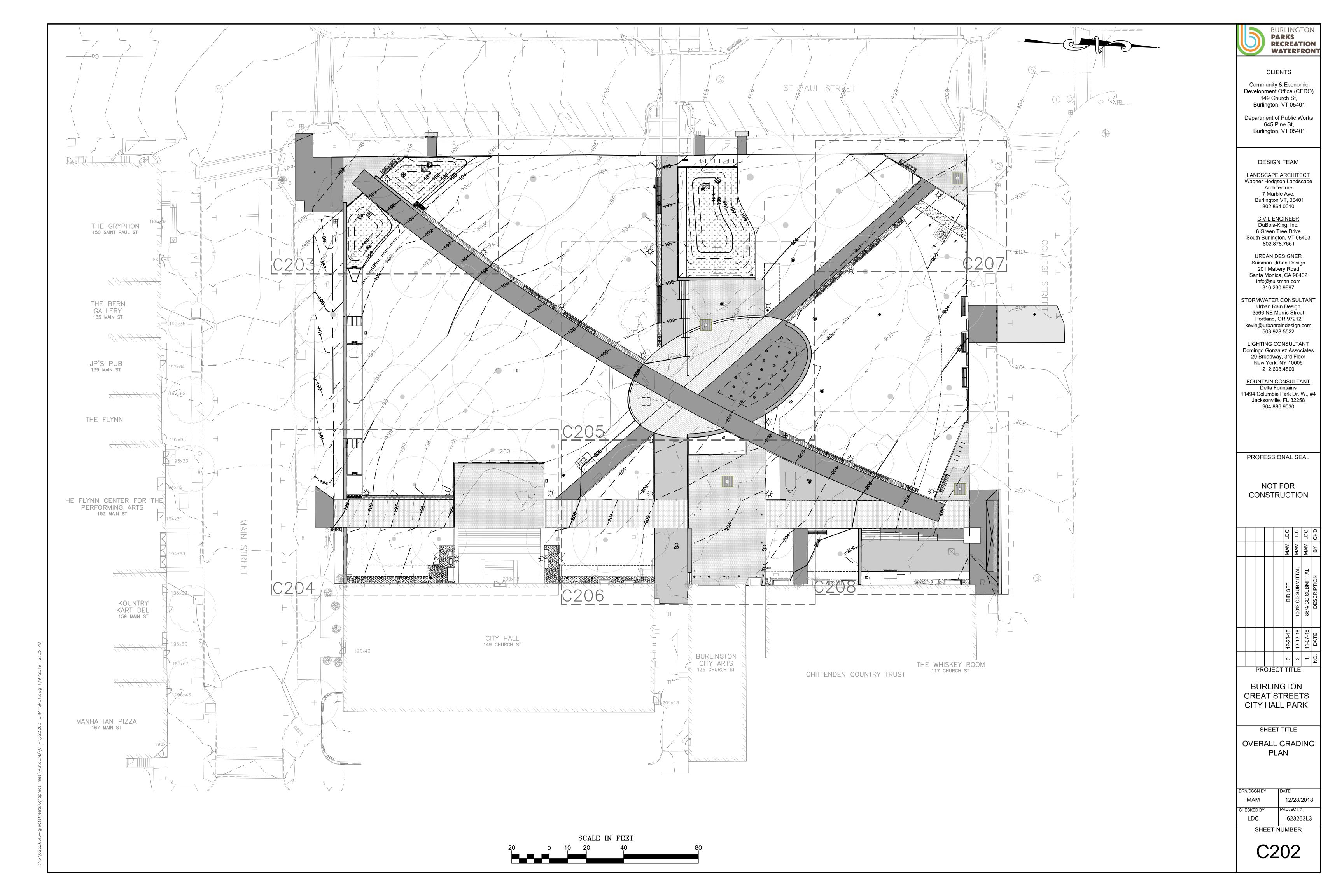
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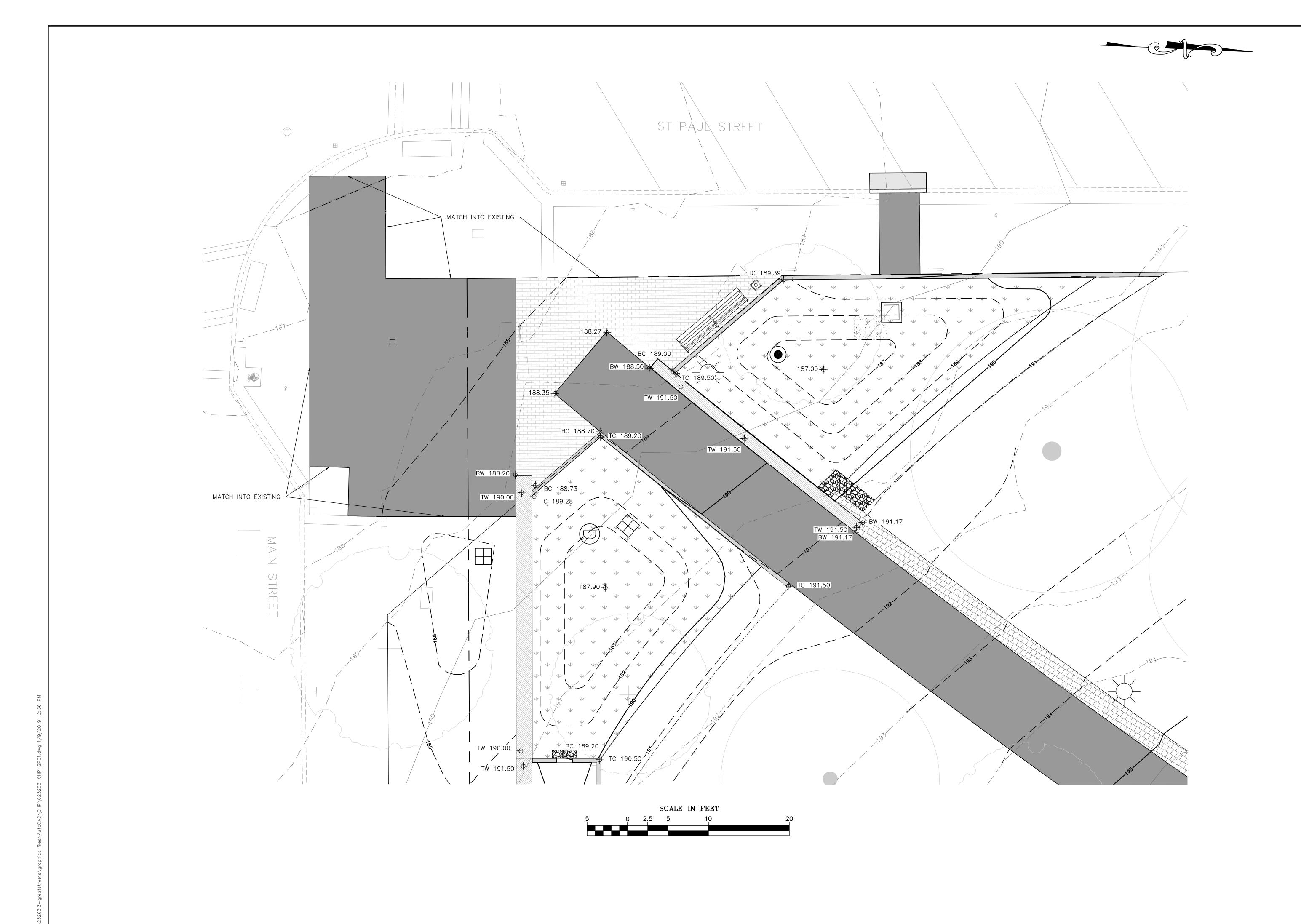


RECREATION WATERFRONT

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PROJECT TITLE									







CLIENTS

Community & Economic Development Office (CEDO) . 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT
Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

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FOUNTAIN CONSULTANT

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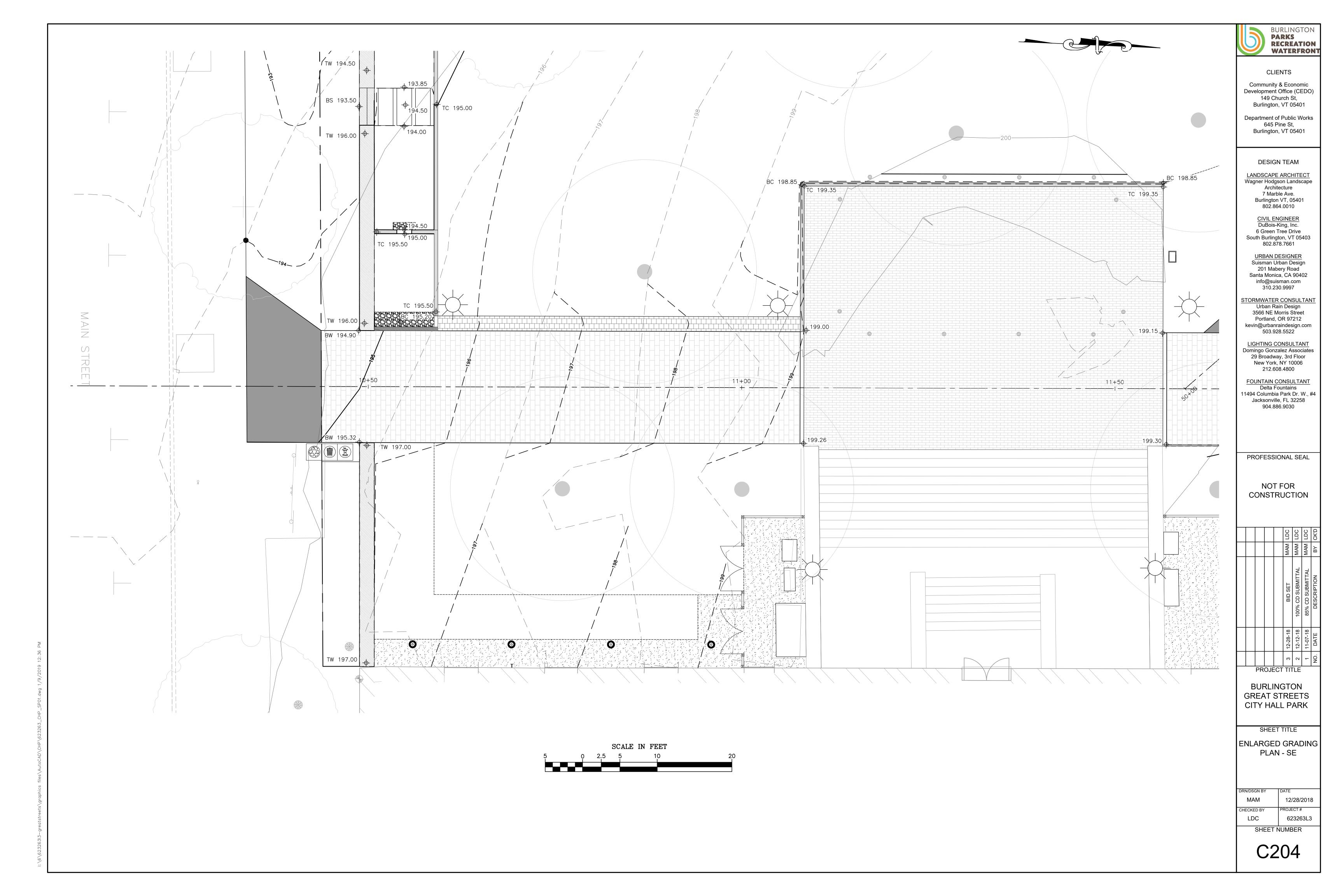
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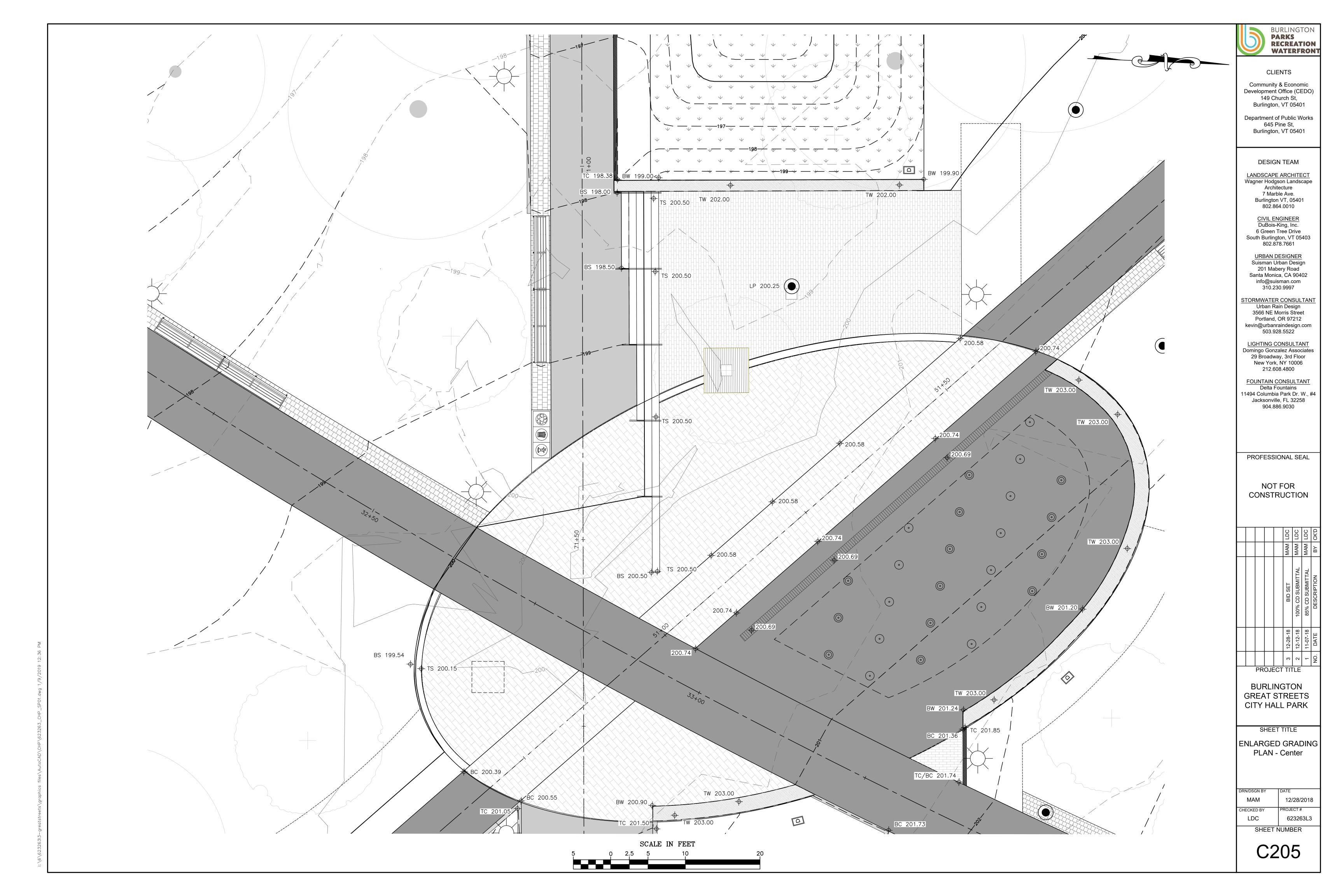
BURLINGTON GREAT STREETS CITY HALL PARK

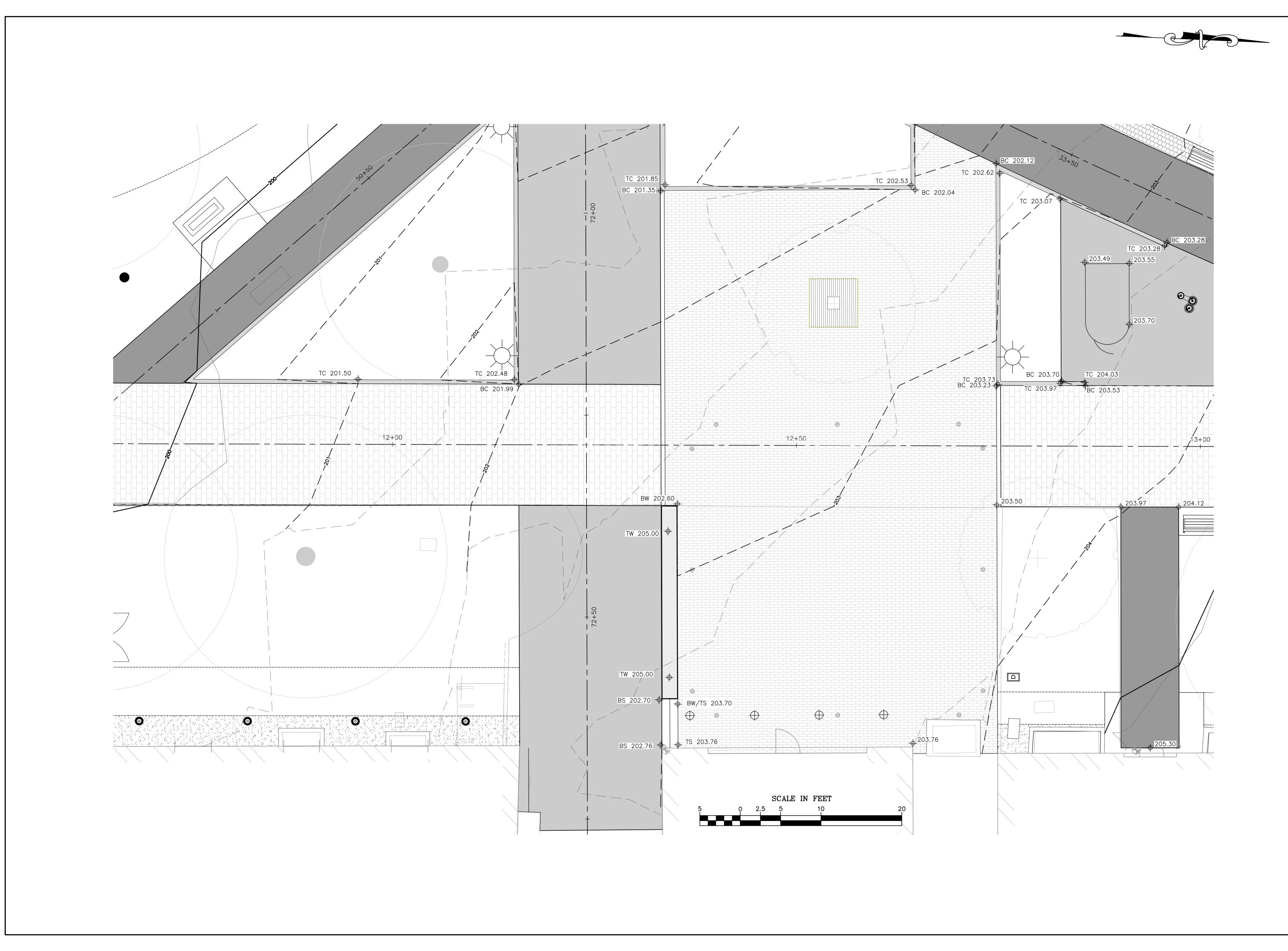
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ENLARGED GRADING PLAN - SW

DRN/DSGN BY	DATE					
MAM	12/28/2018					
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CLIENTS

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Jacksonville, FL 32258
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BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

ENLARGED GRADING PLAN - E

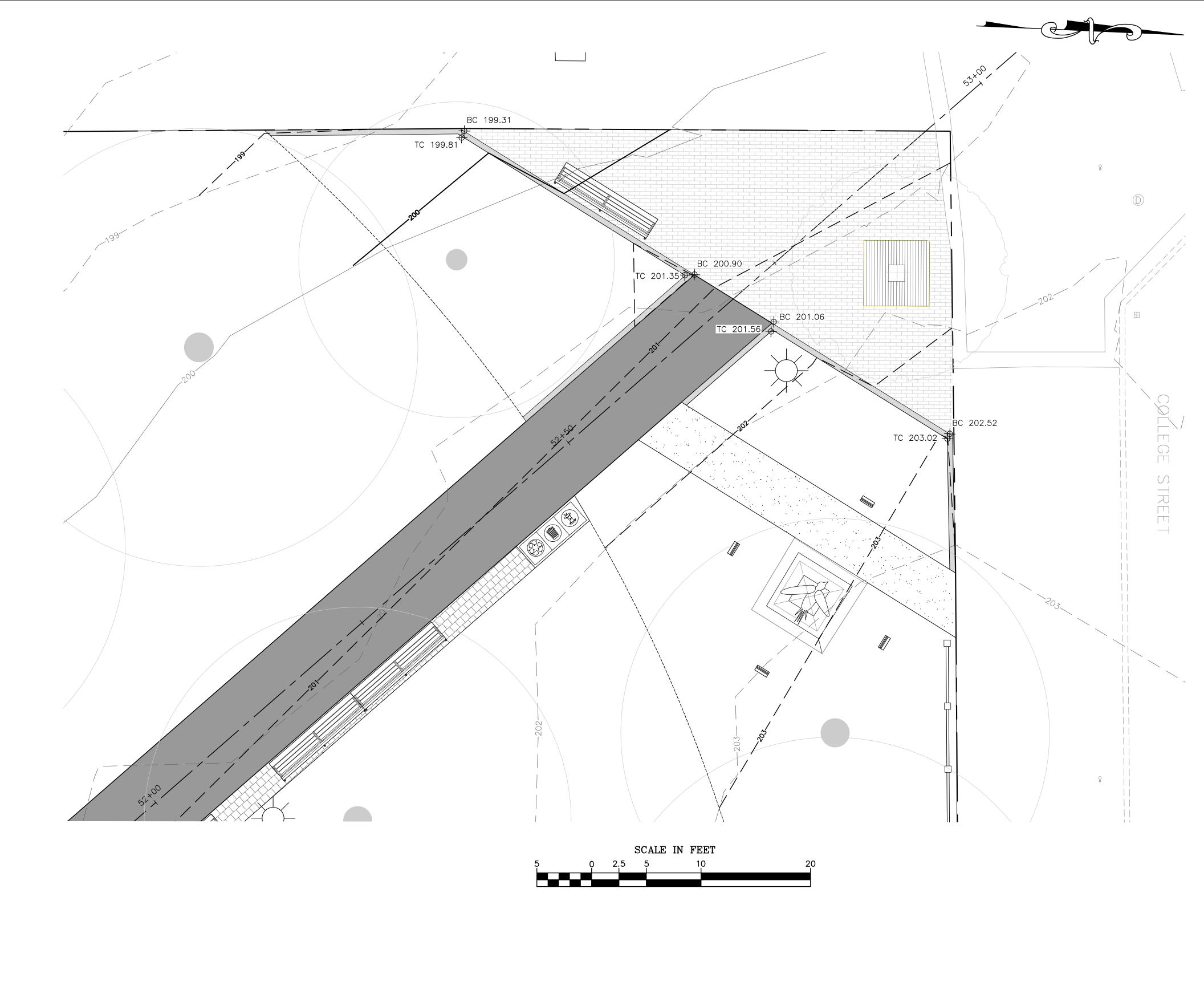
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 PROJECT #

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 623263L3

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WATERFI

CLIENTS

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BURLINGTON GREAT STREETS CITY HALL PARK

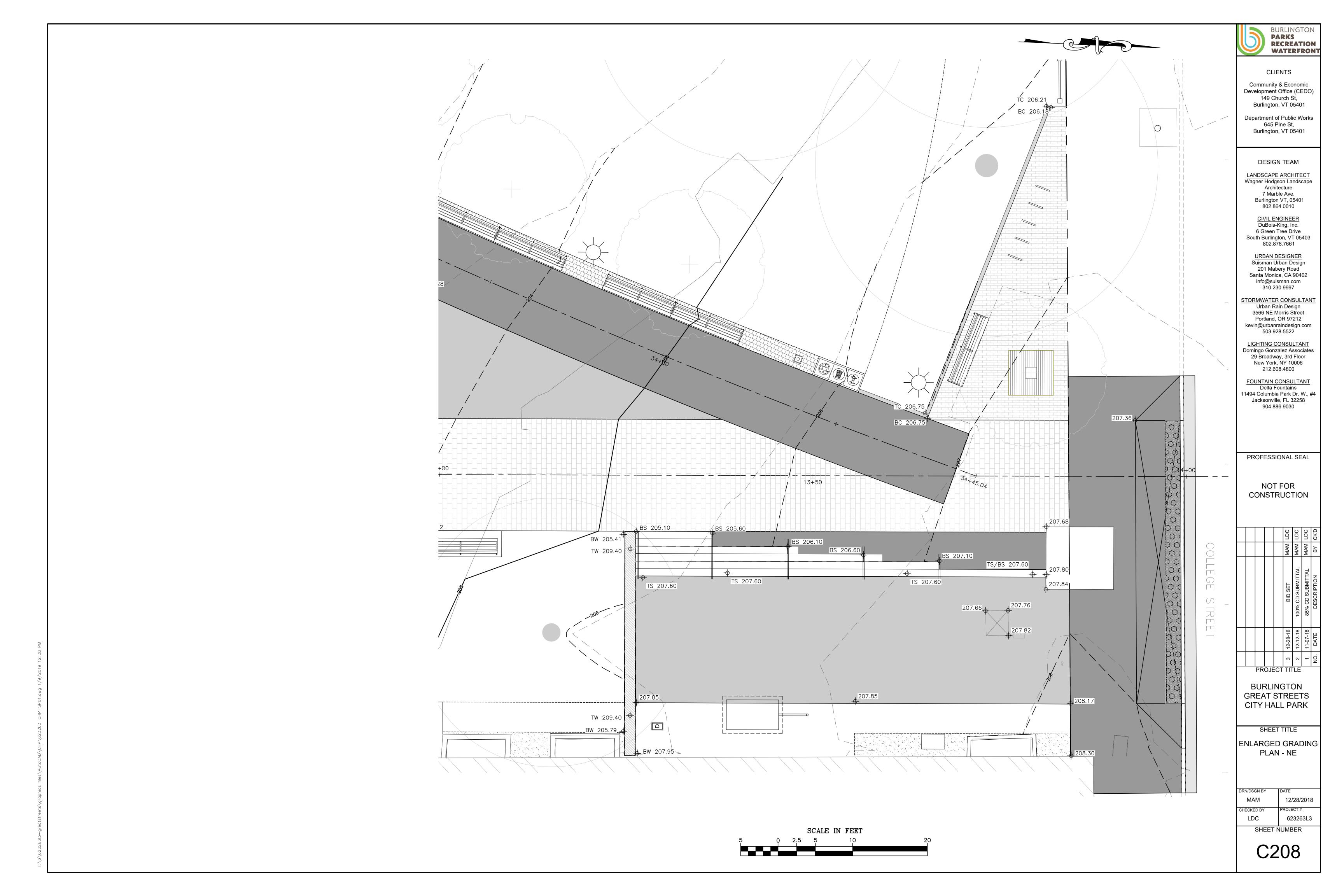
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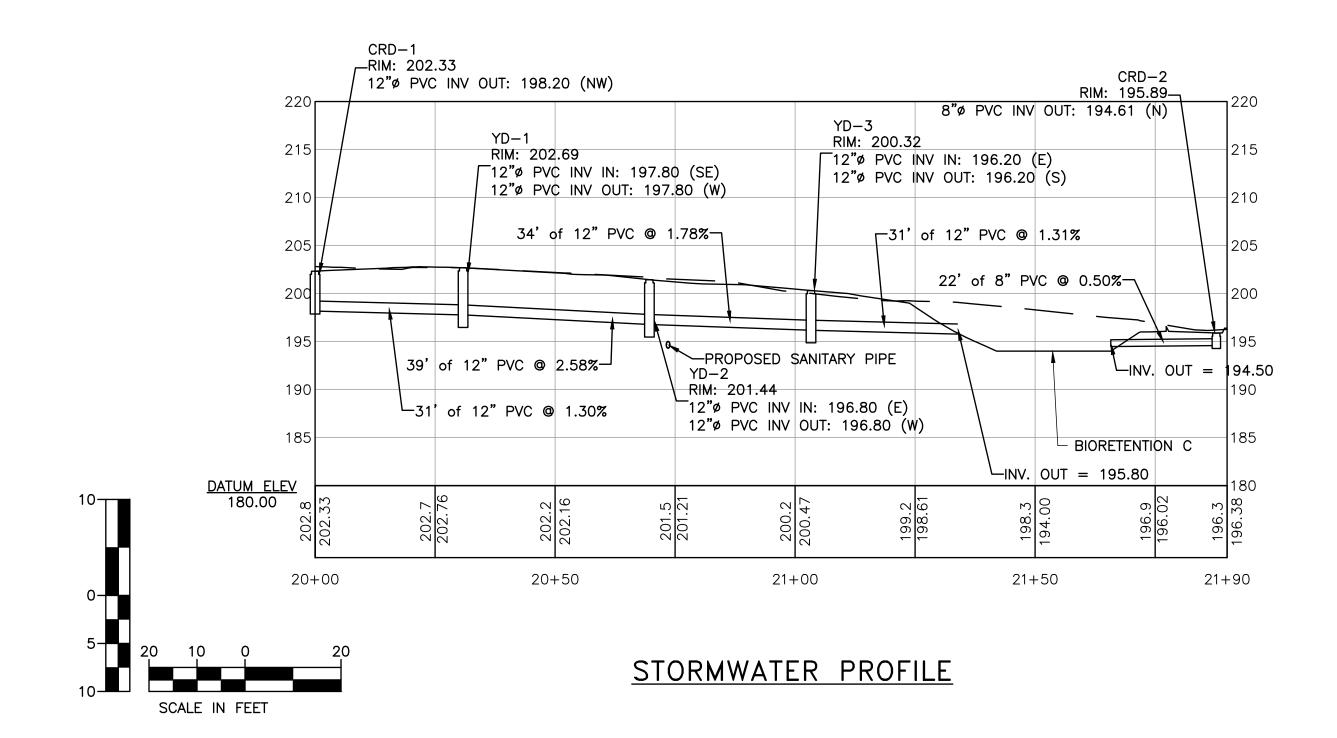
ENLARGED GRADING PLAN - NW

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CLIENTS

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**DESIGN TEAM** 

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PROFESSIONAL SEAL

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NOTES:

 ALL PROPOSED CB'S SHALL BE PRECAST REINFORCED CONCRETE

2. ALL PROPOSED DMH'S SHALL BE PRECAST REINFORCED CONCRETE

IRON GRATES, TYPE E.

BE SDR 35 PVC.

RAINGARDEN

CONCRETE CATCH BASINS (VTRANS

MANHOLES WITH CAST IRON COVERS PER VTRANS STANDARD D-15.

3. ALL PROPOSED STORM PIPES SHALL

5. RIM ELEVATIONS OF OVERFLOW

4. ALL PROPOSED UNDERDRAIN SHALL BE

STRUCTURES/CATCH BASINS WITHIN

BIORETENTION RAINGARDENS SHALL BE 6" ABOVE THE BOTTOM GRADE OF THE

4" Ø PVC PLASTIC UNDERDRAIN. SEE TYPICAL SECTIONS FOR BURY DEPTH.

STANDARD DRAWING D-15) WITH CAST

BURLINGTON GREAT STREETS CITY HALL PARK

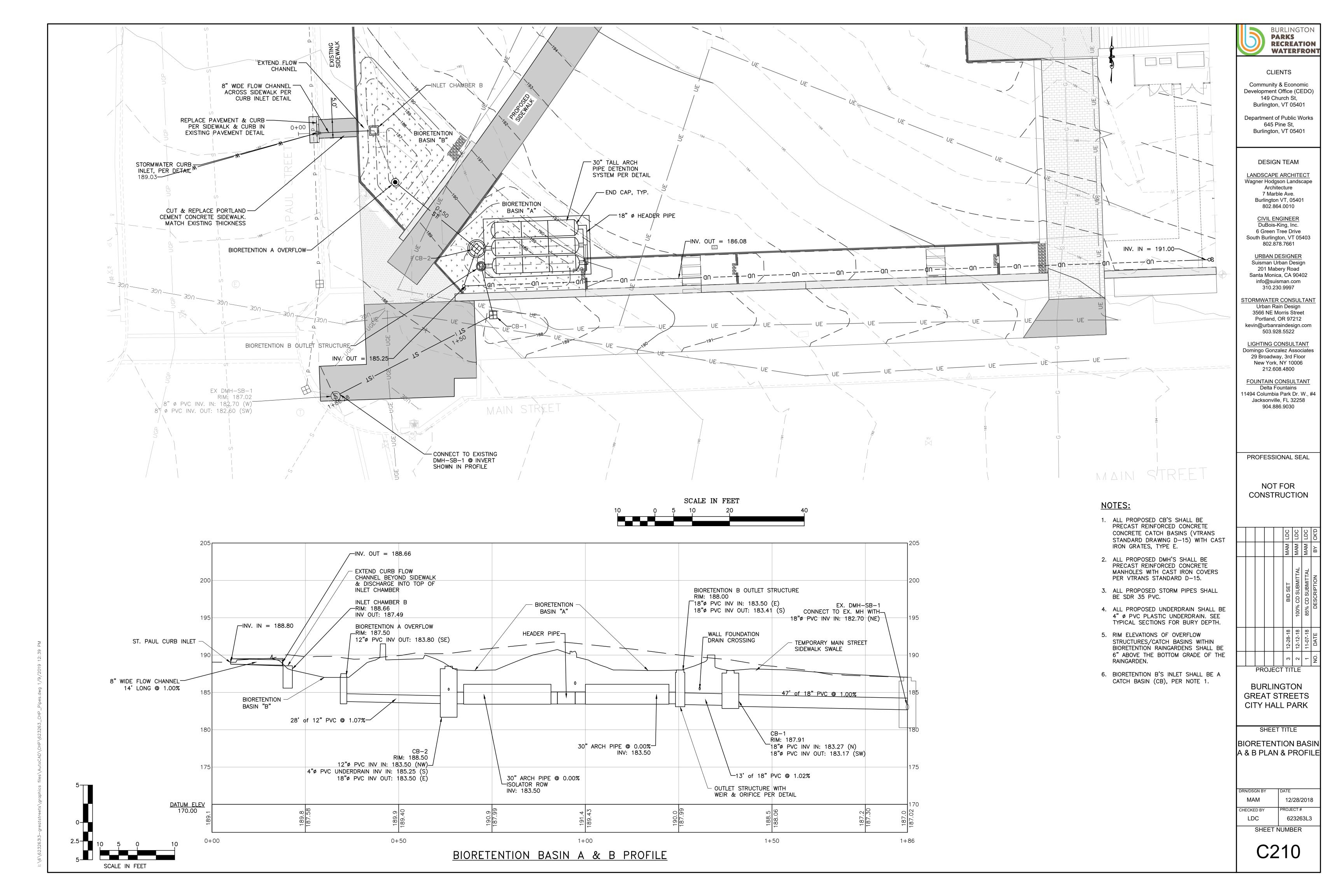
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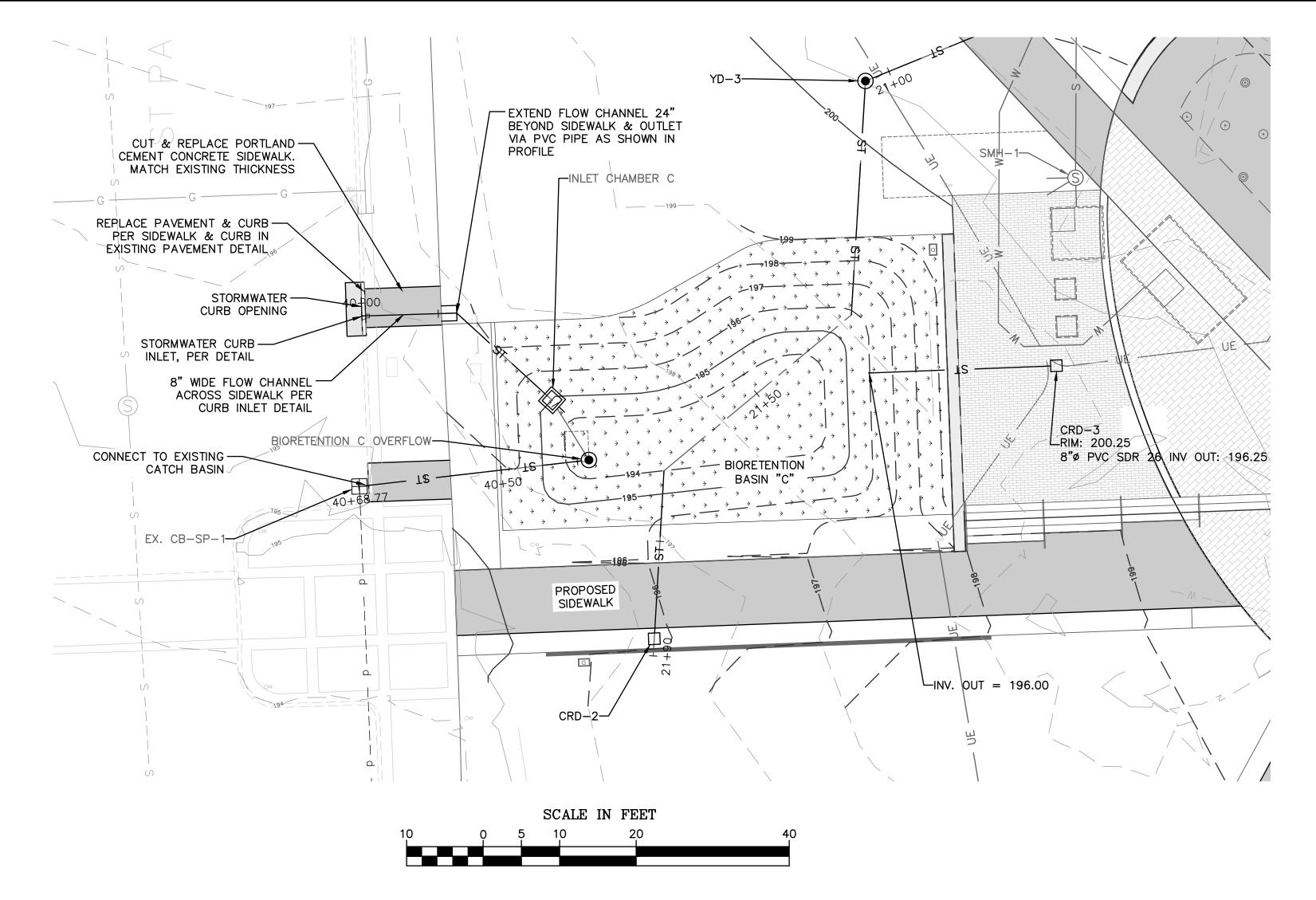
STORMWATER PLAN & PROFILE

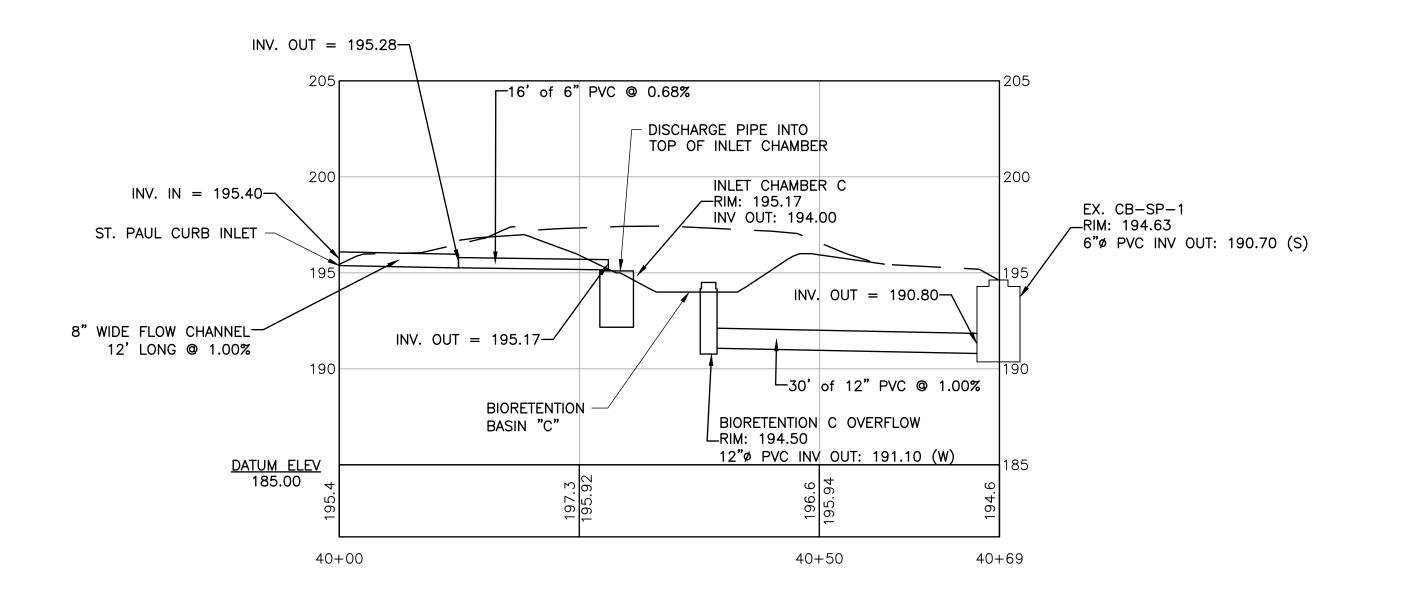
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#### NOTES:

- 1. ALL PROPOSED CB'S SHALL BE PRECAST REINFORCED CONCRETE CONCRETE CATCH BASINS (VTRANS STANDARD DRAWING D-15) WITH CAST IRON GRATES, TYPE E.
- 2. ALL PROPOSED DMH'S SHALL BE PRECAST REINFORCED CONCRETE MANHOLES WITH CAST IRON COVERS PER VTRANS STANDARD D-15.
- ALL PROPOSED STORM PIPES SHALL BE SDR 35 PVC.
- 4. ALL PROPOSED UNDERDRAIN SHALL BE 4" Ø PVC PLASTIC UNDERDRAIN. SEE TYPICAL SECTIONS FOR BURY DEPTH.
- 5. RIM ELEVATIONS OF OVERFLOW STRUCTURES/CATCH BASINS WITHIN BIORETENTION RAINGARDENS SHALL BE 6" ABOVE THE BOTTOM GRADE OF THE RAINGARDEN

BURLINGTON **PARKS** 

RECREATION WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

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FOUNTAIN CONSULTANT Delta Fountains 11494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

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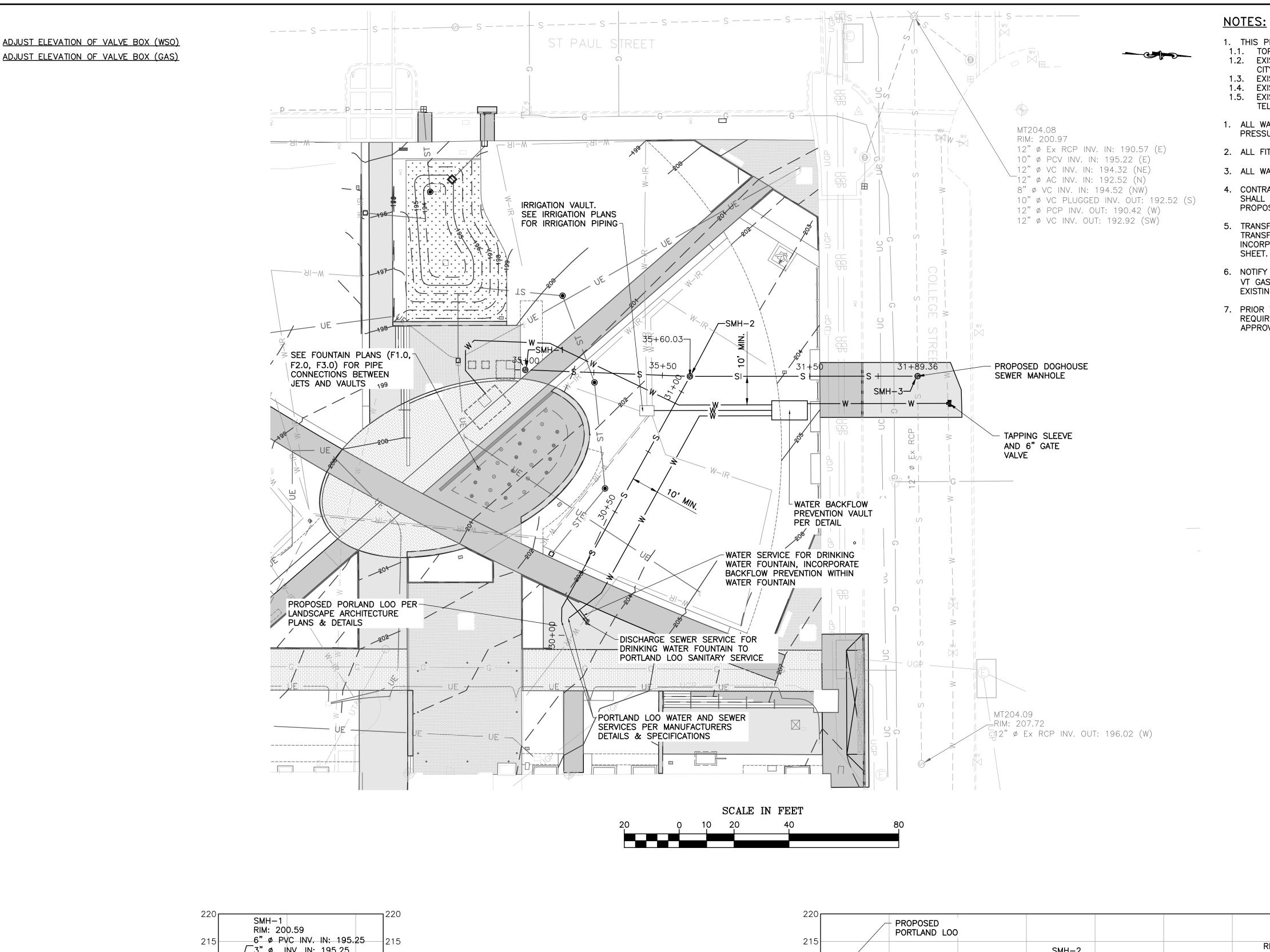
BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

BIORETENTION BASIN C PLAN & PROFILE

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SCALE IN FEET

- 1. THIS PLAN WAS DEVELOPED USING THE FOLLOWING INFORMATION:
- 1.1. TOPOGRAPHIC SURVEY PERFORMED BY DUBOIS & KING, INC. 1.2. EXISTING STORMWATER, SEWER AND WATER DATA PROVIDED BY THE THE CITY OF BURLINGTON.
- EXISTING GAS PROVIDED BY VERMONT GAS SYSTEMS, INC.
- 1.4. EXISTING POWER PROVIDED BY BURLINGTON ELECTRIC DEPARTMENT. 1.5. EXISTING TELECOMMUNICATIONS PROVIDED BY FAIRPOINT AND BURLINGTON
- 1. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE WITH A WORKING PRESSURE OF 250 PSI. ALL JOINTS TO BE RESTRAINED.
- 2. ALL FITTINGS TO BE MECHANICAL JOINTS.
- 3. ALL WATER PIPE SHALL BE INSTALLED WITH 6' MINIMUM COVER.
- 4. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO INSTALLATION & SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EXISTING UTILITIES & PROPOSED UTILITIES FROM THE DESIGN PLANS.
- 5. TRANSFER TO NEW WATER SYSTEM SHALL BE PAID FOR UNDER ITEM 629.42 TRANSFER TO NEW SYSTEM, WATER SYSTEM. THIS LUMP SUM ITEM SHALL INCORPORATE THE TRANSFER FOR ALL WATER SERVICES SHOWN ON THIS
- 6. NOTIFY VT GAS 48-HOURS PRIOR TO EXCAVATION OF NEAR VT GAS LINE SO VT GAS CAN BE ON SITE TO ASSIST WITH SUPPORTING/LOWERING/CASING EXISTING GAS MAIN, IF NECESSARY.
- 7. PRIOR TO CASTING SMH-1, CONTRACTOR TO COORDINATE FOUNTAIN SANITARY REQUIREMENTS AND SHALL SUBMIT TO ENGINEER AND FOUNTAIN DESIGNER FOR APPROVAL. THERE WILL BE MULTIPLE SMALL DIAMETER INVERTS REQUIRED.

BURLINGTON **PARKS** RECREATION WATERFRONT

CLIENTS

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Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401

802.864.0010

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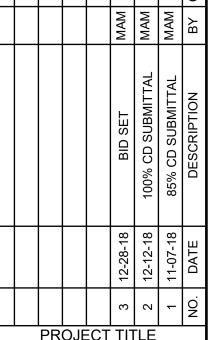
Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com 503.928.5522

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PROJECT TITLE

BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE WATER AND SANITARY SEWER

PLAN

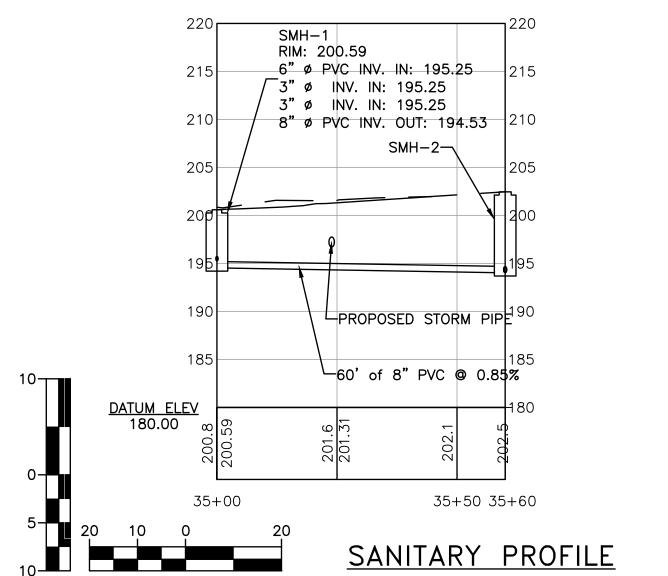
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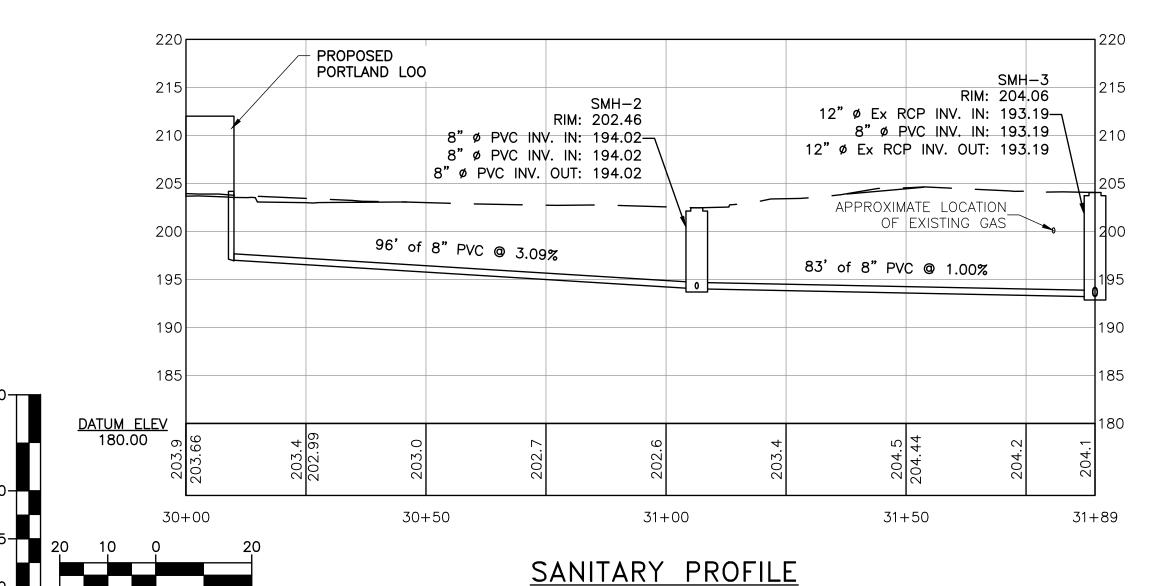
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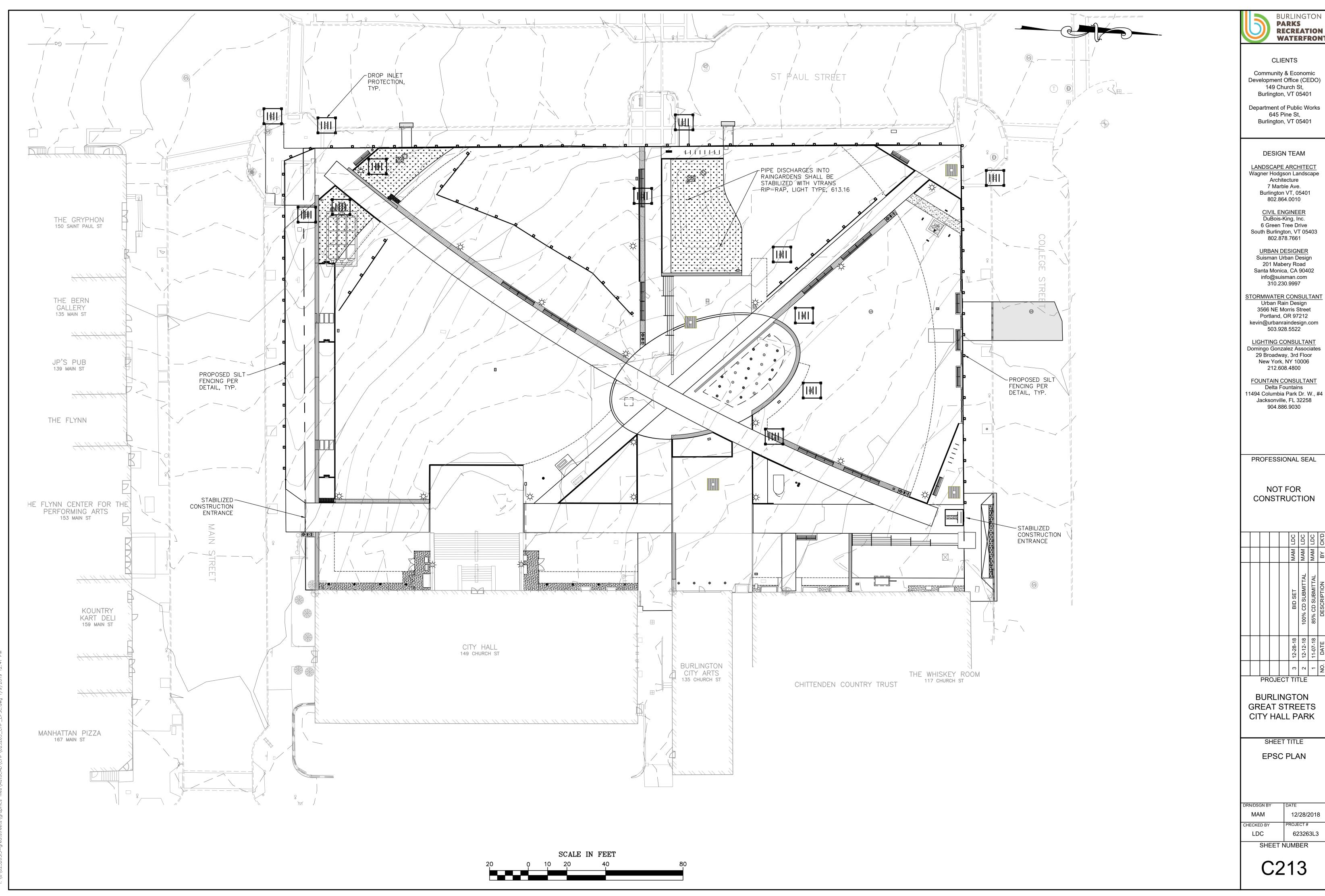
NOTES:

1. SEE IRRIGATION PLANS FOR IRRIGATION PIPING

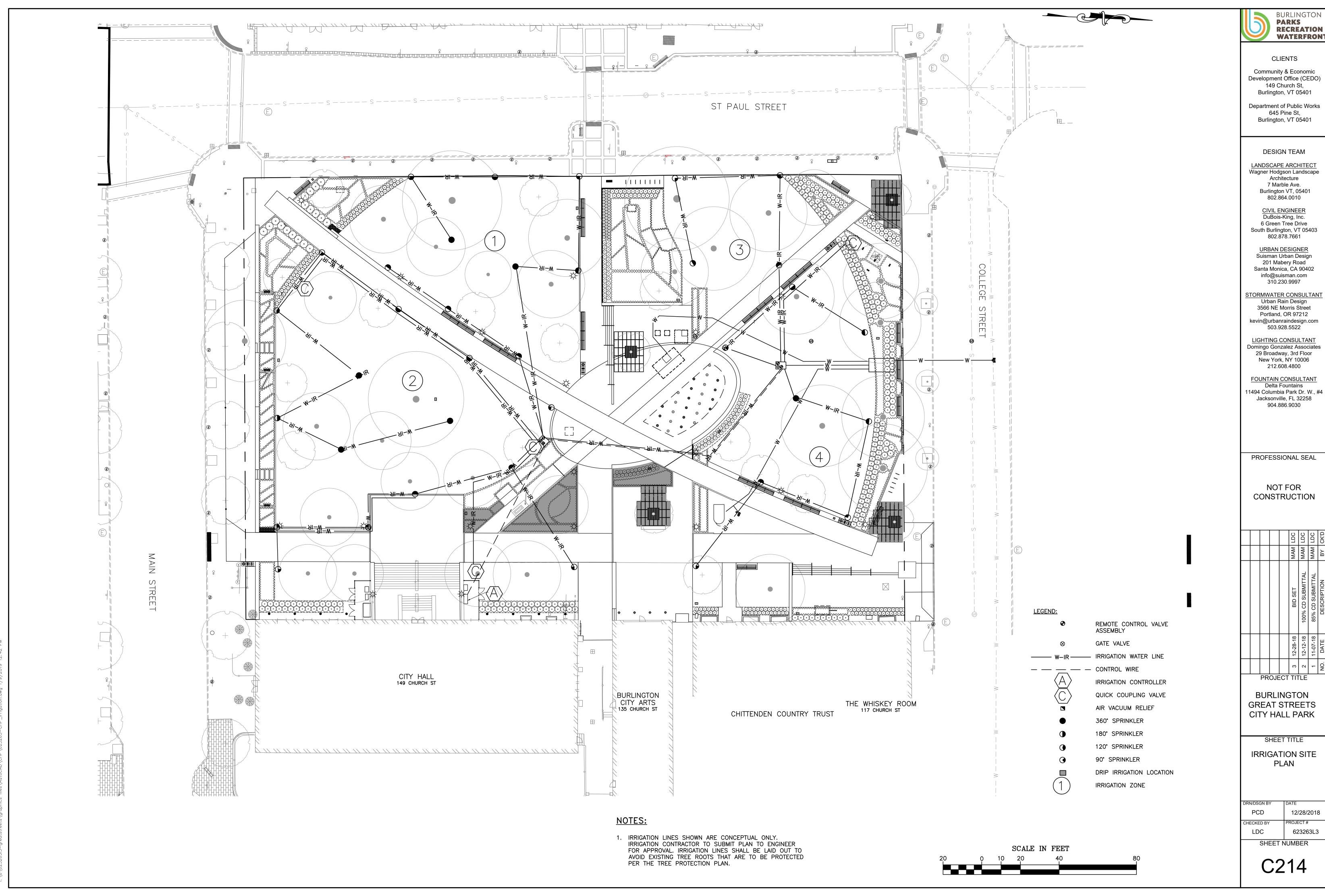


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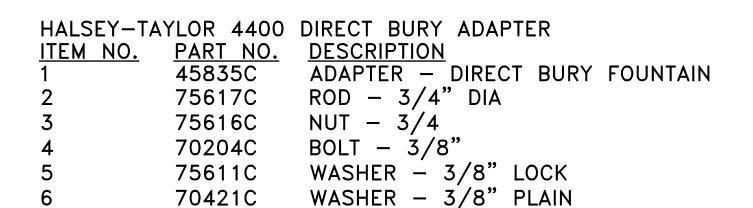


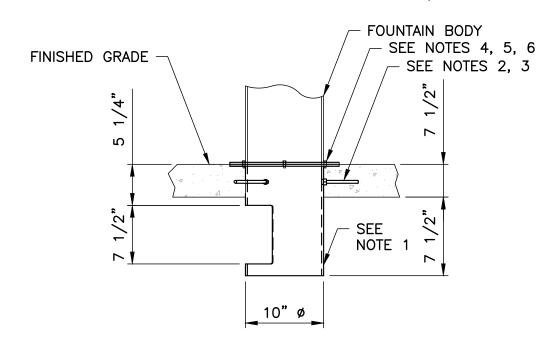


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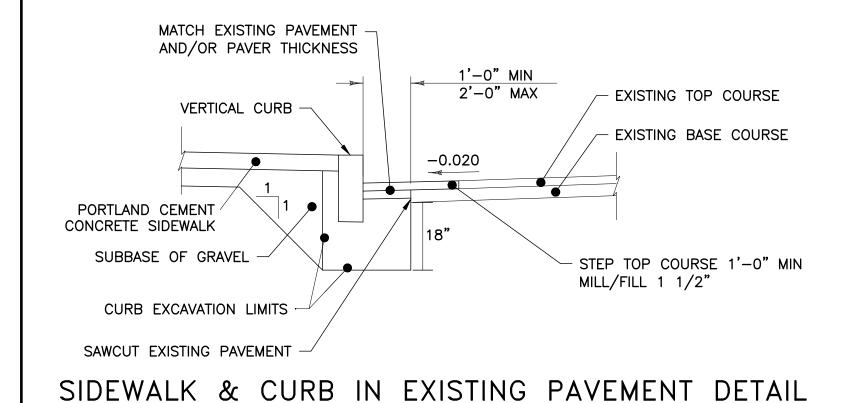




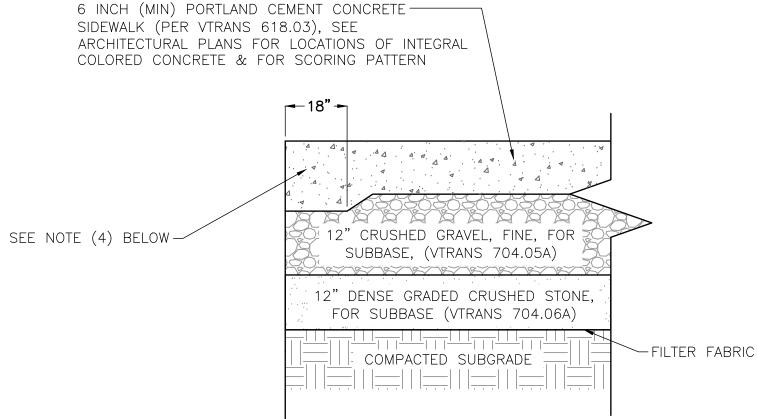
#### **NOTES:**

- 1. THREAD NUTS (ITEM 3) ONTO RODS (ITEM 2) (ONE NUT PER ROD)
- 2. THREAD RODS INTO ADAPTER CYLINDER (ITEM 1) AND TIGHTEN NUTS AGAINST CYLINDER SECURELY
- 3. PLACE WASHERS (ITEM 6) ON BOLTS (ITEM 4) (ONE WASHER PER BOLT). ASSEMBLE BOLTS INTO ADAPTER FLANGE. THREAD BOLTS
- 4. SECURE ADAPTER INTO CONCRETE FORMS AS PER STANDARD PRACTICE AND AS SHOWN ABOVE. BE SURE TO ALIGN ADAPTER FOR PROPER LOCATION OF WATER INLET LINE, DRAIN LINE, AND REQUIRED FOUNDATION ALIGNMENT.
- 5. AFTER SUFFICIENT CURE OF CONCRETE, REMOVE FLANGE BOLTS AND WASHERS.
- 6. MOUNT FOUNTAIN ASSEMBLY PER MANUFACTURERS REQUIREMENTS AND ITEMS 4, 5 & 6

#### DRINKING FOUNTAIN BASE DETAIL NOT TO SCALE



NOT TO SCALE



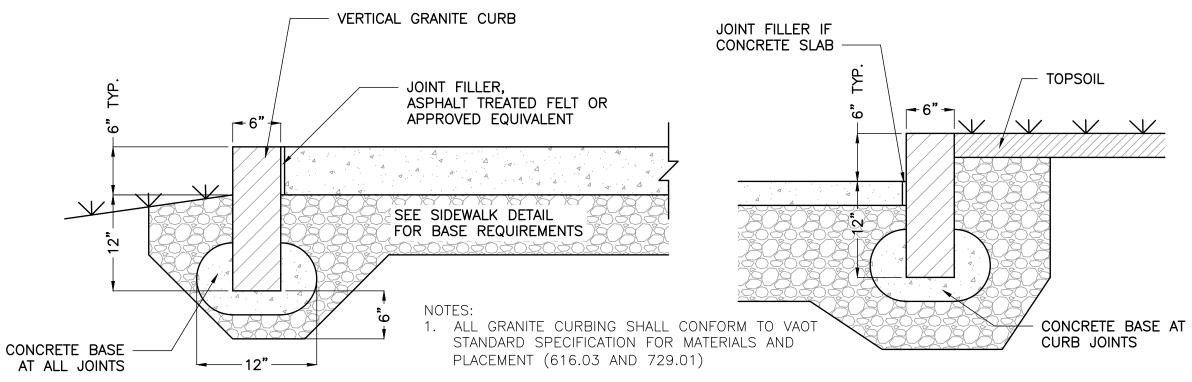
- 1. SEAL WITH WATER REPELLANT SILANE (VTRANS 5. INSTALL IN ACCORDANCE WITH VTRANS 514.10), COST INCIDENTAL TO CONCRETE SIDEWALK
- 2. VERIFY ALL FINISH GRADES AND TOP OF STRUCTURES BELOW GRADE PRIOR TO INSTALLATION. SIDEWALKS SHALL HAVE CROSS SLOPES OF 1% MINIMUM AND 2% MAXIMUM.
- 3. VERIFY RATES OF COMPACTION AND DEPTHS OF SUB-BASE AND BASE COURSE MATERIALS PRIOR TO INSTALLATION.
- 4. ALL ENTRY SLAB/SIDEWALK TRANSITIONS WILL BE THICKENED TO 9" AND DOWELED. DOWEL SIDEWALK INTO ENTRY SLAB WITH HILTI HY150 ADHESIVE ANCHORS #4's X 12" LONG @ 16" O.C. WITH MINIMUM 4" EMBEDMENT.
- SPECIFICATION 618.03.
- 6. EXPANSION JOINTS SHALL BE PLACED EVERY 20 FEET OR AS DIRECTED IN SCORING PLAN.
- 7. CONTROL JOINTS  $\frac{1}{4}$ " WIDE x 1  $\frac{1}{2}$ " DEEP PER L DRAWINGS.
- 8. PREFORMED JOINT FILLER W/ A THICKNESS OF 1/4" SHALL BE FORMED AROUND ALL APPURTENANCES AND BETWEEN ALL FIXED STRUCTURES SUCH AS UTILITY POLES & BUILDINGS.

" OF LEVELING COURSE, VTRANS

704.02A, § STONE

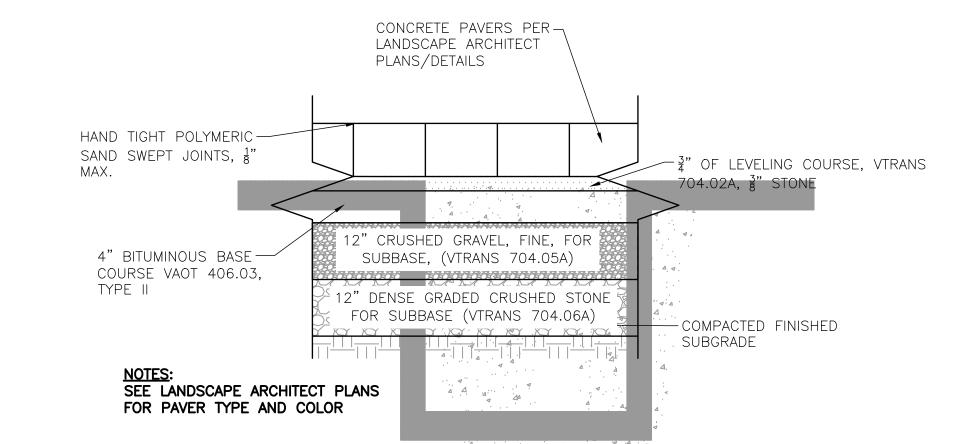
--- COMPACTED FINISHED

SUBGRADE



- 2. JOINTS BETWEEN GRANITE CURB SHALL BE FILLED W/ VAOT TYPE 1 MORTAR & SHALL BE NEATLY POINTED ON THE TOP & EXPOSED PORTIONS.
- 3. SEE GRADING PLANS FOR LOCATIONS WITH MORE THAN 6" CURB REVEAL.

VERTICAL GRANITE CURB NOT TO SCALE



CONCRETE UNIT PAVERS NOT TO SCALE

PERMEABLE PAVERS NOT TO SCALE

24" VTRANS 704.16

DRAINAGE AGGREGATE

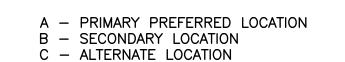
CONCRETE SIDEWALK

NOT TO SCALE

PERMEABLE PAVERS & JOINT FILLER -

PER LANDSCAPE ARCHITECT

PLANS/DETAILS

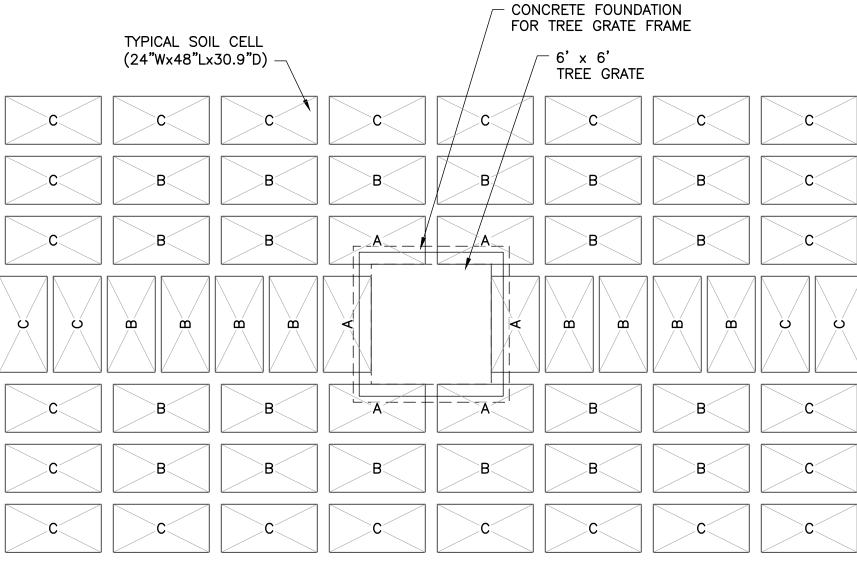


4" OF VTRANS 704.02B,-

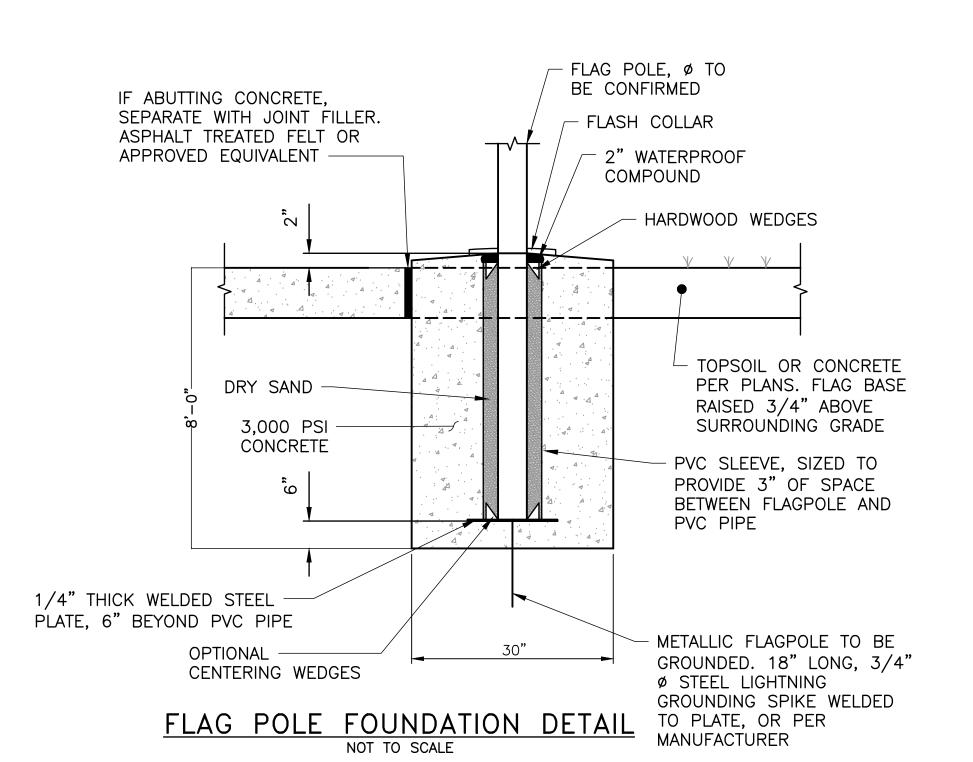
3" STONE BASE

### **NOTES:**

- 1. SEE SHEET C201 FOR CONCEPTUAL SOIL CELL LAYOUT. IF AN UNKNOWN OBSTRUCTION IS FOUND IN THE FIELD, UTILIZE THIS DETAIL FOR PREFERRED LOCATIONS FOR SOIL CELLS.
- 2. IF SOIL CELLS CAN PROVIDE AN UNENCUMBERED PATH FOR THE ROOTS TO TRAVEL FROM THE TREE TO AN UNCOMPACTED AREA, LESS THAN 1,000 CF OF HORTICULTURAL SOIL VOLUME MAY BE INSTALLED FOR THE TREE. IN THIS CIRCUMSTANCE, PROVIDE A MINIMUM OF 730 CF SOIL CELLS.
- 3. SOIL CELLS MUST BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS. MAXIMUM SPACING FOR SOILS CELLS PER MANUFACTURERS REQUIREMENTS.
- 4. PAYMENT FOR ITEMS INCLUDED IN MANUFACTURER'S REQUIREMENTS SUCH AS FABRIC, GEOGRID, ZIP TIES, TEMPORARY POST SPACERS & SPIKES ARE INCLUDED IN THE SPECIAL PROVISIONS ITEM FOR SOIL CELLS.



SOIL CELL TYPICAL LAYOUT - TREE GRATE SCALE: 1" = 4"



BURLINGTON **PARKS RECREATION** WATERFRON'

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

**CIVIL ENGINEER** DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661

**URBAN DESIGNER** Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com

503.928.5522

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FOUNTAIN CONSULTANT Delta Fountains 1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

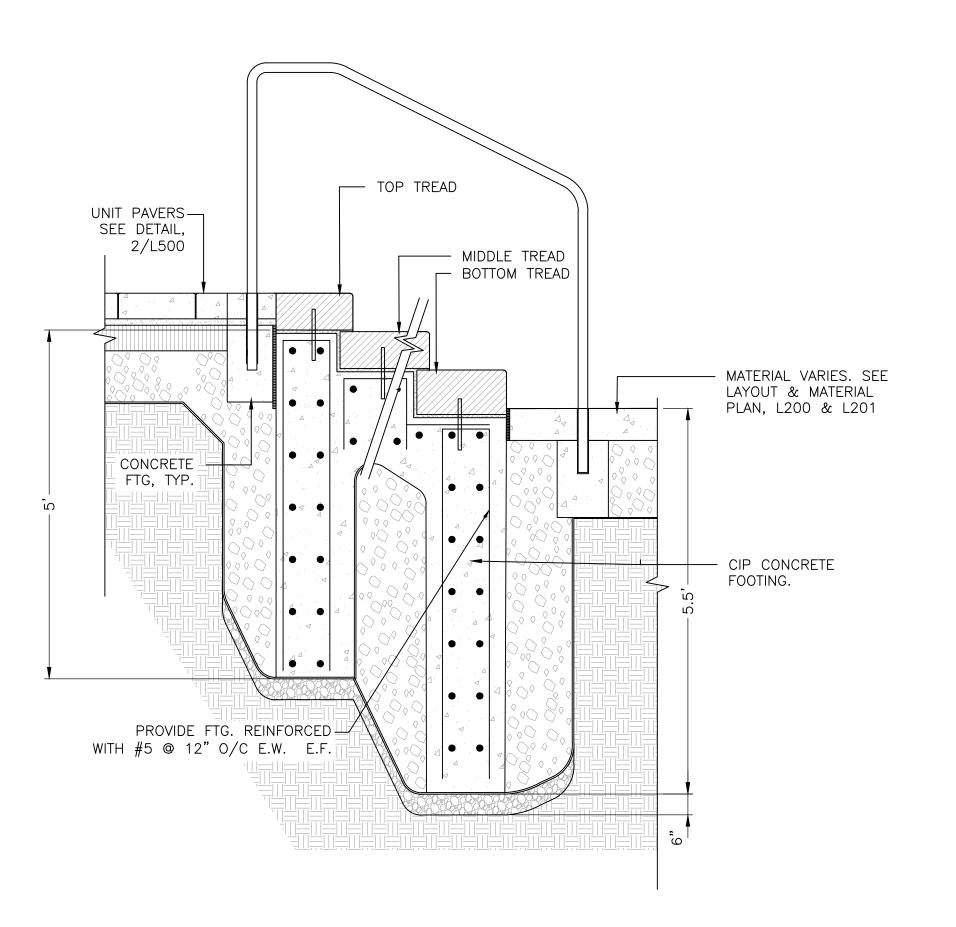
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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

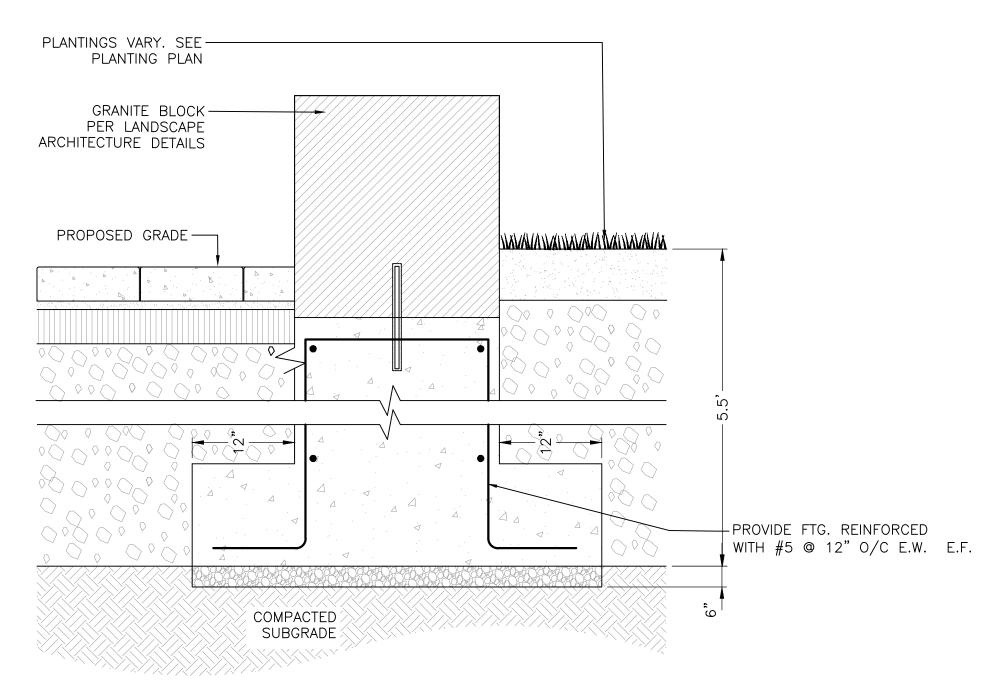
CIVIL DETAILS

12/28/2018 CHECKED BY 623263L3 SHEET NUMBER

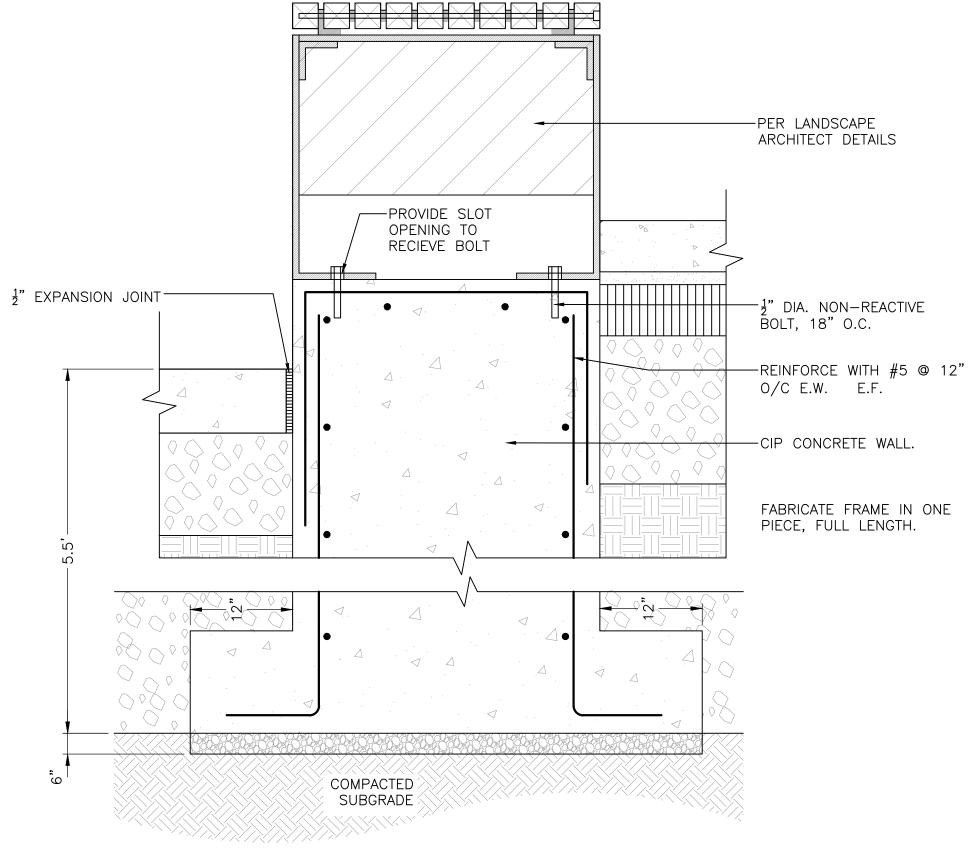


GRANITE STAIRS/STEPS WITH METAL HANDRAIL

NOT TO SCALE

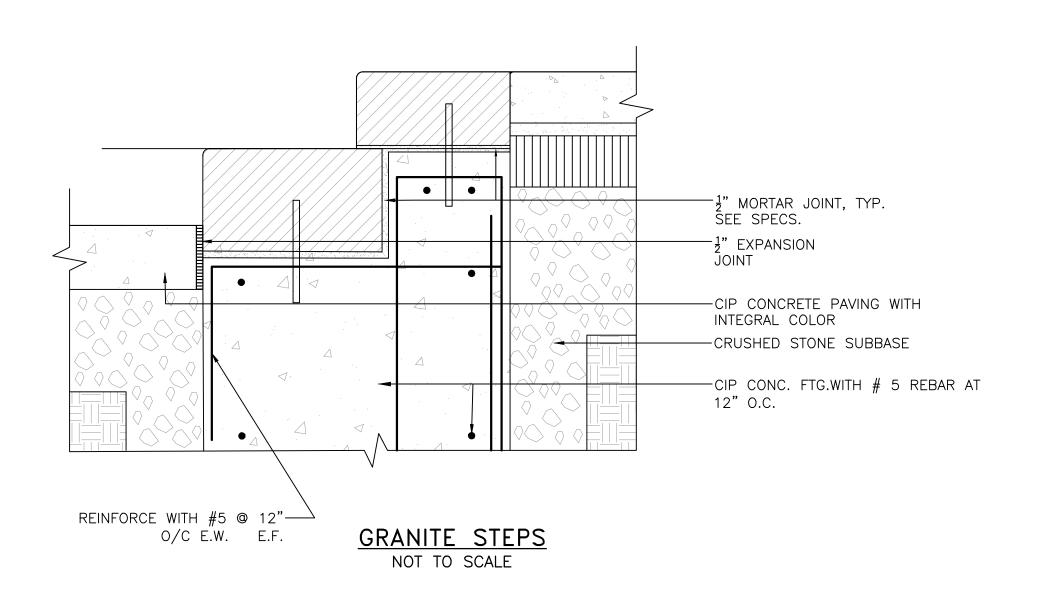


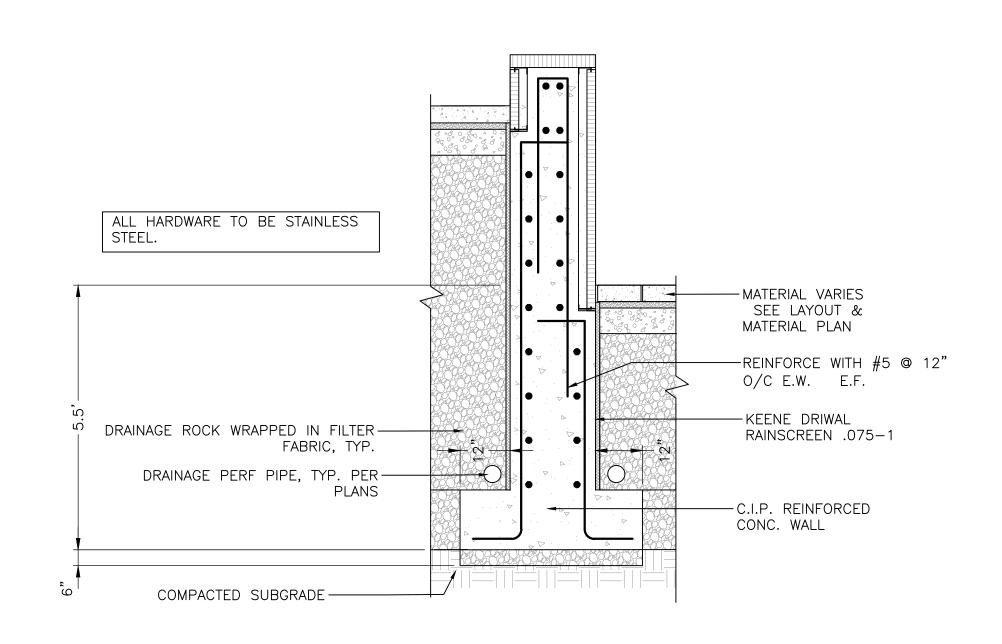
GRANITE BLOCK WALL
NOT TO SCALE



WEATHERED STEEL SEAT WALL
NOT TO SCALE

SEE LANDSCAPE ARCHITECTURAL DETAIL
DRAWINGS FOR FURTHER DETAILS





GRANITE VENEER RETAINING WALL

NOT TO SCALE

BURLINGTON PARKS RECREATION WATERFRONT

CLIENTS

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Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

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Burlington VT, 05401 802.864.0010 <u>CIVIL ENGINEER</u> DuBois-King, Inc.

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PROFESSIONAL SEAL

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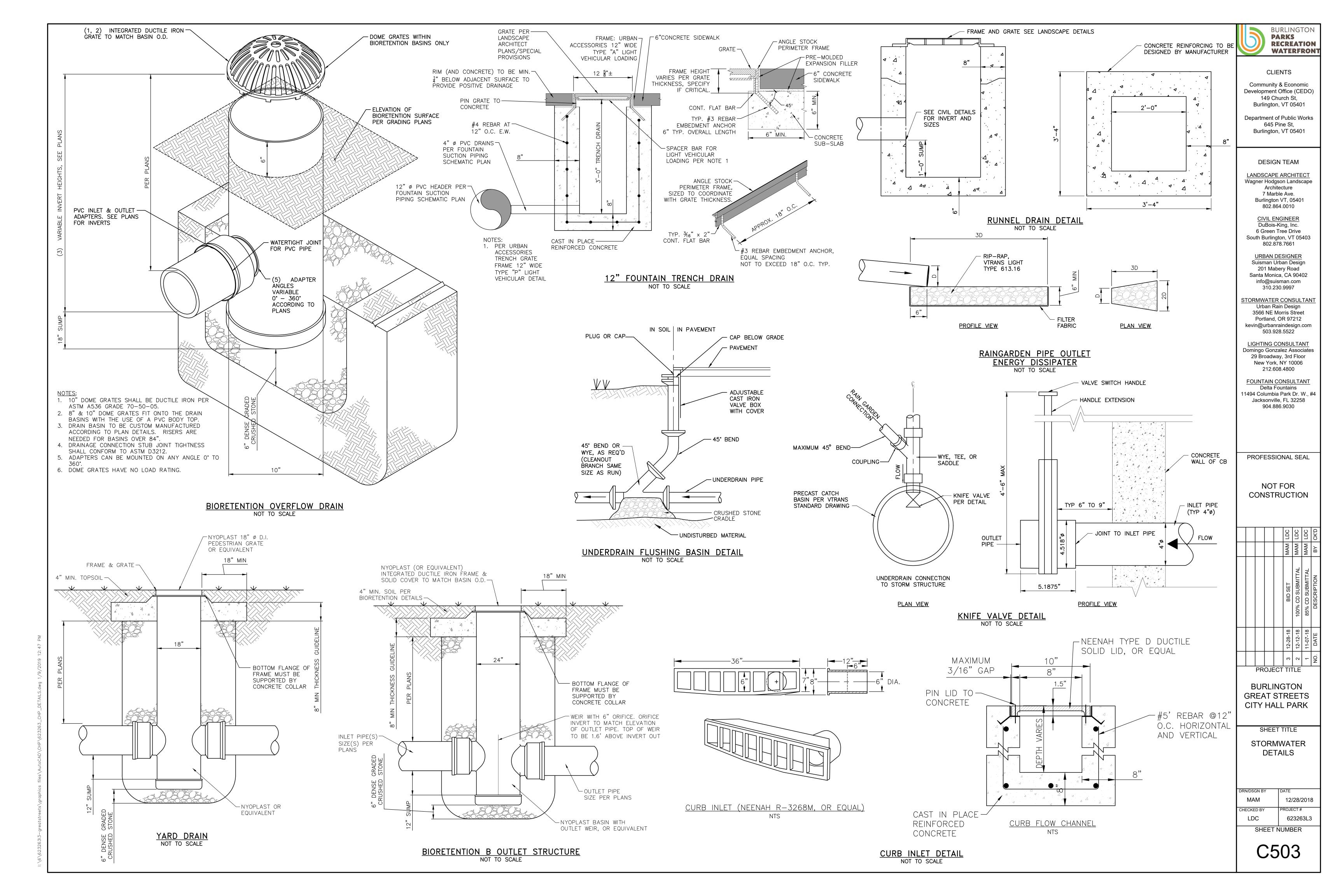
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				MAM LDC	MAM LDC	MAM LDC	ВУ	
				BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION	
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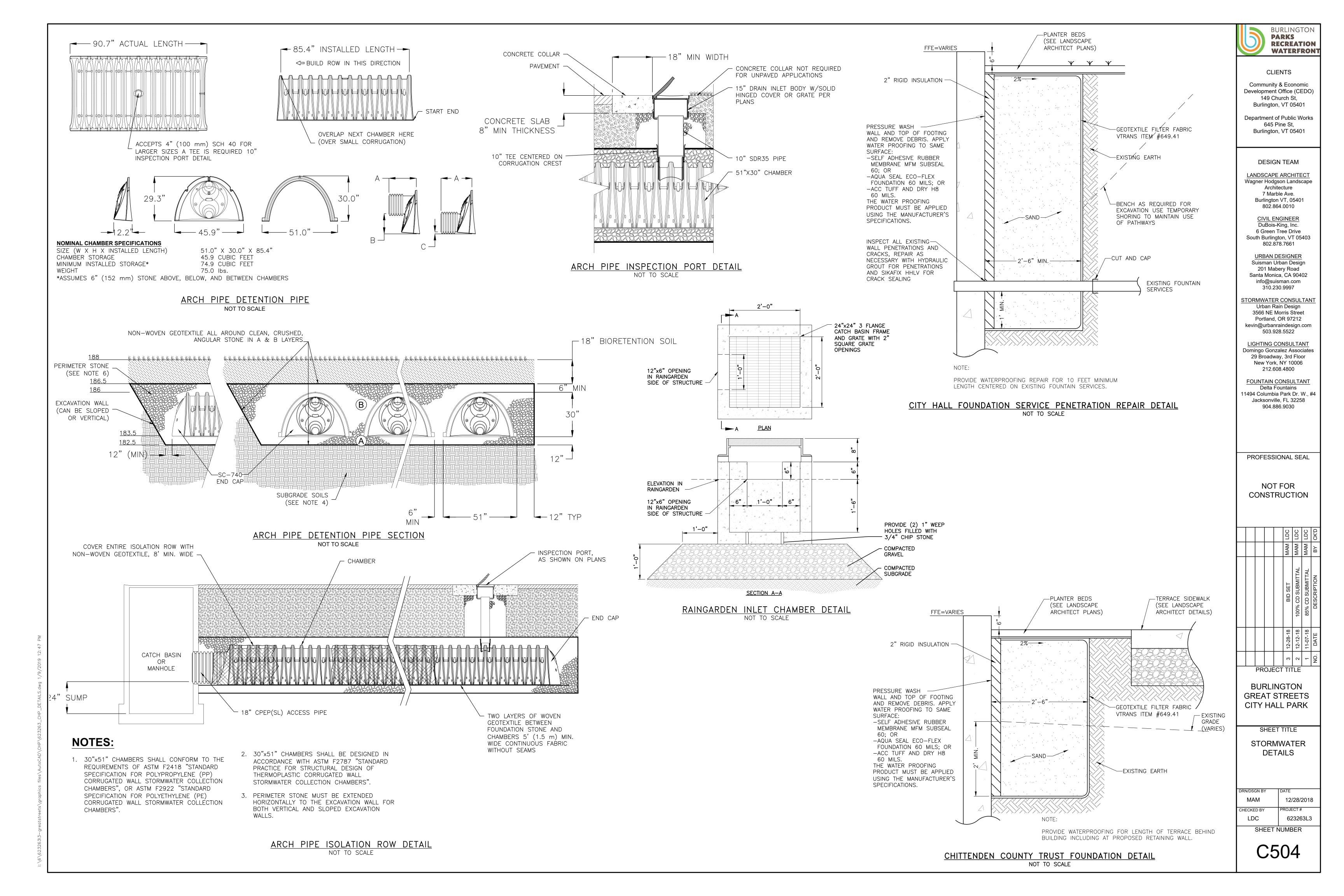
BURLINGTON GREAT STREETS CITY HALL PARK

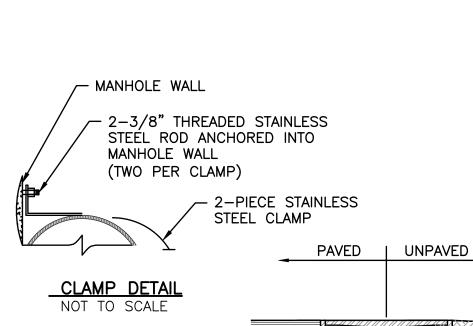
SHEET TITLE

STRUCTURAL DETAILS

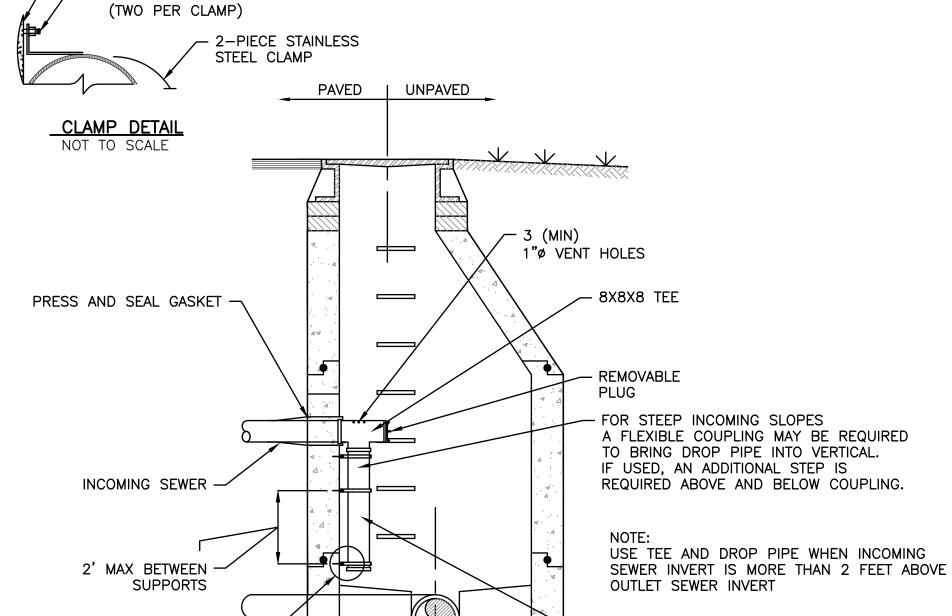
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LDC 623263L3
SHEET NUMBER







SEE CLAMP DETAIL



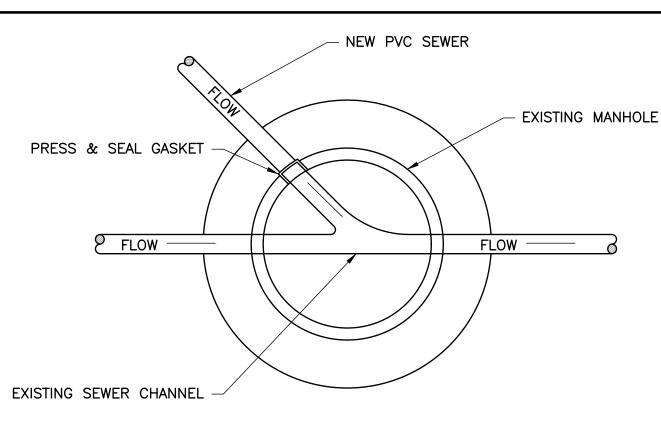
INTERIOR DROP CONNECTION

NOT TO SCALE

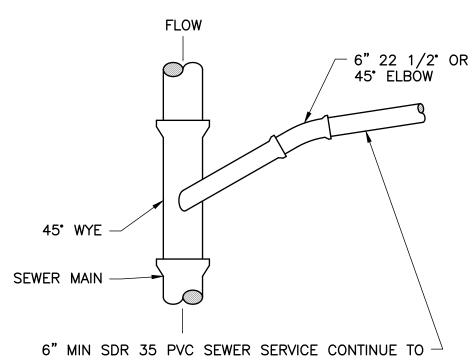
8" SDR 35

W/ SOLVENT

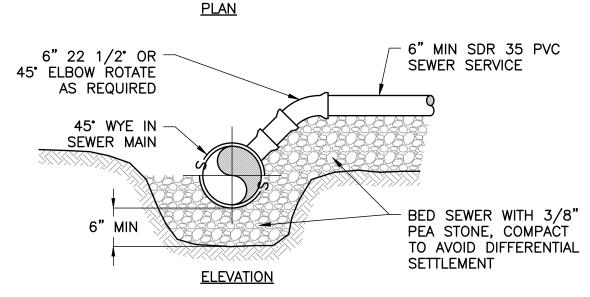
WELD JOINTS



TYPICAL CONNECTION TO EXISTING MANHOLES NOT TO SCALE



PROPERTY LINE @ MIN SLOPE = 1/4 INCH/FOOT. END TO BE PLUGGED WITH 6" PVC WATERTIGHT PLUG (OR CAP) AND MARKED W/2" X 4" BOARD EXTENDING FROM SEWER TO 6"± ABOVE FINISHED GRADE.



SEWER SERVICE DETAIL NOT TO SCALE

LEAKAGE TESTING FOR SANITARY MAINS

Leakage Tests: When tested, the leakage inward and outward of a gravity sewer including manholes shall not exceed 200 gallons per inch of pipe diameter per mile per day. Upon completion of construction, a sewer line shall be tested in accordance with one of the following procedures:

#### (1) WATER TESTING

(A) Plug or cap all service laterals, stubs, and fittings. Place adequate bracing to withstand thrust forces.

(B) A tapped plumber's plug should be inserted in the downstream manhole inlet sewer. The water supply connection is made at this point, but never directly from a public water supply system or hydrant unless a backflow preventer is used.

(C) A stand pipe is tightly connected at the upstream end of the sewer. The height of the stand pipe shall be at least two feet higher than any point in the sewer or two feet higher than the highest known ground water table, whichever is higher. A manhole may be used as a stand pipe.

(D) Water is added at the downstream connection in order to avoid trapping air bubbles or pockets. The line shall be filled to the elevation designated in the stand pipe.

### 136 1-A-03(k)(1)(E) Sewer Collection Systems

(E) Allow the line to stand with water for at least a two hour stabilization period or such shorter period as may be required to achieve stabilized readings of water loss over three consecutive 15 minute periods. This allows air to escape and absorption to take place.

(F) Fill the sewer line to the reference mark and continue the test for at least one hour. Maintain the minimum head throughout the test, adding any volume of water required and including that volume in the leakage.

(G) Convert the leakage to the units specified.

### (2) AIR TESTING

### (A) Procedures

(i) Determine the test time for the section of line to be tested using Table 1-A-3 or 1-A-4 or the formulas in Chart 1-A-1.

#### (ii) Plug all openings in the test section.

(iii) Add air until the internal pressure of the line is raised to approximately 4.0 pounds/square inch (psi) greater than the average pressure of any ground water. After this pressure is reached, allow the pressure to stabilize. The pressure will normally drop as the air temperature stabilizes. This usually takes 2 to 5 minutes depending on the pipe size. The pressure may be reduced to 3.5 psi before starting the test.

(iv) When the pressure has stabilized and is at or above the starting test pressure of 3.5 psi above the pipe, start the test. If the pressure drops more than 1.0 psi during the test time, the line is presumed to have failed the test. If a 1.0 psi drop does not occur within the test time, the line has passed the test.

### (B) Test time

(i) Table 1-A-3 shows the required test time, T, in minutes/100 feet of pipe for each nominal pipe size. Test times are for a 1.0 psi pressure drop from 3.5 to 2.5 psi. Table 1-A-3 has been established using the formulas contained in Chart 1-A-1.

(ii) If the section of line to be tested includes more than one pipe size, calculate the test time for each size and add the test times to arrive at the total test time for the section.

(iii) It is not necessary to hold the test for the whole period when it is clearly evident that the rate of air loss is less than the allowable.

# CHART 1-A-1

# FORMULAS AND ALLOWABLE AIR LOSS STANDARDS

Calculate the required test time at a given allowable air loss as follows:

Calculate air loss with a timed pressure drop as follows:

D = nominal size, in. L = length of line of one pipe size, ft.

 $K = 0.534 \times 10^{-6}$  for S.I. units Q = air loss, ft 3/min.  $K = 0.371 \times 10-3$  for inch pound units T = time for pressure to drop 1.0 psi, min.

(C) An appropriate allowable air loss, Q, in cubic feet per minute, has been established for each nominal pipe size. Based on field experience, the Q value that has been selected will enable detection of any significant leak Table 1-A-4 lists the Q established for each pipe size.

TABLE 1-A-3 MINIMUM TEST TIME FOR VARIOUS PIPE SIZES

Nominal Pipe in inches	Size T (time) min/100 ft.	Nominal Pipe Size in inches	T (time) min/100 ft.
3	0.2	21	3.0
4	0.3	24	3.6
6	0.7	27	4.2
8	1.2	30	4.8
10 12 15 18	1.5	33	5.4
12	1.8	36	6.0
15	2.1	39	6.6
118	2.4	42	7.3

TABLE 1-A-4 ALLOWABLE AIR LOSS FOR VARIOUS PIPE SIZES

Nominal Pipe Size	Q,	Nominal Pipe Size	Q,
in Inches	ft3/min	in Inches	ft3/min
3	2	21	5.5
4	2	24	6
6	2	27	6.5
8	2	30	7
10	2.5	33	7.5
12	3	36	8
15	4	39	8.5
18	5	42	9

### LEAKAGE TESTING FOR SANITARY MANHOLES

All manholes shall be tested for leakage. Leakage testing of gravity sewers utilizing the water testing procedures takes into account the leakage from one manhole in the test section. Otherwise, manholes shall be tested for leakage in accordance with the following procedure:

- After the manhole has been assembled in place, all lifting holes and exterior joints shall be filled and pointed with non shrinking mortar. All pipes and other openings into the manhole shall be suitably plugged and the plugs placed to prevent blowout.
- Each manhole shall be checked for exfiltration by filling with water to the top of the cone section. A stabilization period of one hour shall be provided to allow for absorption. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and the measuring time of at least six hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone measuring the volume of water added.
- This amount shall be converted to a 24-hour rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed one gallon per vertical foot for a 24 hour period for exfiltration and there shall be no visible infiltration.

# Alternatively, the manhole may be tested for leakage using the following

- All lifting hole and exterior joints shall be filled and pointed with an approved non-shrinking mortar. The completed manhole shall not be backfilled prior to testing. Manholes that have been backfilled shall be excavated to expose the entire exterior prior to vacuum testing or the manhole shall be tested for leakage by means of a hydrostatic test.
- All pipes and other openings in the manhole shall be suitably plugged in a manner to prevent displacement.
- A plate with an inflatable rubber ring the size of the top of the manhole shall be installed by inflating the ring with air to a pressure adequate to prevent leakage of air between the rubber ring and the manhole wall.
- Air shall then be pumped out of the manhole through an opening in the plate until a vacuum is created inside of the manhole equal to 10 inches of mercury on an approved vacuum gauge. The removal of the air shall then be stopped and the test time begun.
- The vacuum must not drop below 9 inches of mercury within a 2 minute test period. If more than 1 inch of drop in vacuum occurs within the 2 minute test period the manhole has failed the test and shall be repaired or reconstructed and retested.
- Following satisfactory test results, the manhole may be backfilled.

BURLINGTON **PARKS RECREATION** WATERFRON'

CLIENTS

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Burlington, VT 05401

**DESIGN TEAM** 

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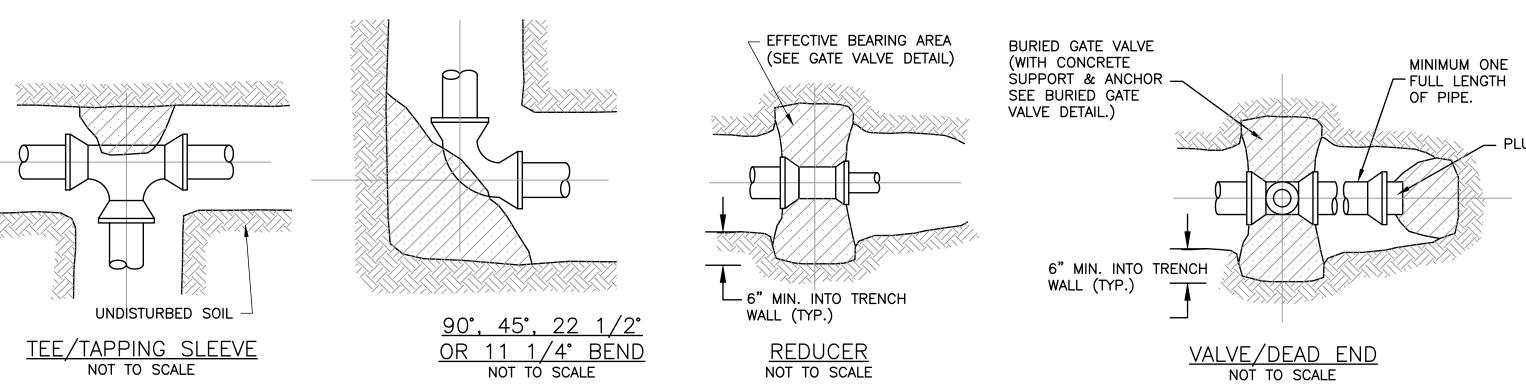
PROJECT TITLE

BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

**UTILITY DETAILS** 

12/28/2018 CHECKED BY 623263L3

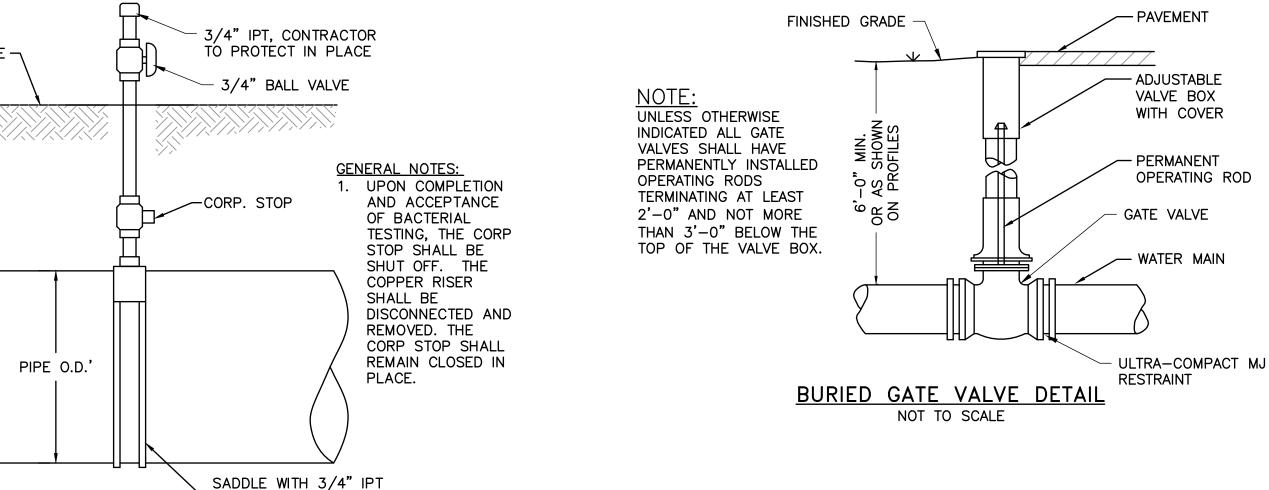


NOTE: place 3 mil. (min) polyethylene sheet between all concrete thrust blocks and pipe and/or fittings to prevent bond. MINIMUM AREA OF BEARING SURFACE OF CONCRETE THRUST BLOCKS

— IN SQUARE FEET ——

	3"	ø			4"	ø			6"	ø			8"	ø		12" ø		TYPICAL	ASSUMED SAFE		
ENDS & TEES	90° ELB.	45° ELB.	22.5° ELB.	ENDS & TEES	90° ELB.	45° ELB.	22.5° ELB.	ENDS & TEES	90 <b>°</b> ELB.	45° ELB.	22.5° ELB.	ENDS & TEES	90 <b>°</b> ELB.	45° ELB.	22.5° ELB.	ENDS & TEES	90 <b>°</b> ELB.	45° ELB.	22.5° ELB.	SOIL CONDITION	BEARING LOAD (PSF)
0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	1.0	1.5	1.0	0.5	2.0	2.5	1.5	1.0	4.0	5.5	3.0	1.5	SOUND SHALE	10,000
1.0	1.0	1.0	0.5	1.5	2.0	1.0	0.5	3.0	4.0	2.0	1.0	4.5	6.5	3.5	2.0	10.0	14.0	7.5	4.0	CEMENTED GRAVEL & SAND	4,000
1.0	1.5	1.0	0.5	2.0	2.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	COARSE & FINE COMPACT SAND	3,000
1.5	2.5	1.5	1.0	2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	MEDIUM CLAY (CAN BE SPADED)	2,000
3.0	4.5	2.5	1.5	5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	SOFT CLAY	1,000
	MAXIMUM WATER PRESSURE = 300 PSI NOTE: REDUCER BEARING AREA = 45° BEND, LARGER PIPE; GATE VALVE = END																				

THRUST BLOCK DETAILS NOT TO SCALE



RIGID INSULATION -SHEETING

ON D.I. PIPE

NOT TO SCALE

SHEETED TRENCH OPEN TRENCH INSULATE WHEN MINIMUM DEPTH OF COVER ABOVE PIPE BARREL MUST BE LESS THAN 5'-0" WHEN 4' DEEP - USE 2" THICK WHEN 3' DEEP - USE 3" THICK

UNINSULATED PIPE BURY DEPTHS: STORM DRAIN 5' MIN WATER 6' MIN UNDERDRAIN 4' MIN SANITARY (UNPLOWED) 4' MIN SANITARY (PLOWED) 5' MIN

TRENCH INSULATION DETAILS

NOT TO SCALE

TO LIMITS OF EXCAVATION. NO LEDGE SHALL PROJECT WITHIN THESE LIMITS PIPE BEDDING; COMPACTED SAND, D/4 OR GRAVEL, OR CRUSHED STONE TO 6" MIN.— LIMITS OF EXCAVATION <u>ROCK</u>

TRENCH WIDTH

D+2'-0" OR 3'-0"

WHICHEVER IS GREATER

D/4 OR

6" MIN.—

TRENCH WIDTH

<u>EARTH</u>

TRENCH SECTIONS

NOT TO SCALE

TESTING AND DISINFECTING OF WATER MAINS All water mains shall be constructed, tested and disinfected in accordance with AWWA Standards C-600, C601, C-900 and The Vermont Water Supply Rule. Minimum testing pressure shall be 1.5 times the working pressure of the installed line or 200 psi, whichever is greater, and will be monitored at the lowest elevation in the length of the pipeline being tested.

Maximum allowable leakage will be L = SD (sq. Root P) as outlined in AWWA Standards

# Where:

- L =allowable leakage, in gallons per hour S =length of pipe tested, in feet
- D =nominal diameter of the pipe, in inches P =average test pressure during the leakage test, in psi (gauge)
- 1. All tests shall be conducted by and at the expense of the
- 2. The Engineer will give direction pertaining to the test methods and observe the field-testing.
- 3. Shall not be less than 50 psi at the highest point along the test
- 4. Shall not exceed pipe or thrust restraint design pressures.
- 5. Shall be of at least two hour duration.
- 6. Shall not exceed two times the rated pressure of the valves when the pressure boundary of the test section includes closed gate valves.

1. Complete flushing of the pipeline to wash out all dirt, debris, etc. which may have accumulated in the pipeline during construction. A reducing agent shall be used at the point of flushing to eliminate the free chlorine residual per the direction of the Engineer.

- 1. Following flushing with clean clear water, the Contractor will add chlorine to the entire pipeline volume of water such that the water will have not less than 25 mg/L free chlorine, and let the mixture set for at least 24 hours.
- After the 24-hour duration, the water in the pipeline shall be tested for residual free chlorine and must contain a minimum of 10 mg/L chlorine. If less than 10 mg/L are found, then the disinfecting procedure shall be repeated until at least 10 mg/L chlorine residual is indicated by test.
- 3. Upon successful completion of step 2 above, the pipeline shall be flushed again until the chlorine concentration in the pipeline is no higher than that prevailing in the supply system. A reducing agent shall be used to eliminate the free chlorine residual in the flushing process.

After final flushing and before the new water main is connected to the distribution system, a sample shall be collected from different points in the new main, and submitted to the Vermont Health Department for analysis. All samples shall show the absence of coliform organisms and, if required the presence of a chlorine residual. (AWWA C651-99.) If the initial disinfecting fails to produce samples, which pass the V.S.H.D. requirements for potable drinking water, then the new main shall be re-flushed and shall be re-sampled until satisfactory test results are obtained.

Upon satisfactory results by the Vermont State Health Department, the pipeline may be placed in service. All costs for water, materials, equipment and labor to perform the required testing disinfecting, and flushing of the pipeline shall be paid by the Contractor.

BURLINGTON **PARKS** RECREATION WATERFRON'

CLIENTS

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**DESIGN TEAM** 

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PIPE ENVELOPE: BACKFILL WITH

COMPACTED SUITABLE ONSITE

LIMITS OF EXCAVATION

SUITABLE UNDISTURBED

- PIPE ENVELOPE;BACKFILL WITH

COMPACTED SUITABLE ON-SITE FILL

MATERIAL

FILL TO LIMITS OF EXCAVATION

PIPE BEDDING: COMPACTED SAND.

GRAVEL, OR CRUSHED STONE TO

UNSUITABLE MATERIAL TO BE

WITH PIPE BEDDING MATERIAL

EXCAVATED. BACKFILL AND COMPACT

LIGHTING CONSULTANT Domingo Gonzalez Associates 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains 1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR

CONSTRUCTION

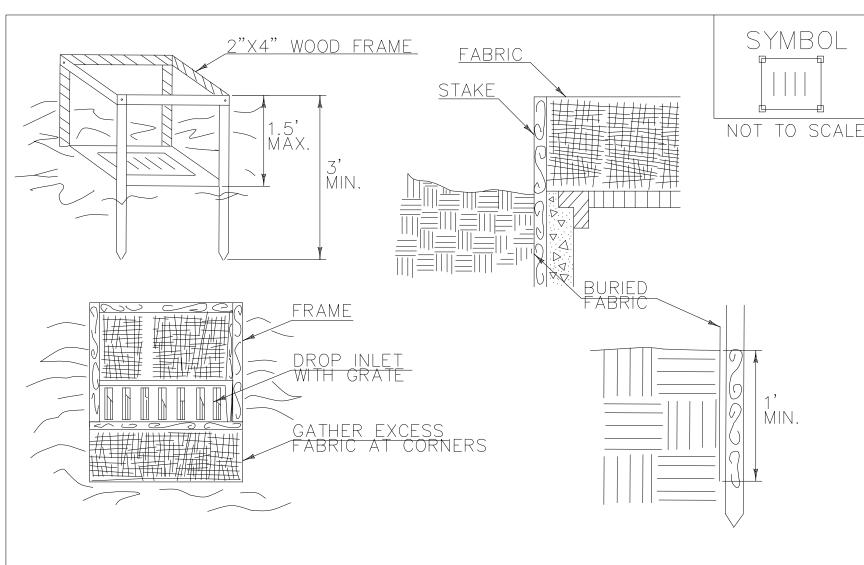
PROJECT TITLE

BURLINGTON **GREAT STREETS CITY HALL PARK** 

SHEET TITLE

**UTILITY DETAILS** 

MAM 12/28/2018 CHECKED BY 623263L3

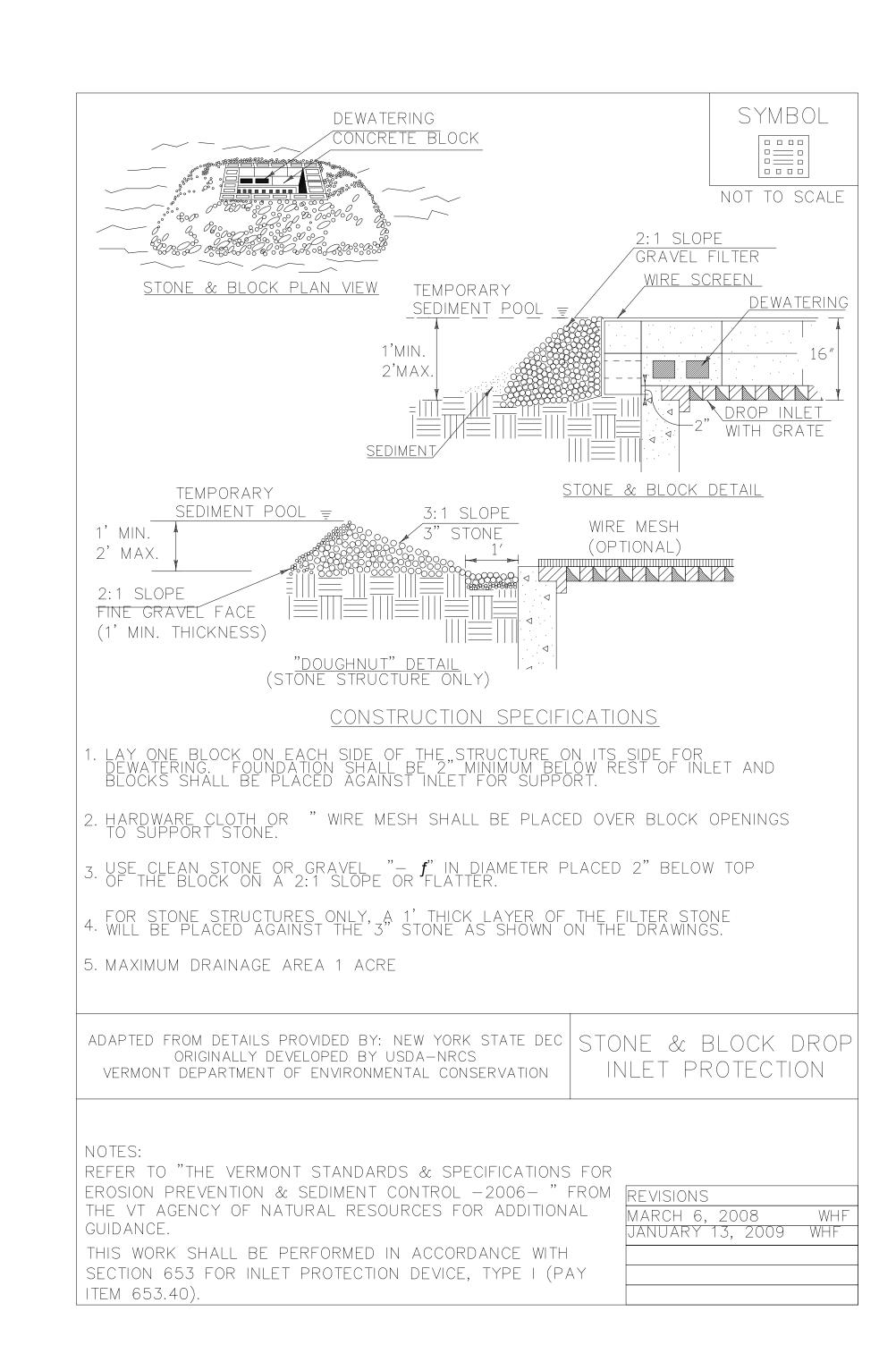


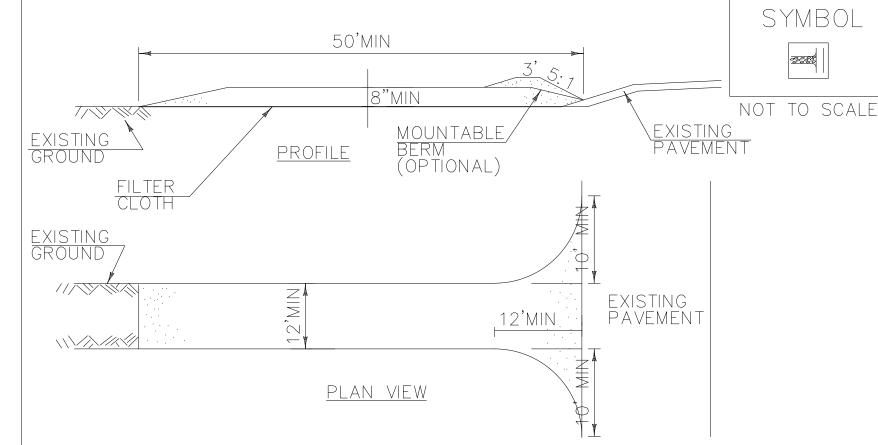
# CONSTRUCTION SPECIFICATIONS

- 1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
- 2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
- 3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
- 4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
- 5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
- 6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
- 7. MAXIMUM DRAINAGE AREA 1 ACRE

ITEM 653.40).

FILTER FABRIC ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC DROP INLET ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION PROTECTION NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM REVISIONS THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL MARCH 7, 2008 WHF JANUARY 13, 2009 WHF GUIDANCE. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY





# CONSTRUCTION SPECIFICATIONS

- 1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- 2. LENGTH— NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- 3. THICKNESS- NOT LESS THAN 8".
- 4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
- 5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
- 6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM REVISIONS THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

MARCH 24, 2008 JANUARY 13, 2009

**PARKS** RECREATION WATERFRON'

BURLINGTON

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

**CIVIL ENGINEER** DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661

**URBAN DESIGNER** Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

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**LIGHTING CONSULTANT** Domingo Gonzalez Associate 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains 1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

**EPSC DETAILS** 

12/28/2018 CHECKED BY 623263L3

C507

## CONSTRUCTION SPECIFICATIONS

- 1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
- 2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
- 3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
- 4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
- 6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
- 7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

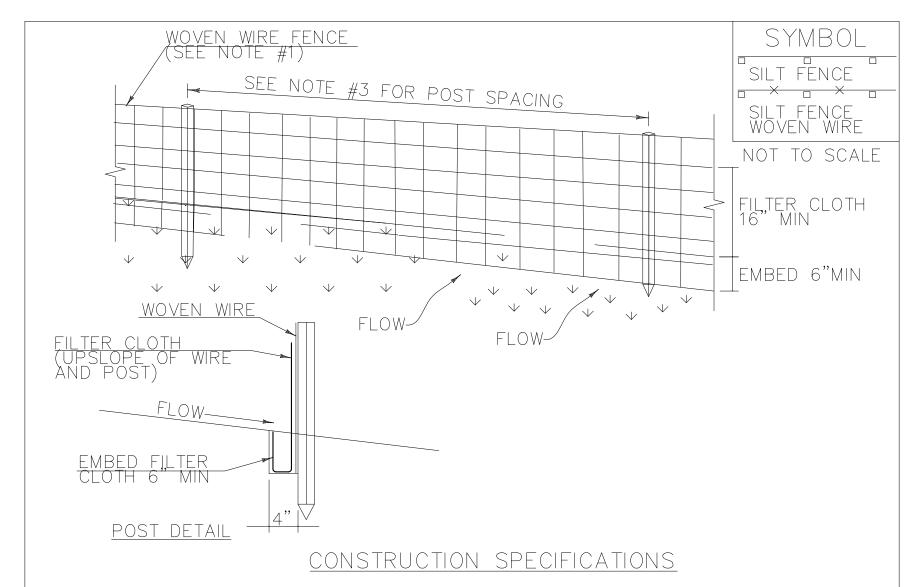
FILTER BAG

NOTES:

REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM REVISIONS THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

MARCH 24, 2008 JANUARY 13, 2009 WHF



- 1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
- 2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
- 3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%%%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%%, POST SPACING SHALL NOT EXCEED
- 4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- 5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
- 6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

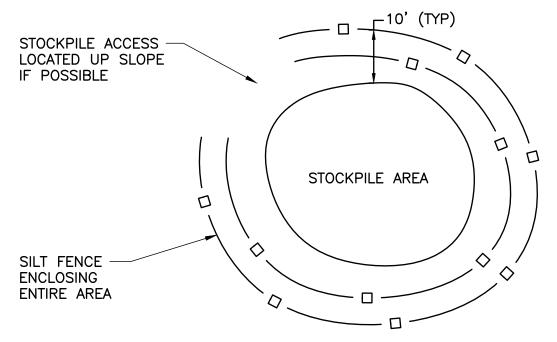
SILT FENCE

NOTES:

REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE JANUARY 13, 2009 WHF FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS MARCH 21, 2008 ECEMBER 11, 2008 THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL US EPA AND STATE OF VERMONT REQUIREMENTS FOR CONTROL OF EROSION AND SEDIMENTS DURING CONSTRUCTION. IT IS FURTHER NOTED THAT THE 1 TO 5 ACRE CONSTRUCTION GENERAL PERMIT IS NOT IN PLACE AT THIS TIME BUT IS ANTICIPATED TO BE SO BY THE 2019 CONSTRUCTION SEASON. THE CONTRACTOR/PROJECT SHALL ADHERE TO ALL PROVISIONS OF THIS PERMIT ONCE IN PLACE. THE CONTRACTOR SHALL REVIEW THE MATERIALS ON THE AGENCY OF NATURAL RESOURCES, DEPARTMENT OF ENVIRONMENTAL CONSERVATION, WATER QUALITY DIVISION, STORMWATER SECTION WEB SITE TO FAMILIARIZE ONESELF WITH THE GENERAL PROVISION OF THE CURRENT CONSTRUCTION GENERAL PERMIT, THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES AND OTHER APPLICABLE INFORMATION FOR GUIDANCE. SEE SPECIFICATIONS FOR ADDITIONAL DETAIL.



# NOTES:

1. ALL AREAS NOT TO BE WORKED FOR 14 DAYS OR MORE SHALL BE TEMPORARILY STABILIZED WITH MULCH, MATTING, OR OTHER MEASURES SUITABLE TO THE LOCATION.

STOCKPILE AREA ISOLATION DETAIL

NOT TO SCALE

BURLINGTON **PARKS** 

**RECREATION WATERFRON** 

CLIENTS

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Department of Public Works 645 Pine St, Burlington, VT 05401

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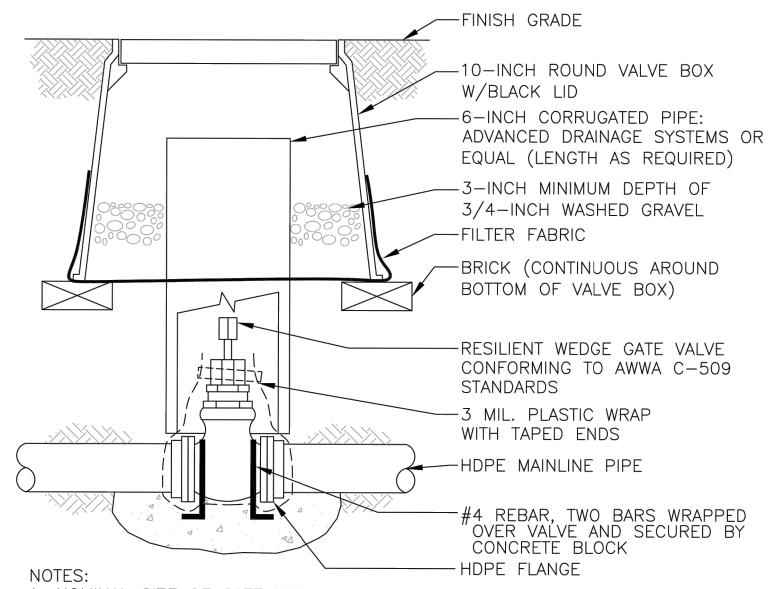
BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

**EPSC DETAILS** 

DRN/DSGN BY	DATE
PCD	12/28/2018
CHECKED BY	PROJECT#
LDC	623263L3

C508



1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE. 2. INSTALL A 4-INCH THICK CONCRETE PAD BELOW VALVE WITH NO. 4 REBAR WHEN USING PUSH-ON TYPE VALVES.

3. RESILIENT WEDGE GATE VALVE MAY HAVE EITHER MECHANICAL JOINT OR PUSH-ON GASKETED ENDS. THE OPERATOR IS A WRENCH NUT

4. ANCHOR ISOLATION VALVE TO CONCRETE BY BENDING REBAR OVER EACH END OF VALVE AND EXTENDING A MINIMUM OF 6-INCHES INTO CONCRETE SUPPORT BLOCK. 5. WRAP VALVE ENDS AND BODY IN 3 MIL. PLASTIC PRIOR TO POURING CONCRETE.

6. CONCRETE SUPPORT BLOCK IS TO BE POURED UNDER ISOLATION GATE VALVE. ONLY THE BOTTOM OF THE ISOLATION GATE VALVE TO BE IN CONTACT WITH CONCRETE.

7. INSTALL FILTER FABRIC AROUND EXTERIOR OF VALVE BOX. USE DUCT TAPE TO SECURE FABRIC TO PIPE AND VALVE BOX.

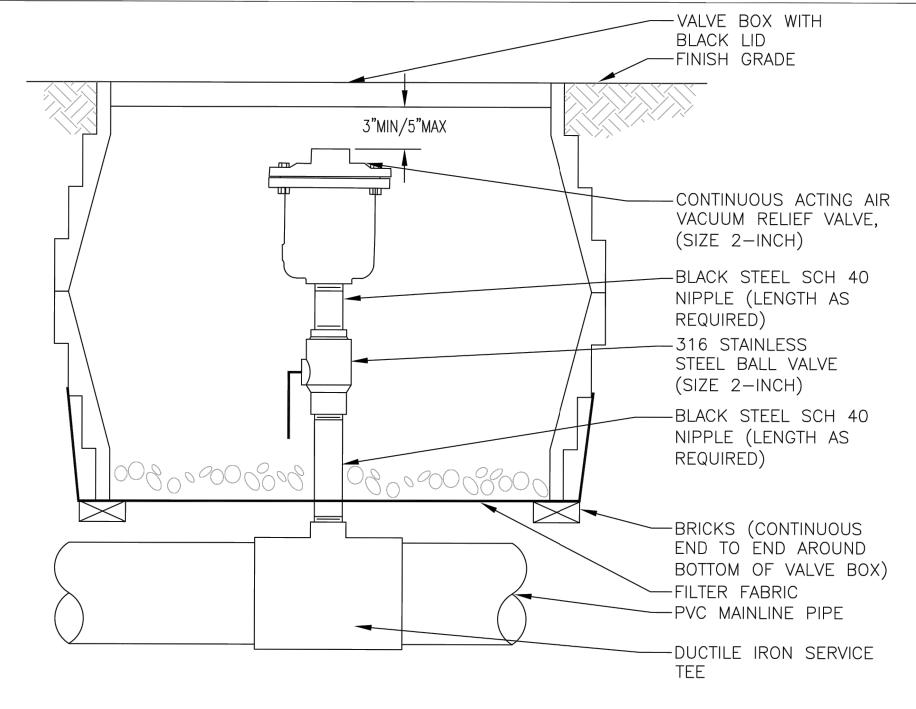
BACKFLOW PREVENTION VAULT (PLAN VIEW)

NOT TO SCALE

8. BRAND VALVE BOX LID PER SPECIFICATIONS.



ANY DIRECTION

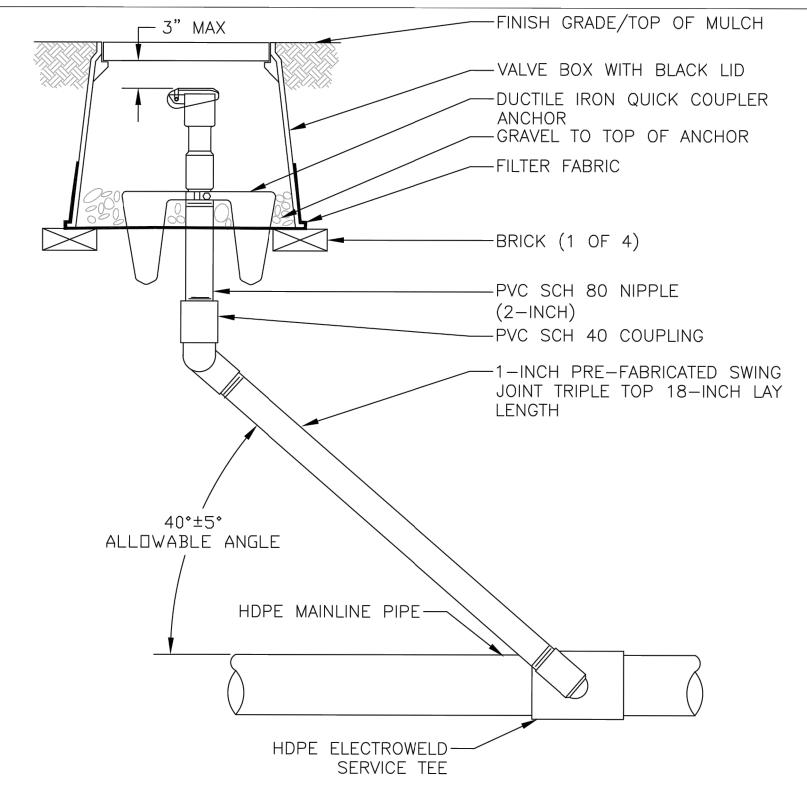


1. INSTALL VALVE BOX SO THERE IS A CLEARANCE OF 2" BETWEEN THE BOTTOM OF THE VALVE BOX AND THE MAINLINE PIPE.

2. INSTALL FILTER FABRIC AROUND EXTERIOR OF VALVE BOX. USE DUCT TAPE TO SECURE FABRIC TO PIPE AND VALVE BOX.

3. BRAND VALVE BOX COVER PER SPECIFICATIONS.

AIR VACUUM RELIEF



BACKFLOW PREVENTION VAULT (SECTION VIEW)

NOT TO SCALE

1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

2. INSTALL SWING JOINT LAY ARM BETWEEN 30° AND 45° OF LATERAL PIPE IN ORDER TO ABSORB DOWNWARD IMPACT. IF SWING JOINT CAN NOT BE INSTALLED AT SPECIFIED ANGLE, CONSULT RESIDENT ENGINEER PRIOR TO INSTALLATION OF SWING JOINT.

3. BRAND VALVE BOX LID PER SPECIFICATIONS.



PRECAST CONCRETE VAULT — 42"X42" BILCO (J-5AL H20) ACCESS DOOR WITH S.S. LADDER UP SAFETY POST (LU-4) AND LOCK MANHOLE STEPS KEYED ALIKE (OR APPROVED EQUAL) DOUBLE CHECK VALVE (TYP.) MANHOLE STEPS 2" RIGID INSULATION PORTLAND LOO (1" DIA.) 4 FLEXIBLE WATERTIGHT -DOUBLE CHECK VALVE CONNECTOR BY LINK-SEAL OR APPROVED EQUAL, VAULT HAND-TURN GATE VALVE (TYP.) TEE (TYP.) CORE SHALL BE TWICE THE INLET PIPE DIAMETER (TYP.) (6"X6"X6") PRESSURE REDUCING VALVE FOUNTAIN (1" DIA.) SIZE REDUCER STRAINER 6" HAND-TURN (6" TO 2") (TYP.) GATE VALVE WATER HAND-TURN GATE VALVE (TYP.) **METER** PRESSURE REDUCING FLEXIBLE WATERTIGHT WATER REDUCER VALVES CONNECTOR BY LINK-SEAL METER PRECAST CONCRETE VAULT (TYP.) OR APPROVED EQUAL, VAULT (TYP.) **IRRIGATION** CORE SHALL BE TWICE THE INLET PIPE DIAMETER (TYP.) SIZE REDUCER (TYP.) 12"X12"X12" 1. CONTRACTOR MUST SUBMIT PIPE LAYOUT PRIOR TO CASTING THE VAULT TO VERIFY CONCRETE FILL DRAIN TO ALL THE FITTINGS WILL FIT WITH THE VAULT SUMP 2% MINIMUM SLOPE 2. IRRIGATION PIPE DIAMETER TO BE DETERMINED BY CONTRACTOR'S IRRIGATION PLAN 3. PLATE STRAINER OPTIONAL, IF NOT USED MINIMUM PIPE LENGTH BEFORE METER SHALL BE 8 PIPE DIAMETERS TO PROVIDE LAMINAR FLOW. 4. THERE SHALL BE A MINIMUM 18" BETWEEN PIPES AND FIXTURES AND THE VAULT IN UNDISTURBED MATERIAL 3/4" CRUSHED STONE

BURLINGTON **PARKS RECREATION** WATERFRON'

CLIENTS

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PROFESSIONAL SEAL

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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

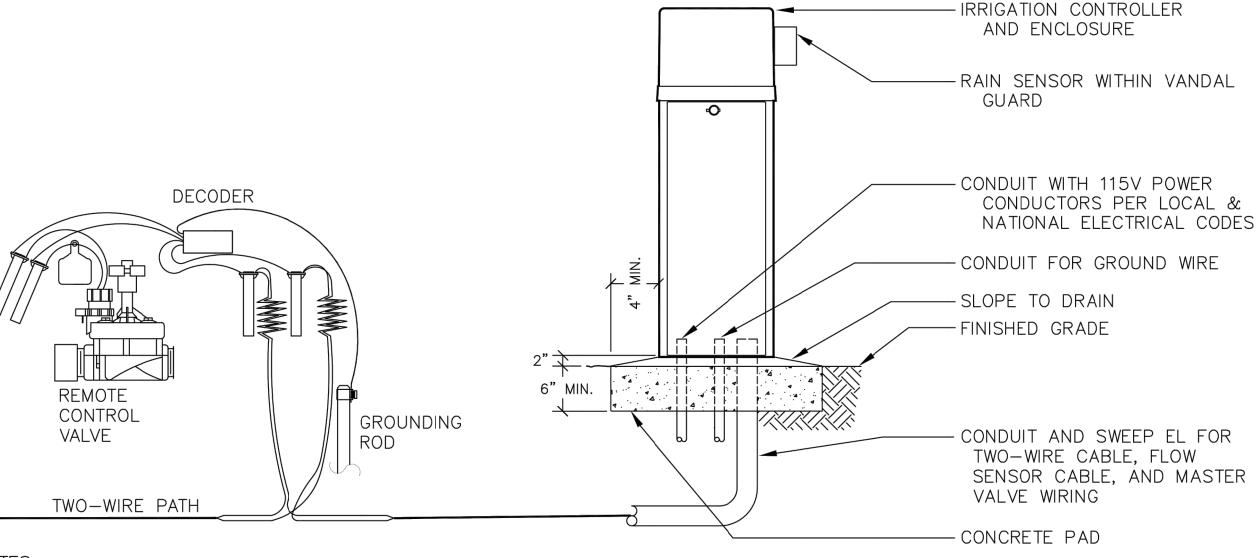
IRRIGATION DETAILS

12/28/2018 CHECKED BY 623263L3 SHEET NUMBER

1. INSTALL 4-INCH POP-UP HEIGHT IN TURF AREAS.

2. INSTALL 12-INCH POP-UP HEIGHT IN LANDSCAPED AREAS.

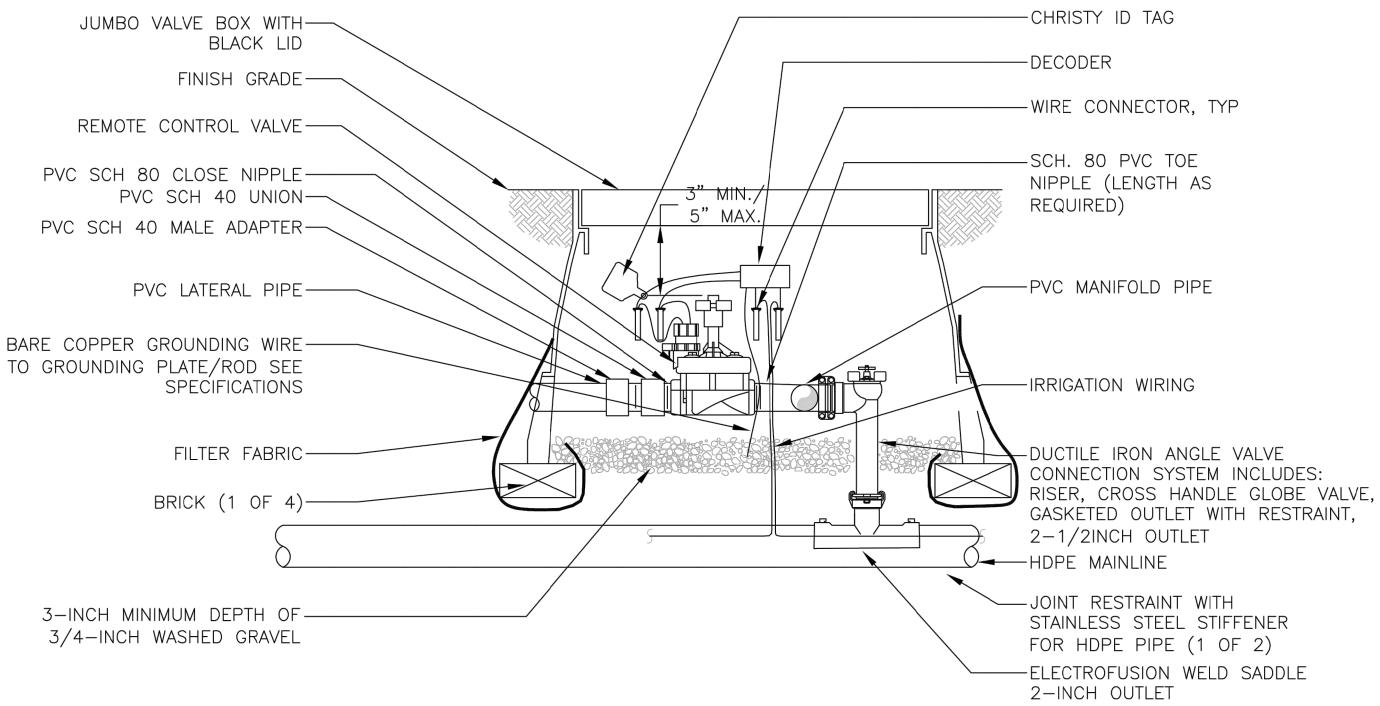
3. USE NO MORE THAN 24 INCHES OF SWING PIPE PER SPRINKLER.



- 1. IN ACCORDANCE WITH AMERICAN SOCIETY OF IRRIGATION CONSULTANTS GUIDELINE 100-2002 "FOR EARTH GROUNDING ELECTRONICS EQUIPMENT IN IRRIGATION SYSTEMS", SECTION 12 PARAGRAPH 1: "ELECTRONIC EQUIPMENT AND WIRES/CABLES SHALL BE INSTALLED OUTSIDE OF THE SPHERE OF INFLUENCE OF THE GROUNDING GRID. THIS IS NECESSARY TO AVOID RE—INJECTING THE DISCHARGED LIGHTNING ENERGY INTO THE EQUIPMENT AND THE UNDERGROUND WIRES AND CABLES."
- 2. SEAL OPENING IN TOP OF CONDUITS WITH EXPANDING FOAM AFTER WIRE INSTALLATION.





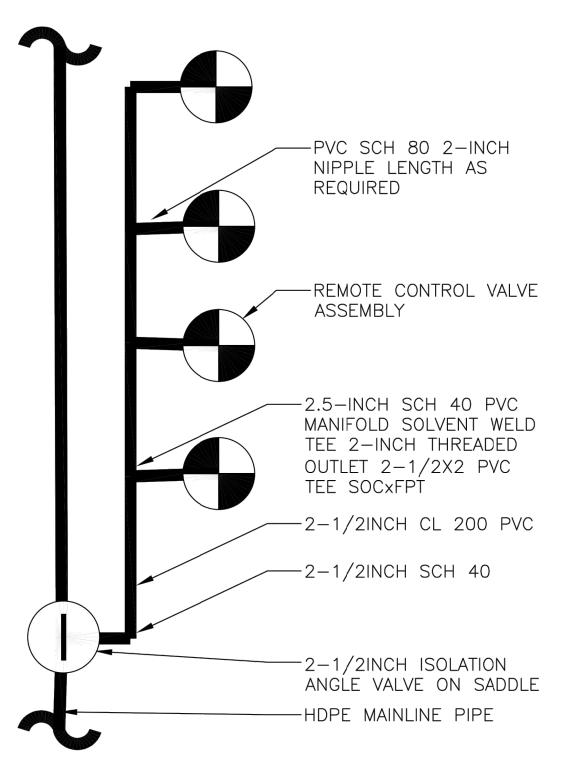


**ASSEMBLY** 

- 1. USE VALVE BOX EXTENSION AS NECESSARY TO ACHIEVE MINIMUM DIMENSIONS ABOVE ASSEMBLY.
- 2. INSTALL FILTER FABRIC AROUND EXTERIOR OF VALVE BOX. USE DUCT TAPE TO SECURE FABRIC TO PIPE AND VALVE BOX.
- 3. TRANSITION TO PROPER LATERAL PIPE BURIAL DEPTH USING 45° ELBOW FITTINGS DOWNSTREAM OF REMOTE CONTROL VALVE ASSEMBLY.
- 4. DO NOT CUT OUT ENDS OF VALVE BOX UNNECESSARILY.
- 5. POSITION VALVE BOX OVER VALVE TO ALLOW ACCESS TO SOLENOID AND PROPER OPERATION OF BALL VALVE. DO NOT PLACE VALVE BOX DIRECTLY ON LATERAL PIPE.
- 6. COIL 3-FEET OF WIRE FOR EACH DECODER FOR SERVICE PURPOSES.

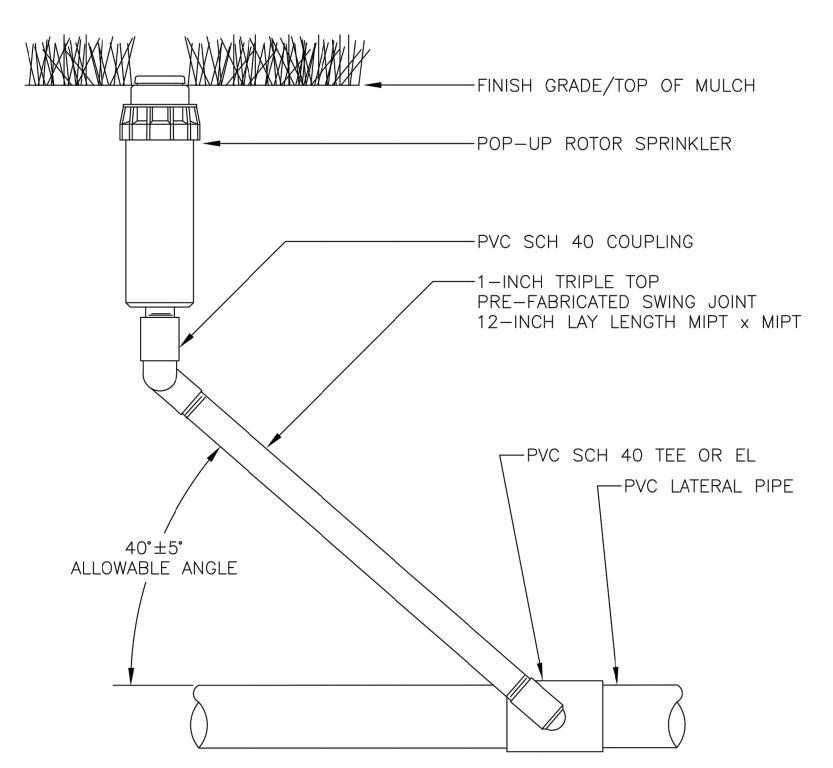
N.T.S.

- 7. BRAND VALVE BOX LID PER SPECIFICATIONS.
- 8. INSTALL PRESSURE REGULATOR ON ALL REMOTE CONTROL VALVES. SET PRESSURE MODULE TO INDICATED PRESSURE ON LEGEND PER MANUFACTURER'S RECOMMENDATIONS.



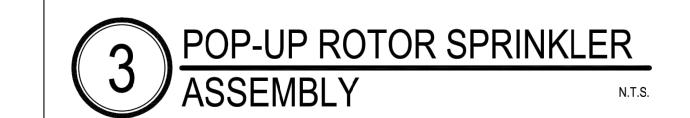
FOR MANIFOLDS:

- 1. SPACE VALVES A UNIFORM DISTANCE APART.
- 2. USE MANUFACTURER'S RECOMMENDED TORQUE ON RESTRAINTS. A CALIBRATED TORQUE BAR WILL BE REQUIRED AND CALIBRATION TESTING RESULTS WILL BE AVAILABLE UPON REQUEST.
- 5. NO MORE THAN 4 REMOTE CONTROL VALVES MAY BE ON THE SAME ISOLATION MANIFOLD.
- 4. VALVES ON A SINGLE MANIFOLD SHOWN GRAPHICALLY ON DRAWINGS.



NOTES:

1. INSTALL SWING JOINT LAY ARM BETWEEN 30° AND 45° OF LATERAL PIPE IN ORDER TO ABSORB DOWNWARD IMPACT. IF SWING JOINT CAN NOT BE INSTALLED AT SPECIFIED ANGLE, CONSULT RESIDENT ENGINEER PRIOR TO INSTALLATION OF SWING JOINT.



BURLINGTON **PARKS RECREATION** WATERFRON'

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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

IRRIGATION DETAILS

12/28/2018 CHECKED BY 623263L3 SHEET NUMBER

C510

A FULLY AUTOMATED SPRINKLER IRRIGATION SYSTEM WILL IRRIGATE DESIGNATED GRASSED AREAS AND LANDSCAPES

- 1. HDPE MAINLINE PIPE DUE TO PRESSURE REQUIRED, CL 200 PVC SUBMAINLINE PIPE
- 2. MAINLINE COMPONENTS INCLUDING
- 2.1. ISOLATION VALVES TO ISOLATE SECTIONS FOR REPAIR
- 2.2. QUICK COUPLING VALVES TO HAND WATER AND CLEAN
- 2.3. AIR-VACUUM RELIEF VALVES TO REMOVE AIR IN MAINLINE AT THE HIGH POINTS
- 2.4. FLOWER WATER STATIONS2.5. WINTERIZATION ASSEMBLY
- 3. BLOCK STYLE LATERALS USING REMOVE CONTROL VALVES, CLOSED CASE ROTARY SPRINKLERS OR SPRAY SPRINKLERS AND PVC LATERAL PIPING FOR MEDIUM OR SMALL AREAS
- 4. POP-UP ROTARY SPRINKLERS LARGE OPEN AREAS
- 5. STREAM BUBBLERS OR DRIP IRRIGATION FOR TREES IN DENSELY PLANTED GARDEN AREAS
- 6. CONTROL SYSTEM INCLUDES A STANDALONE PROGRAMMABLE CONTROLLER WITH RAIN SHUT-OFF AND FLOW SENSING CAPABILITY. FLOW SENSING TO MONITOR FOR LEAKS IN BURIAL SECTIONS
- 7. THE SYSTEM SHALL BE INSTALLED TO DRAIN BY GRAVITY, TO MINIMUM NUMBER OF LOW POINTS.

# **GENERAL NOTES**

- 1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 100 PSI AT A MAXIMUM DISCHARGE OF 20 GPM AT THE POINT—OF—CONNECTION.
- 2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATION AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION. CONFIRM EXACT LIMITS OF IRRIGATION AREA AND ALL EXISTING AND FUTURE HARDSCAPE AND BURIAL AREAS PRIOR TO CONSTRUCTION.
- 3. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING, OR IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATION ARE DISCOVERED. BRING ALL SUCH OBSTRUCTION OR DISCREPANCIES TO THE ATTENTION OF THE ENGINEER
- 4. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
- 4.1. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY.
- 4.2. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM PLANTING MATERIALS, ARCHITECTURAL FEATURES, STORM DRAINS, AND SIDEWALKS.
- 4.3. INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
- 5. SELECT NOZZLES FOR ROTARY SPRINKLERS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE IF SITE CONDITIONS ARE NOT AS SHOWN.CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE AND MINIMIZE OVERSPRAY.
- 6. WITH REGARD TO PIPE SIZING, THE FOLLOWING SHOULD BE NOTED:

  IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTION. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH DEFAULT PIPE SIZE NOTED IN THE LEGEND.
- 7. CONTRACTOR MUST SUPPLY A STATION THAT PROVIDES FULL COVERAGE TO EACH SECTION. IF ADDITIONAL SPRINKLERS ARE NEEDED, THEY ARE TO BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 8. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
- 8.1. TWO OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVE.
- 8.2. FOUR OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
- 8.3. 20 OF EACH TYPE OF SPRINKLER.
- 8.4. FOUR QUICK COUPLING KEYS FOR MANUAL QUICK COUPLING VALVES.
- 8.5. TWO PRESSURE ADJUSTMENT GAUGES WITH SCHRADER VALVE CONNECTION.
- 8.6. TEN DECODERS.
- 9. CONTRACTOR IS RESPONSIBLE FOR FINAL VALVE BOX AND SPRINKLER ELEVATION IN RELATION TO THE SURROUNDING FINAL GRADE. INSTALL VALVE BOXES IN SOD AREAS WITH THE LID TOP 1-1/2 INCHES ABOVE SURROUNDING FINAL GRADE.
- 10. INSTALL IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION INDICATED. COORDINATE EXACT PLACEMENT OF THE CONTROLLER WITH THE CLERK OF THE WORKS ON SITE PRIOR TO CONSTRUCTION, REFER TO THE IRRIGATION CONTROLLER ASSEMBLY DETAIL FOR ADDITIONAL INFORMATION.
- 11. INSTALL THREE CONTROL WIRES AND ONE COMMON WIRE FROM THE RESPECTIVE CONTROLLER TO EACH OF THE REMOTE CONTROL VALVE ASSEMBLIES INDICATED FOR USE AS SPARE WIRE IN CASE OF CONTROL WIRE FAILURE.. PROVIDE A 3-FOOT COILED LENGTH OF EACH SPARE WIRE IN ALL REMOTE CONTROL VALVE BOXES. ROUTE SPARE WIRE IN SUCH A MANNER THAT WIRE IS ROUTED WITH ALL MAINLINE PIPES.
- 12. PROVIDE AND INSTALL 4—INCH SLEEVE AT EACH HARDSCAPE CROSSING INTENDED FOR IRRIGATION WIRE ROUTING. TERMINATE SLEEVE ENDS 12—INCHES BEYOND THE EDGE OF PAVEMENT. COVER SLEEVE ENDS AND MARK WITH TEMPORARY STAKES. REFER TO IRRIGATION SPECIFICATIONS FOR PIPE MATERIAL.
- 13. AIR VACUUM RELIEF VALVE ASSEMBLY LOCATION SHOWN IS APPROXIMATE. VERIFY LOCATION OF THE HIGHEST ELEVATION ON THE MAINLINE AND INSTALL THE AIR VACUUM RELIEF VALVE ASSEMBLY AT THE HIGH POINT IN THIS AREA.
- 14. ROUTE IRRIGATION MAINLINE PIPE 3-FEET FROM THE EDGE OF PAVEMENT WHERE NOT CONFLICTING WITH TREES. REFER TO TREE PROTECTION PLAN FOR ADDITIONAL INFORMATION ON ROUTING PIPE AROUND EXISTING TREES. INSTALL VALVE BOXES AT LEST 3-FEET FROM THE EDGE OF PAVEMENT AND MAINTAIN A UNIFORM DISTANCE FORM THE VALVE BOX TO THE EDGE OF PAVEMENT.

BURLINGTON
PARKS
RECREATION
WATERFRONT

CLIENTS

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Department of Public Works 645 Pine St, Burlington, VT 05401

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BURLINGTON GREAT STREETS CITY HALL PARK

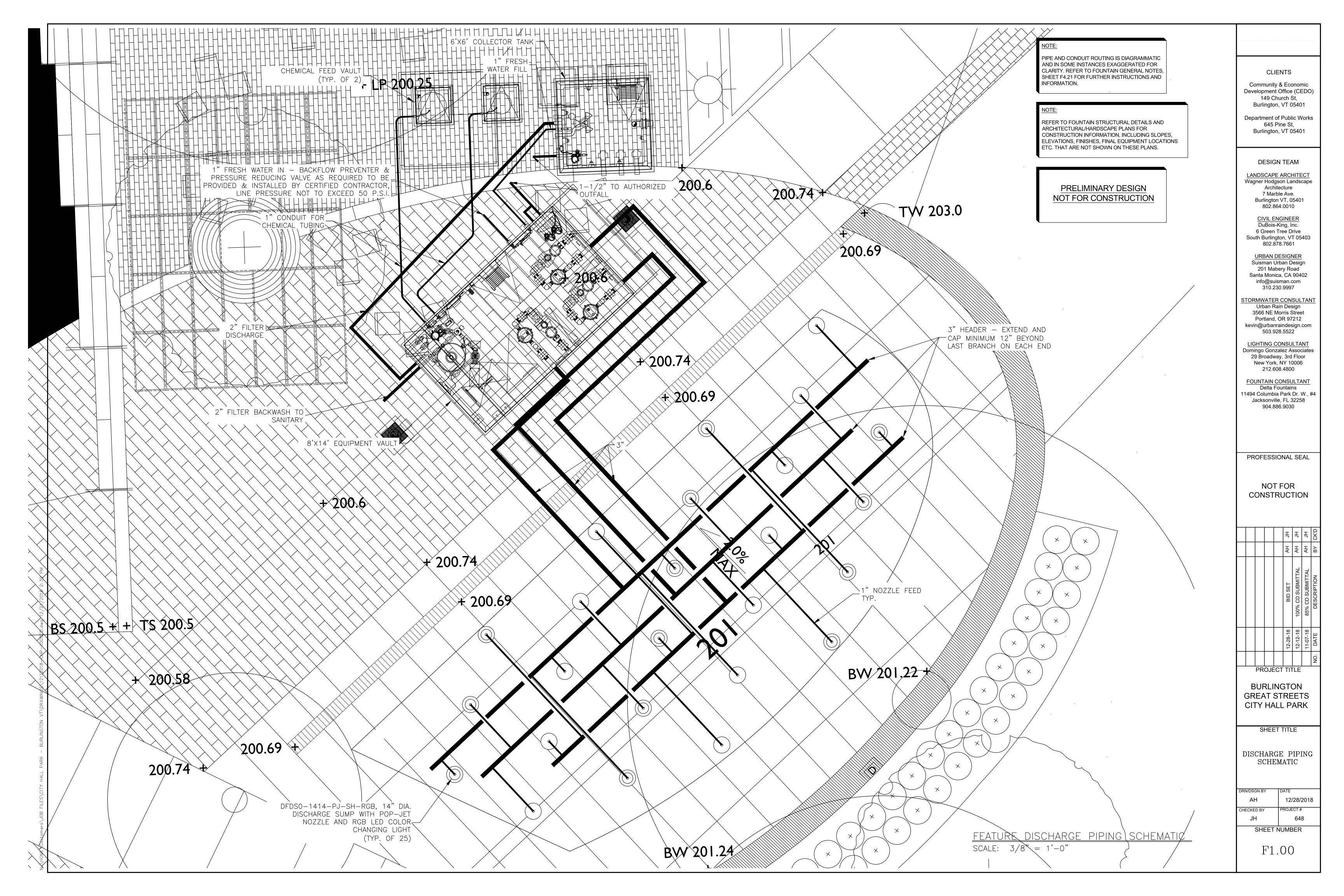
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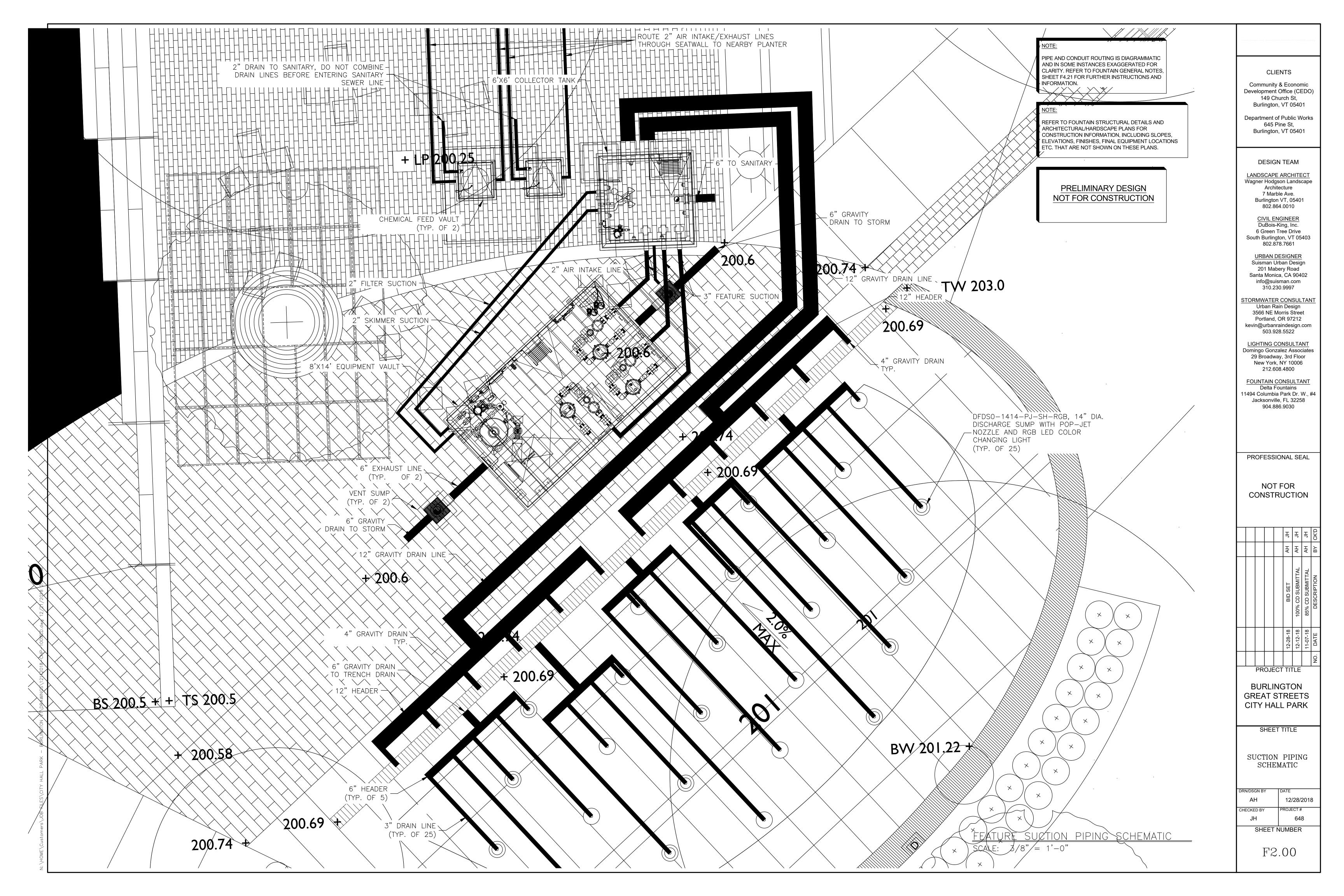
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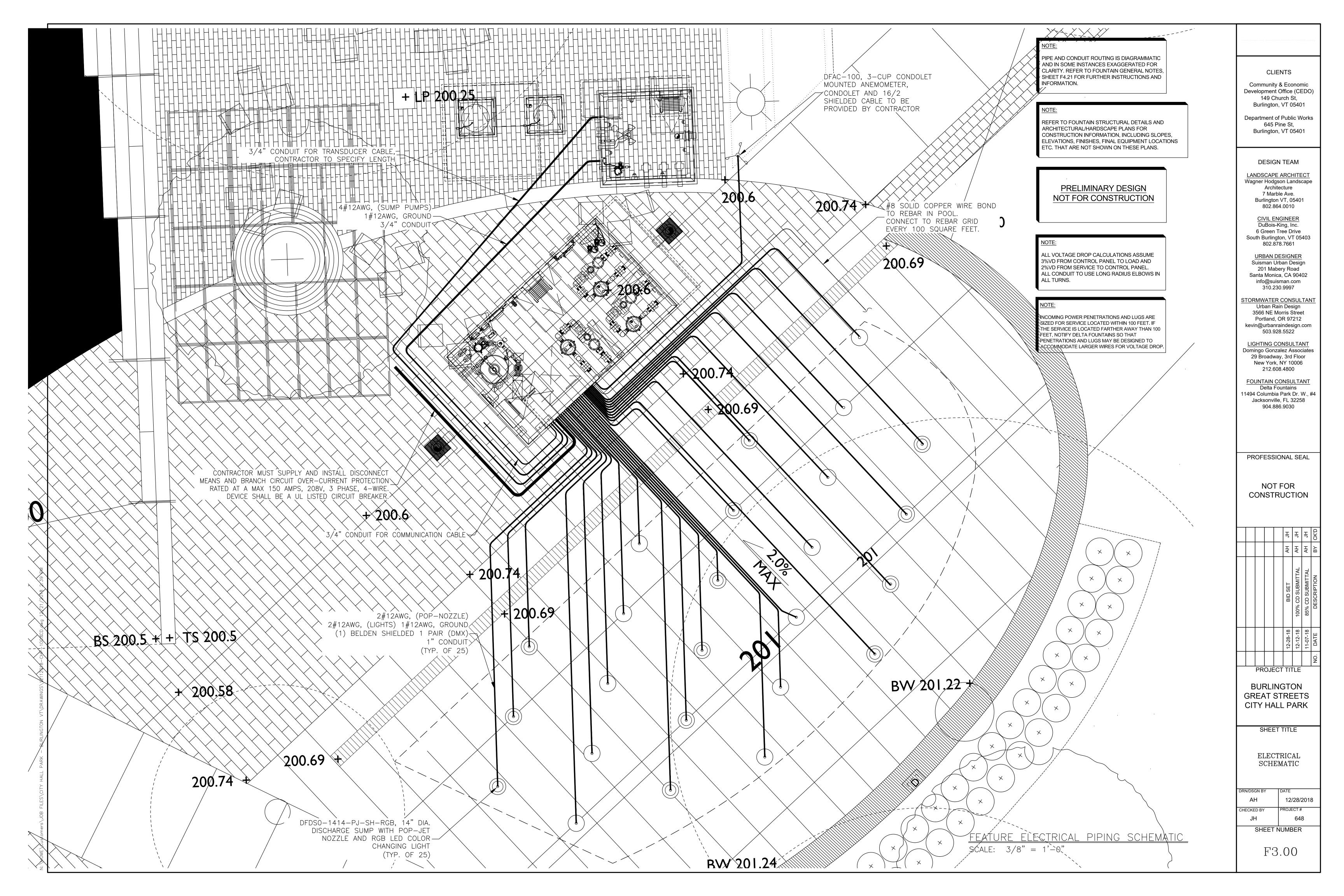
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- 1. THE INSTALLATION OF ELECTRICAL EQUIPMENT AND WIRING IN WATER CAN PRODUCE EXTREME HAZARDS, IT IS THE RESPONSIBILITY OF THE INSTALLING ELECTRICAL CONTRACTOR TO CONSULT & COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION; QUINCY, MASSACHUSETTS AND SAFETY REGULATIONS PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT. IN THE EVENT OF CONFLICTING REQUIREMENTS BETWEEN CONTRACT DOCUMENTS AND ANY LOCAL ELECTRIC CODE OR OTHER GOVERNING ORGANIZATIONS FOR THIS LOCATION, THE MOST STRINGENT SHALL GOVERN AND TAKE PRECEDENCE. IN THIS EVENT, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN WRITING OF SUCH CONFLICT.
- 2. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL FIELD DIMENSIONS CRITICAL TO FOUNTAIN EQUIPMENT INSTALLATION AND PERFORMANCE AND REPORT ANY DISCREPANCIES, IN WRITING, TO DELTA FOUNTAINS AND THE ENGINEER UPON IMMEDIATE NOTICE.
- 3. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL ELECTRICAL EQUIPMENT IS INSTALLED AND WIRED BY A QUALIFIED, LICENSED ELECTRICIAN EXPERIENCED IN FOUNTAIN SYSTEM WIRING. DELTA FOUNTAINS ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR INSTALLATIONS NOT CARRIED OUT BY A QUALIFIED, LICENSED, ELECTRICIAN AND IN ACCORDANCE WITH OUR SHOP DRAWINGS, AND ALL PROVISIONS OF THE LATEST EDITION OF NEC IN GENERAL, ARTICLE 680 SPECIFICALLY, AND LOCAL SAFETY REGULATIONS. ALL DELTA FOUNTAINS ELECTRICAL CONTROL PANELS INCLUDE GFCI'S WHEN AND WHERE REQUIRED, WHEN FURNISHED.
- 4. A CLASS 'A' GROUND FAULT CIRCUIT INTERRUPTER (GFCI) MUST BE INSTALLED IN EACH BRANCH CIRCUIT SUPPLYING SUBMERSIBLE OR UNDERWATER FOUNTAIN EQUIPMENT. EQUIPMENT OPERATING AT 15 VOLTS OR LESS MUST BE PROTECTED BY SUITABLE TRANSFORMER U.L. LISTED AND MARKED FOR THE APPLICATION.
- 5. SUBMERSIBLE/UNDERWATER LIGHTING FIXTURES MUST BE INSTALLED FOR OPERATION AT 150 VOLTS LESS BETWEEN CONDUCTORS. SUBMERSIBLE PUMPS MUST OPERATE AT 300 VOLTS OR LESS BETWEEN CONDUCTORS.
- 6. WET/DRY LIGHTING FIXTURES MUST BE INSTALLED WITH THE TOP OF THE FIXTURE LENS BELOW THE GRATE AND MUST HAVE THE LENS ADEQUATELY GUARDED TO PREVENT CONTACT BY ANY PERSON.
- 7. SUBMERSIBLE LIGHTING FIXTURES MUST BE INSTALLED WITH THE TOP OF THE FIXTURE LENS A MINIMUM OF 2" BELOW THE NORMAL OPERATION
- WATER LEVEL AND MUST HAVE THE LENS ADEQUATELY GUARDED TO PREVENT CONTACT BY ANY PERSON.

  8. ALL ELECTRICAL EQUIPMENT WHICH DEPENDS ON SUBMERSION FOR SAFE OPERATION MUST BE PROTECTED AGAINST OVERHEATING BY AN
- INDEPENDENT LOW WATER CUTOFF DEVICE IF THE WATER LEVEL DROPS BELOW NORMAL OPERATING LEVELS, OR CONTAIN AN INTERNAL THERMAL BIMETALLIC AMBIENT COMPENSATING OVERLOAD.
- 9. MAXIMUM LENGTH OF EXPOSED CORD IN FOUNTAIN IS LIMITED TO 9'. NO ADDITIONAL CORD OR SPLICES OTHER THAN THOSE MADE IN A WATERTIGHT JUNCTION BOX, ARE TO BE MADE IN THE FOUNTAIN. CORDS EXTENDING BEYOND FOUNTAIN PERIMETER MUST BE ENCLOSED IN APPROVED WIRING ENCLOSURES.
- 10. ALL SUBMERSIBLE LIGHTS AND PUMPS MUST HAVE SUFFICIENT CORD LENGTH TO ALLOW REMOVAL FROM THE WATER FOR RE—LAMPING AND NORMAL MAINTENANCE. FIXTURES CANNOT BE PERMANENTLY IMBEDDED IN THE FOUNTAIN STRUCTURE SO THAT THE WATER LEVEL MUST BE REDUCED OR THE FOUNTAIN DRAINED FOR RE—LAMPING, MAINTENANCE, OR INSPECTION.
- 11. SUBMERSIBLE EQUIPMENT MUST BE INHERENTLY STABLE OR BE SECURELY FASTENED IN PLACE WITH NON-CORROSIVE FASTENERS SUITABLE FOR THE PURPOSE.
- 12. UNDERWATER JUNCTION BOXES MUST BE FILLED WITH AN APPROVED RE-ENTERABLE ELECTRICAL POTTING COMPOUND (WAX OR PARAFFIN IS NOT ACCEPTABLE) PRIOR TO FILLING FOUNTAIN AND, AFTER ALL CIRCUITS HAVE BEEN CHECKED, TO PREVENT THE ENTRY OF MOISTURE, AND BE FIRMLY ATTACHED TO SUPPORTS OR DIRECTLY TO THE FOUNTAIN SURFACE AND BONDED AS REQUIRED. ALL CONDUIT STUBBED UP THROUGH THE FOUNTAIN FLOOR MUST BE STAINLESS STEEL. PVC, RED BRASS, AND EVERDUR ARE NOT ACCEPTABLE AS A CONDUIT SUPPORT STUB FOR SUBMERSIBLE JUNCTION BOXES. ALL CONDUIT ENTRIES MUST BE COMPLETELY SEALED PRIOR TO POTTING TO PREVENT COMPOUND FROM ENTERING CONDUIT SYSTEM. AFTER TESTING, JUNCTION BOXES SHALL BE SEALED WITH SCOTCH 3M RE-ENTERABLE COMPOUND OR OTHER APPROVED FILLING
- COMPOUND. CONFIRM POTTING COMPOUND HAS CURED BEFORE INSTALLING LID ON JUNCTION/DECK BOXES.

  13. ALL ELECTRICAL CONDUIT AND CONDUIT FITTINGS BETWEEN SUBMERSIBLE LIGHT FIXTURE NICHES, JUNCTION BOXES AND CONTROL PANELS WILL BE U.L. LISTED RIGID, NONMETALLIC, PVC NEMA, TC-2 MAX. 90°C, SUNLIGHT RESISTANT FOR ABOVE AND BELOW GROUND USE. ALL CONDUITS SHALL BE PROTECTED AT ALL TIMES FROM POSSIBLE WATER INGRESS. USE ONLY APPROVED PRIMER AND PVC GLUE SUITABLE FOR JOINING ALL PVC CONDUITS AND FITTINGS PER MANUFACTURER'S INSTRUCTIONS.
- 14. ALL UNDERWATER JUNCTION BOXES MUST BE EQUIPPED WITH THREADED CONDUIT ENTRIES AND COMPRESSION TYPE CORD CONNECTORS FOR CORD ENTRY. STRAIN RELIEF CONNECTORS SERVING NICHE-MOUNTED UNDERWATER LIGHTS SHALL BE CAPABLE OF SEALING BOTH THE FIXTURE CORD AND AN AWG #8 BARE BONDING WIRE WHICH MAY BE REQUIRED BY SOME LOCAL CODES.
- 15. ALL ELECTRICAL EQUIPMENT MUST BE PROPERLY BONDED AND GROUNDED FOR SAFETY, PER THE LATEST NEC AND LOCAL CODE REQUIREMENTS. ALL BONDING LUGS SHALL BE PROVIDED BY INSTALLING ELECTRICAL CONTRACTOR. INSTALLING CONTRACTOR SHALL VERIFY ALL NECESSARY REQUIREMENTS OF LOCAL INSPECTOR BEFORE INSTALLING, AND NOTIFY DELTA FOUNTAINS OF ANY REQUIRED DEVIATIONS FROM SPECIFICATIONS OF PLANS AND NOTES, AND RESOLVE ALL CONFLICTS BEFORE INSTALLING EQUIPMENT. CONTRACTOR TO INSURE THAT ALL BONDING CODES ARE COMPLIED WITH FOR EACH METAL FOUNTAIN EQUIPMENT COMPONENT.
- 16. ALL CONDUIT CONNECTIONS BETWEEN DISSIMILAR METALS MUST BE MADE WITH DIELECTRIC FITTINGS, AND SEALED WITH DIELECTRIC THREAD COMPOUND TO PREVENT GALVANIC DEGRADATION.
- 17. THE INSTALLING ELECTRICAL CONTRACTOR WILL VERIFY THAT ALL ELECTRICAL EQUIPMENT GROUNDS WILL HAVE THE SAME REFERENCE POTENTIAL AND
- WILL GIVE EVIDENCE OF SUCH TO DELTA FOUNTAINS BEFORE ANY EQUIPMENT IS INITIALLY ENERGIZED.

  18. THE INSTALLING CONTRACTOR SHALL SIZE ALL FEED—WIRES LEADING TO FOUNTAIN CONTROL PANEL FOR NO MORE THAN 2% VOLTAGE DROP. AND
- SHALL NOTIFY DELTA FOUNTAINS BEFORE THE CONTROL PANEL IS FABRICATED IF WIRE IS UPSIZED SUCH THAT EXTRA LARGE WIRE LUGS ARE REQUIRED. IT IS THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR TO PROVIDE ANY DISCONNECT REQUIRED BY LOCAL CODE REQUIREMENTS.

  19. THE FOUNTAIN CONTROL PANEL SHALL BE ADEQUATELY PROTECTED FROM DEBRIS AND STORED PROPERLY DURING CONSTRUCTION AND PRIOR TO
- INITIAL OPERATION AND SHALL BE VACUUMED CLEAN AND ALL SCREWS FOR TERMINAL CONNECTIONS TIGHTENED.

  20. THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT SUPPLY VOLTAGE IS WITHIN 5% OF DESIGN VOLTAGE WHEN ALL EQUIPMENT IS IN OPERATION
- AND SHALL RE—TAP TRANSFORMER, UP SIZE WIRE, OR SUPPLY A BUCK AND BOOST TRANSFORMER TO GET SUPPLY VOLTAGE TO NECESSARY LEVEL, IF NECESSARY.

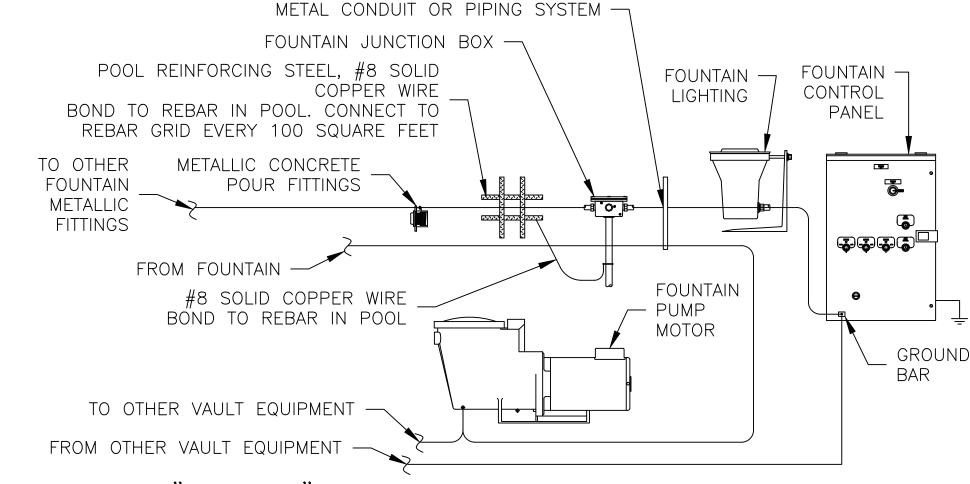
  21. ANY AND ALL COSTS ASSOCIATED WITH THE ABOVE ARE THE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- 22. CONDUITS ENTERING FOUNTAIN SYSTEM CONTROL PANELS SHALL BE INSTALLED INTO BOTTOM OF ENCLOSURE IN THE EVENT WATER ENTERS CONDUIT AND FLOWS INTO PANEL THROUGH CONDUIT OPENINGS. A DRAIN OPENING MUST BE MADE IN BOTTOM OF ENCLOSURE PAN TO ALLOW DRAINAGE OF WATER FROM ENCLOSURE IN THE EVENT OF WATER INGRESS. DO NOT MOUNT CONTROL PANEL WHERE IRRIGATION NOZZLES WILL SPRAY DIRECTLY AT PANEL.
- 23. PULL CORRECT QUANTITY AND SIZE WIRES WITH SEPARATE GROUND THROUGH CONDUIT INTO JUNCTION BOX. MAKE ALL SPLICES AND CONNECTIONS TIGHT AND WELL INSULATED. CONNECT GROUND WIRE TO GROUND LUGS IN JUNCTION BOX. ALL WIRING AND CONDUIT SHALL BE SIZED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL ELECTRICAL CODES AND REGULATIONS. WHERE WIRED CONDUIT SIZES ARE SPECIFIED ON THE DRAWINGS, THEY SHALL BE INTERPRETED AS MINIMUM ALLOWABLE SIZES. ALL CONDUCTORS SHALL BE COPPER WITH INSULATION SUITABLE FOR THE PARTICULAR WIRING LOCATION. MINIMUM ACCEPTABLE INSULATION TYPE IS THWN OR BETTER, SUITABLE FOR BOTH DRY AND WET LOCATIONS. CONDUCTOR INSULATION SHALL BE MOISTURE RESISTANT, FLAME RETARDANT THERMOPLASTIC AS APPROVED BY THE NEC. CONDUCTOR SIZING SHALL BE BASED ON AN AMBIENT TEMPERATURE OF 30 DEGREES CELSIUS AND A CONDUCTOR TEMPERATURE RATING OF 75 DEGREES CELSIUS MAX. PER ARTICLE 310 OF THE NEC. ALL UNDERWATER ELECTRICAL CABLE SHALL EITHER BE ENCASED IN WATERPROOF, SEALED PVC CONDUIT OR SHALL BE RATED FOR CONTINUOUS OPERATION IN UNDERWATER, MARINE ENVIRONMENTS.
- 24. INSERT EACH SUBMERSIBLE CORD THROUGH THE BRASS CORD SEALS PROVIDED ON THE JUNCTION BOX, AND TIGHTEN COMPLETELY.
  25. DO NOT OPERATE SUBMERSIBLE LIGHTS OR PUMPS MORE THAN 10 SECONDS UNLESS COMPLETELY SUBMERGED OR DAMAGE WILL RESULT AND
- WARRANTIES WILL BE VOIDED.
- 26. ALL CONDUCTORS FOR FEEDERS WHICH EXCEED 200 FEET IN LENGTH SHALL BE INCREASED 1 TRADE SIZE AND INCREASED AN ADDITIONAL 1 TRADE SIZE FOR EACH ADDITIONAL 100 FEET OF FEEDER CABLE LENGTH.
- 27. THE INFORMATION SUPPLIED IN THESE DRAWINGS SPECIFIES THE GENERAL REQUIREMENTS OF A COMPLETE FUNCTIONING ELECTRICAL POWER DISTRIBUTION AND CONTROL SYSTEM. THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATION ACTIVITIES WITH THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, ARCHITECT AND (WITH RESPECT TO WORK PHASE) OTHER SEPARATE CONTRACTORS PERFORMING WORK RELATED TO THE FOUNTAIN INSTALLATION.
- 28. ALL CONDUCTORS SHALL BE RUN IN RIGID CONDUIT SIZED FOR THE NUMBER OF WIRES CONTAINED WITHIN PER NEC REQUIREMENTS. RIGID CONDUIT SHALL BE CORROSION RESISTANT AND EITHER GALVANIZED STEEL OR RIGID PVC. WHEN CONDUIT IS SUBMERGED OR IN OTHER WET LOCATIONS, RIGID PVC SHALL BE REQUIRED. CONDUCTOR SIZING SHALL BE CORRECTED FOR THE NUMBER OF WIRES TO BE RUN IN A SINGLE CONDUIT OR RACEWAY IN ACCORDANCE WITH THE NEC. ALL CONDUIT LOCATIONS AND ROUTING SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION.
- 29. THE WORK TO COMPLETE THE INSTALLATION OF THE FOUNTAIN INCLUDES SUCH NECESSARY MATERIAL AND DEVICES OF A MINOR NATURE THAT MAY NOT BE INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY FOR THE COMPLIANCE WITH CODES AND FOR THE SUCCESSFUL OPERATION OF THE FEATURE. THE CONTRACTOR SHALL BE ALLOWED NO EXTRA COMPENSATION BECAUSE OF THIS REQUIREMENT.
- 30. THOROUGHLY TEST ALL FIXTURES, SERVICES AND ALL CIRCUITS FOR PROPER OPERATING CONDITIONS AND FREEDOM FROM GROUNDS AND SHORT
- CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS.

  31. THERMAL OVERLOAD RELAYS SHALL BE SET AT NOT MORE THAN 115% OF MOTOR FULL LOAD CURRENT AND/OR IN ACCORDANCE WITH
- MANUFACTURER'S REQUIREMENTS.
  32. ALL CONNECTIONS MUST BE RECHECKED BEFORE START UP AND ONE MONTH AFTER STARTUP BY A QUALIFIED TECHNICIAN.
- 32. ALL CONNECTIONS MUST BE RECHECKED BEFORE START UP AND ONE MONTH AFTER STARTUP BY 33. ALL G.F.C.I. PROTECTED CIRCUITS MUST HAVE A SEPARATE NEUTRAL.
- 34. ALL G.F.C.I. PROTECTED CIRCUITS MUST HAVE A SEPARATE NEUTRAL 34. ALL G.F.C.I. BREAKERS HAVE PIGTAILS WIRED TO THE NEUTRAL BAR
- 35. CONTRACTOR TO ENSURE THAT ALL BONDING CODES ARE COMPLIED WITH FOR EACH METAL FOUNTAIN EQUIPMENT COMPONENT. 36. WIRES FOR WATER LEVEL SENSOR MUST BE RUN IN A SEPARATE CONDUIT FROM THE FOUNTAIN TO THE CONTROL PANEL.
- 36. WIRES FOR WATER LEVEL SENSOR MUST BE RUN IN A SEPARATE CONDUIT FROM THE FOUNTAIN TO THE CONTROL PANEL.
  37. ALL CONDUIT PENETRATIONS THROUGH STRUCTURE WALLS INTO OPEN AREAS BELOW FOUNTAIN STRUCTURE MUST HAVE ALLOWANCES MADE FOR SETTLEMENT.

- 38. ALL CONDUIT INSTALLATION IN TRADE AREAS BELOW THE FOUNTAINS SHALL BE INSTALLED WITH E.M.T. AND IN THE LEVEL BELOW AND WITH E.M.T. STRAPS PER N.E.C. AND SPECIFICATIONS.
- 39. FLOOR MOUNTED CONTROL CENTERS AND TRANSFORMERS FOR FOUNTAIN RELATED EQUIPMENT SHALL BE INSTALLED ON A 4" CONCRETE HOUSEKEEPING PAD IF INSTALLED IN AN EQUIPMENT ROOM.
- 40. CONTRACTOR INSTALLING FOUNTAIN MANUFACTURER SUPPLIED DECK BOXES IN CONCRETE FOR FOUNTAIN NICHE LIGHTING IS TO ENSURE THAT ALL OPEN CONDUIT PORTS ARE PLUGGED AND ARE WATERTIGHT PRIOR TO SLAB POUR AROUND DECK BOXES.
- 41. ALL PENETRATIONS THROUGH OUTSIDE WALLS TO BELOW GRADE SHALL BE SEALED PER BUILDING SPECIFICATIONS. USING "EASY—LINK SEALS" IS RECOMMENDED.
- 42. ALL CONNECTIONS IN THE FOUNTAIN SHALL BE MADE WITH THE ASSISTANCE OF A PLUMBER, USING TEFLON TAPE OR TEFLON PASTE TO ELIMINATE ALL LEAKS. USE ONLY TAPERED (N.P.T.) BRASS OR STAINLESS STEEL FITTINGS OR NIPPLES. THE USE OF GALVANIZED, PVC OR BLACK STEEL IS UNACCEPTABLE.
- 43. CONDUITS ARE DRAWN FOR CLARITY AND DO NOT NECESSARILY SHOW EXACT ROUTING. CONTRACTOR SHALL INSTALL CONDUITS IN COMPLIANCE WITH NEC CODE, WHICH THERE SHALL BE NO MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) BETWEEN PULL POINTS, E.G., CONDUIT BODIES AND BOXES.
- 44. CONTRACTOR SHALL OBTAIN ALL NECESSARY INSTALLATION PERMITS AND INSPECTIONS.
  45. ALL COMPONENT ITEMS USED IN THE PRODUCTION OF DELTA FOUNTAINS' PRODUCTS ARE U.L. LISTED WHENEVER SUCH LABELING IS AVAILABLE FROM
- THE SOURCE EQUIPMENT OR MATERIAL.

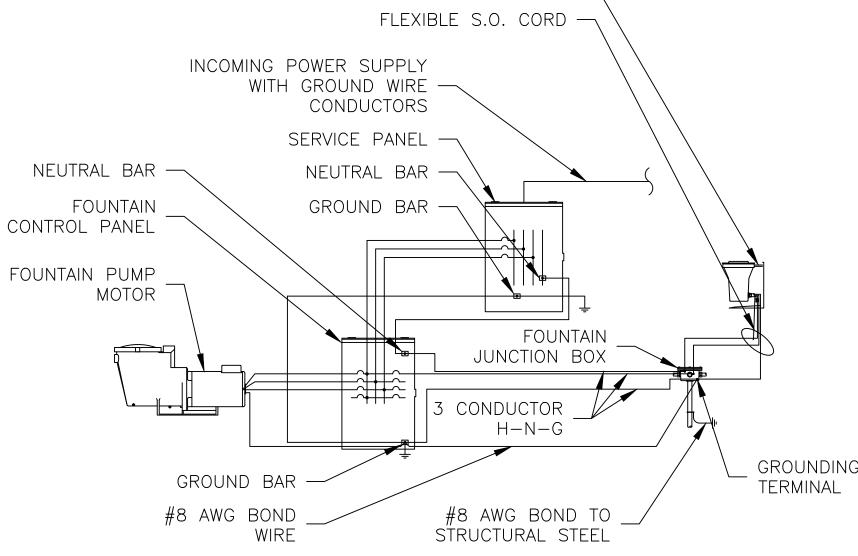
  46. SHOULD ANY PRODUCT REQUIRE A 'THIRD PARTY' LABEL OR CERTIFICATION AS AN ASSEMBLY (E.G., N.E.C., U.L. OR E.T.L. LISTING) SUCH
- REQUIREMENTS SHALL BE DETERMINED, CONTRACTED FOR, AND PAID BY OTHERS.

  47. DELTA FOUNTAINS SHALL NOT BE RESPONSIBLE OR LIABLE IN ANY MANNER WHATSOEVER FOR SPECIAL LABELING OR CERTIFICATION REQUIREMENTS, INCLUDING THIRD PARTY PRODUCT TESTING UNLESS SPECIFICALLY INCLUDED IN ITS PROPOSALS, QUOTATIONS, DRAWING DESCRIPTIONS AND DETAILS, REGARDLESS OF PROJECT SPECIFICATION OR CODE REQUIREMENTS.
  - 1. ALL METAL PARTS WITHIN 5 FEET OF THE INSIDE WALLS OF FOUNTAIN AND ALL METAL PARTS OF ASSOCIATED ELECTRICAL EQUIPMENT MUST BE BONDED TOGETHER PER NEC 680.
  - 2. ALL BONDING CONDUCTORS SHALL BE BARE #8 SOLID COPPER.
  - 3. ALL BONDING SHALL BE CONTINUOUS WITHOUT SPLICES. ALL CONNECTIONS SHALL BE MADE BY EXOTHERMIC WELD OR FITTING APPROVED FOR SUCH USE IN FOUNTAINS AND POOLS.
  - 4. IF EXPOXY COATED REBAR IS SPECIFIED THE CONTRACTOR MUST USE A #8 SOLID COPPER WIRE GRID FOR BONDING IN THE CONCRETE OF ALL AREAS CONTAINING WATER OR COMING IN CONTACT WITH WATER IN THE FOUNTAIN. CONTRACTOR TO CONFORM TO NEC AND LOCAL JURISDICTIONAL CODE REQUIREMENTS FOR THE BONDING.



1 TYPICAL FOUNTAIN "BONDING" SCHEMAT

1. ALL METAL PARTS WITHIN 5 FEET OF THE INSIDE WALLS OF FOUNTAIN AND ALL METAL PARTS OF ASSOCIATED ELECTRICAL EQUIPMENT MUST BE BONDED TOGETHER PER NEC 680 (SEE BONDING SCHEMATIC ABOVE).

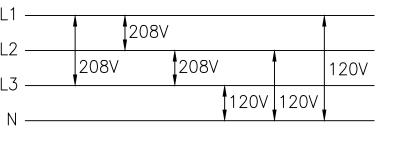


FOUNTAIN LIGHT -

TYPICAL FOUNTAIN "GROUNDING" SCHEMATIC

3.00 NTS

CONTROL SYSTEM POWER REQUIREMENT: 120/208 VOLT, THREE PHASE, 4-WIRE + GND



*REFER TO NFPA 70 (NEC) ARTICLE 250

3 ELECTRICAL POWER SUPPLY OPTIONS

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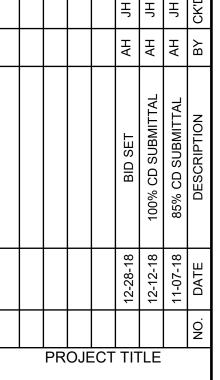
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BURLINGTON GREAT STREETS

CITY HALL PARK

SHEET TITLE

POWER SUPPLY & BONDING DETAILS

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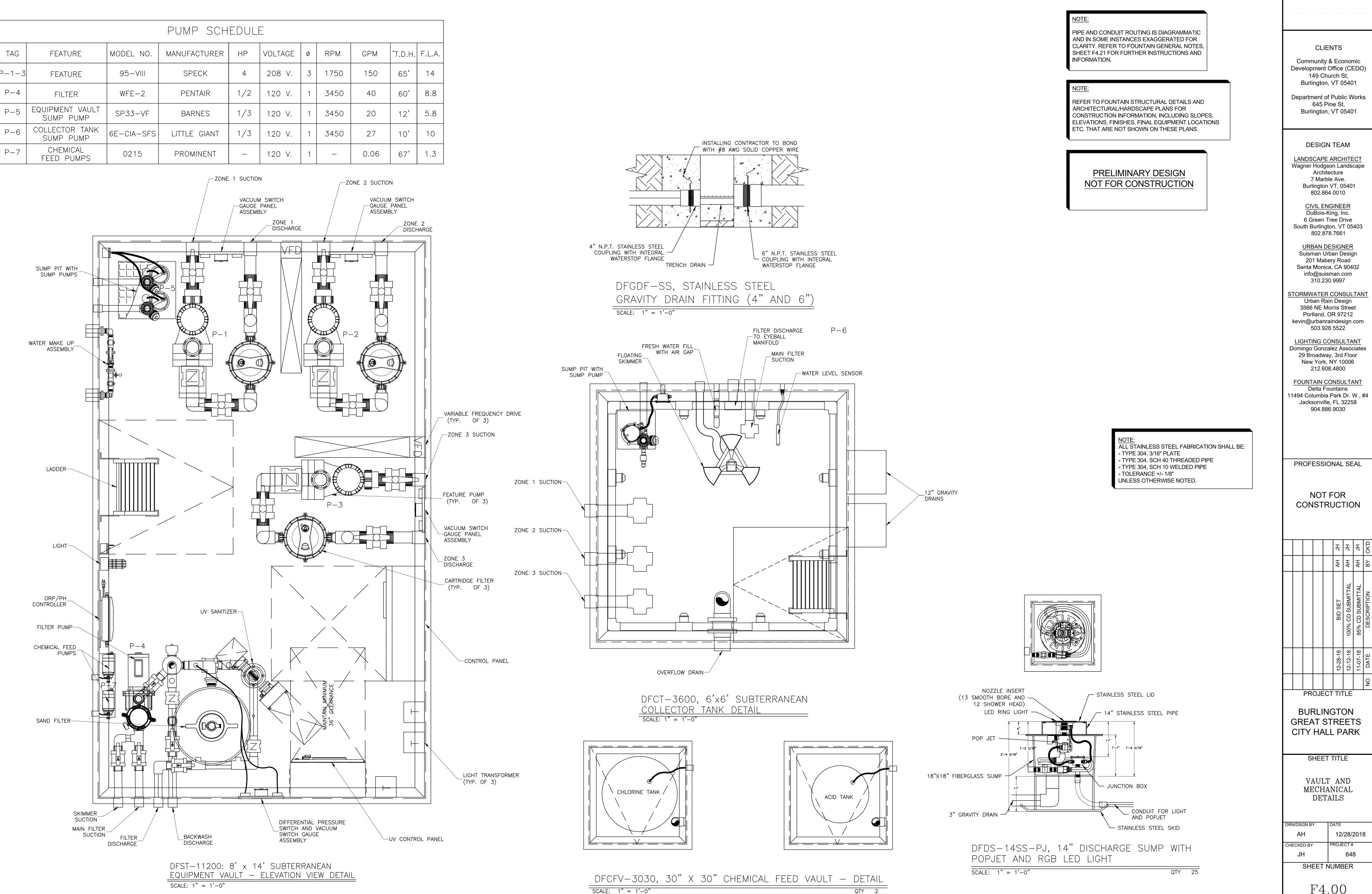
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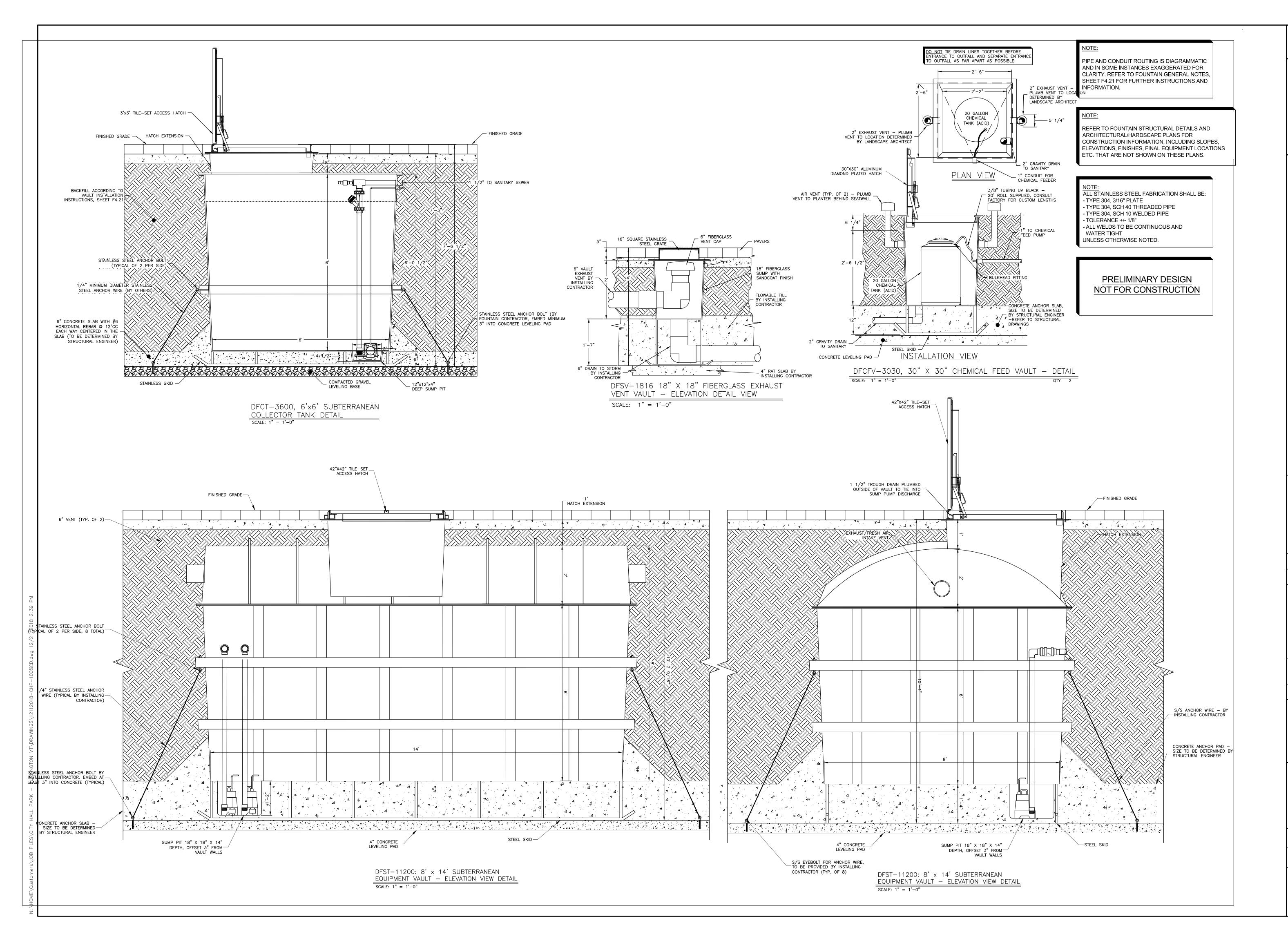
BURLINGTON **GREAT STREETS** CITY HALL PARK

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VAULT AND MECHANICAL DETAILS

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BURLINGTON **GREAT STREETS** CITY HALL PARK

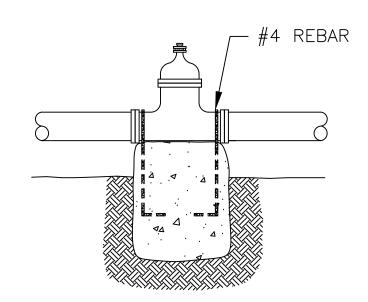
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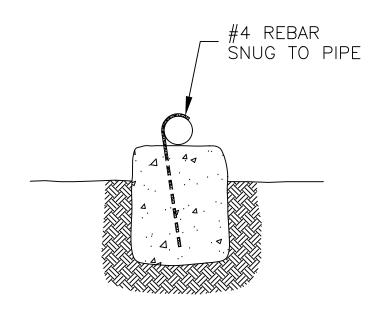
EQUIPMENT INSTALLATION DETAILS

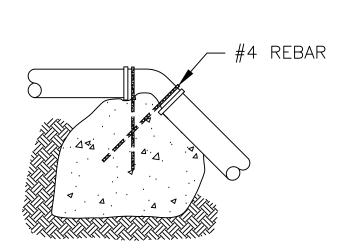
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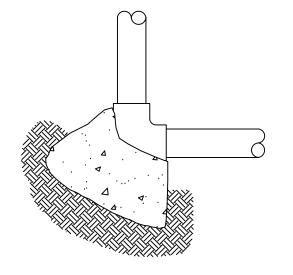
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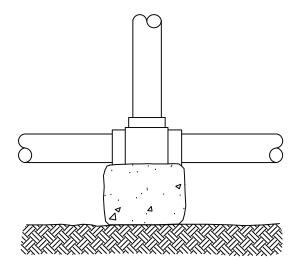


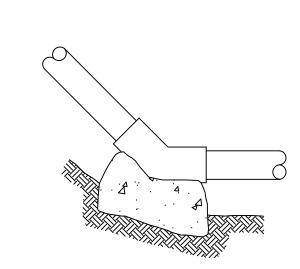


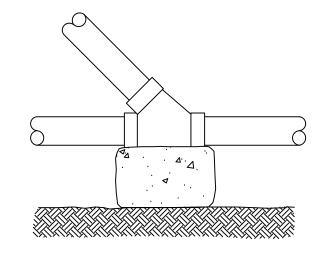


IF THRUSTS DUE TO HIGH PRESSURE ARE EXPECTED, ANCHOR VALVES AS ABOVE. AT VERTICAL BANDS ANCHOR TO RESIST OUTWARD THRUSTS.

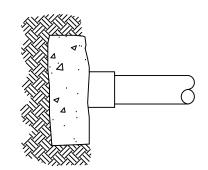


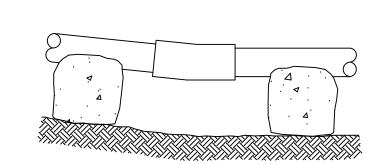


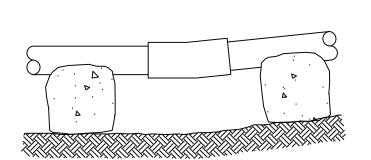




TYPICAL THRUST BLOCK LOCATIONS



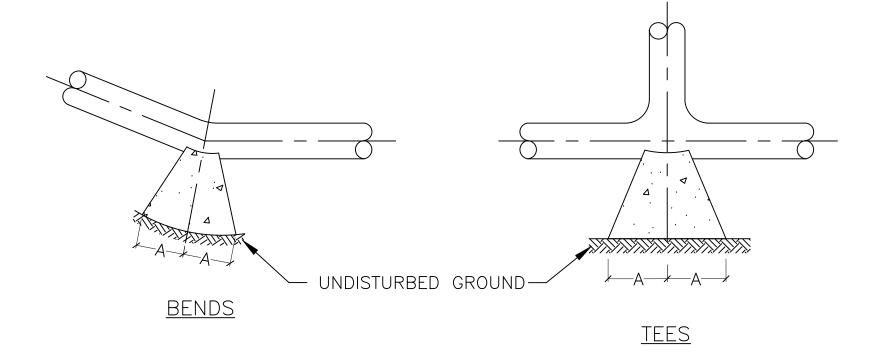


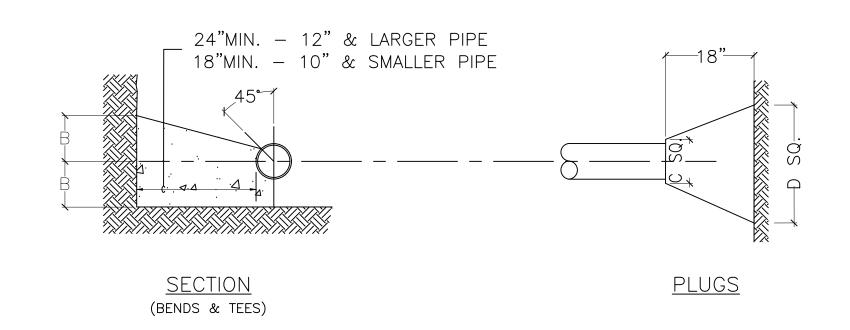


# <u> SIDE THRUST BLOCKING - 6" AND 8" DIA. PIPES</u>

# MIN. BEARING AREA OF REACTION BACKING (CONCRETE)

PIPE SIZE	END	TEE	90°	45°	22.5°	VALVE
6"	4.0 SQ. FT.	4.0 SQ. FT.	5.5 SQ. FT.	3.0 SQ. FT.	1.5 SQ. FT.	2.0 SQ. FT.
8"	7.0 SQ. FT.	7.0 SQ. FT.	9.0 SQ. FT.	5.0 SQ. FT.	2.5 SQ. FT.	2.0 SQ. FT.
10"	10.0 SQ. FT.	10.0 SQ. FT.	14.0 SQ. FT.	7.5 SQ. FT.	4.0 SQ. FT.	2.0 SQ. FT.
12"	14.0 SQ. FT.	14.0 SQ. FT.	20.0 SQ. FT.	11.0 SQ. FT.	5.5 SQ. FT.	2.0 SQ. FT.
14"	19.0 SQ. FT.	19.0 SQ. FT.	27.0 SQ. FT.	14.5 SQ. FT.	7.5 SQ. FT.	2.0 SQ. FT.
16"	25.0 SQ. FT.	25.0 SQ. FT.	35.0 SQ. FT.	19.0 SQ. FT.	10.0 SQ. FT.	2.0 SQ. FT.





TYPE	)   CI7E	90° E	BENDS	45° E	BENDS	22.5°	BENDS	TE	ES	PLU	JGS
IIPE	SIZE	Α	В	Α	В	Α	В	Α	В	С	D
	6"	8"	10"	6"	8"	3"	8"	8"	8"	10"	15"
	8"	12"	12"	8"	12"	5"	9"	9"	12"	12"	20"
TYPE-I 000 PSF SOIL	10"	16"	14"	10"	12"	6"	10"	11"	14"	14"	25"
TYPE 4000   SOIL	12"	19"	16"	12"	14"	8"	11"	14"	16"	16"	30"
4	14"	23"	18"	14"	16"	10"	12"	16"	18"	18"	34"
	16"	26"	20"	16"	18"	11"	13"	18"	20"	20"	38"
	6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
_ LL	8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
E-II PSF	10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
7YPE- 2000 F SOIL	12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
- 50	14"	35"	24"	19"	24"	11"	20"	22"	27"	18"	48"
	16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"

NOTE: BASED ON 100 PSI STATIC PRESSURE PLUS AWWA HAMMER

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PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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					BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION
					12-28-18	12-12-18	11-07-18	DATE
								NO.
PROJECT TITLE								

BURLINGTON GREAT STREETS

CITY HALL PARK

SHEET TITLE

THRUST BLOCK DETAILS

DRN/DSGN BY

AH

12/28/2018

CHECKED BY

JH

648

SHEET NUMBER

F4.20

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- A. UPON ARRIVAL OF THE VAULT, THE RECEIVING AGENT SHOULD INSPECT THE INTERIOR AND EXTERIOR FOR ANY VISIBLE DAMAGE THAT MAY HAVE OCCURRED DURING SHIPPING. IF ANY DAMAGE IS FOUND, ALL DAMAGES AND SHORTAGES SHALL BE CLEARLY DOCUMENTED ON THE BILL OF LADING AND PACKING SLIP BEFORE THE DELIVERY DRIVER LEAVES THE PREMISES. THE RECEIVING AGENT SHOULD IMMEDIATELY NOTIFY THE FREIGHT LINE, NOTE THE BILL OF LADING AND CONTACT DELTA FOUNTAINS. IF THE EQUIPMENT VAULT IS NOT GOING TO BE INSTALLED AT THE TIME OF
- DELIVERY, THE VAULT SHOULD BE STORED IN A COVERED AREA SAFE FROM FLOODING. B. CONTRACTOR SHALL STORE ALL COMPONENTS IN THEIR ORIGINAL PACKAGES AND PROTECT ALL ITEMS FROM DAMAGE UNTIL FINAL PLACEMENT OCCURS. CONTRACTOR SHALL ROTATE ALL MOTOR SHAFTS ¼ TURN EACH AND EVERY MONTH DURING STORAGE UP TO THE TIME OF FIRST PERFORMANCE TO ENSURE MOTOR SHAFT INTEGRITY. TIGHTEN ALL PLUGS, BOLTS, NUTS, AND UNION TYPE
- FITTINGS AND CLOSE ALL VALVES UNTIL SYSTEM IS READY FOR STARTUP. C. FIELD VERIFY ALL EQUIPMENT DIMENSIONS PRIOR TO EXCAVATION. DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. ANY DISCREPANCIES SHOULD BE REPORTED, IN WRITING, IMMEDIATELY TO DELTA FOUNTAINS. DELTA FOUNTAINS IS NOT RESPONSIBLE FOR ANY DIMENSIONAL DISCREPANCIES IF THE CONTRACTOR FAILS TO NOTIFY DELTA. FOUNTAINS IN A TIMELY MANNER BEFORE INSTALLATION OF THE EQUIPMENT VAULT.
- **EXCAVATION** A. EXCAVATE TO PROPER DEPTH TO RECEIVE THE VAULT AND A MINIMUM CLEAR AREA OF 3'-0" AROUND THE PERIMETER OF THE VAULT.
- B. FIELD VERIFY EQUIPMENT DIMENSIONS AND REPORT ANY DISCREPANCIES IN WRITING TO DELTA FOUNTAINS. C. ALLOW FOR TAPERING OF THE SOIL TO PREVENT CAVE IN AND/OR PROVIDE SOIL SUPPORT PER OSHA GUIDELINES.
- D. ADD COMPACTED GRAVEL BASE AND POUR THE CONCRETE ANCHOR SLAB AS INDICATED ON THE DRAWINGS. THE ANCHOR SLAB IS TO BE REINFORCED WITH GRID USING #4
- E. ONE PIECE MOLDED STAINLESS STEEL ANCHOR BOLTS AND 1/4" DIAMETER STAINLESS STEEL ANCHOR WIRE ARE TO BE PROVIDED AND INSTALLED BY THE FOUNTAIN CONTRACTOR. THE ANCHOR BOLTS SHOULD BE TIED TO THE REINFORCING GRID. INSTALLING THE VAULT
- **ALL OF THE FOLLOWING SHALL BE COMPLETED WITHOUT FAIL ON THE SAME DAY THE PUMP VAULT IS LOWERED DOWN INTO THE DESIGNATED SPACE:
- A. CHECK FOR FAVORABLE AND DRY METEOROLOGICAL FORECAST PRIOR TO BEGINNING INSTALLATION OF PUMP VAULT. B. THE VAULT SHOULD BE RIGGED WITH STRAPS, LIFTING FROM THE BOTTOM OF THE VAULT, NOT THE STEEL SKID SUPPORT. CARE SHOULD BE TAKEN TO POSITION THE STRAPS AWAY FROM ANY PLUMBING CONNECTIONS ON THE SIDE OF THE VAULT. DO NOT USE CHAINS OR CABLES TO LIFT THE VAULT. DO NOT USE THE ANCHOR BOLTS ON THE SIDE OF THE VAULT FOR LIFTING. LOWER THE VAULT ON TO THE ANCHOR SLAB AND ADJUST THE POSITION AS NECESSARY.
- C. THE FOUNTAIN CONTRACTOR IS TO SUPPLY AND INSTALL THE STAINLESS STEEL ANCHOR CABLES (1/4" DIAMETER MIN. BY CONTRACTOR) FROM THE VAULT EYEHOOKS TO THE ANCHOR BOLTS IN THE SLAB (ANCHOR BOLTS BY CONTRACTOR). REMOVE SLACK FROM THE CABLES AND TIGHTEN. DO NOT OVER TIGHTEN THE CABLE.
- D. ONCE THE VAULT IS IN PLACE, IMMEDIATELY CONNECT THE TWO VENTILATION LINES AND ROUTE THEM TO THEIR DESIGNATED LOCATION. PERMANENT POWER IS TO BE PROVIDED TO THE SUMP PUMP IN THE VAULT BY A 24 HOUR/DAY OPERATIONAL 120VAC, 60 HZ, 20A POWER SUPPLY TO THE SUMP PUMP(S).
- CAN BE ROUTED TEMPORARILY THROUGH THE VENTILATION SYSTEM (AIR SUPPLY CLOSEST LINE TO THE FLOOR).
- F. CONNECT THE 1 1/2" OR 2" BACKWASH/SUMP PUMP DISCHARGE LINES TO THE SEWER SYSTEM; EITHER SANITARY OR STORM, PER LOCAL CODES OR AS DESIGNATED ON THE CIVIL/MEP DRAWINGS. CHECK THE BALL VALVE ON THE SUMP PUMP DISCHARGE LINE AND MAKE SURE IT IS OPEN.
- G. LIFT THE FLOAT ON THE SUMP PUMP (ONCE POWER CONNECTION IS MADE) TO MAKE SURE THE PUMP OR PUMPS ARE WORKING.
- H. WHILE OPERATING UNDER TEMPORARY POWER IN AN UNFINISHED STATE, CHECK THE VAULT DAILY ESPECIALLY BEFORE AND AFTER RAIN. PIPING AND CONDUIT CONNECTIONS MUST BE MADE AS SOON AS POSSIBLE TO PREVENT FLOODING OF THE VAULT. IF PIPING CANNOT BE CONNECTED AT THE TIME OF THE INSTALLATION, THE FOUNTAIN CONTRACTOR MUST CHECK TO MAKE SURE THAT ALL INTERIOR VALVES ARE CLOSED AND ALL CONDUIT CONNECTIONS ARE PLUGGED OR SEALED.
- POUR ANCHOR SLAB. REFER TO INSTALLATION DETAIL DRAWINGS. K. INSTALL ADDITIONAL TEMPORARY AUTOMATIC SUMP PUMP OF SUITABLE SIZE OUTSIDE OF THE VAULT IF THE HOLE HAS TO BE LEFT OPEN OVERNIGHT. CONTRACTOR IS RESPONSIBLE TO KEEP
- THE EXCAVATION AREA AROUND THE VAULT PUMPED AND DRY AT ALL TIMES WHILE AREA IS EXCAVATED. L. THE ACCESS HATCH ON THE VAULT SHOULD BE CLOSED AND LOCKED AT ALL TIMES WHILE UNATTENDED DURING THE INSTALLATION PERIOD.

FLOODING OF THE VAULT THRU THE NEGLIGENCE OF THE CONTRACTOR TO ADHERE TO THESE INSTALLATION SPECIFICATIONS VOIDS THE WARRANTY ON ALL EQUIPMENT IN THE VAULT. REPLACEMENT OF DAMAGED EQUIPMENT WILL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. THE GUIDELINES OUTLINED ABOVE WILL AID IN THE PREVENTION OF FLOODING. IN ADDITION, CONSULT ALL INSTALLATION DETAILS IN THE CONSTRUCTION DOCUMENTS PROVIDED BY DELTA FOUNTAINS.

#### CONCRETE ANCHOR SLAB

- A. POUR 4" 6" CONCRETE LEVELING SLAB OR USE 4" COMPACTED GRAVEL BASE. STAINLESS STEEL ANCHOR BOLTS SHOULD BE INSERTED IN THE LEVELING SLAB.
- B. LEVELING SLAB/COMPACTED GRAVEL BASE SHOULD BE SLOPED SLIGHTLY TO THE CORNER OF THE VAULT WHERE THE SUMP PUMP/GRAVITY DRAIN SUMP IS LOCATED
- C. POUR ANCHOR SLAB IN ACCORDANCE WITH DETAILS ON CONTRACT DOCUMENTS. THE CONCRETE SHOULD BE POURED WITH A MIN. 8" SLUMP TO ENSURE THE CONCRETE ADEQUATELY COVERS THE MOUNTING SKID AND FILLS THE ENTIRE VOID UNDER THE VAULT BETWEEN LEVELING SLAB AND BOTTOM OF VAULT.
- A. CONNECT ALL PIPING AND CONDUIT AS INDICATED ON THE CONSTRUCTION DOCUMENTS. DO NOT EXTERNALLY LOAD THE VAULT CONNECTIONS OR ALLOW THE CONNECTIONS TO SUPPORT THE WEIGHT OF THE CONNECTED PIPING. IF THE PIPING IS NOT SUPPORTED PROPERLY, SOIL SETTLING CAN RESULT IN EXCESSIVE LOADING ON THE PIPING. THIS CAN RESULT IN BROKEN PIPING
- AND MISALIGNED CONNECTIONS IN THE VAULT. B. ALL OPEN CONDUITS CONNECTED TO THE VAULT SHOULD BE SEALED OR PLUGGED TO PREVENT WATER INTRUSION.
- AFTER ANCHOR SLAB IS POURED, PLACE A 4" OR 6" PERFORATED PIPE LOOP AROUND THE BOTTOM PERIMETER OF THE VAULT AND PIPE TO STORM DRAIN.
- D. THE EQUIPMENT VAULT IS PRE-WIRED AT THE FACTORY FOR TESTING PURPOSES. IN THE EVENT THE LOCAL AUTHORITY, HAVING JURISDICTION OVER THE INSTALLATION OF THE VAULT AND FINAL PASS/FAIL INSPECTION, REQUIRES ANY MODIFICATIONS TO THE CONDUIT OR WIRING AS INSTALLED, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING THE CHANGES OR MODIFICATIONS AS REQUIRED TO CONFORM TO ALL LOCAL CODES.

IF ALL DISCHARGE/SUCTION PIPING, ELECTRICAL CONDUIT CONNECTIONS AND AIR VENTS ARE NOT ROUTED ABOVE GRADE AND CAPPED, FLOODING WILL OCCUR DURING ADVERSE WEATHER CONDITIONS. DELTA RECOMMENDS A ONE DAY INSTALLATION.

- A. PRESSURE TEST ALL PIPING CONNECTED TO THE VAULT TO ENSURE THERE ARE NO LEAKS IN THE SYSTEM. REFER TO THE FOUNTAIN EQUIPMENT SPECIFICATIONS FOR PRESSURE TESTING PROCEDURES OR INSTRUCTIONS BELOW.
- A. INSTALL AIR INTAKE AND EXHAUST VENTS AS SUPPLIED AND IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. THE VENT CAPS AS PROVIDED SHOULD BE INSTALLED IMMEDIATELY TO PREVENT WATER INTRUSION.
- BACKFILLING AND COMPACTION A. PROVIDE ADEQUATE INTERIOR BRACING DURING BACKFILLING TO PREVENT DAMAGE TO THE FIBERGLASS SHELL.
- B. ALL OPEN PIPING AND CONDUIT SHOULD BE PROTECTED DURING THE BACKFILL PROCESS. BACKFILL MATERIAL TO BE #57 CRUSHED STONE OR ROUNDED GRAVEL, 3/4" MAX. AND LESS THAN 5% FINES. BACKFILLING AND COMPACTION SHOULD OCCUR IN 6" LIFTS. EACH LIFT IS TO BE HAND TAMPED. DO NOT USE POWER OPERATED COMPACTORS. A MIN. OF 2' OF BACKFILL MATERIAL SHOULD BE PLACED BETWEEN THE VAULT WALLS AND SURROUNDING EARTH. IN SOME GEOGRAPHIC LOCATIONS IT MAY BE NECESSARY TO PROVIDE ADDITIONAL DRAINAGE AROUND THE
- C. FOR VAULTS IN AREAS OF HIGH GROUND WATER TABLES IT IS RECOMMENDED TO ENCASE THE VAULT IN CONCRETE;
- BRACE INTERIOR WALLS. IF NECESSARY, WITH 4 EA. 4" X 4" LUMBER AND 2 EA. CROSS MEMBERS.
- BRACE INSIDE CEILING, IF NECESSARY, WITH 4 EA. 4" X 4" LUMBER AND 2 EA. CROSS MEMBERS. FORM THE OUTER SHELL BY CONVENTIONAL MEANS. THE FIBERGLASS VAULT WILL BE USED AS THE INSIDE FORM.
- 4. POUR THE CONCRETE IN FOUR SEPARATE AND EQUAL LIFTS.
- **WARNING** DO NOT USE SAND, CLAY OR DIRT FOR BACKFILL.

**WARNING** GUARD THE VAULT AT ALL TIMES AGAINST CROSSING BY ANY HEAVY MACHINERY OR CONCRETE TRUCKS.

# RESSURE TESTING

PERFORM TESTS IN THE PRESENCE OF THE OWNER, ARCHITECT, OR AUTHORIZED REPRESENTATIVE FOR DESIGNATED DURATION WITH NO PRESSURE LOSS OR NOTICEABLE LEAKS.

. DO NOT INCLUDE EQUIPMENT IN TESTS WHICH COULD BE DAMAGED BY HIGH PRESSURE. FLUSH OUT ALL PIPES WITH CLEAN WATER PRIOR TO PERFORMING LEAK TESTS.

DRAINAGE

. PERFORM TESTS AS FOLLOWS:

150 % OF OPERATING PRESSURE WATER 10FT. OVER HIGHEST PIPE INVERT WATER

8 HOURS 24 HOURS

AUTOMATIC MAKE-UP WATER SYSTEMS SHALL BE THOROUGHLY TESTED AND OPERATIVE AT THE TIME OF FINAL OBSERVATION.

AFTER THE SYSTEM HAS OPERATED FOR ONE WEEK, CONTRACTOR AND OWNER'S REPRESENTATIVE SHALL INSPECT WATER MAKE—UP RATES AND AGREE THAT WATER USAGE IS APPROPRIATE FOR A SYSTEM OF THIS TYPE, ARE WITHIN LOCAL ORDINANCES OR CODES, AND THAT SUCH RATES ARE NOT INDICATIVE OF EXCESSIVE LEAKAGE FROM SYSTEM. A WATER METER SHALL BE PLACED ON THE FILL LINE FOR THIS PURPOSE, IF NECESSARY TO DOCUMENT PRECISE WATER USAGE.

# <u>PVC INSTALLATION NOTES</u>

UNLESS ARCHITECTS SPECIFICATIONS INDICATE OTHERWISE, THE SUGGESTED MINIMUM PIPING AND FITTING STANDARD RECOMMENDED FOR THIS INSTALLATION IS TYPE 1. PVC TYPE 1 CELL CLASSIFICATION 12454, CONFORMING TO ASTM STANDARD 1784.

USE ONLY PURPLE PVC PRIMER MEETING NSF, UPC, AND ASTM #F-656 STANDARDS FOR SOFTENING AND PREPARING FIELD PIPE AND FITTING SURFACES FOR SOLVENT CEMENTING (IPS CORPORATION "WELD-ON TYPE P-70 OR EQUIVALENT). WELD-ON P-70 PRIMER IS A PURPLE COLORED, NON-BODIED, VERY FAST ACTING, WATER THIN SOLVENT SYSTEM. WHEN USED IN CONJUNCTION WITH APPROPRIATE WELD-ON CEMENTS, WILL MAKE CONSISTENTLY STRONG, WELL-FUSED JOINTS. IT IS ESSENTIAL THAT THE JOINING SURFACES OF PIPE AND FITTINGS BE SOFTENED PRIOR TO ASSEMBLY THE MAIN FUNCTION OF THIS PRIMER IS TO EXPEDITE THE PENETRATION AND SOFTENING OF THESE SURFACES. ITS RATE OF PENETRATION INTO THE JOINING SURFACES IS MUCH MORE RAPID THAN THAT OF CEMENT ALONE. IT IS SUITABLE FOR USE WITH ALL TYPES, SCHEDULES AND CLASSES OF PVC AND CPVC PIPE AND FITTINGS. FOLLOW ALL DIRECTIONS AND INSTRUCTIONS APPEARING ON PRODUCT LABEL.

USE ONLY GREY, HEAVY BODIED, MEDIUM SETTING PVC CEMENT MEETING NSF, UPC, AND ASTM #D-2564, STANDARDS FOR SOLVENT CEMENTING PVC PLASTIC PIPE AND FITTINGS (IPS CORPORATION "WELD-ON" TYPE 711 OR EQUIVALENT). WELD-ON 711 GREY, HEAVY BODIED, MEDIUM SET, HIGH STRENGTH SOLVENT CEMENT FOR CEMENTING ALL SCHEDULES AND CLASSES OF PVC PIPE AND FITTINGS THROUGH 12" INCLUDING SCHEDULE 80. WELD—ON 719 GREY OR WHITE, EXTRA HEAVY BODIED, THIXOTROPIC (PASTE—LIKE), HIGH STRENGTH SOLVENT CEMENT FOR CEMENTING ALL SCHEDULES AND CLASSES OF PVC PIPE AND FITTINGS 4" THROUGH 30" INCLUDING SCHEDULE 80. WELD-ON 711 AND 719 FOR USE ON ALL TYPES OF PVC PLASTIC PIPE APPLICATIONS, TYPE I AND TYPE II. IT IS APPROVED FOR USE WITH POTABLE WATER PRESSURE SYSTEMS, IRRIGATION, TURF IRRIGATION, GAS, CONDUIT, INDUSTRIAL PIPE APPLICATIONS, SEWER AND DRAIN, WASTE AND VENT

SYSTEMS. FOLLOW ALL DIRECTIONS AND INSTRUCTIONS ON PRODUCT LABEL. PRESSURE TEST ALL WATER PIPING PRIOR TO COMMENCING BACKFILL OPERATIONS. (SEE #4 IN "PRESSURE TESTING" SECTION ABOVE). HYDROSTATIC (WATER) TESTING SHALL BE THE ONLY APPROVED METHOD. DO NOT PRESSURE TEST WITH COMPRESSED AIR AS SEVERE PIPE DAMAGE AND BODILY INJURY CAN OCCUR. DO NOT EXCEED THE RATED OPERATIONAL PRESSURE OF THE PIPING AND/OR FITTINGS CARRYING THE LOWEST PRESSURE RATING. LOCATE AND REPAIR ANY LEAKS AND RETEST (PER #4 IN "PRESSURE TESTING" SECTION ABOVE) PRIOR TO COMPLETION OF BACKFILL OPERATIONS. CONCRETE "THRUST" BLOCKING IS RECOMMENDED AT ALL DIRECTIONAL CHANGES (TEE'S, ELBOWS, ETC.), REDUCER FITTINGS AND LINE TERMINATIONS (BUSHINGS, END CAPS, PLUGS, ETC.) IN FOUNTAIN DISCHARGE PIPING 6" AND LARGER.

PERFORM ADEQUATE TRENCHING AND BACKFILL OPERATIONS WHEN INSTALLING PVC PIPING BELOW GRADE. TRENCH WIDTH SHOULD BE MINIMUM OF "PIPE O.D. PLUS 12 INCHES" AND DEEP ENOUGH TO ALLOW PIPING TO BE BURIED A MINIMUM OF 12" BELOW THE MAXIMUM EXPECTED FROST PENETRATION LINE TO AVOID FREEZE DAMAGE. LAY PIPING IN HORIZONTAL, PARALLEL, AND PERPENDICULAR MANNER. AVOID VERTICAL STACKING OF PIPES. SPACE MINIMUM OF 3" APART ON ALL PARALLEL RUNS. USE ONLY CLEAN, FREE—FLOWING, NON—EXPANSIVE BACKFILL MATERIAL (NATURALLY ROUNDED ¼" PEA GRAVEL, 57 STONE, OR SAND) AND BACKFILL IN 6" LIFTS WITH ADEQUATE AND COMPLETE

COMPACTION BETWEEN LIFTS TO 90% OF MAXIMUM DENSITY PER ASTM 1557-70. COMPACTION TO EXCESSIVE LOADS SHALL NOT BE PERMITTED. A SECOND PRESSURE TEST ON THE PIPING SYSTEM MUST BE MADE AT THIS TIME TO INSURE THAT PIPING HAS NOT BEEN DAMAGED DURING BACKFILL OPERATIONS (SEE #4 IN "PRESSURE TESTING" SECTION ABOVE). AVOID LAYING SUCTION PIPING IN A MANNER THAT COULD RESULT IN A SUCTION LOOP BEFORE, DURING, OR AFTER BACKFILLING AND COMPACTION. ALWAYS PITCH PIPE IN A DOWNWARD DIRECTION TO AVOID A SUCTION LOOP THAT WILL CAUSE AIR TO BE PERMANENTLY TRAPPED, CAUSING LOSS IN PERFORMANCE OF THE PIPING SYSTEM DUE TO INCREASED FRICTION AND WORK LOAD DEMAND.

ANY AND ALL COSTS ASSOCIATED WITH ABOVE ARE RESPONSIBILITY OF INSTALLER. INTERCONNECTING PIPING AND FITTINGS INSIDE EQUIPMENT VAULT IS SCHEDULE 80 P.V.C.

#### <u>GENERAL NOTES</u>

AND PAID BY OTHERS.

- 1. FINAL NOZZLE INSTALLATION AND ADJUSTMENT FOR POSITIONING AND THROTTLING TO ACHIEVED SPECIFIED PERFORMANCES FOR ALL DISPLAY DISCHARGE POINTS TO BE PERFORMED BY INSTALLING CONTRACTOR.
- THE EQUIPMENT VAULT LOCATION IS SHOWN IN GENERAL VICINITY ONLY. VERIFY WITH THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF THE EQUIPMENT VAULT AND PROPER ELEVATION. PIPE ROUTING ON THE DRAWINGS IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. THE CONTRACTOR SHALL DETERMINE THE EXACT ROUTING AT THE SITE TO AVOID CONFLICT WITH SITE CONDITIONS. ANY ROUTING WHICH CREATES A TRAPPED CONDITION IN THE PIPING MUST BE CALLED TO THE ATTENTION OF THE FOUNTAIN CONSULTANT BEFORE THE PIPE IS

ALL PIPING BETWEEN THE WATER FEATURES AND EQUIPMENT VAULT SHALL BE INSTALLED SLOPED TOWARD THE EQUIPMENT VAULT A MINIMUM OF 2% UNLESS OTHERWISE INDICATED ON THE

- INSTALLED. ALL PIPING SHALL BE INSTALLED TO PREVENT FREEZING. SYSTEM TO BE DRAINED AND WINTERIZED DURING WINTER MONTHS IF FOUNTAIN IS NOT IN OPERATION.
- THE WORK TO COMPLETE THE INSTALLATION OF THE FOUNTAIN INCLUDES SUCH NECESSARY MATERIAL AND DEVICES OF A MINOR NATURE THAT MAY NOT BE INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY FOR THE COMPLIANCE WITH CODES AND FOR THE SUCCESSFUL OPERATION OF THE FEATURE. THE CONTRACTOR SHALL BE
- ALLOWED NO EXTRA COMPENSATION BECAUSE OF THIS REQUIREMENT. THOROUGHLY TEST ALL FIXTURES, SERVICES AND ALL CIRCUITS FOR PROPER OPERATING CONDITIONS AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED.
- ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS. 8. CONTRACTOR SHALL ENSURE THAT INSTALLATION COMPLIES WITH ALL APPLICABLE NATIONAL, LOCAL CODES AND INTERNATIONAL CODES AND PROJECT SPECIFICATIONS.
- PRIOR TO ANY FINISHING MATERIALS (I.E. LIGHTS, JETS, COVER PLATES ETC.) BEING INSTALLED, ALL FOUNTAINS SHALL BE TESTED FOR LEAKS FOR A MINIMUM OF 72 HOURS AND ALL WATERPROOFING AND TILE WORK SHALL BE COMPLETED.
- 10. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
- 11. CONSULT ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS NOT SHOWN ON THESE DRAWINGS 12. WHERE APPLICABLE, ALL WEIRS SHALL BE INSTALLED WITH AN ACCURACY OF "+" OR "-" 1/16" OVER THE ENTIRE WEIR LENGTH. UNLESS OTHERWISE NOTED, REFER TO THE ARCHITECTURE
- DRAWINGS FOR WEIR DETAILS. CONTRACTOR SHALL PROVIDE ALL CONCRETE WORK AS REQUIRED BY ALL MECHANICAL AND ELECTRICAL FOUNTAIN EQUIPMENT REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, HOUSEKEEPING PADS, LOCK-DOWN SLABS, AND THRUST BLOCKS WHERE INDICATED.
- CONTRACTOR SHALL PROVIDE ALL UTILITIES SUCH AS POWER SUPPLIES, WATER SUPPLIES, AND SEWER CONNECTIONS UNDER THE BUILDING CONTRACT UP TO THE FOUNTAIN CONTROLS, EQUIPMENT AND/OR FOUNTAIN FITTINGS WHERE INDICATED.
- 15. CONTRACTOR SHALL PROVIDE AND IS RESPONSIBLE FOR ALL ELEVATION AND X-Y COORDINATES RELATING TO ALL FOUNTAIN EQUIPMENT INCLUDING VAULTS, FOUNTAIN FLOORS, AND PUMPS. 16. CONTRACTOR/INSTALLER IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL DIMENSIONS AT JOBSITE. DELTA FOUNTAINS IS NOT RESPONSIBLE FOR CONSTRUCTION/INSTALLATION MEANS,
- METHODS, TÉCHNIQUES, SEQUENCES, STEPS, OR PROCEDURES, OR FOR ANY SAFETY REQUIREMENTS, CODES, PRECAUTIONS, RULES, REGULATIONS, OR PROGRAMS PERTAINING TO THE CONSTRUCTION PROJECT. INCLUDING. BUT NOT LIMITED TO OSHA CONFINED SPACE REQUIREMENTS FOR EQUIPMENT VAULTS.
- 17. ALL COMPONENT ITEMS USED IN THE PRODUCTION OF OUR PRODUCTS ARE U.L. LISTED WHENEVER SUCH LABELING IS AVAILABLE FROM THE SOURCE EQUIPMENT OR MATERIAL 18. SHOULD ANY PRODUCT REQUIRE A 'THIRD PARTY' LABEL OR CERTIFICATION AS AN ASSEMBLY (E.G., N.E.C., U.L. OR E.T.L. LISTING) SUCH REQUIREMENTS SHALL BE DETERMINED, CONTRACTED FOR,
- 19. DELTA FOUNTAINS SHALL NOT BE RESPONSIBLE OR LIABLE IN ANY MANNER WHATSOEVER FOR SPECIAL LABELING OR CERTIFICATION REQUIREMENTS, INCLUDING THIRD PARTY PRODUCT TESTING UNLESS SPECIFICALLY INCLUDED IN ITS PROPOSALS, QUOTATIONS, DRAWING DESCRIPTIONS AND DETAILS, REGARDLESS OF PROJECT SPECIFICATION OR CODE REQUIREMENTS. 20. EQUIPMENT MANUFACTURED, SUPPLIED AND OTHERWISE FURNISHED BY DELTA FOUNTAINS IS PRIMARILY DESIGNED FOR EMBEDMENT OR CASTING DIRECTLY INTO CONCRETE OR GUNITE STRUCTURAL
- MATERIAL. IT IS NOT DESIGNED FOR NATURAL OR SYNTHETIC LINER OR MEMBRANE INSTALLATION INCLUDING FIBERGLASS OR METAL LINERS, SHELLS, COVERS, OR CLADDING. ANY SUCH REQUIREMENT FOR LINER OR MEMBRANE INSTALLATION OR ADAPTATION IS THE RESPONSIBILITY OF THE SPECIFIER, PURCHASER AND INSTALLER, INCLUDING BUT NOT LIMITED TO FLANGES, CLAMPING DEVICES, GASKETS, FASTENING DEVICES, COATINGS, ADHESIVES OR BONDING AGENTS.
- 21. FATAL SUCTION ENTRAPMENT CAN OCCUR IF FOUNTAIN MECHANICAL EQUIPMENT AND PIPING IS NOT INSTALLED CORRECTLY AS SHOWN. ANTI-VORTEX PLATES MUST BE SECURELY FASTENED TO SUMPS AND/OR FOUNTAIN FLOOR USING SUITABLE VANDAL RESISTANT SAFETY FASTENERS AND ANCHORS AT ALL TIMES DURING OPERATION OF FOUNTAIN SYSTEM.
- 22. NOTWITHSTANDING THE CONTRACT DOCUMENTS, INCLUDING ARCHITECT'S FINAL "FOR CONSTRUCTION" PLANS AND SPECIFICATION DATA, THE FOUNTAIN SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH DELTA FOUNTAINS FINAL AND APPROVED SET OF SHOP/INSTALLATION DRAWINGS AND DETAILS OR FOUNTAIN PRODUCT WARRANTY AND SYSTEM PERFORMANCE GUARANTEE IS VOID.
- WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED MEASUREMENTS. DELTA FOUNTAINS RECOMMENDS ALL FOUNTAINS BE PROPERLY WATERPROOFED BY SPECIFIED APPROVED MEANS AND ALL FOUNTAIN COMPONENTS BE PROPERLY SEALED WITH A SUITABLE
- WATERPROOF CAULKING COMPOUND TO ENSURE A WATERTIGHT FOUNTAIN INSTALLATION. ANY WATERPROOFING DETAILS OR SPECIFICATIONS THAT MAY APPEAR ON DELTA FOUNTAINS PLANS OR EQUIPMENT DETAILS ARE FOR GENERAL REFERENCE ONLY AND SHALL NOT BE INTERPRETED OR
- RELIED UPON AS A FORMAL SPECIFICATION OR RECOMMENDATION. CONVERSELY, THE ABSENCE OF WATERPROOFING DETAILS OR SPECIFICATION ON DELTA FOUNTAINS PLANS, DETAILS OR PRODUCT SHEETS DO NOT IMPLY THAT WATERPROOFING IS NOT A PROJECT REQUIREMENT.
- 26. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO SPECIFY ANY AND ALL WATERPROOFING REQUIREMENTS, PRODUCTS, INSTALLATION/APPLICATION MEANS, PROCEDURES, AND OTHER DETAILS AS MAY BE NECESSARY AND REQUIRED FOR THE FOUNTAIN STRUCTURE AND FOUNTAIN COMPONENTS.
- IT IS THE RESPONSIBILITY OF THE WATERPROOFING CONTRACTOR TO REVIEW THE PROJECT SPECIFICATIONS FOR WATERPROOFING REQUIREMENTS FOR THE FOUNTAIN AND RELATED COMPONENTS AND PROVIDE THE SPECIFIED WATERPROOFING PRODUCTS AND SYSTEMS TO ENSURE WATERPROOF INTEGRITY OR THE FOUNTAIN SYSTEM.
- 28. IT IS THE RESPONSIBILITY OF THE FOUNTAIN EQUIPMENT INSTALLER TO COORDINATE ALL WATERPROOFING MATERIALS, SYSTEMS, APPLICATIONS, PROCEDURES, MEANS AND METHODS WITH THE WATERPROOFING CONTRACTOR, IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS. 29. DELTA FOUNTAINS ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR ANY WATERPROOFING ISSUES RELATED TO ITS DESIGN PACKAGE, SCOPE OF WORK, OR EQUIPMENT SUPPLY UNDER
- ANY CIRCUMSTANCES. IF THE FOUNTAINS CONTRACTOR/WATERPROOFER HAS QUESTIONS PERTAINING TO WATERPROOFING, THEY SHALL BE DIRECTED TO THE PROJECT ARCHITECT/ENGINEER WHO IS SOLELY RESPONSIBLE FOR SUCH MATTERS.
- 30. ALL FOUNTAIN SYSTEM EQUIPMENT AND COMPONENTS FURNISHED BY DELTA FOUNTAINS IS DESIGNED AND MANUFACTURED FOR USE IN FRESH WATER APPLICATIONS ONLY. DO NOT INSTALL OR OPERATE ANY EQUIPMENT IN SALT, BRINE, OR BRACKISH WATER OF ANY KIND OR WARRANTY IS VOID. 31. DUE TO OUR CONTINUING PRODUCT IMPROVEMENT, DELTA FOUNTAINS RESERVES THE RIGHT TO CHANGE PRODUCT AND SYSTEM SPECIFICATIONS WITHOUT NOTICE.
- 32. DELTA FOUNTAINS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY CIVIL OR STRUCTURAL DESIGN DRAWINGS, DETAILS, NOTATIONS, OR ANY OTHER ASPECTS OF THE PROJECT REGARDING FOUNTAIN LAYOUT, STRUCTURE OR CONSTRUCTION/BUILDING PRACTICES, INCLUDING, BUT NOT LIMITED TO, SOIL INTEGRITY, CONCRETE DESIGN, SPECIFICATIONS, AND SLAB POUR METHODS, CONCRETE
- STRUCTURAL WATERPROOFING SPECIFICATIONS, MATERIALS, AND METHODS, ETC. UNLESS OTHERWISE SPECIFICALLY STATED. ANY STRUCTURE DEPICTED OR APPEARING ON OUR PLANS SHALL BE SHOWN SOLELY FOR DIMENSIONAL REFERENCE AND GENERAL STRUCTURAL ORIENTATION IN ORDER TO ADEQUATELY IDENTIFY,
- COORDINATE, ORIENT, LOCATE AND INSTALL OUR EQUIPMENT PACKAGE, AND SHALL NOT BE RELIED ON FOR ANY OTHER PURPOSES.
- CLIENT IS ADVISED TO ENLIST THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER FAMILIAR AND EXPERIENCED WITH SUCH WORK WHEN DESIGNING/CONSTRUCTING ANY FOUNTAIN OR EQUIPMENT VAULT STRUCTURE, WHO SHALL ACCEPT COMPLETE RESPONSIBILITY AND LIABILITY FOR ALL STRUCTURAL, GEOTECHNICAL, AND CIVIL ENGINEERING DETAILS PERTAINING TO THE PROJECT.
- CONTRACTOR IS ADVISED TO ENLIST THE SERVICES OF A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT TO COORDINATE LANDSCAPE, HARDSCAPE, AND TOPOGRAPHICAL ENVIRONMENT SURROUNDING THE FOUNTAIN AREA SO THAT PROPER PLANT MATERIAL AND GROUND COVER IS SPECIFIED TO ENSURE EXCESS DEBRIS WILL BE KEPT AWAY FROM, AND OUT OF THE FOUNTAIN SYSTEM. PROPER
- 36. REFER TO MECHANICAL AND ELECTRICAL NOTES ON DRAWINGS FOR FURTHER INFORMATION.

# GENERAL PIPING NOTES

- 1. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL FIELD DIMENSIONS CRITICAL TO FOUNTAIN EQUIPMENT INSTALLATION AND PERFORMANCE AND REPORT ANY DISCREPANCIES, IN
- WRITING TO DELTA FOUNTAINS AND THE ARCHITECT UPON DISCOVERY. REFER TO SPECIFICATION SECTION 3.1 "EXAMINATION" FOR FURTHER INSTRUCTION AND CLARIFICATION. 2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO CHECK AND COMPLY WITH ALL APPLICABLE NATIONAL AND LOCAL PLUMBING CODES PRIOR TO INSTALLATION OF EQUIPMENT. LOCAL
- CODES TAKE PRECEDENCE OVER GENERAL NOTES WHERE DISCREPANCIES OR CONFLICTS EXIST. 3. ALL FOUNTAIN PIPING PENETRATIONS THROUGH ANY CONCRETE WALL OR FLOOR MUST BE MADE WITH STAINLESS STEEL PIPE APPROPRIATE FOR THE APPLICATION, AND MUST BE FLASHED OR FITTED
- WITH A WATERSTOP FLANGE TO PREVENT LEAKAGE. FOR PIPE PENETRATIONS OVER 4" PIPE SIZE USE BACK TO BACK P.V.C. FLANGES WITH STAINLESS STEEL BOLTS AND HARDWARE FOR WATERSTOP.
- INTERCONNECTING PIPING AND FITTINGS INSIDE EQUIPMENT VAULT IS SCHEDULE 80 P.V.C.
- INTERCONNECTING PIPING AND FITTINGS BETWEEN THE FEATURE AND EQUIPMENT VAULT IS SCHEDULE 80 P.V.C. OR COPPER AS SUITABLE FOR THE WORKING PRESSURE OF THE SYSTEM SPECIFICATION REQUIREMENTS AND LOCAL CODES. IF STEEL OR CAST IRON PIPING IS SPECIFIED, IT MUST HAVE HOT-DIPPED GALVANIZED OR COAL TAR EPOXY COATING. REFER TO PROJECT SPECIFICATIONS FOR EXCEPTIONS.
- ALL PIPE CONNECTIONS BETWEEN DISSIMILAR METALS MUST BE MADE WITH DIELECTRIC FITTINGS AND DIELECTRIC THREAD SEALING COMPOUND TO PREVENT GALVANIC DEGRADATION. SUCTION EYE OF PUMP MUST BE LOCATED BELOW FOUNTAIN FLOOR ELEVATION IF FLOODED-END-SUCTION TYPE. AND NOT MORE THAN 4' ABOVE FOUNTAIN FLOOR ELEVATION IF SELF-PRIMING
- TYPE. ALL REDUCING FITTINGS MUST BE CONCENTRIC TYPE ON DISCHARGE LINE AND ECCENTRIC TYPE ON SUCTION LINE..

11. ON DISCHARGE LINES USE ONLY LUG TYPE BUTTERFLY, GLOBE, BALL, PLUG OR OTHER LOW LOSS INFINITELY ADJUSTABLE VALVES FOR ISOLATION AND FLOW REGULATION.

SLOPE OF GRADE IS MANDATORY TO KEEP RAIN WATER AND IRRIGATION WATER FROM ENTERING INTO THE FOUNTAIN BASIN AND EQUIPMENT VAULT OR ENCLOSURE.

- SUCTION LINE MUST BE A STRAIGHT RUN INTO THE PUMP EYE OF AT LEAST 8 PIPE DIAMETERS WITH NO LOOPS, HIGH POINTS, OR TRAPS. USE LONG RADIUS ELBOWS ON ALL DIRECTIONAL CHANGES ON SUCTION AND DISCHARGE LINES, IN SOME INSTANCES, PIPING DIAGRAMS ARE EXAGGERATED FOR PURPOSES OF CLARITY. MAKE ALL
- SUCTION AND DISCHARGE PIPE RUNS USING THE MOST DIRECT ROUTES POSSIBLE AND USING THE MINIMUM NUMBER OF FITTINGS POSSIBLE. SLOPE ALL LINES DOWN TO PUMP, IN ALL CASES, WITH NO LOOPS, TRAPS, OR HIGH POINTS
- 10. ON SUCTION LINES USE ONLY LUG TYPE BUTTERFLY VALVES, FULL—PORT, OR GATE TYPE VALVES. DO NOT REGULATE OR ADJUST FLOW FROM SUCTION SIDE OF PUMP. USE SUCTION VALVES FOR EQUIPMENT ISOLATION PURPOSES ONLY.
- 12. AN IN-LINE BASKET STRAINER IS RECOMMENDED ON THE SUCTION SIDE OF PUMPS, WITH BASKET PERFORATIONS PROPERLY SIZED TO PROTECT THE PUMP IMPELLER, AND FOUNTAIN NOZZLE/JET
- 13. PROVIDE ADEQUATE OVERFLOW DRAIN AND FILL LINE CAPACITY FOR THE FOUNTAIN SYSTEM.
- 14. THE PIPING SYSTEM SHALL BE WATER PRESSURE TESTED FOR 24 HOURS PRIOR TO BACKFILLING AND SHALL THEN BE BURIED AND/OR SUPPORTED AS REQUIRED TO PROTECT THE INTEGRITY OF MECHANICAL SYSTEM. (REFER TO PVC INSTALLATION NOTES).

DETECT ANY DAMAGE EARLY ON. ALL TESTS SHALL USE WATER, NOT AIR FOR PRESSURE TESTING.

- 15. INSTALLING CONTRACTOR TO INSTALL THRUST BLOCKS AT ALL PIPING INTERSECTIONS ON SUBTERRANEAN PIPING RUNS. 16. INSTALLING CONTRACTOR IS RESPONSIBLE FOR ALL PIPE SUPPORTS AND HANGERS AS REQUIRED. ALL PIPING IN OPEN AREAS BELOW THE FOUNTAIN SHALL BE INSTALLED FREEHANGING FROM THE
- CEILING IN THE LEVEL BELOW WITH PIPE HANGERS PER LOCAL CODE AND SPECIFICATIONS. 17. INSTALLER SHALL PROVIDE ADEQUATE ACCESS, LIGHTING, DRAINAGE AND VENTILATION IN EQUIPMENT VAULT TO PREVENT FLOODING, CONDENSATION OR OVERHEATING OF EQUIPMENT, AND COMPLY
- WITH ALL OSHA CONFINED SPACE REGULATIONS AND REQUIREMENTS, BEFORE, DURING AND AFTER SYSTEM INSTALLATION. 18. ANY PRESSURIZED CITY WATER LINES SUPPLYING THE FOUNTAIN SYSTEM SHALL BE OF TYPE K COPPER AND SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTION DEVICE AND PRESSURE
- REDUCING VALVE SET AT 50 PSI MAXIMUM PRESSURE AND MINIMUM OF 40 PSI. 19. THE INCOMING WATER SUPPLY LINE PRESSURE MUST NOT EXCEED 50 PSI AND IS PART OF THE BUILDING CONTRACT, NOT THE FOUNTAIN.
- 20. 'P' TRAPS AND VENTS SHALL BE INSTALLED ON ANY DRAIN LINE CONNECTED TO A SANITARY SEWER SYSTEM, WHERE AND WHEN REQUIRED BY PLUMBING CODE, REGARDLESS OF WHETHER SHOWN ON INSTALLATION DRAWINGS.
- 21. SOIL COMPACTION AROUND SUBTERRANEAN PIPING TO BE COMPACTED IN 6" LIFTS.
- 22. ALL PIPING TO HAVE MINIMUM 2% SLOPE DOWN FROM FOUNTAIN TO EQUIPMENT VAULT/EQUIPMENT VAULT UNLESS OTHERWISE SPECIFIED ON THE CONTRACT DOCUMENTS. 23. PRESSURE TESTING ON ALL PIPE RUNS BETWEEN THE PUMPING EQUIPMENT AND THE FOUNTAIN BASIN SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR AFTER "ROUGH—INS" (PIPES INSTALLED AND STUBBED UP) ARE COMPLETE AND AGAIN BEFORE ANY CONCRETE IS POURED. IT IS RECOMMEND TO MAINTAIN ALL PIPING UNDER PRESSURE DURING THE CONSTRUCTION PHASE TO
- 24. ALL PENETRATIONS THROUGH OUTSIDE WALLS TO BELOW GRADE SHALL BE SEALED PER BUILDING SPECIFICATIONS. USING "EASY-LINK SEALS" IS RECOMMENDED. 25. ALL PIPING PENETRATIONS THROUGH STRUCTURE WALLS INTO OPEN AREAS BELOW FOUNTAIN STRUCTURE MUST HAVE ALLOWANCES MADE FOR SETTLEMENT.
- 26. ANY AND ALL COSTS ASSOCIATED WITH ABOVE ARE RESPONSIBILITY OF INSTALLER. 27. ALL PIPING IS ASSUMED TO BE BURIED BELOW GROUND IN ALL CASES, AND NOT INSTALLED ON OR ABOVE GRADE WHERE AN AIR TRAP, LOOP, OR HIGHPOINT COULD BE CREATED.
- 28. CONTRACTOR SHALL OBTAIN ALL NECESSARY INSTALLATION PERMITS AND INSPECTIONS. 29. ALL WELDED PVC FITTINGS ABOVE 6" DIAMETER SHALL BE FIBERGLASS REINFORCED AND USED ONLY ON NON-PRESSURIZED LINES.

#### CLIENTS

Community & Economic Development Office (CEDO) 149 Church St,

Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

# DESIGN TEAM

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401

**CIVIL ENGINEER** DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403

802.864.0010

URBAN DESIGNER Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com

802.878.7661

310.230.9997 STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com

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<u>LIGHTING CONSULTAN</u> Domingo Gonzalez Associate 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains 1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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				АН	АН	АН	ВУ
				BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION
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BURLINGTON GREAT STREETS

CITY HALL PARK

SHEET TITLE

NOTES

12/28/2018 ROJECT# CHECKED BY

ТҮРЕ		DESCRIPTION	LAMP	PHOTOMETRY	VOLT.	SYSTEM WATTS	MANUFACTURER MODEL NUMBER
	DESCRIPTION:	POLE MOUNTED 40W LED POST TOP LUMINAIRE 3000K WITH TYPE V DISTRIBUTION.		947			
	OPTICS:	TYPE V DISTRIBUTION		710			
	DIMENSIONS:	16 ½" WIDE X 43" HIGH; TENON 3 ½"Ø X 3" HIGH		237			
	LOCATION/ REMARKS:	[PARK INTERIOR] POLYESTER POWDER COAT ENAMEL PAINTED RIVER TEXTURE BLACK FINISH. FIXTURE SHALL BE UL LISTED FOR WET LOCATION (IP65 RATED), THROUGH WIRING AND BEAR AN IBEW LABEL. STREET SIDE INDICATED. TOTAL LUMINAIRE EFFICACY RATING	3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD				SPRING CITY  #ALMWSH-LE040-EV1-X2-30-CN5-YS11F  -FINISH
D1		(LER) SHALL BE MINIMUM OF 89. PROVIDE JUNCTION BOX PER POLE LOCATION. ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL. INSTALLING CONTRACTOR TO PROVIDE ALL NECESSARY SUPPORTS REQUIRED FOR SAFE AND PROPER MOUNTING. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. LUMINAIRE MOUNTING HEIGHT TO BE NOM. 12'-0" AFG. MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P1 POLE & LUMINAIRE ASSEMBLY.	LED ARRAY [3615 DELIVERED LUMENS PER				POLE:
, P1	DRIVER:	PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND	LUMINAIRE]	MAX CANDELA= 946.924	120/277	40W	SPRING CITY #SPSCCD-SC4-18-12.00-TN/CU
	DITIVEIX.	A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 55			or approved equal by Sentry, Antique Stree
	POLE:	POLE SHALL BE MOUNTED ON NEW CLASS B 3000PSI REINFORCED CONCRETE FOUNDATION. POLE ASSEMBLY SHALL BE TWO EXTRUDED ROUND STEEL PIPE PEDESTALS, 8 %" O.D. AT BUTT AND 5 %6" O.D. AT TOP. POLE SHALL MEET A MIN. WIND LOAD SPEED 110 MPH WITH A 1.3 GUST FACTOR (AS PER AASHTO LTS-6-2013). PROVIDE WITH TWO PIECE WRAP AROUND DUCTILE IRON BASE. ALL EXPOSED POLE SURFACES TO RECEIVE A POWER COAT PLUS A MINIMUM 4 mil EXTERIOR GRADE SATIN POLYESTER POWDER COAT RIVER TEXTURE BLACK PAINTED FINISH PER URBAN DESIGNER. CONTRACTOR TO SUBMIT COLOR CHIPS FOR REVIEW & APPROVAL. PROVIDE WITH REINFORCED NOMINAL 4"X6-1/2" HANDHOLE WITH COVER AND TAMPERPROOF STAINLESS STEEL FASTENERS. PROVIDE TAMPER-RESISTANT SET SCREWS TO PREVENT BASE COVER LIFTING. PROVIDE WITH GALVANIZED LEVELING NUTS AT ANCHOR BOLTS UNDER BASEPLATE. POLE AND BASE SHALL BE SHIPPED WITH PROTECTIVE WRAPPING. MFR TO PROVIDE WOOD J-BOLT LAYOUT TEMPLATE TO CONTRACTOR. REFER TO DETAIL SHEET LL102.	TESTED PER IESNA - LM-79-08	V= 59.5			Lamps, Sternberg
	FOOTING/BASE:	SEE CIVIL ENGINEER'S DRAWINGS FOR REINFORCED CONCRETE POLE FOOTING SUPPORT, BASE PLATE AND VIBRATION PAD INFORMATION.					
	DESCRIPTION:	40W LED POST TOP LUMINAIRE 3000K WITH TYPE V DISTRIBUTION MOUNTED ON THE EXISTING HISTORIC LIGHT POLE.		947			
	OPTICS:	TYPE V DISTRIBUTION		710			
	DIMENSIONS:	16 ½" WIDE X 43" HIGH; TENON 3 ½"Ø X 3" HIGH	3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD	233			SPRING CITY
	LOCATION/ REMARKS:	[CITY HALL ENTRANCE] POLYESTER POWDER COAT ENAMEL PAINTED RIVER TEXTURE BLACK FINISH. FIXTURE SHALL BE UL LISTED FOR WET LOCATION (IP65 RATED), THROUGH WIRING AND BEAR AN IBEW LABEL. STREET SIDE INDICATED. TOTAL LUMINAIRE EFFICACY RATING	LED ARRAY  [3615 DELIVERED LUMENS PER				#ALMWSH-LE040-EV1-X2-30-CN5-YS11
O P1A		(LER) SHALL BE MINIMUM OF 89. PROVIDE JUNCTION BOX PER POLE LOCATION. ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL. INSTALLING CONTRACTOR TO PROVIDE ALL NECESSARY SUPPORTS REQUIRED FOR SAFE AND PROPER MOUNTING. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. LUMINAIRE MOUNTING HEIGHT TO BE 12'-0" AFG. REFER TO DETAIL SHEET LL102	LUMINAIRE]		120/277	40W	or approved equal by Sentry, Antique Stre
	DDIVED.	*INSTALLING CONTRACTOR TO COORDINATE TENON MOUNT "FIT" OF EXISTING POLE TO NEW LUMINAIRE WITH LIGHTING MANUFACTURER.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	MAX CANDELA= 946.924			Lamps, Sternberg
	DRIVER:	PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.	TESTED PER IESNA - LM-79-08	H= 55			
	POLE:	EXISTING POLE TO REMAIN. REPAIR, REFURNISH & REPAINT EXISTING LIGHT POLE AS REQUIRED.		V= 59.5			
	DESCRIPTION:	POLE/BRACKET MOUNTED NOM. Ø7.1" 55W LED ADJUSTABLE FLOODLIGHT 3000K WITH 50° OPTICS. PROVIDED WITH CLEAR TEMPERED GLASS LENS AND GLARE CONTROL SNOOT.		5517			
	OPTICS:	SYMMETRIC WIDE BEAM DISTRIBUTION	3000°K WHITE/MIN. 80CRI	4136			WE EE
	DIMENSIONS:	15.2" HIGH X 15.1" DEEP	3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY	1379			WE-EF #FLC141 LED T5-665-5616
P2	LOCATION/ REMARKS:	[CITY HALL ENTRANCE] POLYESTER POWDER COAT FINISH IN COLOR PER URBAN DESIGNER. FIXTURE SHALL BE COMPATIBLE FOR POLE MOUNTED INSTALLATION. HOUSING SHALL BE CONSTRUCTED OF MARINE-GRADE, DIE-CAST ALUMINUM ALLOY. PROVIDED WITH SAFETY	[4570 DELIVERED LUMENS PER LUMINAIREI		120/277	55W	SNOOT ET: #665-9244
ADD-ALTERNATE		GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK07+, IP66 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 83. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED	*LAMP ASSEMBLY AND HEAT SINK			0011	or approved equal by Lumenpulse, Accl
		MODULE AND DRIVER. REFER TO DETAIL SHEET LL103.	SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08	MAX CANDELA= 5514			Hubbell-Beacon
	DRIVER:	PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.		H= 0			
				V= 0			
	DESCRIPTION:	POLE/BRACKET MOUNTED NOM. Ø4.4" 15W LED ADJUSTABLE SPOTLIGHT 3000K WITH 15° OPTICS. PROVIDED WITH CLEAR TEMPERED GLASS LENS AND GLARE CONTROL SNOOT.		32631			
	OPTICS:	SYMMETRIC, VERY NARROW BEAM, "SHARP CUT-OFF" DISTRIBUTION	3000°K WHITE/MIN. 80CRI	16316			WE-EF
	DIMENSIONS: LOCATION/	11.7" HIGH X 14.0" DEEP  [CITY HALL ENTRANCE: AIM AT MEDALLION]	LED CHIP ON BOARD LED ARRAY	8158			#FLC121 LED T5-665-0510
P2A	REMARKS:	POLYESTER POWDER COAT FINISH IN COLOR PER URBAN DESIGNER. FIXTURE SHALL BE COMPATIBLE FOR POLE MOUNTED INSTALLATION. HOUSING SHALL BE CONSTRUCTED OF MARINE-GRADE, DIE-CAST ALUMINUM ALLOY. PROVIDED WITH SAFETY  GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK07+, IP66 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 91. PROVIDE	[1366 DELIVERED LUMENS PER LUMINAIRE]		120/277	15W	SNOOT: #665-9244
ADD-ALTERNATE		JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL103.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND				or approved equal by Lumenpulse, Acc
	DRIVER:	PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL	TESTED PER IESNA - LM-79-08	MAX CANDELA= 32631.4			Luminis
		BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.		H= 0 V= 0			
	DESCRIPTION:	IN-GRADE SYSTEM NOM. Ø 9.84" 21W LED ADJUSTABLE UPLIGHT 3000K WITH WALLWASH OPTICS. PROVIDED WITH ¾" THICK CLEAR TEMPERED GLASS LENS AND HALF FROSTED LENS.		1801			
	OPTICS:	WALLWASH DISTRIBUTION		1370			
	DIMENSIONS:	10.63" DIA X 14.76" DEEP	3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD	450			WE-EF
	LOCATION/	[BCA FACADE]	LED ARRAY [1549 DELIVERED LUMENS PER				#ETC130-GB LED-611-3046
• P3	REMARKS:	NATURAL STAINLESS STEEL FINISH. FIXTURE SHALL BE COMPATIBLE FOR INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL.  PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL.	LUMINAIRE]		120/277	21W	PROVIDE WITH HALF FROSTED LENS
		PROVIDED WITH 5/8" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND				or approved equal by Bega, DesignPlan DesignPlan Naboo, Lumenpulse
	DRIVER:	S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL	TESTED PER IESNA - LM-79-08	MAX CANDELA= 1800.6 H= 0			
		BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.		V= 165			
	DESCRIPTION:	IN-GRADE SYSTEM NOM. Ø 11.81" 27W LED ADJUSTABLE UPLIGHT 3000K WITH WALLWASH OPTICS. PROVIDED WITH %" THICK CLEAR TEMPERED GLASS LENS AND HALF FROSTED LENS.		123			
	OPTICS:	WALLWASH DISTRIBUTION	3000°K WHITE/MIN. 80CRI	1,06\$			
	DIMENSIONS:	11.81" DIA X 14.76" DEEP	LED CHIP ON BOARD LED ARRAY	530			WE-EF #ETC140-GB LED-611-4026
• • P3A	LOCATION/	[CITY HALL FACADE]	[2188 DELIVERED LUMENS PER LUMINAIRE]			27W	PROVIDE HALF FROSTED LENS
	REMARKS:	NATURAL STAINLESS STEEL FINISH. FIXTURE SHALL BE COMPATIBLE FOR INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED.		* ^ / ^ / * / * * * * * * * * * * * * *	120/277		or approved equal by Bega, Lumenpul
ADD-ALTERNATE	REMARKS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL.  PROVIDED WITH 5/8" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY	*LAMP ASSEMBLY AND HEAT SINK		120/277		
ADD-ALTERNATE	REMARKS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 5/8" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.		MAX CANDELA= 2130.5	120/277		
ADD-ALTERNATE		PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH \\ \frac{5}{8}\text{"} THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10	120/277		
ADD-ALTERNATE	REMARKS:  DRIVER:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 5/8" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND		120/277		
ADD-ALTERNATE		PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 5/8" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10	120/277		
ADD-ALTERNATE	DRIVER:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 5/6" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK10+, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08	H= 10	120/277		
ADD-ALTERNATE	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH ½° THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK104, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE SFFICACY RATING (LER REIN) SHALL BE MINIMUM 109 773. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84° ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84° DIA X 14.76° DEEP	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10 V= 169	120/277		WE-EF
ADD-ALTERNATE	DRIVER:  DESCRIPTION: OPTICS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AMINIG, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH %" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WEIL OCATION. IK104. IP67 RATED, SCE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING, TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84" ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84" DIA X 14.76" DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED. PROVIDED WITH OFFSET GIMBAL	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08	H= 10 V= 169	120/277	21W	
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL: OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 30° THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK104-, 1967 RATED, SCE CORROSION PROTECTION AND BE UL LISTED FOR THOUGH WIRING. TOTAL LUMINAIRE SHALL BE WIND AND STAIL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84° DIA X 14.76° DEEP  CITY HALL PARK MONUMENTS. FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING CORROSION PROTECTION AND BE LUISTED FOR THOUGH MIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE WITHOUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE WITHOUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK	H= 10 V= 169		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30' YERTICAL TILT, AND 360' HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL PROVIDED WITH ½; "THINK CLEAR TEMPERED GLASS, LENS AND SILICONE RUBBER GASKET, LUMINAIRE SHALL BE WET LOCATION, IX101-, 1967 RATED, SCE OORROSION PROTECTION AND BE UL LISTED FOR THROUGH WRING, TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE 3.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL'104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE PSA LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84" ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84" DIA X 14.76" DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED. PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30" VERTICAL TILLT, AND 360" HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL, PROVIDED WITH ½" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER CASKET. LUMINAIRE SHALL BE WET LOCATION, IN104; 1967 RATED, SEC CORROSION PROTECTION AND BUT LILISTED FOR THROUGH WITHING. TOTAL LUMINAIRE EFFICACY	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]	H= 10 V= 169		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/	PROVIDED WITH %" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL PROVIDED WITH %" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK104, IP67 RATED, 5CE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE OUICK DISCONNECT FOR LED MODULE AND DRIVER. REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84° ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84° DIA X 14.76° DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED WITH 96° HORIZON LEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WET LOCATION, IK104-, IP67 RATED, SCE CORROSION PROTECTION AND BE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE WET LOCATION. AND PROPER INSTALLATION AND PROPER INSTALLATION AND PERCATOR AND PROVIDED WITH 56° TABLE BUPPORT AND PROPER INSTALLATION AND PERCATOR. AND PROPER INSTALLATION AND PERCATOR. AND PROPER INSTALLATION AND PERCATOR. AND PROPER INSTALLA	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30° VERTICAL TILT, AND 360° HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 30° THINK 10° THAT THE PROVIDE AND BE ULL LISTED FOR THE HOUSING COMPOSITE MATERIAL. PROVIDED LINCTION BOX PER PIXTURE LOCATION. KICH, 1967 ATATE), 50¢ CORROSION PROTECTION AND BE ULL LISTED FOR THEHOUGH WIRING, TOTAL LUMINAIRE SETICACY RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER PIXTURE LOCATION. KICH, 1967 ATATE AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE AND DRIVER, REFER TO DETAIL SHEET LL104.  MOCKUP: PROVIDE ON SITE MOCK-UP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84° ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84° DIA X 14.76° DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMMON, 30° VERTICAL TILT, AND 360° HORIZONTAL COTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL PROVIDED WITH %"THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WINIMOUND OF 91. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. KICH, 1967 RATED, 50° CORROSION PROTECTION AND BUY BE FIRED. STEEL: OUTER LUMINAIRE FIRED. SPOVIDE QUICK DISCONNE	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10 V= 169		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE. WITH LOCKABLE AMINING, 30" VERTICAL TILT, AND 380" HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDE MITH §", THINK CLEAR TEMPERED GLASS. LEARS AND SILLCORD RUBBER GASKET. LUMINARE FER FIG. COCATION, KION, JP67 RATED, SCE CORROSION PROTECTION AND BE ULL LISTED FOR THROUGH WIRING, TOTAL LUMINARE FER FIG. CYC. RATING (LER) SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION. CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDE QUICK DISCONNECT FOR LED MODULE. AND DEVER. REFER TO DETAIL SHEET LL104.  PROVIDE WITH AN INTEGRAL, 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING, DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDED WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. Ø 9.84" ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84" DIA X 14.76" DEEP  CITY HALL PARK MONUMENTS. FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS. PROPER DRIANGE AND FOUNDATION SUPPORT MUST BE PROVIDED WITH OFFSET GIMBAL TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH NIN CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE MINIMUM OF BIRD PROPER INSTALLATION AND OPERATION. ALL HARDWARE/FASTENERS TO BE S.S. PROVIDED WITH SHE PROVIDED WITH SEPICACY RATING (LER) SHALL BE MINIMUM OF BIRD PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC O-10V DIMMABLE DR	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE. WITH LOCKABLE AIMING, 39' VERTICAL TILT, AND 360' HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL.  PROVIDE MINISTER STAINLESS ASSESSED AND STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL.  PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHOT CIRCUIT PROTECTED AS WELL AS THERMALLY REQULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84" DIA X 14.76' DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMPATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS, PROVIDE QUICK DISCONNECT FOR SUPPLY SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH OFFSET GIMBAL MOUNTED CAN DEVEN TO DETAIL STATE LECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REQULATED TO PREVENT OVERHEATING. DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDED WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOME OF A SHALL BE COMPATIBLE FOR MUST AS A SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30' VERTICAL TILT, AND 360' HORIZONTAL ROTATION, INGOIN PROTECTION AND BE UL LISTED FOR THROUGH WHIRING, TOTAL LUMINAINES EFFICACY PRATIFICATION. IN PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE AIMING, 30' VERTICAL TILT, AND 360' HORIZONTAL ROTATION, INGOIN PROTECTION AND BE UL LISTED FOR THROUGH WHIRING, TOTAL LUMINAINES EFFICACY PRATIFICATION. IN PROVIDED WITH NO FOR A PROVIDE DISCONNE	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:  DESCRIPTION:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE. WITH LOCKABLE AIMING, 30" VERTICAL TILT, AND 360" HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH \$1.00 MINISTRY SHALL BE WITH LOCKABLE AIMING, 30" VERTICAL TILT, AND 360" HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED ON STEEM MOOKUP. PROVIDE JUNCTION BOX PER FIXTURE LOCATION, LINING, PROVIDED AND SHE MINISTRY SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER FIXTURE LOCATION, LINING, PROVIDED AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION, ALL HARDWARE FASTERES TO BE SS. PROVIDED ON SITE MOCKUP OF ONE (1) TYPE P3A LUMINAIRE.  PROVIDE WITH AN INTEGRAL 120/27T VOLT SOLID STATE ELECTRONIC 0-16V DIMMABLE DRIVER, THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING, DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNITIZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDED WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  IN-GRADE NOM. 9 9.84" ADJUSTABLE 21W LED SPOTLIGHT 3000K WITH MEDIUM OPTICS. PROVIDED WITH SAFETY GLASS LENS AND LINEAR SPREAD LENS.  SYMMETRIC, MEDIUM BEAM DISTRIBUTION  9.84" DIA 71-476" DEEP  CITY HALL PARK MONUMENTS. FIXTURE SHALL BE COMPATIBLE FOR FLUSH INISTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVE-OVER APPLICATIONS, PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MOOULE, WITH LOCKABLE AIMING, 30" VERTICAL TILT, AND 360" HORIZONTAL ROTATION. HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STAINLESS STEEL. OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH \$\frac{1}{2}\$* THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET, LUMINAIRE FOR FOR AND SHALL BE WET LOCATION. KITCH, PROVIDED WITH PRE-PROGRAMMED PROGRESSIVE LAW STARTING, LOUSING COMPOSITE MATERIAL. PROVIDED WITH \$\frac{1}{2}\$* THINK CLEAR TEMPER	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038  or approved equal by Bega, Lumenpuls  WE-EF #FLC131 LED TG-665-4514
	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:  DESCRIPTION: OPTICS:	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE ANING, 30' VERTICAL TILT, AND 360' HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STANLESS STEEL; QUITER HOUSING COMPOSITE MATERIAL. PROVIDED JUNCTION BOX PER PRIVING LICENS SHALL BE MINIMUM OF 73. PROVIDE JUNCTION BOX PER PRIVINE LOCATION, CONTRACTOR TO PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION, ALL HARDWARE FERRAT DO BETAIL. SHEET LL104.  **MOCKUP:** PROVIDE ON SITE MOCK-UP OF ONE (II) TYPE P3A LUMINAIRE.**  **PROVIDE WITH AN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC 0-10V DIMMABLE DRIVER. THE POWER SUPPLY SHALL BE OVERLOAD AND SHORT CIRCUIT PROTECTED AS WELL AS THERMALLY REGULATED TO PREVENT OVERHEATING, DRIVER SHALL BE SOUND A RATED AND ASSEMBLED ON AN UNTITZED REMOVABLE TRAY WITH QUICK DISCONNECT PLUG. PROVIDE WITH PRE-PROGRAMMED PROGRESSIVE LAMP STARTING, CONSISTENT LIGHT OUTPUT, AND END OF LAMP LIFE ALERT.  **NAMETRIC, MEDIUM BEAM DISTRIBUTION**  9.84" DIAX 14.76" DEEP  CITY HALL PARK MONUMENTS.  FIXTURE SHALL BE COMBATIBLE FOR FLUSH INSTALLATION IN CONCRETE OR EARTH. SUITABLE FOR WALK-OVER AND DRIVER APPLICATIONS. PROPER DRAINAGE AND FOUNDATION SUPPORT MUST BE PROVIDED. PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE. WITH LOCKABLE ANING, 30" VERTICAL TILT, AND 360" HORIZONTAL ROTATION, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STANLESS STEEL; OUTER HOUSING COMPOSITE MATERIAL. PROVIDED WITH 5" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WELL DOCUMENT OF PROVIDE AND THE PROVIDED WITH 5" THINK CLEAR TEMPERED GLASS LENS AND SILICONE RUBBER GASKET. LUMINAIRE SHALL BE WELL COCKTON, IK'O, 1967 RATED, DCC CORROSION PROTECTION AND SE UL LISTED FOR THROUGH WIRING. TOTAL LUMINAIRE EFFICACY RATING (LER) SHALL BE MINIMAINE.  **PROVIDE OUT SHALL BE COMBATILLE FOR FLUSH IN STALLATION OF PROVIDE OUT THE PROVIDED WITH OFFSET GIMBAL DE NUMBRING OF PROVIDE OUT THAN INTEGRAL 120/277 VOLT SOLID STATE ELECTRONIC OF PROVIDE AND THE PROVIDED WITH PRE-PROGRAMMED	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179		21W	#ETC130-GB LED+ LINEAR SPREAD 611-3020+611-8038  or approved equal by Bega, Lumenpuls  WE-EF
• P4	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/	PROVIDED WITH A PROVIDED WITH A CHEMPAGE CLASS LEAN AND SILLOOR EUBBER CASKET, LIMINAIRES SHALL BE WET LOCATION, KING, PER PARTED, GEC CORROSION PROTECTION AND BUT LISTED FOR TREQUELY WITH A PROVIDED WITH A PROVIDED WITH AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION, ALL HARDWARE FROM PROPER INSTALLATION AND OPERATION, ALL HARDWARE FROM PROVIDE ALL REQUISITE SUPPORT AND HARDWARE FOR SAFE AND PROPER INSTALLATION AND OPERATION. ALL HARDWARE FROM PROPER INSTALLATION AND OPERATION. AND THE APPROPRIATION OF THE OPERATION AND OPERATION. AND THE PROPERTY OF THE PROPERTY OF THE OPERATION OPERATION AND OPERATION. AND THE PROPERTY OF THE PROVIDED WITH OPERATION AND OPERATION. AND THE PROPERTY OF THE PROVIDED WITH OPERATION AND OPERATION. AND THE PROVIDED WITH OPERATION AND OPERATION. AND THE PROVIDED WITH OPERATION AND OPERATION. AND THE PROVIDED WITH OPERATION AND OPERATION AND THE PROVIDED WITH OPERATION. AND THE PROVIDED WITH OPERATION AND OPERATION AND THE PROVIDED WITH AND THE PROV	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [2543 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179	120/277		#ETC130-GB LED+ LINEAR SPREAD L 611-3020+611-8038  or approved equal by Bega, Lumenpulse  WE-EF #FLC131 LED TG-665-4514  SNOOT: #665-9234  or approved equal by Lumenpulse, Accle
• P4	DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/ REMARKS:  DRIVER:  DESCRIPTION: OPTICS: DIMENSIONS: LOCATION/	PROVIDED WITH OFFSET GIMBAL MOUNTED LAMP MODULE, WITH LOCKABLE ANIMING, 30° VERTICAL TILT, AND 380° HORIZOTHA, INCTAIN, HOUSING SHALL BE CONSTRUCTED OF DEEP DRAWN STANLESS STEEL, OUTER HOUSING COMPOSITE MATERIAL PROVIDED WITH STANLESS AND SUBJECT OF THROUGH WITHOUT STANLESS AND SUBJECT OF THROUGH WITH AND SUBJECT OF THROUGH WITHING STANLESS AND	*LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [1820 DELIVERED LUMENS PER LUMINAIRE]  *LAMP ASSEMBLY AND HEAT SINK SHALL BE ROHS COMPLIANT AND TESTED PER IESNA - LM-79-08  3000°K WHITE/MIN. 80CRI LED CHIP ON BOARD LED ARRAY [2543 DELIVERED LUMENS PER LUMINAIRE]	H= 10 V= 169 MAX CANDELA= 2239.6 H= 90 V= 179	120/277		#ETC130-GB LED+ LINEAR SPREAD L 611-3020+611-8038  or approved equal by Bega, Lumenpulse  WE-EF #FLC131 LED TG-665-4514  SNOOT:



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PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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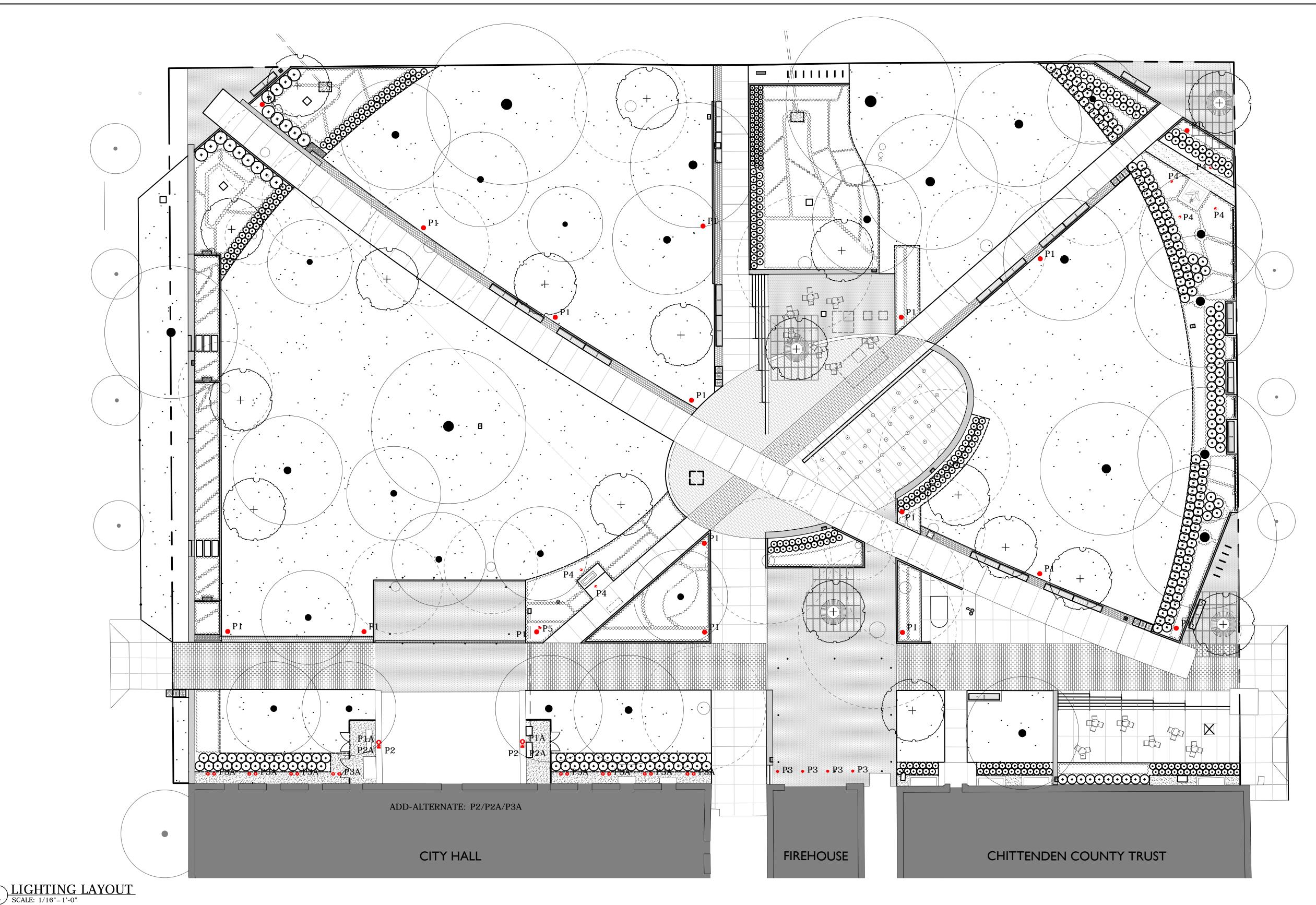
BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

LIGHTING SCHEDULE

DG/MD	12/28/2018			
CHECKED BY	PROJECT#			
DG	648			
SHEET NUMBER				

LL100



GENERAL LIGHTING NOTES

1. ALL LIGHTING WORK SHOWN ON THE DRAWINGS SHALL BE FURNISHED & INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE INDICATED.

P. NEW EXTERIOR LIGHTING SHALL BE INSTALLED AND OPERABLE PRIOR TO DISCONNECTING AND REMOVING EXISTING EXTERIOR LIGHTING.

B. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL 8. THE LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS OR DIMENSIONS AND LOCATION OF LIGHT FIXTURES ON PLAN.

I. INSTALLING CONTRACTOR TO PROVIDE ALL NECESSARY CONNECTIONS, HARDWARE, LABOR, AND TOOLS TO PERFORM HIS WORK.

5. INSTALLING CONTRACTOR TO PROVIDE ALL MISCELLANEOUS LIGHTING RELATED HARDWARE.

S. UPON COMPLETION OF ALL ELECTRICAL LIGHTING WORK, ELECTRICAL CONTRACTOR SHALL ADJUST AND TEST ALL LIGHTS. ANY DEFECTIVE ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW EQUIPMENT OR MATERIALS AND THAT PORTION OF THE SYSTEM SHALL BE RETESTED. ALL SUCH REMEDIAL WORK SHALL BE PROVIDED AT NO ADDITIONAL COST.

THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS: A. UNDERWRITERS LABORATORIES, INC (UL)

B. BURLINGTON BUILDING AND ELECTRICAL CODE

C. NATIONAL ELECTRICAL CODE

D. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) E. ALL OTHER APPLICABLE LOCAL JURISDICTION DIRECTIVES AND REQUIREMENTS.

OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND IF SHOWN ARE ONLY APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT OWNER'S REPRESENTATIVE IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS.

9. ALL EXTERIOR LIGHTING CONSTRUCTION AND PAVING REPAIR CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE BUILDING DEPARTMENT, BED AND OWNER.

10. DEVIATIONS FROM, OR CHANGES TO THESE PLANS WILL NOT BE ALLOWED, UNLESS OTHERWISE APPROVED BY THE OWNER, LIGHTING DESIGNER AND ENGINEER.

11. THE INSTALLING CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE EXISTING CURBS, TREES, PLANTING AREA, SIDEWALKS, DRIVEWAYS OR ORNAMENTAL ELEMENTS DURING THE INSTALLATION OR REMOVAL OF LIGHTING EQUIPMENT.

12. THE CONTRACTOR SHALL PROVIDE SUITABLE TEMPORARY PROTECTION FOR EXISTING TREES IMMEDIATELY ADJACENT TO NEW LIGHT POLE LOCATIONS.

13. ANY EXISTING TREES DAMAGED BY THE CONTRACTOR'S WORK SHALL BE EXAMINED BY THE OWNER'S ARBORIST. ALL TREES DEEMED UNSALVAGEABLE BY THE CITY ARBORIST SHALL BE REMOVED AND REPLACED WITH NEW TREES OF EQUIVALENT SPECIES AT THE CONTRACTOR'S SOLE EXPENSE.

14. THE CONTRACTOR SHALL VERIFY THE PROPOSED LIGHTING LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY AND PROPOSED LANDSCAPE PLAN. ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, LOCATION AND TYPE OF NEW AND EXISTING POLES, AND MATERIAL SPECIFICATIONS AND NOTIFY THE OWNER, LIGHTING DESIGNER AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.

15. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ALL UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO THE PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT AND TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. REPAIR AT YOUR OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. IF A UTILITY IS DAMAGED DURING CONSTRUCTION, STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.

16. DRAWINGS ARE DIAGRAMMATIC, SIZES AND LOCATION OF LIGHTING EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY ON THE DRAWINGS. FINAL LOCATION OF OUTLETS AND EQUIPMENT SHALL BE AS APPROVED BY THE LIGHTING DESIGNER AND ENGINEER. IT IS NOT WITHIN THE SCOPE OF DRAWINGS TO SHOW ALL NECESSARY BENDS, OFFSETS, AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO EXISTING CONDITIONS.

17. INSTALLING CONTRACTOR TO VERIFY THAT ALL LIGHTING WIRE SIZES ARE SUITABLE TO ALLOW FOR ADEQUATE DISTRIBUTION AND TO MINIMIZE VOLTAGE DROP (MAX 2.5% SUBMIT VOLTAGE DROP CALCULATION FOR REVIEW BY ENGINEER).

18. INSTALLING CONTRACTOR SHALL COORDINATE AND VERIFY FINAL CONDUCTOR SIZES, QUANTITIES, VOLTAGE REQUIREMENTS AS INDICATED ON DRAWINGS PRIOR TO FINALIZING WIRING INSTALLATION. MINOR ADJUSTMENTS TO WIRING REQUIREMENTS NECESSARY TO ACCOMMODATE ACTUAL FURNISHED EQUIPMENT SHALL BE PROVIDED AT NO ADDITIONAL

19. QUANTITY AND SIZE OF WIRE (CABLE) AND CONDUIT SHALL BE AS INDICATED OR AS REQUIRED.

20. CIRCUIT GROUND CONDUCTOR SHALL BE MECHANICALLY CONNECTED TO ALL NEW FIXTURE POLES.

21. ANY UTILITY IMPROVEMENTS WITHIN THE STREET RIGHT OF WAY (TRENCHING, PAVEMENT SAWCUT, BACKFILL AND PAVEMENT RESTORATION) SHALL BE CONDUCTED PER CITY AND STATE

22. ALL POLE FOUNDATION EXCAVATIONS SHALL BE PROPERLY BACKFILLED WITH CLEAN FILL AND COMPACTED TO MINIMUM 95% PROCTOR DENSITY (IN LANDSCAPED AREAS) AND MINIMUM 98% PROCTOR DENSITY (IN PAVED AREAS) AS PER ASTM D-1557. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTION TESTING AND SHALL SUBMIT SUCH REPORT AND VERIFICATION TO THE OWNER / PROJECT ENGINEER.

SHEET TITLE

LAYOUT

GUIDELINES.

12/28/2018

PROJECT TITLE

BURLINGTON **GREAT STREETS** CITY HALL PARK

LIGHTING

SHEET NUMBER

BURLINGTON

**RECREATION** WATERFRONT

**PARKS** 

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

CIVIL ENGINEER DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403 802.878.7661

**URBAN DESIGNER** Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com 503.928.5522

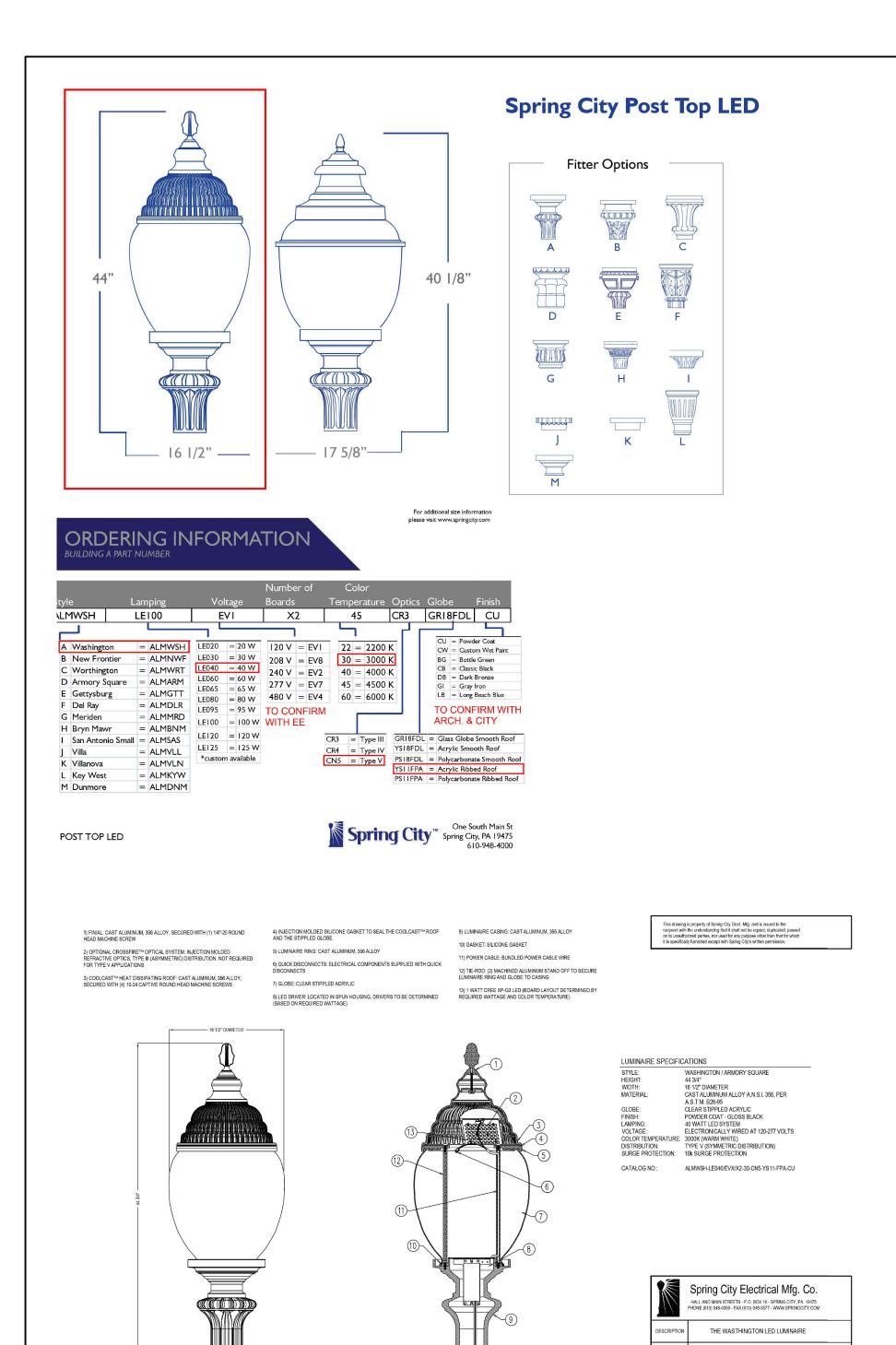
LIGHTING CONSULTANT Domingo Gonzalez Associates 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT **Delta Fountains** 1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

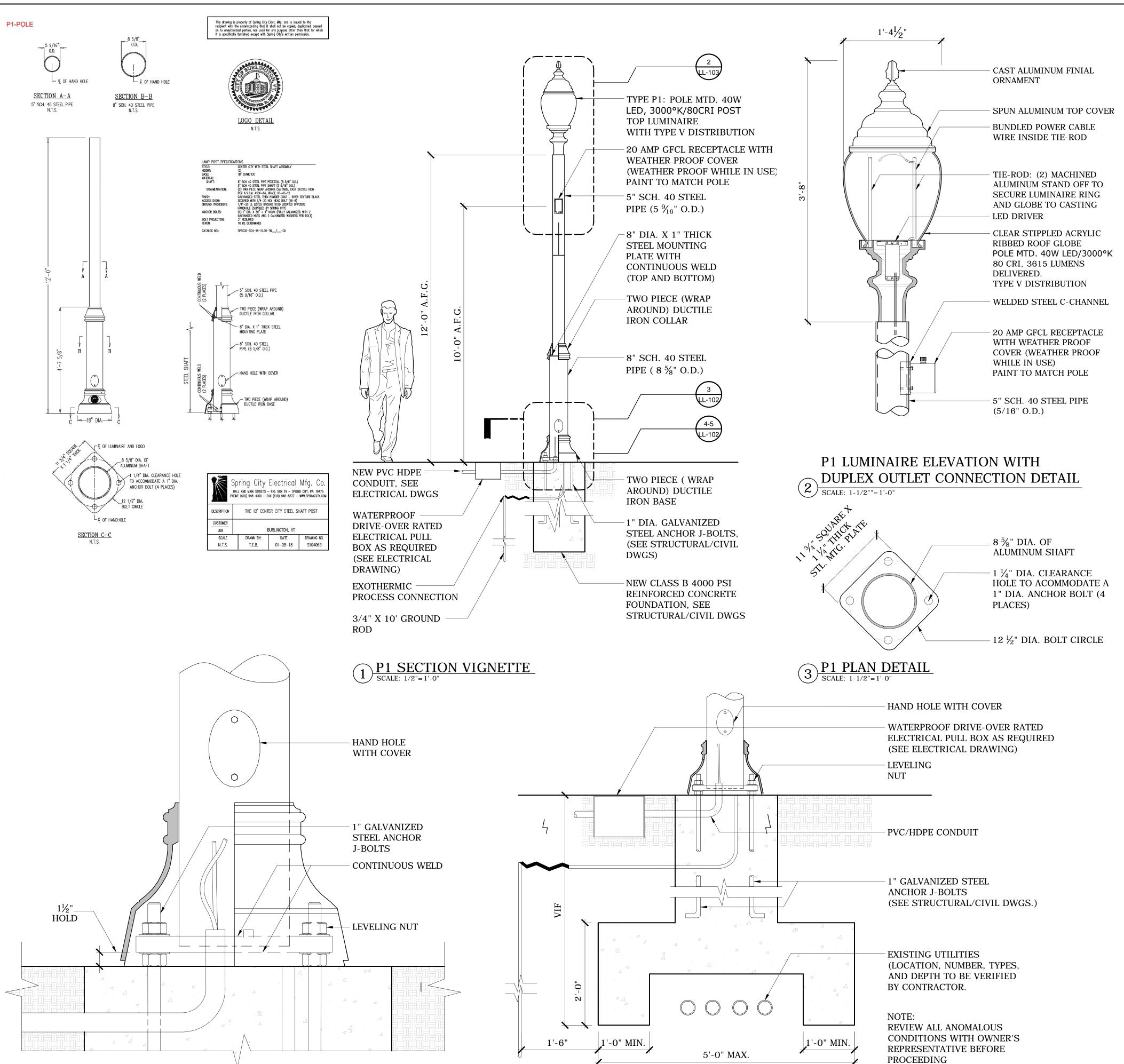
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# NOTE:

- 1. REFER TO SPECIFICATION SECTION EXTERIOR LIGHTING AND LIGHTING SCHEDULE SHEET LL100
- 2. REFER TO SPECIFICATION SECTION LIGHTING CONTROL AND LIGHTING CONTROL SHEET LL107 FOR LIGHTING CONTROL SYSTEM, SINGLE LINE DIAGRAM.
- 3. INSTALLING CONTRACTOR TO FIELD VERIFY ALL CONDUIT RUNS TO RESPECT ALL EXISTING ELEMENTS INCLUDING BUILDING SIGNS, CCTV, BOXES, ETC. REVIEW PROPOSED CONDUIT RUNS WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- 4. CONTRACTOR SHALL TOUCH UP ALL FINISHES AFTER FIXTURE/POLE INSTALLATION AS
- 5. WHERE PENETRATIONS IN EXISTING WALLS OCCUR IN VISIBLE LOCATIONS THE CONTRACTOR SHALL:
  - A. REVIEW ALL LOCATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING
  - B. LOCATE PENETRATION TO NOT DISTURB EXISTING FACADE ELEMENTS (CCTV, BOXES,
  - C. PERFORM ALL PENETRATIONS, CUTTING IN A NEAT WORK MAN LIKE MANNER D. PROPERLY SEAL AROUND PENETRATIONS.
  - E. WHERE EXISTING MASONARY (BRICK, STONE OR CONCRETE) WORK IS IMPACTED
- PERFORM ANY REQUIRED REPAIR WITH NEW MASONARY MATERIAL.
- 6. EACH VISIBLE EXTERIOR WALL PENETRATION CONDITION WILL VARY. CONTRACTOR TO INVESTIGATE EACH CONDITION (INTERIOR AND EXTERIOR) TO MINIMIZE ADDITIONAL LABOR/ MATERIAL COST. THE CONTRACTOR TO PROPOSE EACH PENETRATION LOCATION AND REVIEW WITH OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
- 7. ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY ELECTRICAL COMPONENTS AS REQUIRED



P1- POLE GROUND

CONNECTION DETAIL

BURLINGTON **PARKS** RECREATION WATERFRON'

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

CLIENTS

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

ANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave.

Burlington VT, 05401 802.864.0010

CIVIL ENGINEER DuBois-King, Inc. 6 Green Tree Drive South Burlington, VT 05403

802.878.7661 **URBAN DESIGNER** 

Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

STORMWATER CONSULTANT Urban Rain Design 3566 NE Morris Street

Portland, OR 97212 kevin@urbanraindesign.com 503.928.5522

LIGHTING CONSULTANT **Domingo Gonzalez Associates** 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains

1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

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PROJECT TITLE

BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

LIGHTING DETAIL SHEET 1 OF 5

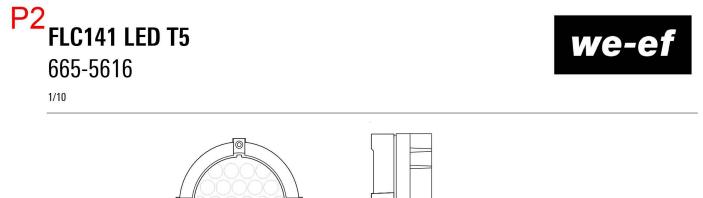
12/28/2018 SHEET NUMBER

P1 / P1 POLE

P1- TYPICAL ADD-ALTERNATE (STRADDLE TYPE)

BASE DETAIL AT EXISTING UTILITIES

(5) SCALE: 1''=1'-0''



Lamp Type

LED Lumens

Total Lumens

LED Lumens

**Total Lumens** 

Rated Input Power

LEDs

Nominal Luminous Flux (Im)

Rated Luminous Flux (Im)

FLC141 LED T5

2/10

**Material Specification** 

Weight (lbs):

Ingress protection:

Impact protection:

Mounting:

Listings:

Power supply:

Corrosion protection:

**Electrical Specification** 

**Ambient Temperature** 

Ta less than 25 deg. C

2196 cd/klm 15.8°/15.8°

---- CO/C180



22108 cd/klm — 4,6°/4,6°

50 30 10 10 30 50

---- CO/C180

MAX.

RECREATION WATERFRONT

BURLINGTON

**PARKS** 

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401

802.864.0010 CIVIL ENGINEER DuBois-King, Inc.

6 Green Tree Drive

South Burlington, VT 05403

802.878.7661 **URBAN DESIGNER** Suisman Urban Design

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FOUNTAIN CONSULTANT

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**BURLINGTON GREAT STREETS** CITY HALL PARK

PROJECT TITLE

SHEET TITLE

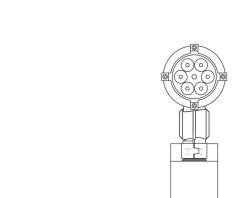
LIGHTING DETAIL SHEET 2 OF 5

12/28/2018

SHEET NUMBER LL103

DG/MD

P2A FLC121 LED T5 1/10



0	0

Description
IP66. Pole mounted LED floodlight. Integral control gear. Special effects
can be realized with linear lens, or flood lens.

Lamp Type         LED-6/12W / 700 mA - 3000 K           CRI         80           Gear Type         electronic gear           Nominal Luminous Flux (Im)           LED Lumens         246 lm           LEDs         6           Total Lumens         1476 lm           Tj         85 °C		[VIVO]
Gear Type electronic gear  Nominal Luminous Flux (Im)  LED Lumens 246 Im  LEDs 6  Total Lumens 1476 Im	Lamp Type	LED-6/12W / 700 mA - 3000 K
Nominal Luminous Flux (Im)  LED Lumens 246 Im  LEDs 6  Total Lumens 1476 Im	CRI	80
LED Lumens         246 lm           LEDs         6           Total Lumens         1476 lm	Gear Type	electronic gear
LEDs 6 Total Lumens 1476 Im	Nominal Luminous Flux (Im)	
Total Lumens 1476 lm	LED Lumens	246 lm
	LED	
	LEDS	6
	30000000 (III)	

Total Lumens	1476 lm
Tj	85 °C
Rated Luminous Flux (I	m)
LED Lumens	227.7 lm
Total Lumens	1366.3 lm
Та	25 °C
Rated Input Power	15 W

Weight (lbs): 3.70 Safety glass lens symmetric, very narrow beam, 'sharp cut-off' Silicone rubber gasket PCS polymer coated stainless steel Fasteners: Ingress protection: Impact protection: 5CE Corrosion protection Powdercoat finish in Black RAL9004, White RAL9016, Grey Metallic RAL9007 or Dark Bronze RAL8019 Finish: Mounting: Suitable for installation to a flat surface or pole.

Listings:	ETL listed. Suitable for Wet Locations.
Electrical Specification	
Power supply:	Integral [ECG] electronic 0-10 V dimmable driver in 120-277 universal v
Ballast:	Integral EC electronic converter in thermally-separated compartment

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**Ambient Temperature** Ta less than 25 deg. C

WE-EF LIGHTING USA LLC

Material Specification

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IP66. Pole mounted LED floodlight. Integral control gear. Special effects

can be realized with linear lens, or flood lens.

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Marine-grade, die-cast aluminium alloy

PCS polymer coated stainless steel

Suitable for installation to flat surface or pole.

ETL listed. Suitable for wet locations.

Powdercoat finish in Black RAL9004, White RAL9016, Grey Metallic RAL9007 or Dark Bronze RAL8019

Integral [ECG] electronic 0-10 V dimmable driver in 120-277 universal voltage

Integral EC electronic converter in thermally-separated compartment

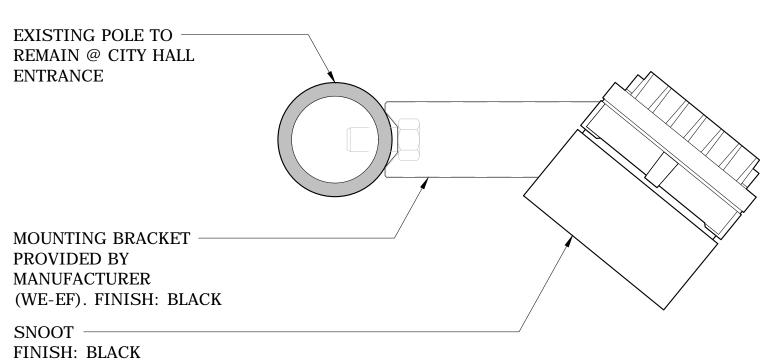
9.70

IP66

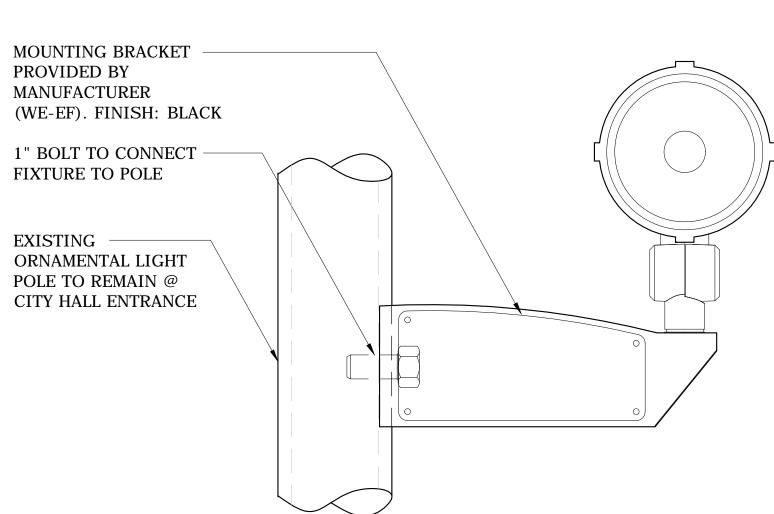
5CE

Safety glass lens

Silicone rubber gasket



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3 P2/P2A SECTION DETAIL
SCALE: 3"=1'-0"

- NEW LUMINAIRE (SAME AS TYPE P1)

symmetric, medium beam [M]

LED-24/48W / 700 mA - 3000 K

electronic gear

246 lm

5903 lm

213.7 lm

5128.8 lm

25 °C

85 °C

8'-0" A.F.G. TYPE P2: POLE BRACKET MOUNTED NOM. Ø7.56" 55W LED

**BUILDING WALL** FLOODLIGHT 3000K WITH 50° OPTICS AND TEMPERED GLASS SPREAD LENS WITH

SNOOT FINISH: BLACK 0'-0" A.F.G.

1 P2/P2A ELEVATION VIGNETTE
SCALE: 1/2"=1'-0"

W/ P1 LUMINAIRE MANUFACTURER TYPE P2A: POLE BRACKET MOUNTED NOM. Ø4.37" 15W LED SPOTLIGHT 3000K, 15° OPTICS WITH SNOOT 10'-0" A.F.G. FINISH: BLACK

> EXISTING ORNAMENTAL LIGHT POLE TO REMAIN CITY HALL

- INSTALLING CONTRACTOR TO COORDINATE EXISTING POLE TENON MOUNTING CONDITION

> EXISTING -ORNAMENTAL LIGHT POLE TO REMAIN @

P2A

+ (199.26)

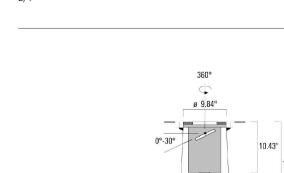
 $\underbrace{4 \underbrace{P2/P2A \ KEY \ PLAN}_{SCALE: \ 3/32"= \ 1'-0"}}$ 

P2 / P2A

# ETC130-GB LED

611-3046

1/4



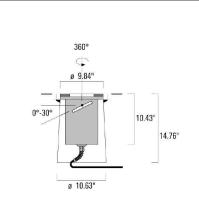
ETC130-GB LED

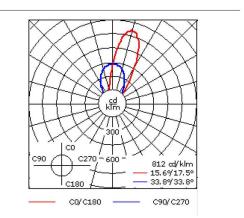
611-3046

Ambient Temperature Ta less than 25 deg. C

WE-EF LIGHTING USA LLC

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Material Specification	
Body:	Luminaire body constructed of deep drawn stainless steel. Outer housing composite material.
Weight (lbs):	18.20
Lens:	5/8" thick clear tempered glass lens. Max. load 5 tonnes.
Gasket:	Silicone rubber gasket
Fasteners:	PCS polymer coated stainless steel
Ingress protection:	IP67
Impact protection:	IK10+
Corrosion protection:	5CE
Finish:	Natural stainless steel
Mounting:	Suitable for installation in concrete or earth. Suitable for walk-over and drive-over applications. Proper drainage and foundation support must be provided.
Listings:	UL , c UL listed. Suitable for Wet locations
Electrical Specification	
Power supply:	Integral [ECG] LED driver in 120 or 277 volt. Specify voltage.
Power factor:	>0.9
Ballast:	Integral EC electronic converter
Termination:	Factory sealed termination chamber
Cable:	3 feet of flexible 18/3 cable

STAMPED CONCRETE TYPE P3: IN-GRADE NOM. 9.84"Ø 21W 3000K ADJUSTABLE LED UPLIGHT. - FIXTURE OUTER HOUSING (BY MANUFACTURER) PAVERS WITH CONCRETE AND SAND SUB-BASE. - RIVER STONE 4"X4" WATERPROOF J-BOX - CONNECT TO WATERPROOF J-BOX SEE STRUCTURAL DWG. FOR FOUNDATION INFORMATION

P3A P3A

P3A P3A

Ø 9.84"

IP67. Inground LED uplight. Suitable for flush installation in concrete or earth. Offset gimbal mounted lamp module, with lockable aiming, 30° vertical tilt, and 360° horizontal rotation. Special effects can be realized with linear lens, flood lens, or color filters.

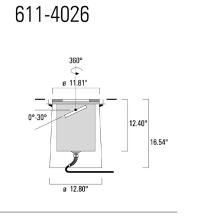
Beam Type	wallwash
Lamp Type	LED-12/18W / 500 mA - 3000 K
CRI	80
Gear Type	electronic gear
Nominal Luminous F	·lux (lm)
LED Lumens	184.8 lm
LEDs	12
Total Lumens	2217 lm
Tj	85 °C
Rated Luminous Flux	k (lm)
LED Lumens	129.1 lm
Total Lumens	1549.1 lm
Ta	25 °C

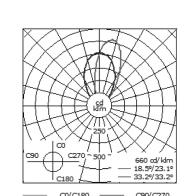
Rated Input Power 21 W

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# NOTE: P3 NIGHT - TIME AIMING REQUIRED

# P3A ETC140-GB LED







Description	
IP67. Inground L	ED uplight. Suitable for flush installation in
concrete or eart	h. Offset gimbal mounted lamp module, with
lockable aiming,	, 30° vertical tilt, and 360° horizontal rotation.
Special effects of	can be realized with linear lens, flood lens, or
color filters.	
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Deam Type	wanwasn
Light Source	LED-24/24W / 350 mA - 3000 K
CRI	80
Gear Type	electronic gear
Nominal Luminous Flux (Im)	
LED Lumens	134.5 lm
LEDs	24
Total Lumens	3228 lm
Tj	85 °C
Rated Luminous Flux (Im)	
LED Lumens	91.2 lm
Total Lumens	2188.1 lm

25 °C

	Rated Input Power 27 W
<b>Material Specification</b>	on .
Body:	Luminaire body constructed of deep drawn stainless steel. Outer housing composite material.
Weight (lbs):	29.90
Lens:	5/8" thick clear tempered glass lens. Max. load 5 tonnes.
Colours:	Stainless Steel
1 Quick Ship	
Gasket:	Silicone rubber gasket
Fasteners:	PCS polymer coated stainless steel
Ingress protection:	IP67
Impact protection:	IK10+
Corrosion protection:	5CE
Mounting:	Suitable for installation in concrete or earth. Suitable for walk-over and drive-over applications. Proper drainage and foundation support must be provided.
Listings:	ETL listed. Suitable for wet locations.







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**1** 8′ O.C. **1** 

P3 VIGNETTE

SCALE: 1/8"=1'-0"

Р3

P3

Р3

P3A P3A

P3A P3A

P3A P3A

P3A P3A

NOTE: P3A NIGHT - TIME AIMING REQUIRED

P3A

P3A P3A

BURLINGTON **PARKS RECREATION** WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape Architecture 7 Marble Ave. Burlington VT, 05401 802.864.0010

CIVIL ENGINEER
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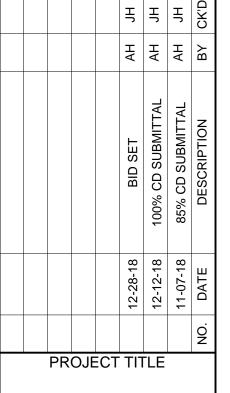
LIGHTING CONSULTANT Domingo Gonzalez Associates 29 Broadway, 3rd Floor New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains

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BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

LIGHTING DETAIL SHEET 3 OF 5

DG/MD 12/28/2018 SHEET NUMBER

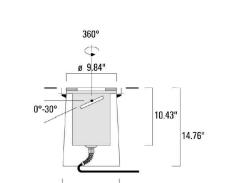
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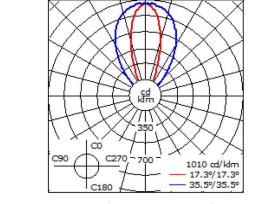
Ø 0.39

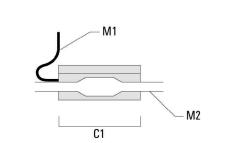
Ø 0.47 - 0.75

**697-8072** Sealable junction box SJB 130 5.75









IP67. Inground LED uplight. Suitable for flush installation in concrete or earth. Offset gimbal mounted lamp module, with lockable aiming, 30° vertical tilt, and 360° horizontal rotation. Special effects can be realized with linear lens, flood lens, or color filters.

Beam Type	linear spread, medium beam [M]
Light Source	LED-12/18W / 500 mA - 3000 K
CRI	80
Gear Type	electronic gear

	Secretary and the second secretary and the second s
CRI	80
Gear Type	electronic gear
Nominal Luminous Flux	

LED Lumens	184.8 lm	
LEDs	12	
Total Lumens	2217 lm	
 Tj	85 °C	

LED Lumens	151.6 lm
Total Lumens	1819.8 lm
Та	25 °C
Rated Input Power	21 W

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Light Source	LED-12/18W / 500 mA - 3000 K
CRI	80
Gear Type	electronic gear

Lens.	5/6 thick clear tempered glass lens. Max. Idad 5 tonnes.
Colours:	Stainless Steel
1 Quick Ship	Quickship features a one week ship time for Steplights and two the rest of our Core products. All applicable information must be orders to be processed and colours must be in one of our 4 stand maximum order quantity of 30 pieces applies.
Gasket:	Silicone rubber gasket
Fasteners:	PCS polymer coated stainless steel
Ingress protection:	IP67
Impact protection:	IK10+

Electrical	Specification	

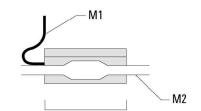
Corrosion protection:

Listings:

Weight (lbs):

	Power supply:	Integral [ECG] LED driver in 120 or 277 volt. Specify voltage.
	Power factor:	> 0.9
	Driver / Ballast:	Integral EC electronic converter
	Termination:	Factory sealed termination chamber
	Cable:	3 feet of flexible 18/3 cable

Ø 0.39 Ø 0.47 - 0.75 **697-8073** Sealable junction box SJB 140



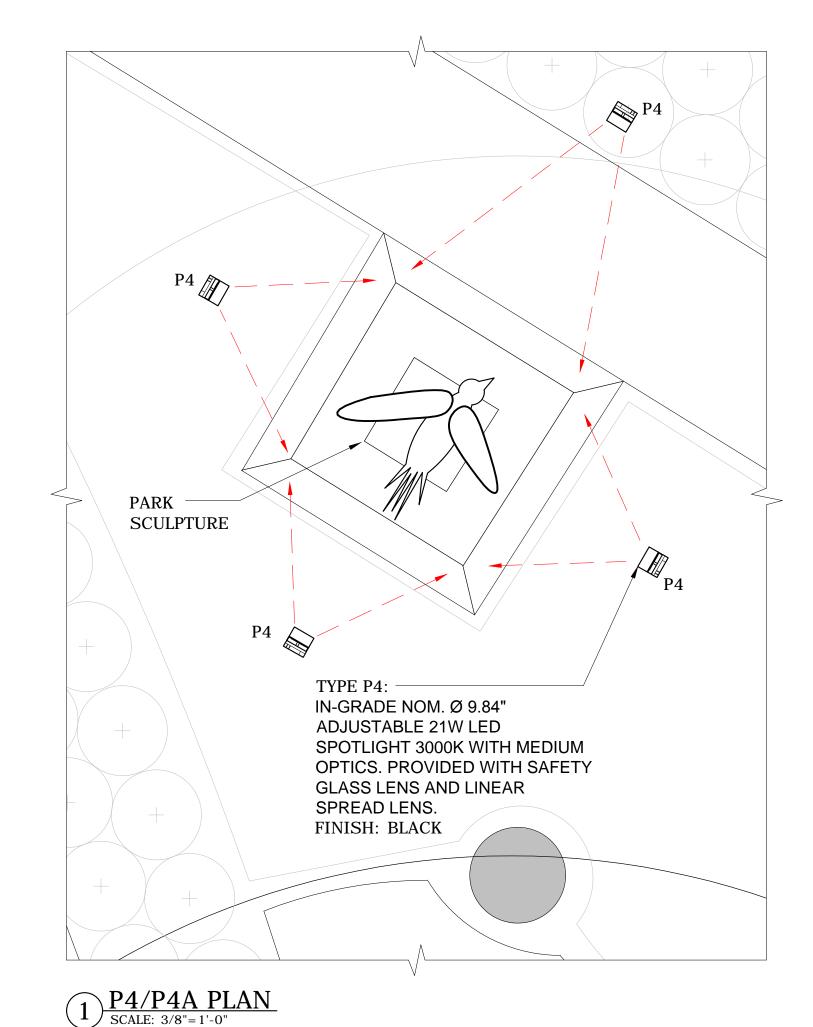
# NOTE: P4 NIGHT - TIME AIMING REQUIRED

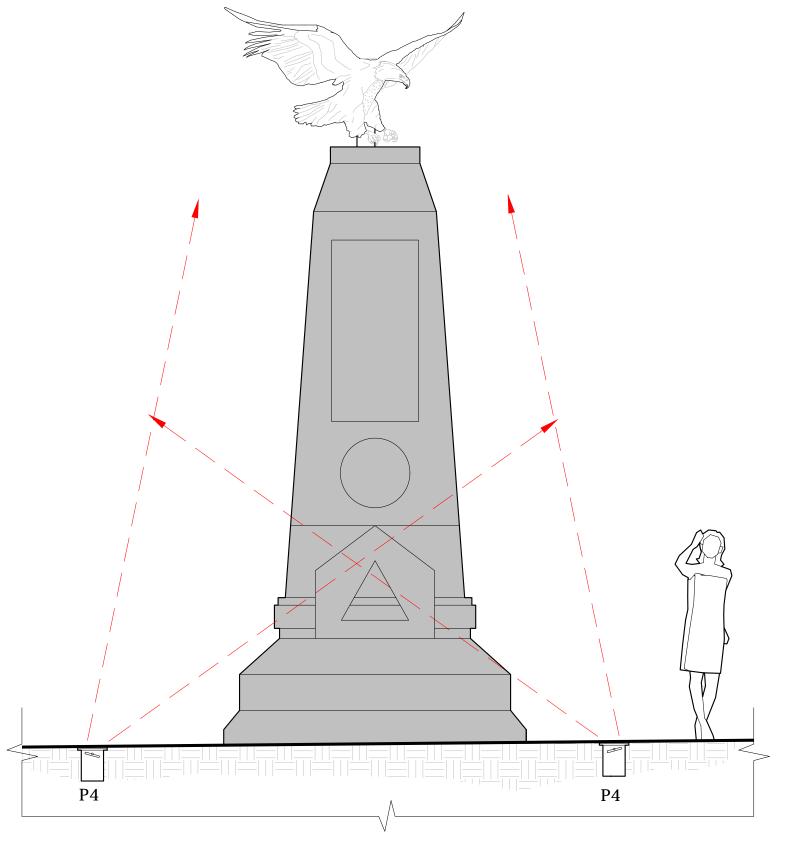
WE-EF LIGHTING USA LLC

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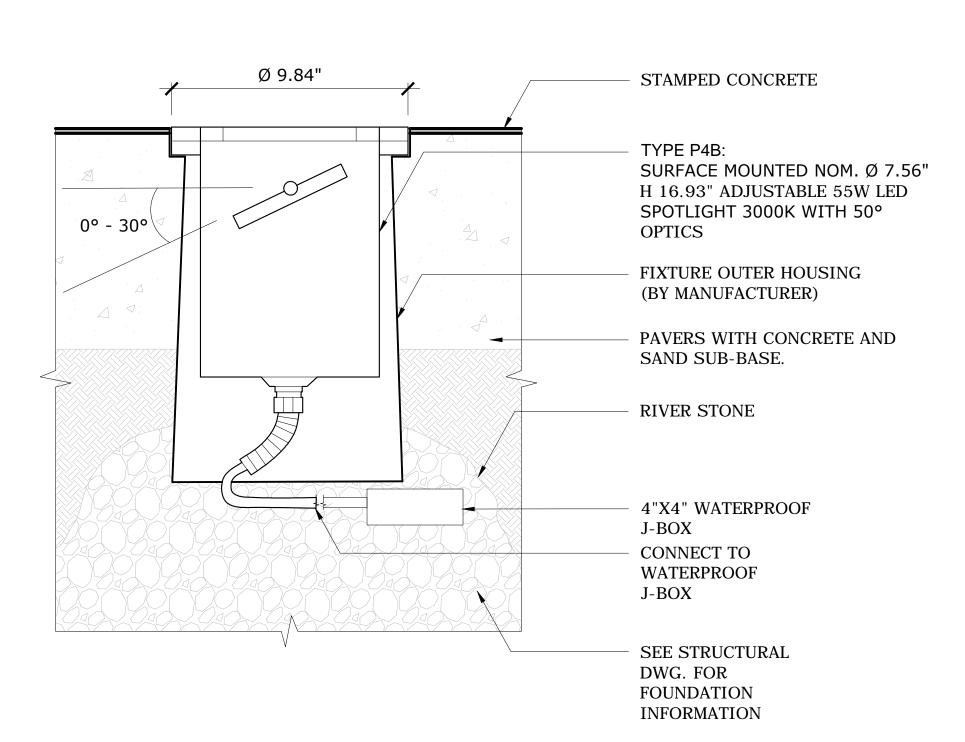
410-D Keystone Drive | Warrendale PA 15086 | U.S.A. | Tel +1 724 742 0030 | Fax +1 724 742 0035 | info.usa@we-ef.com | www.we-ef.com | 20-12-2018 20:21

410-D Keystone Drive | Warrendale PA 15086 | U.S.A. | Tel +1 724 742 0030 | Fax +1 724 742 0035 | info.usa@we-ef.com | www.we-ef.com | 20-12-2018 20:21









3 P4 MOUNTING DETAIL
SCALE: 3"=1'-0"

BURLINGTON **PARKS** RECREATION WATERFRONT

CLIENTS

Community & Economic

Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT Wagner Hodgson Landscape

> Architecture 7 Marble Ave.

Burlington VT, 05401 802.864.0010

CIVIL ENGINEER DuBois-King, Inc.

6 Green Tree Drive

South Burlington, VT 05403

802.878.7661

**URBAN DESIGNER** Suisman Urban Design 201 Mabery Road Santa Monica, CA 90402 info@suisman.com 310.230.9997

STORMWATER CONSULTANT

Urban Rain Design 3566 NE Morris Street

Portland, OR 97212

kevin@urbanraindesign.com

503.928.5522

**LIGHTING CONSULTANT** Domingo Gonzalez Associates 29 Broadway, 3rd Floor

New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT Delta Fountains

I 1494 Columbia Park Dr. W., #4

Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

PROJECT TITLE

BURLINGTON **GREAT STREETS** CITY HALL PARK

SHEET TITLE

LIGHTING DETAIL

SHEET 4 OF 5

SHEET NUMBER

12/28/2018

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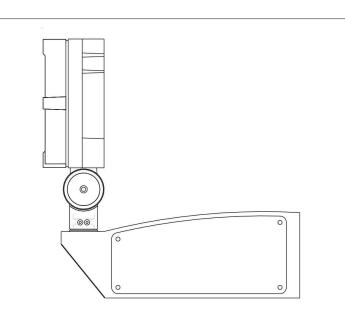
**Material Specification** Luminaire body constructed of deep drawn stainless steel. Outer housing composite 18.20 5/8" thick clear tempered glass lens. Max. load 5 tonnes week ship time for be included for andard finishes. A 5CE Suitable for installation in concrete or earth. Suitable for walk-over and drive-over applications. Proper drainage and foundation support must be provided. ETL listed. Suitable for wet locations.

# FLC141 LED T5

665-5616

1/10





Description

IP66. Pole mounted LED floodlight. Integral control gear. Special effects can be realized with linear lens, or flood lens.

Beam Type	symmetric, medium beam [M]
Lamp Type	LED-24/48W / 700 mA - 3000 K
CRI	80
Gear Type	electronic gear

Nominal Luminous Flux (I LED Lumens	246 lm
LEDs	24
Total Lumens	5903 lm
Tj	85 °C

 Rated Luminous Flux (Im)

 LED Lumens
 213.7 lm

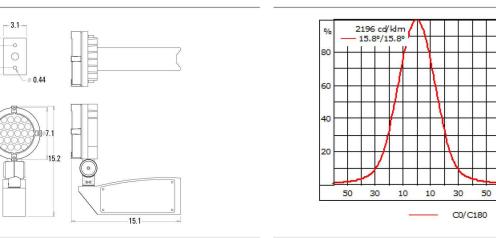
 Total Lumens
 5128.8 lm

 Ta
 25 °C

Rated Input Power 55 W

# **FLC141 LED T5** 665-5616

2/10



Material Specification	
Body:	Marine-grade, die-cast aluminium alloy
Weight (lbs):	9.70
Lens:	Safety glass lens
Gasket:	Silicone rubber gasket
Fasteners:	PCS polymer coated stainless steel
Ingress protection:	IP66
Impact protection:	IK07
Corrosion protection:	5CE
Finish:	Powdercoat finish in Black RAL9004, White RAL9016, Grey Metallic RAL9007 or Dark Bronze RAL8019
Mounting:	Suitable for installation to flat surface or pole.
Listings:	ETL listed. Suitable for wet locations.
Electrical Specification	
Power supply:	Integral [ECG] electronic 0-10 V dimmable driver in 120-277 universal voltage

Integral EC electronic converter in thermally-separated compartment

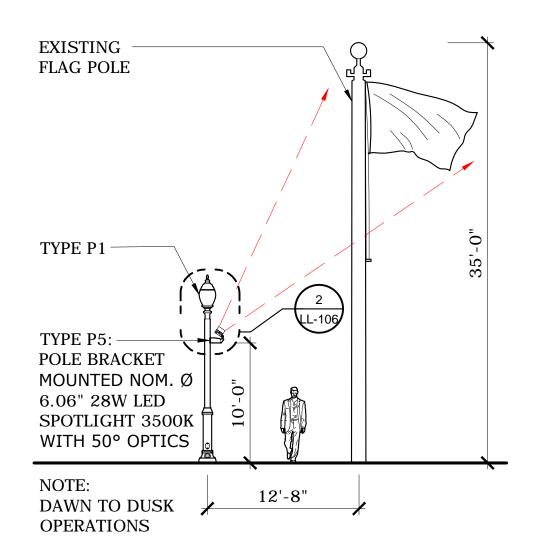
**Ambient Temperature** Ta less than 25 deg. C

Ballast:

WE-EF LIGHTING USA LLC
410-D Keystone Drive | Warrendale PA 15086 | U.S.A. | Tel +1 724 742 0030 | Fax +1 724 742 0035 | info.usa@we-ef.com | www.we-ef.com | 17-08-2018 18:41

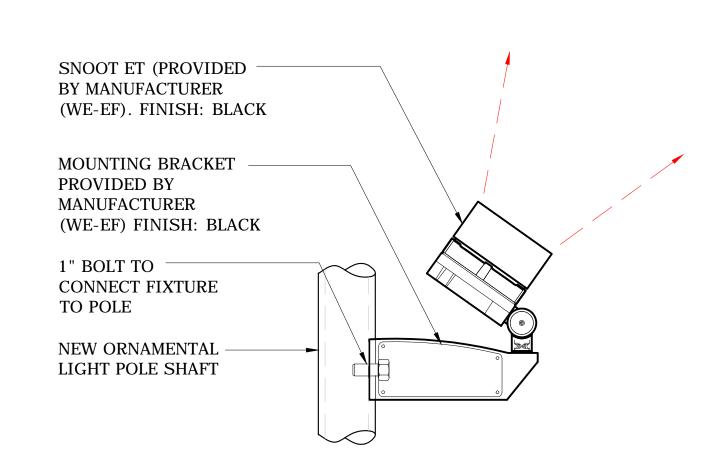
NOTE: P5 NIGHT - TIME AIMING REQUIRED

WE-EF LIGHTING USA LLC
410-D Keystone Drive | Warrendale PA 15086 | U.S.A. | Tel +1 724 742 0030 | Fax +1 724 742 0035 | info.usa@we-ef.com | www.we-ef.com | 17-08-2018 18:41



P5 ELEVATION VIGNETTE

SCALE: 1/8"=1'-0"



2 P5 CONNECTION DETAIL
SCALE: 1-1/2"=1'-0"

BURLINGTON
PARKS
RECREATION
WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

**DESIGN TEAM** 

LANDSCAPE ARCHITECT
Wagner Hodgson Landscape
Architecture
7 Marble Ave.
Burlington VT, 05401
802.864.0010

CIVIL ENGINEER
DuBois-King, Inc.

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802.878.7661

URBAN DESIGNER
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kevin@urbanraindesign.com 503.928.5522 <u>LIGHTING CONSULTANT</u> Domingo Gonzalez Associates 29 Broadway, 3rd Floor

New York, NY 10006 212.608.4800

FOUNTAIN CONSULTANT
Delta Fountains
11494 Columbia Park Dr. W., #4

Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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					BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION
					12-28-18	12-12-18	11-07-18	DATE
								NO.
PROJECT TITLE								

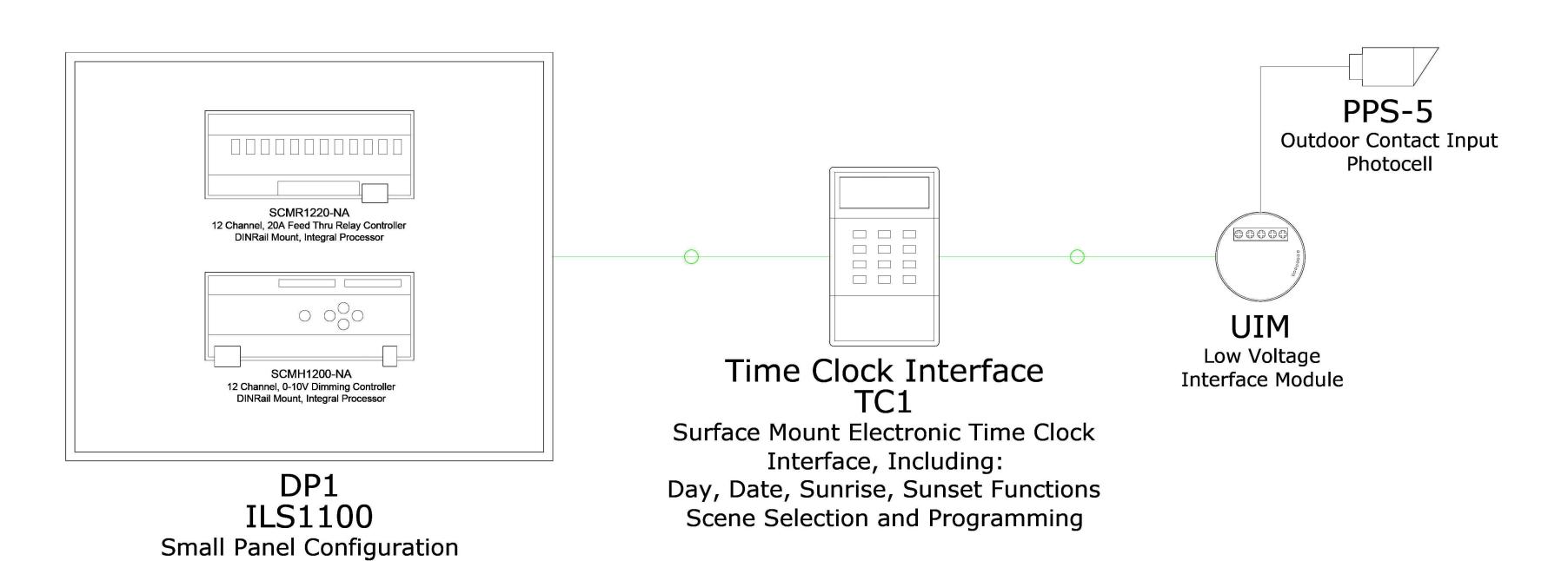
BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

LIGHTING DETAIL SHEET 5 OF 5

DG/MD	12/28/201				
HECKED BY	PROJECT #				
DG	648				
SHEET NUMBER					

LL106



SINGLE LINE DIAGRAM
SCALE: N.T.S.

14.56" x 12.22" x 3.56"

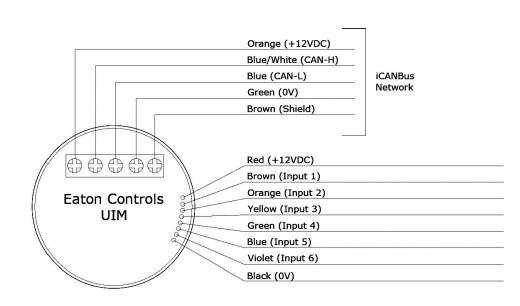
Accommodates (2) DINRail Mnt. Modules:

[1] SCMR1220-NA:

(12) Relays

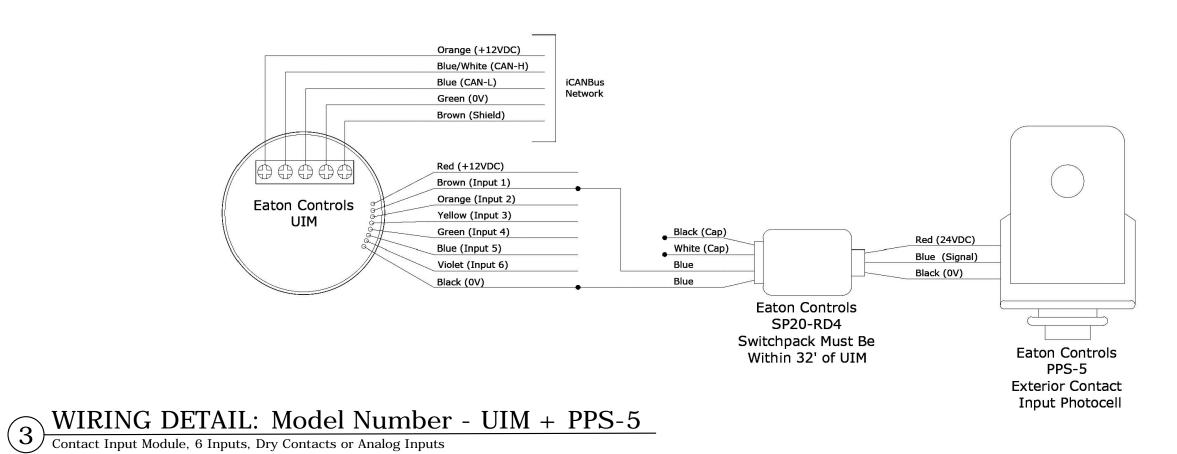
[1] SCMH1200-NA:

(12) 0-10V Dimmable Outputs



WIRING DETAIL: Model Number - UIM
Contact Input Module, 6 Inputs, Dry Contacts or Analog Inputs

Exterior Photocell Integration



NOTE:

- 1. REFER TO ELECTRICAL DRAWINGS FOR GENERAL LOCATIONS OF CONTROL PANELS, TIME-CLOCK AND PHOTOCELLS
- 2. INSTALLING CONTRACTOR TO COORDINATE MOUNTING AND LOCATION WITH CONTROL MANUFACTURER AND OWNER'S REPRESENTATIVE

BURLINGTON PARKS RECREATION WATERFRONT

CLIENTS

Community & Economic Development Office (CEDO) 149 Church St, Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

DESIGN TEAM

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Architecture
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Burlington VT, 05401 802.864.0010

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South Burlington, VT 05403 802.878.7661

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Suisman Urban Design
201 Mabery Road

Santa Monica, CA 90402 info@suisman.com 310.230.9997 STORMWATER CONSULTANT

Urban Rain Design 3566 NE Morris Street Portland, OR 97212 kevin@urbanraindesign.com

503.928.5522

LIGHTING CONSULTANT

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29 Broadway, 3rd Floor
New York, NY 10006

212.608.4800

FOUNTAIN CONSULTANT
Delta Fountains

1494 Columbia Park Dr. W., #4 Jacksonville, FL 32258 904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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				BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION		
				12-28-18	12-12-18	11-07-18	DATE		
							NO.		
PROJECT TITLE									

BURLINGTON GREAT STREETS

CITY HALL PARK

SHEET TITLE

LIGHTING CONTROL

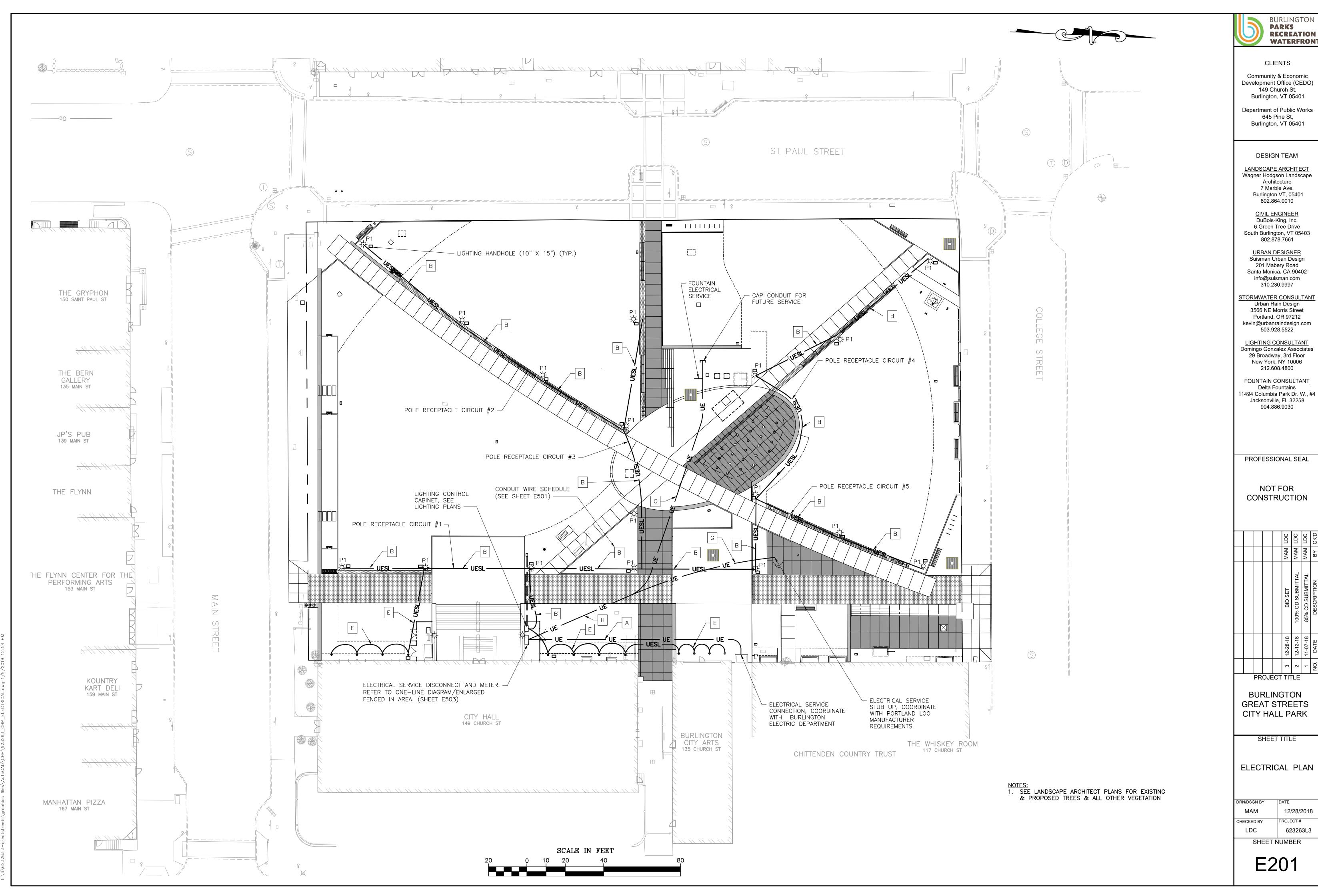
 DRN/DSGN BY
 DATE

 DG/MD
 12/28/2018

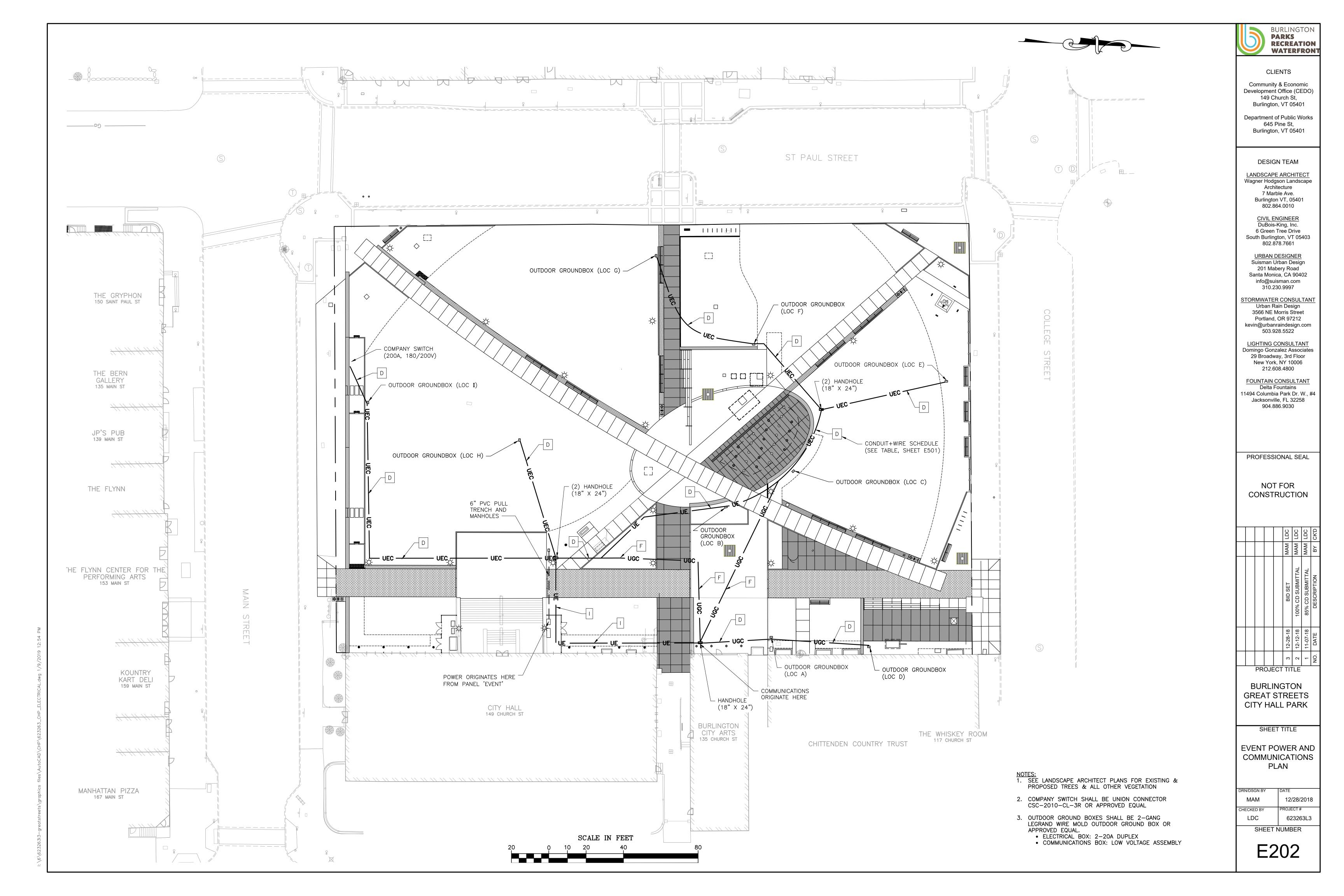
 CHECKED BY
 PROJECT #

 DG
 648

LL107



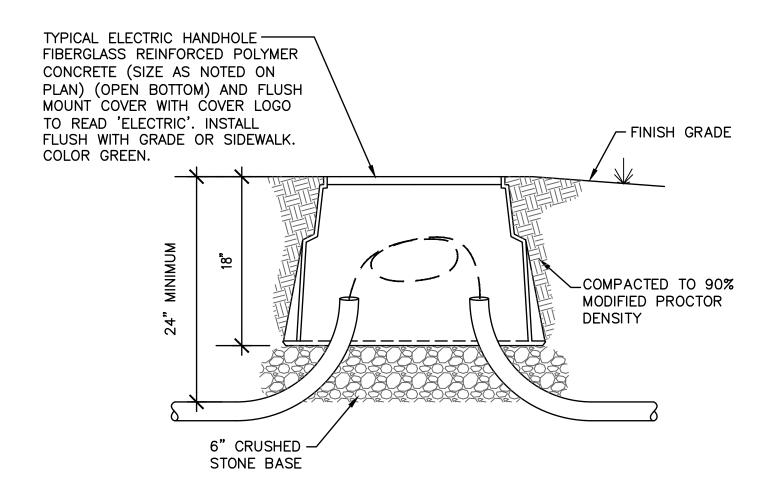
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					BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION
					12-28-18	12-12-18	11-07-18	DATE
					3	2	1	NO.
PROJECT TITLE								



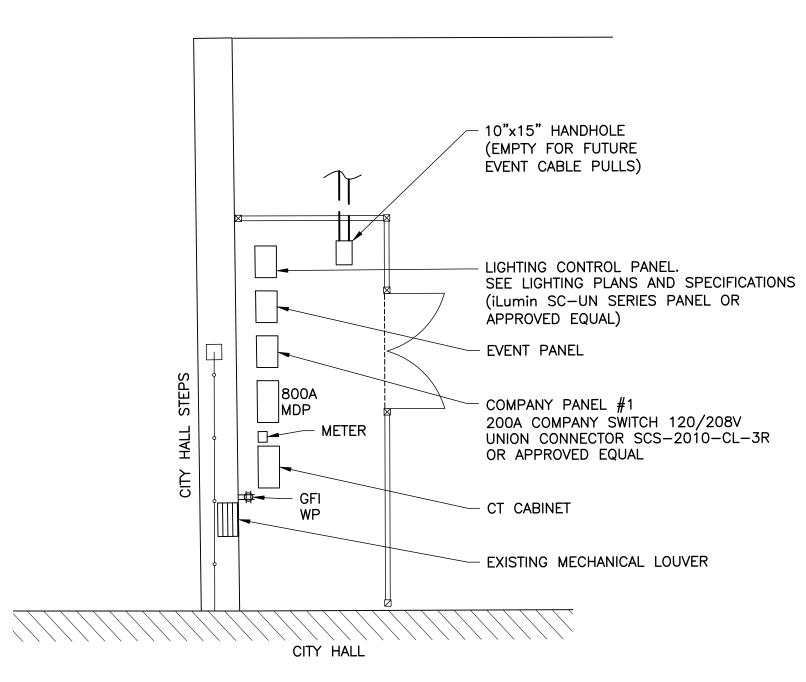
TYPICAL SECTION @ HANDHOLD

HANDHOLD IN SIDEWALK

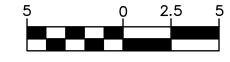
NOT TO SCALE

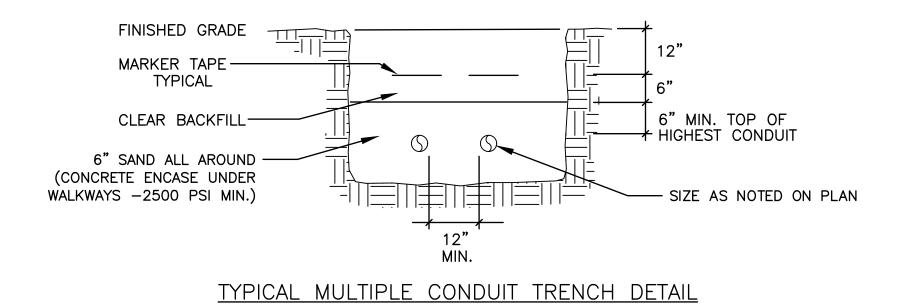


TYPICAL SECTION @ HANDHOLD
HANDHOLD IN GRASS AREA
NOT TO SCALE

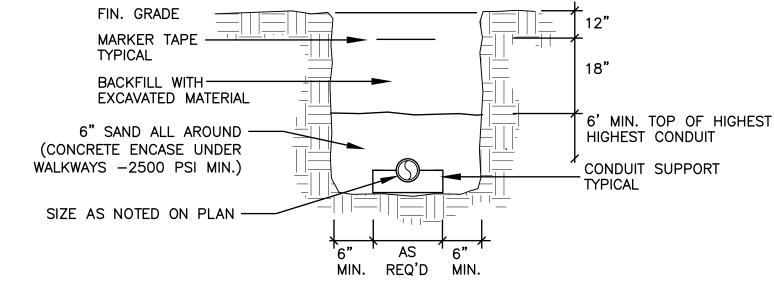


FENCE ENCLOSURE (20x8) PLAN
1"=5"





NOT TO SCALE



TYPICAL SINGLE CONDUIT TRENCH DETAIL NOT TO SCALE

ELECTRICAL SERVICE, TELEPHONE CONDUIT & WIRE								
SCHEDULE								
KEY	DESCRIPTION							
А	PRIMARY ELECTRICAL SERVICE - (2) 4" CONDUITS WITH (2) 600 MCM-XHHW-CU PER PHASE AND NEUTRAL							
В	(1) 1" PVC WITH (3)#10 COPPER, SITE LIGHTING CIRCUITS. (1) 1" PVC WITH (3)#10 COPPER FOR POLE RECEPTACLE CIRCUITS. SEE LIGHTING PLAN FOR # OF CIRCUITS.							
С	(1) 2" PVC WITH (1)3/0 XHHW-CU PER PHASE AND NEUTRAL FOR FOUNTAIN. (1) 2" PVC FOR FUTURE KIOSK BUILDING.							
D	(1) 1 1/2" PVC WITH (3)#8 PER CIRCUIT FOR EVENT POWER, (1) 2" FOR EVENT COMMUNICATIONS.							
Е	(1) 1" PVC WITH (3)#10 COPPER, SITE LIGHTING CIRCUIT.							
F	(1) 2" PVC FOR EVENT COMMUNICATIONS							
G	(1) 2" PVC FOR PORTLAND LOO							
Н	(1) 2" PVC WITH (1)3/0 XHHW-CU PER PHASE FOR FOUNTAIN. (1) 2" PVC FOR FUTURE KIOSK BUILDING. (1) 2" PVC FOR PORTLAND LOO.							
	(1) 1 1/2" PVC WITH (3)#8 PER CIRCUIT FOR EVENT POWER							

# City Hall Park Audio Visual Circuit Schedule

City Hall Fall And Addition Co.				Z.Williamson, BCA	
Box, Location	Source	Qnty Cable	Jack at Box	Jack at Source	Circuit Name
A, BCA Plaza Wall	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	A1, A2
A, BCA Plaza Wall	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit A
B, Center Wall East	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	B1, B2
B, Center Wall East	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFC!	Event Breaker Box, 20A	Circuit B
C, Center Wall North C, Center Wall North	BCA Lower Level Utility Area, City Hall Steps	2 Cat6 STP 1 120v	RJ45 Shielded, 1-Gang Duplex NEMA 5-20, 1-Gang Duplex GFCI	RJ45 Shielded Patch Bay Event Breaker Box, 20A	C1, C2 Circuit C
D, Patio Wall North East	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	D1, D2
D, Patio Wall North East	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit D
E, North Garden, Pedestal	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	E1, E2
E, North Garden, Pedestal	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit E
F, Center Patio Wall, West	BCA Lower Level Utility Area, City Hall Steps	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	F1, F2
F, Center Patio Wall, West		1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit F
G, West Walk Way Pedestal	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	G1, G2
G, West Walk Way Pedestal	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit G
H, South Lawn, In ground?	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	H1, H2
H, South Lawn, In ground?	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit H
I, South Wall	BCA Lower Level	2 Cat6 STP	RJ45 Shielded, 1-Gang Duplex	RJ45 Shielded Patch Bay	I1, I2
I, South Wall	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit I
J, North Steps Utility Area	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit J
K, North Steps Utility Area	Utility Area, City Hall Steps	1 120v	NEMA 5-20, 1-Gang Duplex GFCI	Event Breaker Box, 20A	Circuit K

# Notes:

All Cat 6 STP data lines are to be 'home runs' from the jacks to the lower level of the BCA Center, where they get terminated in a patch bay, to be used as needed.

All power jacks are discrete 20amp circuits, terminating in an event breaker box on the north side of the City Hall Steps

Separate from these circuits, we have specked a 200A Company Switch with Cam Lock Connectors to be placed on the North Steps Utility Area

See attached speck sheets and images

BURLINGTON
PARKS
RECREATION
WATERFRONT

CLIENTS

Community & Economic
Development Office (CEDO)
149 Church St,
Burlington, VT 05401

Department of Public Works 645 Pine St, Burlington, VT 05401

DESIGN TEAM

LANDSCAPE ARCHITECT
Wagner Hodgson Landscape
Architecture
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CIVIL ENGINEER
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FOUNTAIN CONSULTANT
Delta Fountains
11494 Columbia Park Dr. W., #4
Jacksonville, FL 32258
904.886.9030

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

				MAM LDC	MAM LDC	TDC	BY CK'D	
				MAM	MAM	MAM LDC	ВУ	
				BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION	
				12-28-18	12-12-18	11-07-18	DATE	
				3	2	1	NO.	
PROJECT TITLE								

BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

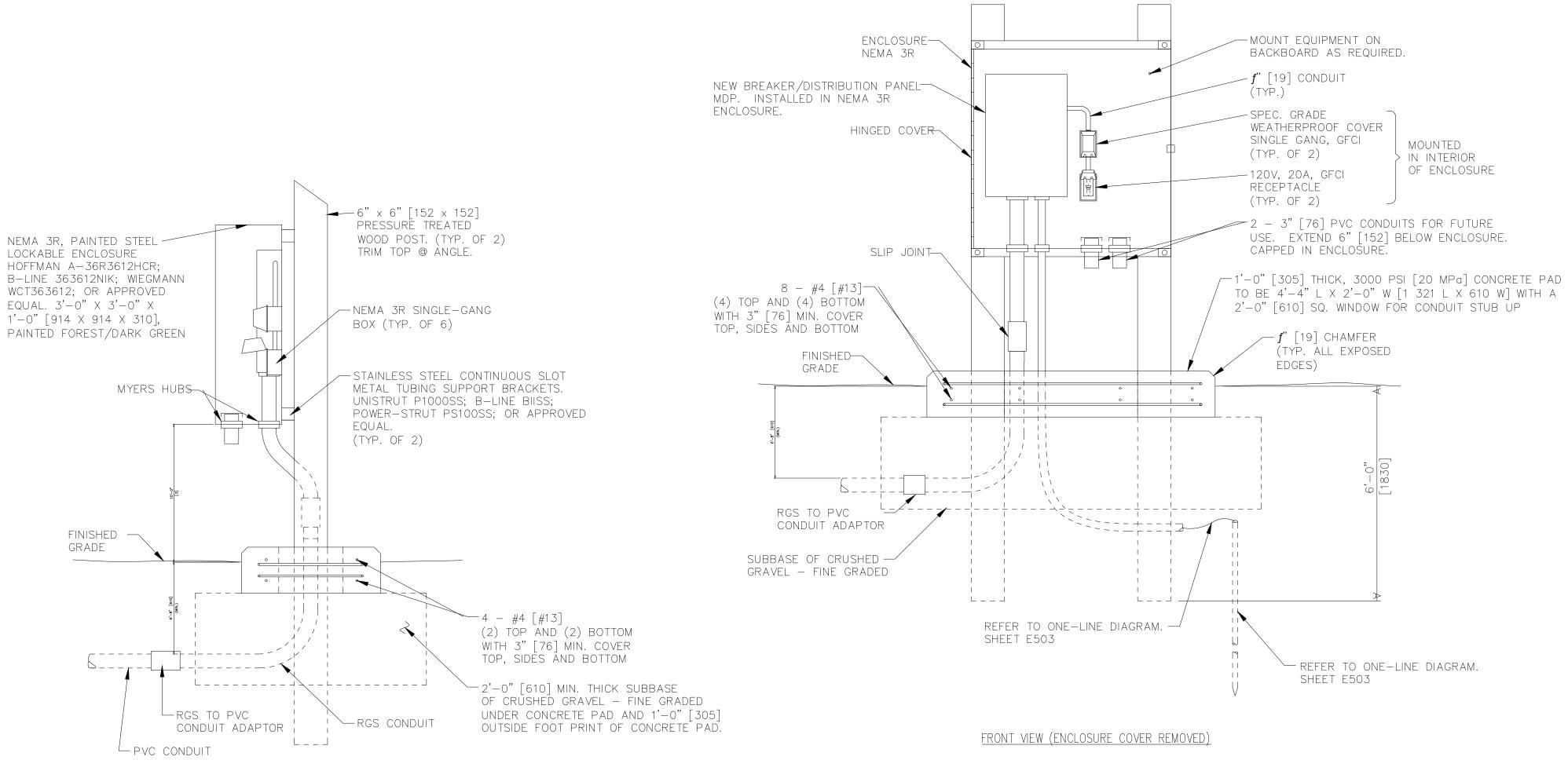
ELECTRICAL & COMMUNICATIONS DETAILS

BEG 12/28/2018

CHECKED BY PROJECT #

LDC 623263L3

E501



TYPICAL DISTRIBUTION PANEL MOUNTING DETAILS

NOT TO SCALE

# DISTRIBUTION PANEL NOTES:

- 1. PROVIDE ENCLOSURE NEMA 3R (HEAVY DUTY) WITH HINGED COVER AND PROVISIONS FOR PAD LOCKING WITH HASP CLOSURES. ENCLOSURE TO BE PAINTED FOREST/DARK GREEN.
- 2. CONDUIT TO BE MIN. 2'-0" [610] BELOW GRADE.
- 3. CONDUIT SHALL STUB UP THROUGH WINDOW IN CENTER OF CONCRETE PAD.
- 4. ALL CONDUIT CONNECTIONS AT ENCLOSURE SHALL BE MADE USING MYERS HUBS.
- 5. EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL (RGS).
- 6. ELECTRICAL EQUIPMENT AND INSTALLATION INSIDE ENCLOSURE SHALL BE WEATHERPROOF (NEMA 3R).
- 7. MAIN DISTRIBUTION PANEL SHALL CONSIST OF LOADCENTER RATED 800A, 120/208V, 3POLE, 4-WIRE FIX-PANEL MDP. PANEL SCHEDULE: 42 CIRCUITS WITH BREAKERS AS INDICATED ON PANEL SCHEDULE. PROVIDE 2 EACH 20A GROUND FAULT DUPLEX RECEPTACLE INTERNAL TO THE CABINET. ENCLOSURE SHALL BE HEAVY DUTY LOCKABLE AS INDICATED ON THE DRAWINGS OR APPROVED EQUAL.
- 8. GROUNDING SHALL INCLUDE 2 EACH GROUND RODS AND #6 GROUNDING ELECTRODE CONDUCTOR IN "[13 MM] PVC SCHEDULE 40 CONDUIT, EXOTHERMICALLY CONNECTED TO THE GROUND ROD, ALL PER ART. 250 OF THE NEC. REFER TO DETAILS ON E503.
- 9. DISTRIBUTION PANEL TO BE INSTALLED ADJACENT TO AND FACING OUT. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
- 10. CONCRETE PAD SHALL BE INCLUDED IN THE DISTRIBUTION PANEL PAY ITEM. SUBBASE SHALL BE PAID UNDER THE APPROPRIATE PAY ITEM.

BURLINGTON PARKS RECREATION WATERFRONT

CLIENTS

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DESIGN TEAM

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PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

				LDC	LDC	LDC	CK'D	
				MAM LDC	MAM LDC	MAM LDC	ВУ	
				BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION	
				12-28-18	12-12-18	11-07-18	DATE	
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BURLINGTON

GREAT STREETS CITY HALL PARK

SHEET TITLE

ELECTRICAL & COMMUNICATIONS DETAILS

DRN/DSGN BY	DATE
BEG	12/28/2018
CHECKED BY	PROJECT#
LDC	623263L3

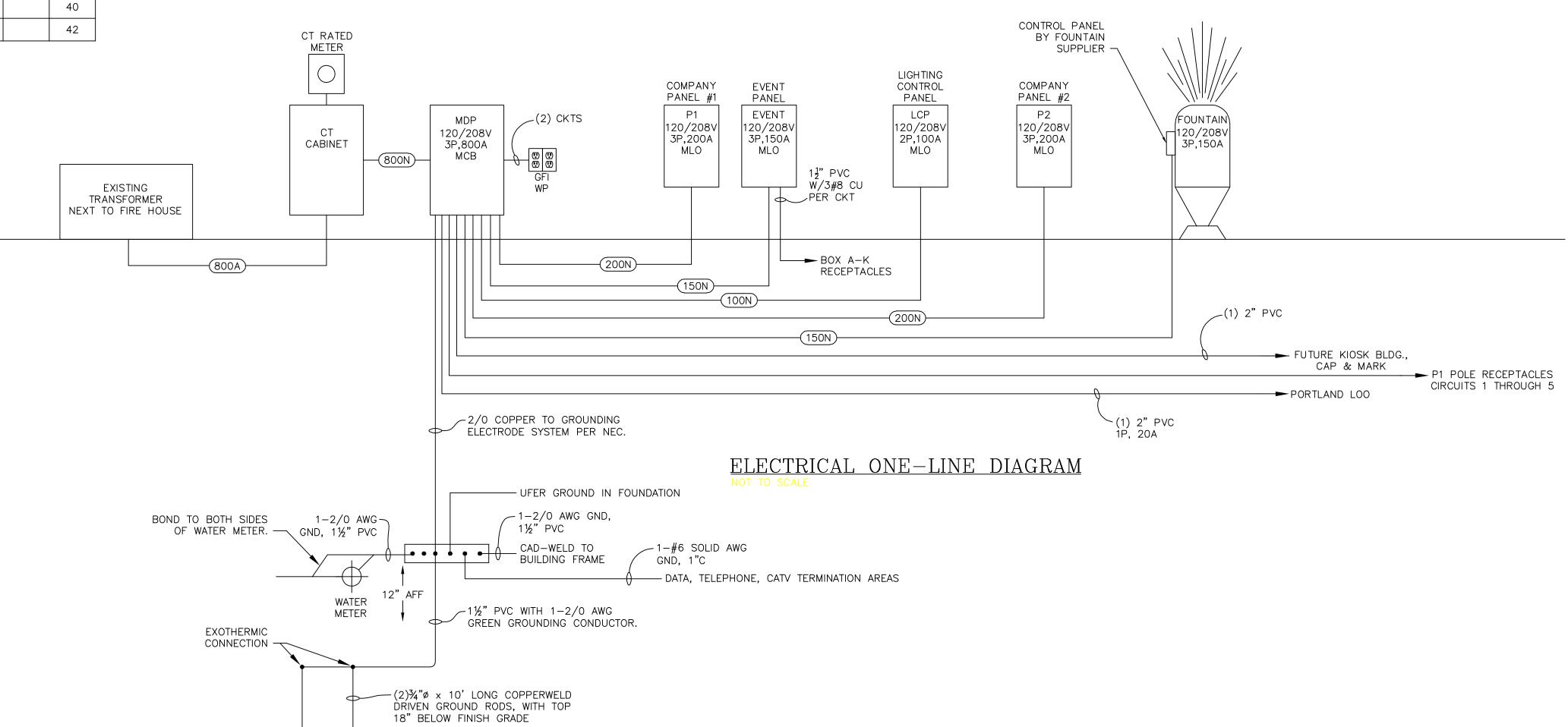
F502

	kW LOAD	DESCRIPTION	BRE	AKER	BREAKER		DESCRIPTION	kW LOAD	CKT NO.
	LOAD		Р	AMP	AMP	Р		LOAD	NO.
1		PANEL P1	3	200	200	3	PANEL P2		2
3									4
5									6
7		EVENT BOX 'A' RECEPTACLE	1	20	20	1	EVENT BOX 'I' RECEPTACLE		8
9		EVENT BOX 'B' RECEPTACLE	1	20	20	1	EVENT BOX 'J' RECEPTACLE		10
11		EVENT BOX 'C' RECEPTACLE	1	20	20	1	EVENT BOX 'K' RECEPTACLE		12
13		EVENT BOX 'D' RECEPTACLE	1	20	150	3	FOUNTAIN		14
15		EVENT BOX 'E' RECEPTACLE	1	20					16
17		EVENT BOX 'F' RECEPTACLE	1	20					18
19		EVENT BOX 'G' RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		20
21		EVENT BOX 'H' RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		22
23		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		24
25		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		26
27		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		28
29		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		30
31		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		32
33		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		34
35		P1 POLE RECEPTACLE	1	20	20	1	P1 POLE RECEPTACLE		36
37		P1 POLE RECEPTACLE	1	20	20	1			38
39			1	20	20	1			40
41			1	20	20	1			42

PANEL: MDP

FED FROM:

E	LECTRICAL SERVICE, TELEPHONE CONDUIT & WIRE											
	SCHEDULE											
KEY	DESCRIPTION											
А	PRIMARY ELECTRICAL SERVICE - (2) 4" CONDUITS WITH (2) 600 MCM-XHHW-CU PER PHASE AND NEUTRAL											
В	(1) 1" PVC WITH (3)#10 COPPER, SITE LIGHTING CIRCUITS. (1) 1" PVC WITH (3)#10 COPPER FOR POLE RECEPTACLE CIRCUITS. SEE LIGHTING PLAN FOR # OF CIRCUITS.											
С	(1) 2" PVC WITH (1)3/0 XHHW-CU PER PHASE AND NEUTRAL FOR FOUNTAIN. (1) 2" PVC FOR FUTURE KIOSK BUILDING.											
D	(1) 1 1/2" PVC WITH (3)#8 PER CIRCUIT FOR EVENT POWER, (1) 2" FOR EVENT COMMUNICATIONS.											
E	(1) 1" PVC WITH (3)#10 COPPER, SITE LIGHTING CIRCUIT.											
F	(1) 2" PVC FOR EVENT COMMUNICATIONS											
G	(1) 2" PVC FOR PORTLAND LOO											
Н	(1) 2" PVC WITH (1)3/0 XHHW-CU PER PHASE FOR FOUNTAIN. (1) 2" PVC FOR FUTURE KIOSK BUILDING. (1) 2" PVC FOR PORTLAND LOO.											
	(1) 1 1/2" PVC WITH (3)#8 PER CIRCUIT FOR EVENT POWER											



FEEDER SCHEDULE									
MARK	AMPS	PHASE	CONDUIT	WIRE SIZE	GROUND				
800	800	3	(2) 4"	(2) 600 MCM-XHHW-CU PER PHASE					
(800N)	800	3	(2) 4"	(2) 600 MCM-XHHW-CU PER PHASE AND NEUTRAL	(2) 1/0 CU				
200N)	200	3	(1) 2"	(1) 3/0 XHHW-CU PER PHASE AND NEUTRAL	#6 CU				
(150N)	150	3	(1) 2"	(1) 3/0 XHHW-CU PER PHASE AND NEUTRAL	#6 CU				
(100N)	100	3	(1) 1½"	(1) 3 XHHW-CU PER PHASE AND NEUTRAL	#8 CU				
80	80	3	(1) 11/4"	(1) 4 XHHW-CU PER PHASE	#8 CU				



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PROFESSIONAL SEAL

NOT FOR CONSTRUCTION

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					BID SET	100% CD SUBMITTAL	85% CD SUBMITTAL	DESCRIPTION	
					12-28-18	12-12-18	11-07-18	DATE	
					3	2	1	NO.	
PROJECT TITLE									

BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

PANEL SHEDULE &
ELECTRICAL
ONE-LINE DIAGRAM

DRN/DSGN BY	DATE				
CLD	12/28/2018				
CHECKED BY	PROJECT#				
ASG	623263L3				
SHEET	NUMBER				

E503

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# TRAFFIC CONTROL NOTES:

#### **INTRODUCTION**

- 1. THE FOLLOWING TRAFFIC CONTROL PLAN IS INTENDED TO BE A GENERAL CONCEPT FOR STAGING THE WORK WHILE MAINTAINING TRAFFIC. THE COLLEGE STREET BLOCKS MAY BE CLOSED TO THRU TRAFFIC BUT ACCESS TO LOCAL TRAFFIC SHALL BE MAINTAINED AS DESCRIBED BELOW.
- 2. SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT TO THE ENGINEER FOR ACCEPTANCE PRIOR TO THE START OF CONSTRUCTION. THE TRAFFIC CONTROL PLAN SHALL BE COORDINATED WITH, AND REVIEWED BY, THE CITY OF BURLINGTON TRAFFIC ENGINEERS PRIOR TO SUBMITTAL TO THE ENGINEER.

### GENERAL

- 1. THE TRAFFIC CONTROL PLANS SHALL INCORPORATE MAINTENANCE OF 10 FOOT MINIMUM CLEAR TRAFFIC LANES.
- 2. THE PRIME CONTRACTOR IS SOLELY RESPONSIBLE FOR TRAFFIC SAFETY DURING THE CONSTRUCTION OF UNDERGROUND SYSTEMS.
- 3. PROVISIONS OF THE TRAFFIC CONTROL PLAN, TPAR, AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES IS TO BE PAID FOR INCIDENTAL TO SPECIAL PROVISION (TRAFFIC CONTROL, ALL—INCLUSIVE).

#### TRAFFIC CONTROL

- 1. THE TRAFFIC CONTROL PLANS SHOWN ARE CONSIDERED TO BE GUIDANCE FOR MAINTENANCE OF LOCAL PUBLIC ACCESS REQUIREMENTS. SITE SPECIFIC MEASURES SHALL BE DEVELOPED AND ADDITIONAL SIGNS AND/OR TRAFFIC CONTROL DEVICES MAY BE REQUIRED BY THE CITY OF BURLINGTON, THE POLICE DEPARTMENT OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) OR AS DIRECTED BY THE ENGINEER.
- 2. THE SIGN LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
- 3. VEHICLES BELONGING TO THE WORKERS SHALL NOT BE PARKED ON THE PAVEMENT OR SHOULDERS ALONG THE ROADWAY BEING USED BY THE GENERAL PUBLIC. VEHICLES SHALL NOT BE PARKED IN A MANNER WHICH OBSTRUCTS ANY SIGNS, BANNERS, BARRICADES, OR ANY OTHER TRAFFIC CONTROL DEVICES.
- 4. EQUIPMENT SHALL NOT BE PARKED OR MATERIAL STORED WHERE IT IS DEEMED A HAZARD BY THE CITY OF BURLINGTON, THE POLICE DEPARTMENT OR THE ENGINEER.
- 5. ANY EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. RESTORE AT END OF PROJECT AS REQUIRED.
- 6. SCHEDULE CONSTRUCTION ACTIVITIES IN A MANNER SO AS TO MINIMIZE THE LENGTH OF TIME THAT NORMAL TRAFFIC FLOWS ARE DISTURBED.
- 7. SUBMIT A DETAILED CONSTRUCTION SCHEDULE FOR EACH CONSTRUCTION PHASE.
- 8. WHEN TYPE III BARRICADES ARE USED NEAR DRIVEWAYS OR INTERSECTIONS, THEY SHALL BE PLACED IN SUCH A WAY AS TO NOT OBSCURE SIGHT DISTANCE.
- 9. DELINEATION DEVICES SHALL NOT BE MIXED IN A LINEAR CLOSURE OR TAPER (I.E. CONES, VERTICAL PANELS, OR DRUMS SHALL NOT BE USED IN THE SAME TAPER OR CLOSURE). DIFFERENT DELINEATION DEVICES MAY BE USED IN DIFFERENT AREAS OF THE PROJECT.
- 10. TERMINALS OF TEMPORARY TRAFFIC BARRIERS SHALL BE EXTENDED BEYOND THE CLEAR ZONE WHEN POSSIBLE. IF TERMINALS CAN NOT BE EXTENDED PAST THE CLEAR ZONE, THEN ENERGY ABSORPTION ATTENUATORS SHALL BE USED.
- 11. CONCRETE BARRIERS SHALL BE UTILIZED WHERE SEPARATION CAN NOT BE MAINTAINED BETWEEN LOCAL TRAFFIC ROUTES AND CONSTRUCTION OPERATIONS/EQUIPMENT OR DROP OFFS. INSTALL ENERGY ABSORPTION ATTENUATORS WHEN BARRIER ENDS CANNOT BE LOCATED OUTSIDE OF THE CLEAR ZONE.

# EMERGENCY ACCESS

- 1. AT ALL TIMES DURING CONSTRUCTION, PROVIDE SAFE AND CONVENIENT EMERGENCY ACCESS. LOCAL FIRE, POLICE AND AMBULANCE AGENCIES SHALL BE NOTIFIED PRIOR TO THE START OF WORK TO COORDINATE AND MAINTAIN SUFFICIENT EMERGENCY ROUTES.
- 2. SUBMIT TO THE APPROPRIATE LAW ENFORCEMENT AND EMERGENCY AGENCIES THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON OR PERSONS AUTHORIZED TO SECURE LABOR, MATERIALS AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE OF NORMAL WORKING HOURS. DUPLICATE COPIES OF THE ABOVE SHALL BE PROVIDED TO THE ENGINEER.

# PUBLIC INGRESS AND EGRESS

- 1. WHERE DIRECT ACCESS TO DRIVEWAYS OR BUSINESS ENTRANCES IS NOT POSSIBLE DUE TO NECESSARY CONSTRUCTION OPERATIONS, PLAN ALTERNATE MEANS OF ACCESS AND SUBMIT SUCH PLANS FOR APPROVAL BEFORE OPERATIONS COMMENCE.
- 2. NOTIFY THE OWNERS/USERS OF DRIVEWAYS OR BUSINESS ENTRANCES AT LEAST 2 WEEKS IN ADVANCE OF ANY WORK TO BE DONE AT THAT LOCATION. COMMERCIAL/GOVERNMENT ESTABLISHMENTS SHALL HAVE A MINIMUM OF ONE DRIVEWAY OPEN AT ALL TIMES DURING NORMAL BUSINESS HOURS. MAINTAIN SAFE AND PROPER ACCESS TO BUILDINGS IN THE VICINITY OF CONSTRUCTION.

# <u>SIGNS</u>

- 1. CARE SHOULD BE TAKEN NOT TO DAMAGE EXISTING RETAINED SIGNS IF THEY ARE COVERED. ANY SIGN DAMAGED SHALL BE REPLACED AT NO ADDITIONAL COST.
- 2. SIGN MOUNTING HEIGHT SHALL BE 7 FEET IN ALL AREAS WHERE PEDESTRIANS AND PARKED CARS ARE ENCOUNTERED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 3. EXISTING SIGNING SHALL REMAIN, WITH RELOCATION AS NECESSARY, UNTIL IT IS NO LONGER NEEDED. TEMPORARY SIGNING SHALL BE ADDED, AS NEEDED AND AS REQUIRED BY THE CITY OF BURLINGTON, THE POLICE DEPARTMENT OR THE MUTCD.NEW SIGNING SHALL BE INSTALLED AS IT BECOMES APPLICABLE AND AS CONSTRUCTION NEARS COMPLETION IN EACH PHASE.
- 4. CONSTRUCTION SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION.
- 5. DIAMOND SHAPED SIGNS SHALL BE 48" X 48" WITH BLACK TEXT AND BORDER ON A RETROREFLECTIVE FLUORESCENT ORANGE BACKGROUND.
- 6. WHERE COMMERCIAL BUSINESS SIGNS ARE OBSCURED BY CONSTRUCTION PROVIDE TEMPORARY BUSINESS SIGNS FOR BOTH PEDESTRIAN AND VEHICULAR TRAFFIC.

# FLAGGERS

- 1. FLAGGERS SHALL BE REQUIRED TO USE TWO-WAY RADIOS, WALKIE-TALKIES OR OTHER FORMS OF ENHANCED COMMUNICATION WHEN ONE FLAGGER IS NOT VISIBLE TO THE OTHER, OR IF THE ENGINEER DEEMS IT NECESSARY.
- 2. STOP/SLOW PADDLES SHALL BE USED FOR ALL FLAGGING, AND SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE MUTCD.
- 3. THE CONTRACTOR SHALL PROVIDE FLAGGERS FOR AT LOCATIONS WHERE SIGHT DISTANCES ARE IMPAIRED BY CONSTRUCTION OPERATIONS OR OTHER SITUATIONS.

### NIGHT WORK

- 1. NIGHT WORK MAY BE REQUIRED TO PERFORM CERTAIN PHASES OF CONSTRUCTION. NIGHT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL COOPERATE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 476 — "GUIDELINES FOR DESIGN AND OPERATION OF NIGHTTIME TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE AND CONSTRUCTION".
- 2. PRIOR TO ANY NIGHT WORK, A LIGHTING SYSTEM SHALL BE DEVELOPED AND PRESENTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE; PROVIDE 2 WEEKS IN ADVANCE. NO NIGHT WORK OR ACTIVITIES SHALL BE PERFORMED WITHIN THE PROJECT LIMITS UNTIL THE LIGHTING SYSTEM HAS BEEN ACCEPTED AND IN PLACE ON THE PROJECT.

#### **PEDESTRIANS**

- 1. ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE PEDESTRIAN TRAVEL AT ALL TIMES. THIS CAN INCLUDE, BUT IS NOT LIMITED TO A DEDICATED PEDESTRIAN ESCORT, SIGNAGE, AND PEDESTRIAN CHANNELIZING DEVICE WALKWAY WITHIN CLOSED LANES.
- 2. FLAGGERS SHALL NOT BE USED AS PEDESTRIAN ESCORTS.
- 3. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FOR REVIEW AND WRITTEN APPROVAL BY THE RESIDENT ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH A PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.
- 4. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ON SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.
- 5. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
- 6. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FOR REVIEW AND WRITTEN APPROVAL BY THE RESIDENT ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH A PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.
- 7. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ON SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.
- 8. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
- 9. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE MUST BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE FIRM, STABLE AND SLIP—RESISTANT AND CONTINUOUS WITH A MINIMUM 80 INCHES OVERHEAD CLEARANCE FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
- 10. WHEN TEMPORARY CROSSWALKS ARE UTILIZED FOR THE TPAR, TEMPORARY DETECTABLE WARNINGS SHALL BE PLACED AT EACH END OF THE TEMPORARY CROSSWALKS. THE TEMPORARY CROSSWALK SHALL BE DELINEATED WITH TEMPORARY PAVEMENT MARKINGS OR TAPE. THE MARKINGS SHALL BE PARALLEL 12—INCH—WIDE LINES PLACED 7 FEET ON CENTER APART. IT SHOULD BE NOTED THAT CURB PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF MIDBLOCK CROSSWALKS. TEMPORARY CROSSWALK SIGNS SHALL BE PROVIDED FOR THE CROSSWALK.
- 11. IF THERE IS WORK OCCURRING OVER AN OPEN SIDEWALK, PROTECTIVE OVERHEAD COVERING MUST BE PROVIDED AS NECESSARY TO ENSURE PROTECTION FROM FALLING OBJECTS AND DRIPPING FROM OVERHEAD STRUCTURES. COVERED WALKWAYS SHOULD BE STURDILY CONSTRUCTED AND ADEQUATELY LIGHTED FOR NIGHTTIME USE.
- 12. INDIVIDUAL CHANNELIZING DEVICES, TAPE, OR ROPE USED TO CONNECT INDIVIDUAL DEVICES AND OTHER DISCONTINUOUS BARRIERS AND DEVICES, PAVEMENT MARKINGS ARE NOT DETECTABLE BY PERSONS WITH VISUAL DISABILITIES. THESE MEASURES DO NOT PROVIDE ACCEPTABLE PATH GUIDANCE ON TEMPORARY OR RE—ALIGNED SIDEWALKS OR OTHER PEDESTRIAN FACILITIES. PEDESTRIAN CHANNELIZING DEVICES SHALL INCLUDE A CONTINUOUSLY DETECTABLE BOTTOM AND TOP EDGE THROUGHOUT THE LENGTH OF THE FACILITY SUCH THAT IT CAN BE FOLLOWED BY PEDESTRIANS USING LONG CANES FOR GUIDANCE.
- 13. CHANNELIZING DEVICES ON BOTH SIDES OF THE TPAR SHALL INCLUDE A CONTINUOUS SOLID TOP AND BOTTOM RAILS. THE TOP EDGE OF THE TOP RAIL SHALL BE BETWEEN 32 INCHES AND 38 INCHES ABOVE THE GROUND LEVEL. THE BOTTOM RAIL SHALL BE AT LEAST 6 INCHES WIDE, WITH THE BOTTOM EDGE OF THE BOTTOM RAIL SURFACE NO HIGHER THAN 2 INCHES ABOVE THE GROUND.
- 14. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASHWORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MUTCD SHALL BE USED.
- 15. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
- 16. PROVISION OF THE TPAR AND ALL ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY CURB RAMPS, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES IS TO BE PAID FOR INCIDENTAL TO TRAFFIC CONTROL (ITEM 641.10.).
- 17. IF TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MUTCD SHALL BE USED.

BURLINGTON PARKS RECREATION WATERFRON

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PROFESSIONAL SEAL

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BURLINGTON
GREAT STREETS
CITY HALL PARK

SHEET TITLE

TRAFFIC CONTROL NOTES

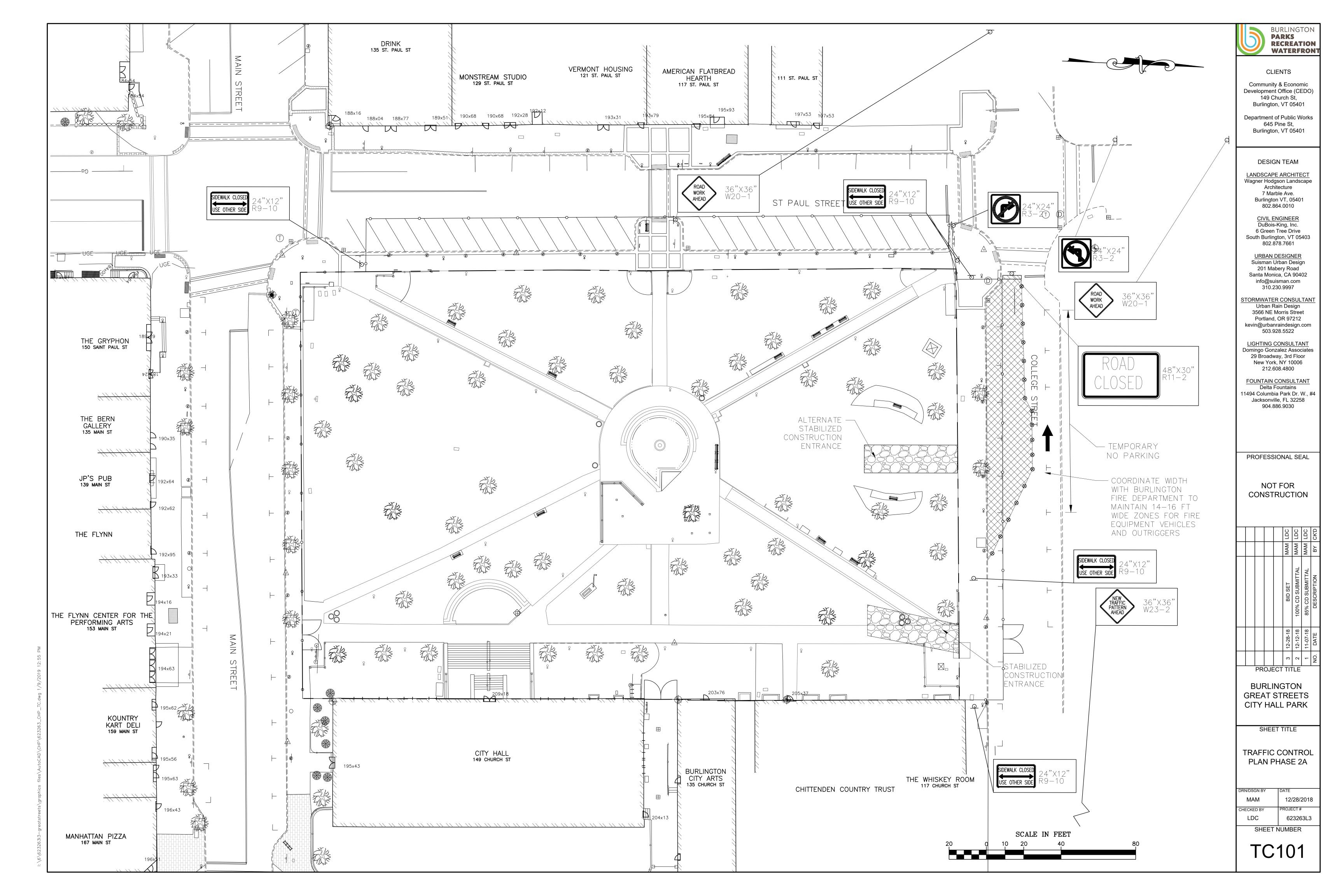
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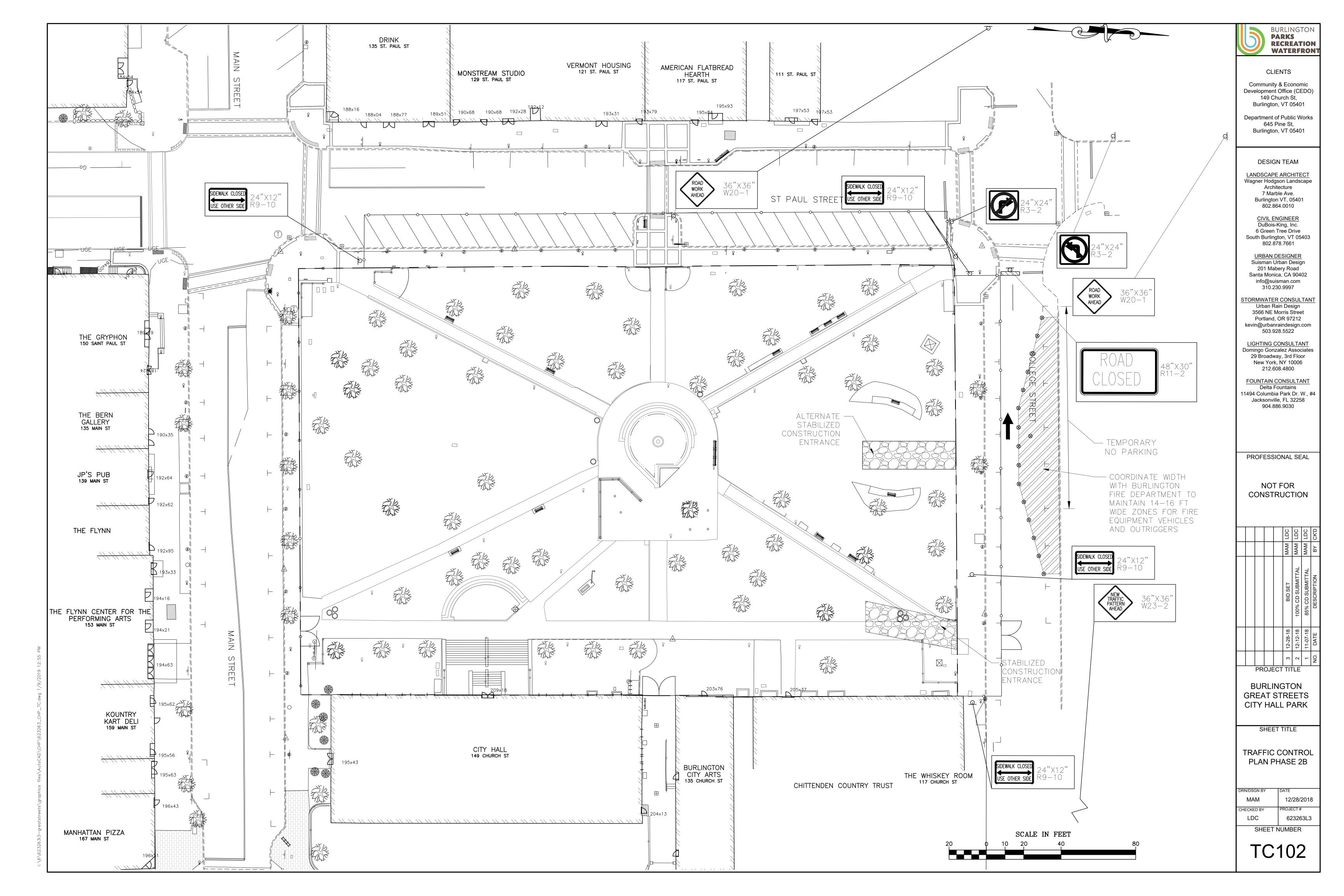
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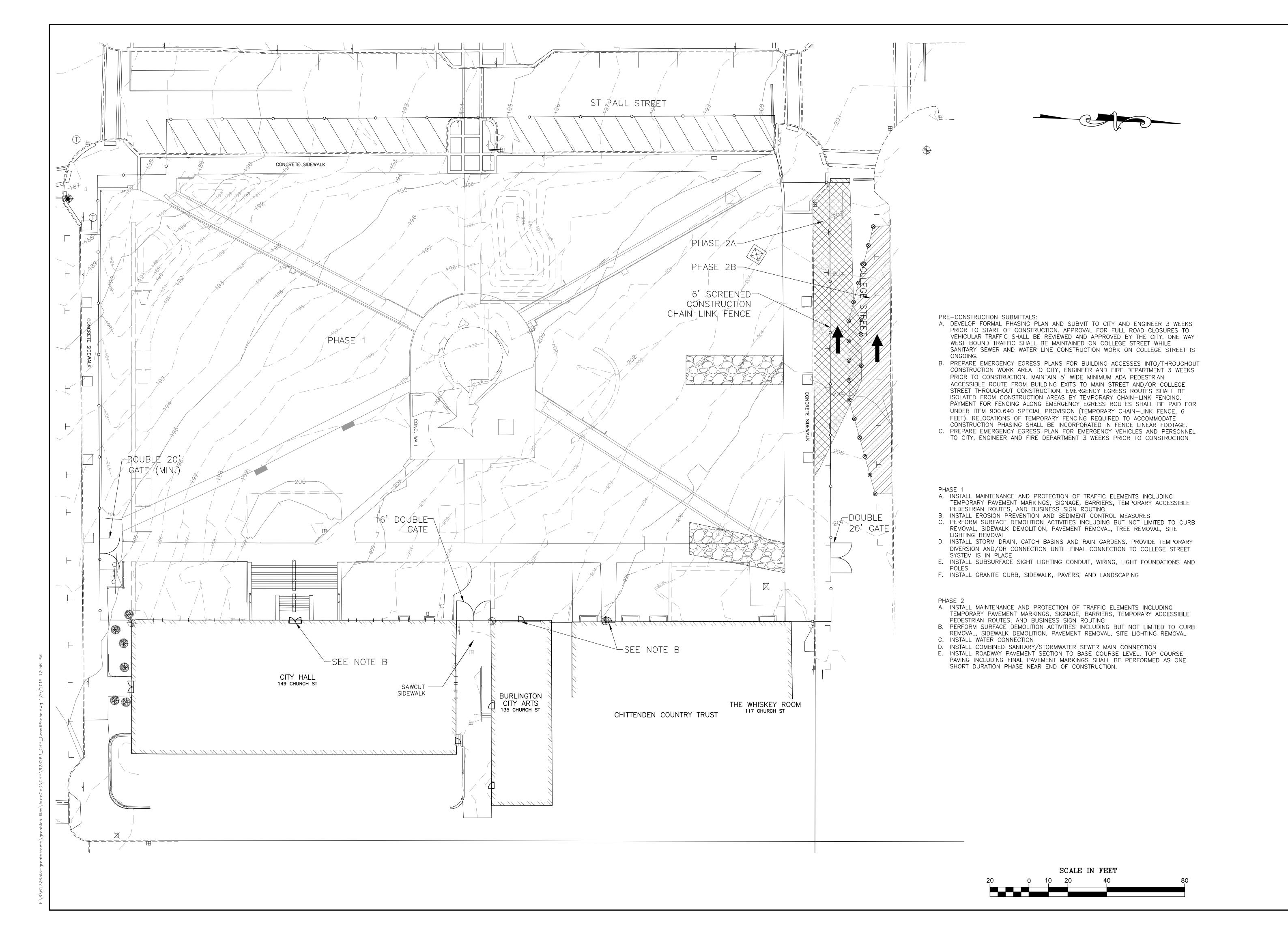
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BURLINGTON
PARKS
RECREATION
WATERFRONT

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BURLINGTON GREAT STREETS CITY HALL PARK

SHEET TITLE

CONSTRUCTION PHASING

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 DATE

 PCD
 12/28/2018

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 PROJECT #

 LDC
 623263L3

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