STOUGHTON LOGISTICS PARK

SITE PLAN REVIEW SUBMISSION

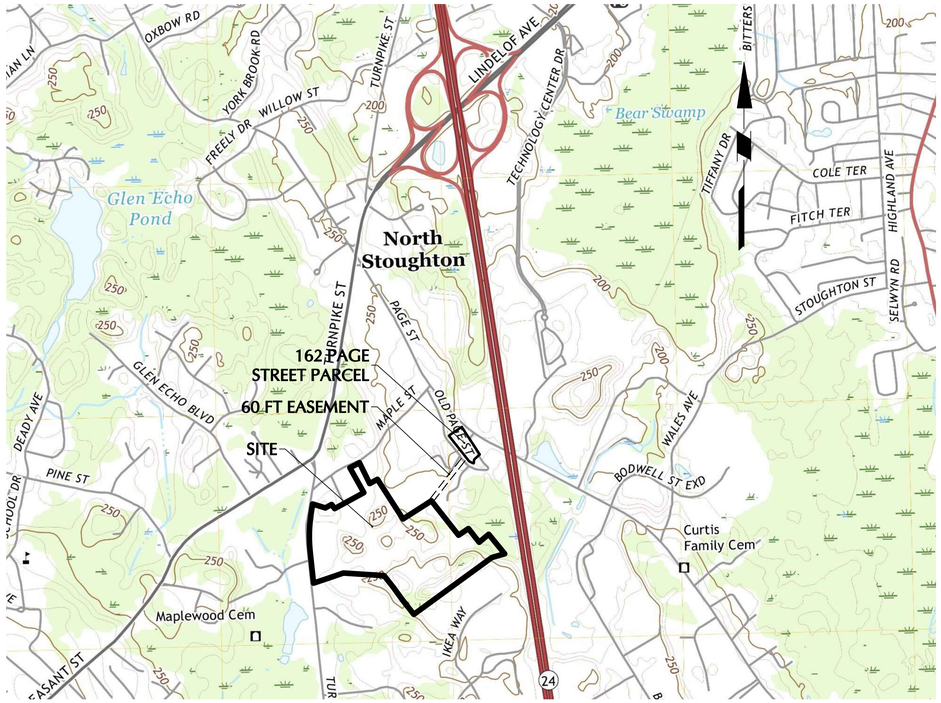
MAP 93, LOTS 7, 11, 12, 14, 16, 17 AND MAP 94, LOT 50

TOWN OF STOUGHTON, NORFOLK COUNTY, MASSACHUSETTS

DRAWING INDEX

NUMBER	DRAWING TITLE	DATE	LAST REVISED
CS001	COVER SHEET	08/05/2022	07/10/2023
VC101	TOPOGRAPHIC SHEET INDEX	08/05/2022	1/5/2023
VL101	ALTA/NSPS LAND TITLE SURVEY	08/05/2022	1/5/2023
VT101	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT102	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT103	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT104	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT105	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT106	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT107	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT108	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
VT109	TOPOGRAPHIC PLAN	08/05/2022	1/5/2023
CS002	MASTER LEGEND & NOTES	08/05/2022	04/27/2023
CS100	OVERALL SITE PLAN	08/05/2022	04/27/2023
CS100A	OVERALL SITE ABUTTER PLAN	10/19/2022	02/16/2023
CS100B	SITE PLAN - BANKED PARKING	08/05/2022	04/27/2023
CS101	SITE PLAN I	08/05/2022	02/16/2023
CS102	SITE PLAN II	08/05/2022	04/27/2023
CS103	SITE PLAN III	08/05/2022	04/27/2023
CS104	SITE PLAN IV	08/05/2022	02/16/2023
CS105	SITE PLAN V	08/05/2022	01/19/2023
CS106	SITE PLAN VI	08/05/2022	02/16/2023
CS107	SITE PLAN VII	08/05/2022	04/27/2023
CS201	FIRE TRUCK TURNING MOVEMENTS	08/05/2022	12/23/2022
CS202	WB-67 TURNING MOVEMENTS	08/05/2022	12/16/2022
CS203	SIGHT DISTANCE PLAN	12/16/2022	02/16/2023
CS501	SITE DETAILS I	08/05/2022	
CS502	SITE DETAILS II	08/05/2022	10/19/2022
CS503	SITE DETAILS III	08/05/2022	04/27/2023
CS504	SITE DETAILS IV	08/05/2022	
CS505	SITE DETAILS V	10/19/2022	
CG100	OVERALL GRADING & DRAINAGE PLAN	08/05/2022	02/16/2023
CG101	GRADING & DRAINAGE PLAN I	08/05/2022	02/16/2023
CG102	GRADING & DRAINAGE PLAN II	08/05/2022	12/23/2022
CG103	GRADING & DRAINAGE PLAN III	08/05/2022	02/16/2023
CG104	GRADING & DRAINAGE PLAN IV	08/05/2022	02/16/2023
CG105	GRADING & DRAINAGE PLAN V	08/05/2022	12/23/2022
CG106	GRADING & DRAINAGE PLAN VI	08/05/2022	02/16/2023
CG107	GRADING & DRAINAGE PLAN VII	08/05/2022	02/16/2023
CG201	DRAINAGE STRUCTURE REFERENCE SHEET I	08/05/2022	02/16/2023
CG202	DRAINAGE STRUCTURE REFERENCE SHEET II	08/05/2022	02/16/2023
CG301	ROADWAY PROFILE I	10/19/2022	12/23/2022
CG501	GRADING & DRAINAGE DETAILS I	08/05/2022	12/23/2022
CG502	GRADING & DRAINAGE DETAILS II	08/05/2022	12/23/2022
CG503	GRADING & DRAINAGE DETAILS III	08/05/2022	12/23/2022
CG504	GRADING & DRAINAGE DETAILS IV	08/05/2022	02/16/2023
CG505	GRADING & DRAINAGE DETAILS V	08/05/2022	12/23/2022
CG506	GRADING & DRAINAGE DETAILS VI	08/05/2022	
CG507	GRADING & DRAINAGE DETAILS VII	08/05/2022	

NUMBER	DRAWING TITLE	DATE	LAST REVISED
CU100	OVERALL UTILITY PLAN	08/05/2022	02/16/2023
CU101	UTILITY PLAN I	08/05/2022	02/16/2023
CU102	UTILITY PLAN II	08/05/2022	12/23/2022
CU103	UTILITY PLAN III	08/05/2022	12/23/2022
CU104	UTILITY PLAN IV	08/05/2022	02/16/2023
CU105	UTILITY PLAN V	08/05/2022	12/23/2022
CU106	UTILITY PLAN VI	08/05/2022	02/16/2023
CU107	UTILITY PLAN VII	08/05/2022	12/23/2022
CU201	SANITARY PROFILE I	10/19/2022	12/23/2022
CU202	SANITARY PROFILE II	10/19/2022	12/23/2022
CU203	SANITARY PROFILE III	10/19/2022	12/23/2022
CU501	UTILITY DETAILS I	08/05/2022	10/19/2022
CU502	UTILITY DETAILS II	08/05/2022	10/19/2022
CU503	UTILITY DETAILS III	08/05/2022	
CE101	SOIL EROSION & SEDIMENT CONTROL PHASE I	08/05/2022	02/16/2023
CE102	SOIL EROSION & SEDIMENT CONTROL PHASE II	08/05/2022	02/16/2023
CE501	SOIL EROSION & SEDIMENT CONTROL DETAILS I	08/05/2022	12/23/2022
CE502	SOIL EROSION & SEDIMENT CONTROL DETAILS II	08/05/2022	12/23/2022
CE503	SOIL EROSION & SEDIMENT CONTROL DETAILS III	12/23/2022	
LL100	OVERALL LIGHTING PLAN	08/05/2022	02/16/2023
LL101	LIGHTING PLAN I	08/05/2022	12/23/2022
LL102	LIGHTING PLAN II	08/05/2022	12/23/2022
LL103	LIGHTING PLAN III	08/05/2022	12/23/2022
LL104	LIGHTING PLAN IV	08/05/2022	12/23/2022
LL105	LIGHTING PLAN V	08/05/2022	12/23/2022
LL106	LIGHTING PLAN VI	08/05/2022	02/16/2023
LL107	LIGHTING PLAN VII	08/05/2022	12/23/2022
LL501	LIGHTING NOTES AND DETAILS	08/05/2022	
LP100	OVERALL PLANTING PLAN	08/05/2022	04/10/2023
LP101	PLANTING PLAN I	08/05/2022	04/27/2023
LP102	PLANTING PLAN II	08/05/2022	04/27/2023
LP103	PLANTING PLAN III	08/05/2022	04/27/2023
LP104	PLANTING PLAN IV	08/05/2022	12/23/2022
LP105	PLANTING PLAN V	08/05/2022	12/23/2022
LP106	PLANTING PLAN VI	08/05/2022	04/27/2023
LP107	PLANTING PLAN VII	08/05/2022	12/23/2022
LP201	WETLAND REPLICATION PLAN	02/13/2023	
LP202	WETLAND REPLICATION NOTES	02/13/2023	
LP501	PLANTING NOTES AND DETAILS	08/05/2022	
LP502	PLANTING IMAGERY	08/05/2022	
01A	CONCEPTUAL FLOOR PLAN-BUILDING 1	08/03/2022	
02A	CONCEPTUAL ELEVATIONS-BUILDING 1	08/03/2022	
01B	CONCEPTUAL FLOOR PLAN-BUILDING 2	08/03/2022	
02B	CONCEPTUAL ELEVATIONS-BUILDING 2	08/03/2022	
01C	CONCEPTUAL FLOOR PLAN-BUILDING 3	08/03/2022	
02C	CONCEPTUAL ELEVATIONS-BUILDING 3	08/03/2022	
-	CONCEPTUAL RENDERING	08/03/2022	
GI101	SIGNED PLANNING BOARD DECISION I	08/05/2022	07/10/2023
GI102	SIGNED PLANNING BOARD DECISION II	07/10/2023	



MAP REFERENCE: USGS BLUE HILLS QUADRANGLE (7.5-MINUTE SERIES)

LOCATION MAP

SCALE: 1"=1000'

RELEASE DATES

DATE	ISSUED FOR
08/05/2022	PLANNING BOARD SITE PLAN/SPECIAL PERMIT SUBMISSION
10/19/2022	TECHNICAL ENGINEERING REVIEW REVISION
12/23/2022	STORMWATER PEER REVIEW COMMENT REVISION
02/16/2023	PEER REVIEW COMMENT REVISION
04/10/2023	SPECIAL PERMIT SUBMISSION
04/27/2023	PLANNING BOARD COMMENT REVISIONS
07/10/2023	FINAL APPROVED PLAN SUBMISSION

PLANNING BOARD REQUESTED WAIVERS

SECTION	DESCRIPTION
6.1.6.8	MINIMUM PARKING FOR WAREHOUSE ESTABLISHMENT
6.4.4.1	CUTTING OF TREES LARGER THAN 6" DIAMETER AND OF TREES GREATER THAN 20 FEET TALL FROM AREA LARGER THAN 3,000 SF
6.4.5.5	PARKING LOT LANDSCAPING FOR TRUCK LOADING & TRAILER PARKING
6.4.7.2	PARKING LOT LANDSCAPING FOR TRUCK LOADING & TRAILER PARKING
10.6.10.C	EARTHWORK CUTS OF MORE THAN FOUR FEET PROHIBITED

ZONING BOARD OF APPEALS

SECTION	DESCRIPTION
4.1.5	SPECIAL PERMIT FOR PLANNED INDUSTRIAL DEVELOPMENT
4.1.2 & 4.3	VARIANCE FOR 50 FOOT MAXIMUM BUILDING HEIGHT IN INDUSTRIAL (I) DISTRICT FOR THREE BUILDINGS

DEVELOPER
IV3 STOUGHTON LOGISTICS PARK LLC
C/O: TYLER MORDAS
1 MEADOWLANDS PLAZA, SUITE 301
EAST RUTHERFORD, NJ 07073
(212) 528-2058

LAND SURVEYOR, CIVIL, ENVIRONMENTAL, GEOTECHNICAL, TRAFFIC ENGINEER & LANDSCAPE ARCHITECTURE
LANGAN ENGINEERING &
ENVIRONMENTAL SERVICES, INC
C/O: HILARY HOLMES
100 CAMBRIDGE STREET, SUITE 1310
BOSTON, MA 02114
(617) 824-9100

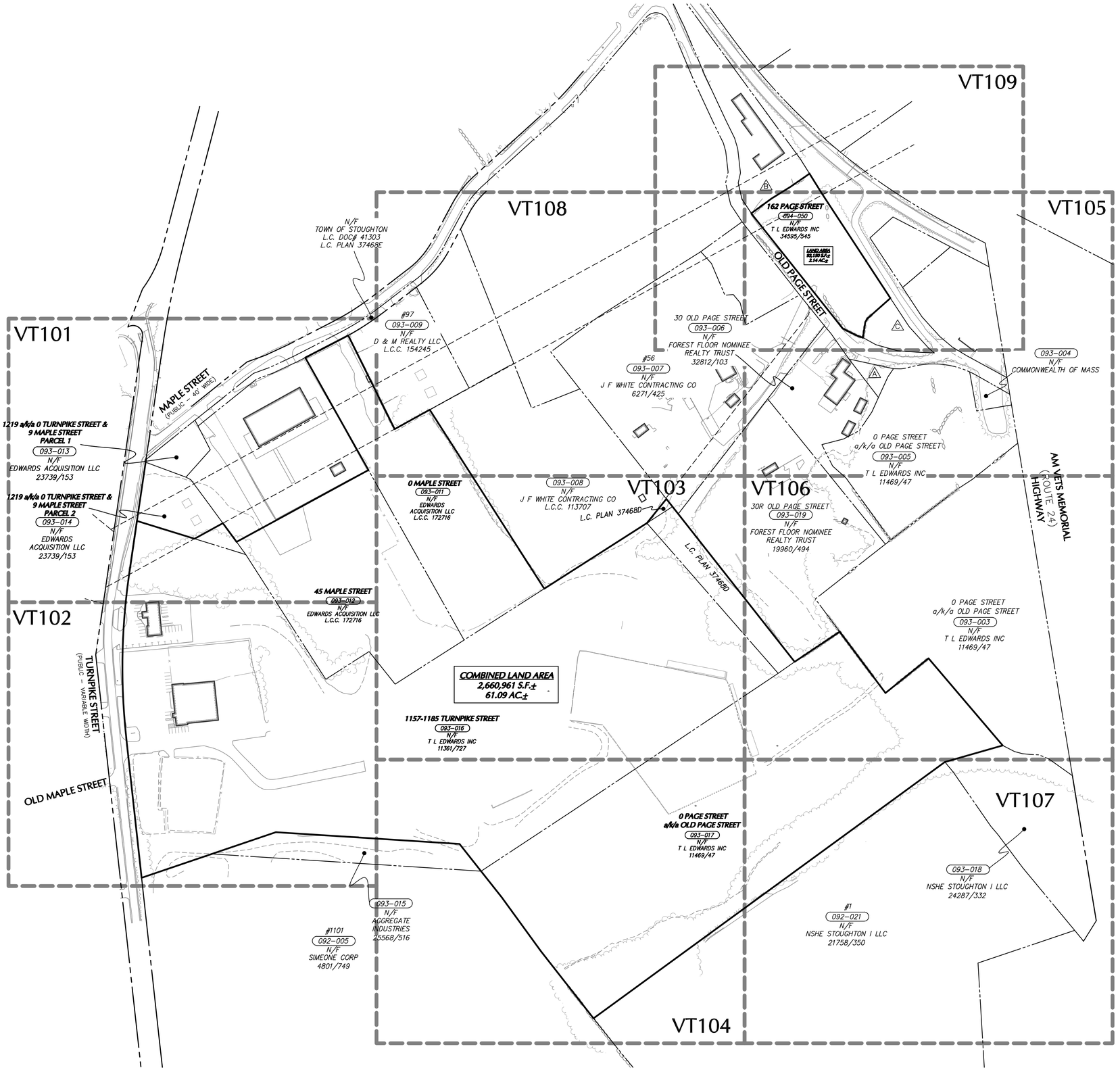
ARCHITECT
ARCO DESIGN/BUILD INDUSTRIAL
C/O: JIM WYATT
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601
(914) 336-1997

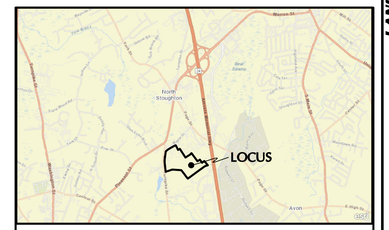
WETLANDS & NATURAL RESOURCES
EPSILON ASSOCIATES, INC.
C/O: MIKE HOWARD
3 MILL & MAIN PLACE
MAYNARD, MA 01754
(978) 897-7100

OWNERS
PARCEL 093-007:
J F WHITE CONTRACTING CO
56 OLD PAGE STREET
STOUGHTON, MA 02072
PARCEL 093-011:
EDWARDS ACQUISITION LLC
0 MAPLE STREET
STOUGHTON, MA 02072
PARCEL 093-012:
EDWARDS ACQUISITION LLC
45 MAPLE STREET
STOUGHTON, MA 02072
PARCEL 093-014:
EDWARDS ACQUISITION LLC
0 TURNPIKE STREET & 9 MAPLE STREET
STOUGHTON, MA 02072
PARCEL 093-016:
T L EDWARDS INC
1157-1185 TURNPIKE STREET
STOUGHTON, MA 02072
PARCEL 093-017:
T L EDWARDS INC
0 PAGE STREET
STOUGHTON, MA 02072
PARCEL 094-050
T L EDWARDS INC
162 PAGE STREET
STOUGHTON, MA 02072

LANGAN

Date: 7/10/2023 Time: 14:53 User: mgallucci Style Table: Langan.stb Layout: CS001 Document Code: 151022801-0501-CS001-0101





PROJECT LOCATION MAP

SOURCE: ESRI ARCMAP

MA NAD 83

ABUTTER TABLE

A	093-020	N/F ESTATE OF CALEB WEST
B	094-051	N/F HIGH TENSION LLC 25879/395
C	094-049	N/F PAGE STREET REALTY TRUST 17985/199

LEGEND (NOT SHOWN TO SCALE)

- AIR CONDITIONING UNIT
- BOLLARD
- BORING HOLE
- MAILBOX
- SIGN
- SHRUB
- TEST PIT
- TREE
- WETLAND FLAG
- CATCH BASIN
- CLEANOUT
- ELECTRIC BOX
- ELECTRIC METER
- FIRE HYDRANT
- FLARED END SECTION
- COMMUNICATION BOX
- GAS METER
- GAS VALVE
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- MANHOLE (TYPE AS LABELED)
- POWER POLE
- TRAFFIC SIGNAL BOX
- WATER METER
- WATER VALVE
- X.262.3 SPOT ELEVATION
- BIT BITUMINOUS
- CONC CONCRETE
- LSA LANDSCAPED AREA
- BOH BUILDING OVERHANG
- BW BOTTOM OF WALL
- EOP EDGE OF PAVEMENT
- CCB CAPE COD BURM
- VGC VERTICAL GRANITE CURB
- SWS SINGLE WHITE STRIPE
- DYS DOUBLE YELLOW STRIPE
- METAL GUARD RAIL
- CHAINLINK FENCE
- TREE LINE
- OVERHEAD WIRE
- DELINEATED WETLAND LINE
- APPROXIMATE WETLAND LINE
- EASEMENT LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- 322 CONTOUR LINE
- CATV CABLE TV MARK OUT LINE
- D DRAINAGE MARK OUT LINE
- DRAINAGE LINE
- E ELECTRIC MARK OUT LINE
- C COMMUNICATION MARK OUT LINE
- G GAS MARK OUT LINE
- S SANITARY SEWER MARK OUT LINE
- SANITARY SEWER LINE
- W WATER MARK OUT LINE
- ST STEAM MARK OUT LINE
- UNK UNKNOWN MARK OUT LINE

150 0 75 150
SCALE: 1 INCH = 150 FEET

THIS IS TO CERTIFY TO:
BROOKFIELD PROPERTIES LLC
STEWART TITLE GUARANTEE COMPANY

THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 7(a), 8, 10(a), 11, 13, 16, 17, 18, AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED IN THE MONTH OF DECEMBER 2021.

DATE OF REVISED MAP: JANUARY 5, 2023

1/5/2023
IAN C. WISURI, P.L.S. #47403 DATE

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

– FOR GENERAL NOTES AND TITLE REPORT NOTES SEE SHEET VT101

– FOR LEGEND SEE SHEET VT102

Date	Description	No.
REVISIONS		

LANGAN
Langan Engineering and Environmental Services, Inc.
888 Boylston Street, Ste 510
Boston, MA 02199
T: 617.824.9100 F: 617.824.9101 www.langan.com

Project
STOUGHTON, MA
INDUSTRIAL
BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

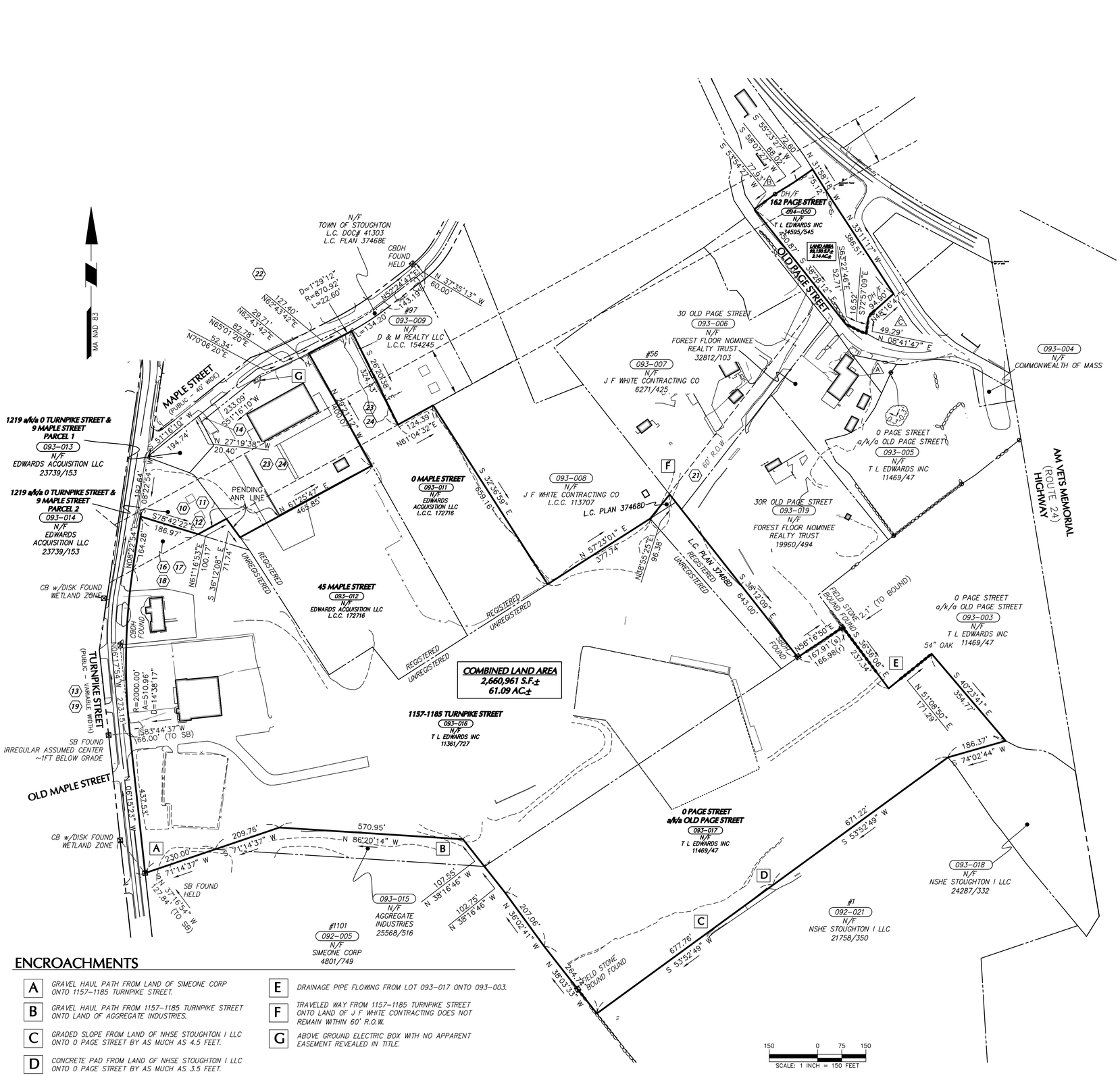
Drawing Title
TOPOGRAPHIC SHEET INDEX

Project No.	Drawing No.
151022801	VC101
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 1 of 11

LANGAN
PROJECT NO. 151022801

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ENCROACHMENTS

- **A** GRAVEL HAUL PATH FROM LAND OF SIMEONE CORP ONTO 1157–1185 TURNPIKE STREET.
- **B** GRAVEL HAUL PATH FROM 1157–1185 TURNPIKE STREET ONTO LAND OF AGGREGATE INDUSTRIES.
- **C** GRADED SLOPE FROM LAND OF NHSE STOUGHTON I LLC ONTO 0 PAGE STREET BY AS MUCH AS 4.5 FEET.
- **D** CONCRETE PAD FROM LAND OF NHSE STOUGHTON I LLC ONTO 0 PAGE STREET BY AS MUCH AS 3.5 FEET.
- **E** DRAINAGE PIPE FLOWING FROM LOT 093–017 ONTO 093–003.
- **F** TRAVELED WAY FROM 1157–1185 TURNPIKE STREET ONTO LAND OF J F WHITE CONTRACTING DOES NOT REMAIN WITHIN 60' R.O.W.
- **G** ABOVE GROUND ELECTRIC BOX WITH NO APPARENT EASEMENT REVEALED IN TITLE.

TITLE REPORT NOTES *(FOR 1–15 SEE SHEET VT101)*

AFFECTS 1157-1185 TURNPIKE STREET, STOUGHTON, MA

16. GRANT OF EASEMENT TO THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON DATED JULY 20, 1921 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1508, PAGE 291. **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**

17. GRANT OF EASEMENT TO THE EDISON ELECTRIC ILLUMINATING COMPANY DATED JUNE 9, 1925 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1656, PAGE 271. **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**

18. TAKING BY THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON DATED SEPTEMBER 14, 1926 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1714, PAGE 601 AND SHOWN ON A PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1714, PAGE 601. **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**

19. TAKING FOR THE RELOCATION OF TURNPIKE STREET BY THE NORFOLK COUNTY COMMISSIONERS DATED MARCH 13, 1973 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 4923, PAGE 280 AS SHOWN ON A PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS PLAN NO. 448M OF 1973 IN PLAN BOOK 237. **AS SHOWN.**

20. ORDER OF CONSTRUCTION OF SEWER IN TURNPIKE STREET RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7684, PAGE 666. **TITLE MATTER, NOT SHOWN.**

21. RESERVATION OF RIGHT TO USE 60' RIGHT OF WAY SET FORTH IN DEED RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 4882, PAGE 619 AND SHOWN ON PLAN IN PLAN BOOK 233, PAGE 929 AND CONVEYED IN DEED TO T. L. EDWARDS, INC. RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 11361, PAGE 727 AND AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS PLAN BOOK 438, PLAN 278. **AS SHOWN.**

AFFECTS 0 MAPLE STREET & 45 MAPLE STREET, STOUGHTON, MA

22. RESERVATION OF RIGHT FOR THE BENEFIT OF LOCUS TO USE LOT 14 SET FORTH IN DOCUMENT NOS. 414303 AND 444814, AND AS SHOWN ON A PLAN FILED WITH SAID REGISTRY DISTRICT AS PLAN NO. 37468E. **AS SHOWN.**

23. GRANT OF RIGHT OF WAY 150' WIDE TO BOSTON EDISON COMPANY FOR TRANSMISSION LINE PURPOSES SET FORTH IN GRANTS TO EDISON ELECTRIC ILLUMINATING COMPANY N/K/A BOSTON EDISON COMPANY RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1497, PAGES 210 AND 223, BOOK 1650, PAGE 128, AND IN BOOK 1652, PAGE 4. **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**

24. TAKING BY EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1714, PAGE 601 AND SHOWN ON PLAN NO. 866 OF 1926. **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**

25. COVENANT BY AND BETWEEN MODERN CONTINENTAL CONSTRUCTION CO., INC. AND THE STOUGHTON CONSERVATION COMMISSION, DATED JULY 31, 1989 AND FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 569925. **DOES NOT PERTAIN TO SUBJECT PARCEL.**

NOTE: WHILE SPECIFICALLY EXCLUDED FROM COVERAGE UNDER THE TERMS AND PROVISIONS OF THE POLICY TO BE ISSUED, THE RECORDS AT THE NORFOLK COUNTY REGISTRY OF DEEDS REVEALS THE EXISTENCE OF THE FOLLOWING MATTERS:

1157-1185 TURNPIKE STREET, STOUGHTON, MA

A. ORDER OF CONDITIONS BY THE STOUGHTON CONSERVATION COMMISSION CONCERNING DEP FILE NO. 298–250 RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 8795, PAGE 493.

B. ORDER OF CONDITIONS BY THE STOUGHTON CONSERVATION COMMISSION CONCERNING DEP FILE NO. 298–239 RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 8795, PAGE 497.

C. NOTICE OF DECISION FOR SPECIAL PERMIT BY THE ZONING BOARD OF APPEALS OF THE TOWN STOUGHTON RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 23769, PAGE 329 AS AFFECTED BY GRANT OF RENEWAL BY THE ZONING BOARD OF APPEALS OF THE TOWN OF STOUGHTON REGARDING SPECIAL PERMIT RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 30342, PAGE 446.

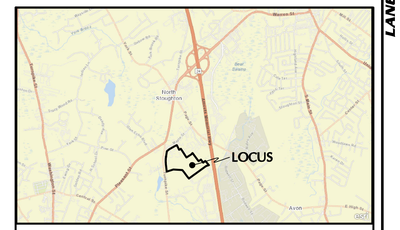
D. NOTICE OF DECISION FOR SPECIAL PERMIT BY THE ZONING BOARD OF APPEALS OF THE TOWN OF STOUGHTON RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 33714, PAGE 511 INSOFAR AS THE SAME HAS FORCE AND EFFECT.

0 MAPLE STREET & 45 MAPLE STREET, STOUGHTON, MA

E. ORDER OF CONDITIONS BY THE STOUGHTON CONSERVATION COMMISSION CONCERNING DEQE FILE NO. 298–203 FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 569924.

F. ORDER OF CONDITIONS BY THE STOUGHTON CONSERVATION COMMISSION CONCERNING DEP FILE NO. 298–421 FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 761855, AS AFFECTED BY CERTIFICATE OF COMPLIANCE FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 840302.

G. NOTICE OF DECISION BY THE ZONING BOARD OF APPEALS OF THE TOWN OF STOUGHTON GRANTING VARIANCE, DATED JULY 5, 2001 AND FILED WITH SAID REGISTRY DISTRICT AS DOCUMENT NO. 876623.



PROJECT LOCATION MAP

SOURCE: ESRI ARCMAP



1/5/2023

Date	Description	No.
REVISIONS		

LANGAN
Langan Engineering and Environmental Services, Inc.
888 Boylston Street, Ste 510
Boston, MA 02199
T: 617.824.9100 F: 617.824.9101 www.langan.com

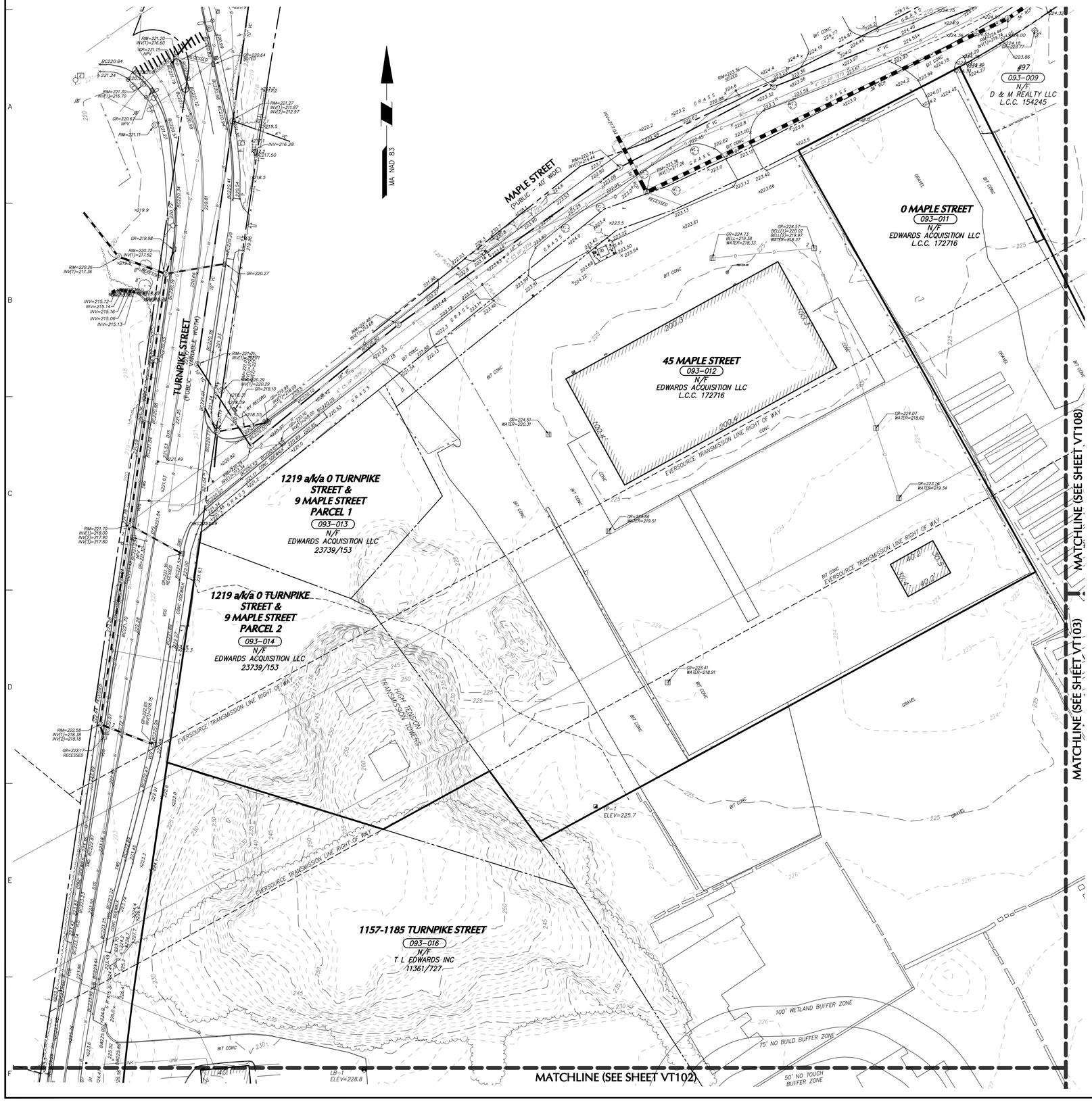
Project
STOUGHTON, MA
INDUSTRIAL
BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY **MASSACHUSETTS**

Drawing Title
ALTA/NSPS LAND TITLE SURVEY

Project No.	Drawing No.
151022801	VL101
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 2 of 11

LANGAN
PROJECT NO. 151022801

Filename: \\langan.com\data\BOS\data8\151022801\Project Data_Discipline\Survey\CADD\Existing\151022801-VL101-VT109.dwg Date: 1/5/2023 Time: 13:23 User: blambert Style Table: Langan.stb Layout: VL101



GENERAL NOTES

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:
   A. COMMITMENT FOR TITLE INSURANCE ISSUED BY STEWART TITLE GUARANTEE COMPANY. COMMITMENT NUMBER: 21000150475, EFFECTIVE DATE DECEMBER 16, 2021. SCHEDULE B SECTION 2:
   B. MAP ENTITLED "NEW WASH DOWN BUILDING", DATED OCTOBER 1992, SCALE 1"=20', PREPARED BY THOMAS R. BRIGHAM.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83 (EPOCH 2001). POSITION WAS DETERMINED BY GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) AS PROVIDED BY HXGN SMARTNET CONTINUOUSLY OPERATED REFERENCE STATIONS (CORS).
3. ELEVATIONS SHOWN ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) (GEOID 12B) AS DETERMINED BY GNSS
4. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND AND AERIAL SURVEYS BY LANGAN ENVIRONMENTAL AND ENGINEERING SERVICES. FIELD WORK COMPLETED DURING THE MONTH OF DECEMBER 2022.
5. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP ENTITLED "NORFOLK COUNTY, MASSACHUSETTS PANEL 214 OF 430, MAP NUMBER 25021C0214E, EFFECTIVE DATE JULY 17, 2012" THE PROJECT AREA IS IN ZONE X (UNSHADED).
6. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND LOCATIONS WHERE DATA IS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE, THE SURVEYOR CANNOT, AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.
7. ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC.) DATA IS SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS.
8. UNLESS SPECIFICALLY NOTED HEREON, THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.
9. ALL BUILDINGS AND STRUCTURES WERE LOCATED AND MEASURED AT GROUND LEVEL. THE SURVEYOR MAKES NO DETERMINATIONS OR GUARANTEES AS TO THE ABSENCE, EXISTENCE OR LOCATION OF UNDERGROUND STRUCTURES, FOUNDATIONS, FOOTINGS, PROJECTIONS, WALLS, TANKS, SEPTIC SYSTEMS, ETC. NO TEST PITS, EXCAVATIONS OR GROUND PENETRATING RADAR WERE PERFORMED AS PART OF THIS SURVEY.
10. EVIDENCE OF CURRENT EARTH MOVING WORK WAS OBSERVED ON THE SUBJECT PREMISES.
11. NO EVIDENCE OF STREET RIGHT OF WAY LINE CHANGES OR OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED.
12. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
13. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

TITLE REPORT NOTES *(FOR 16–25 SEE SHEET VL101)*

COMMITMENT FOR TITLE INSURANCE ISSUED BY STEWART TITLE GUARANTEE COMPANY. COMMITMENT NUMBER: 21000150475, EFFECTIVE DATE DECEMBER 16, 2021. SCHEDULE B SECTION 2:

AFFECTS ALL PARCELS:

1. *ANY FACTS, RIGHTS, INTERESTS, OR CLAIMS WHICH ARE NOT SHOWN BY THE PUBLIC RECORDS BUT WHICH WOULD BE ASCERTAINED BY AN INSPECTION OF SAID LAND OR BY MAKING INQUIRY OF PERSONS IN POSSESSION THEREOF.* **TITLE MATTER, NOT SHOWN.**
2. *DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER FACTS WHICH A CORRECT SURVEY WOULD DISCLOSE, AND WHICH ARE NOT SHOWN BY PUBLIC RECORDS.* **TITLE MATTER, NOT SHOWN.**
3. *ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL THERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS.* **TITLE MATTER, NOT SHOWN.**
4. *DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES OF RECORD FOR VALUE THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT.* **TITLE MATTER, NOT SHOWN.**
5. *LIENS FOR TAXES AND MUNICIPAL CHARGES WHICH BECOME DUE AND PAYABLE SUBSEQUENT TO THE DATE OF SAID POLICY, PLUS UNPAID WATER AND SEWER CHARGES, IF ANY.* **TITLE MATTER, NOT SHOWN.**
6. *RIGHTS OF PRESENT TENANTS, LESSEES, OR PARTIES IN POSSESSION UNDER UNRECORDED LEASES.* **TITLE MATTER, NOT SHOWN.**

7–9. INTENTIONALLY OMITTED.

AFFECTS 1219 A/K/A 0 TURNPIKE STREET & 9 MAPLE STREET, STOUGHTON, MA

10. *GRANT OF UTILITY EASEMENT TO EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON DATED JULY 29, 1921 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1497, PAGE 217.* **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**
11. *GRANT OF UTILITY EASEMENT TO EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON DATED MAY 1, 1925 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1643, PAGE 416.* **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**
12. *TAKING BY EMINENT DOMAIN BY EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON DATED SEPTEMBER 14, 1926 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 1714, PAGE 601 AS SHOWN ON A PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS PLAN NO. 866 OF 1926.* **TRANSMISSION LINE RIGHT OF WAY, AS SHOWN.**
13. *TAKING FOR THE RELOCATION OF TURNPIKE STREET BY THE NORFOLK COUNTY COMMISSIONERS DATED OCTOBER 31, 1972 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 4923, PAGE 280 AS SHOWN ON A PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS PLAN NO. 448M OF 1973 IN PLAN BOOK 237.* **AS SHOWN.**
14. *GRANT OF UTILITY EASEMENT TO MASSACHUSETTS ELECTRIC COMPANY DATED APRIL 29, 2015 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 33109, PAGE 345.* **AS SHOWN.**
15. *ORDER OF CONSTRUCTION OF SEWER IN TURNPIKE STREET RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7684, PAGE 666.* **TITLE MATTER, NOT SHOWN.**

COMMONWEALTH OF MASSACHUSETTS
IAN C. WISURI
No. 47403
REGISTERED PROFESSIONAL LAND SURVEYOR

1/5/2023

SCALE: 1 INCH = 40 FEET

Date	Description	No.
REVISIONS		

LANGAN
Langan Engineering and Environmental Services, Inc.
888 Boylston Street, Ste 510
Boston, MA 02199
T: 617.824.9100 F: 617.824.9101 www.langan.com

Project
STOUGHTON, MA
INDUSTRIAL
BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT101
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 3 of 11

LANGAN
PROJECT NO. 151022801

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MATCHLINE (SEE SHEET VT101)

MATCHLINE (SEE SHEET VT103)

MATCHLINE (SEE SHEET VT104)

TURNPIKE STREET
(PUBLIC – VARIABLE WIDTH)

OLD MAPLE STREET

1157-1185 TURNPIKE STREET
093–016
N/F
T L EDWARDS INC
11361/727

45 MAPLE STREET
093–012
N/F
EDWARDS ACQUISITION LLC
L.C.C. 172716

093–015
N/F
AGGREGATE INDUSTRIES
25568/516

#1101
092–005
N/F
SIMEONE CORP
4801/749

WETLAND SERIES G
ISOLATED VEGETATED WETLAND (IVW)

50' NO TOUCH BUFFER ZONE
75' NO BUILD BUFFER ZONE
100' WETLAND BUFFER ZONE

GRAVEL HAUL ROAD

LB-1 ELEV=228.8
TP-2 ELEV=225.7
TP-13 ELEV=228.8
TP/AT-4 ELEV=222.4
TP-12 ELEV=223.1
TP/AT-5 ELEV=220.9
LB4 w/MW

BIT CONC
GRAVEL AREA
GRAVEL

MA NAD 83

PROJECT NO. 151022801

LANGAN

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REVISIONS		

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Project
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INDUSTRIAL
BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
TOPGRAPHIC PLAN

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

1/5/2023

Project No.	Drawing No.
151022801	VT102
Date: JANUARY 5, 2023	
Drawn By: BAL	
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MATCHLINE (SEE SHEET VT108)

MATCHLINE (SEE SHEET VT101)

MATCHLINE (SEE SHEET VT102)

MATCHLINE (SEE SHEET VT106)

MATCHLINE (SEE SHEET VT104)

093-008
N/F
J F WHITE CONTRACTING CO
L.C.C. 113707

0 MAPLE STREET
093-011
N/F
EDWARDS ACQUISITION LLC
L.C.C. 172716

0 MAPLE STREET
093-012
N/F
EDWARDS ACQUISITION LLC
L.C.C. 172716

30R OLD PAGE STREET
093-019
N/F
FOREST FLOOR NOMINEE REALTY TRUST
19960/494

1157-1185 TURNPIKE STREET
093-016
N/F
T L EDWARDS INC
11361/727

0 PAGE STREET
a/k/a OLD PAGE STREET
093-017
N/F
T L EDWARDS INC
11469/47

TP-3 ELEV=229.4

TP/T-6 ELEV=236.2

TP/T-7 ELEV=236.3

DB-5 ELEV=239.1

INV=233.20

INV=230.30

GR=233.44
TOP=230.74

GRAVEL HAUL ROAD

GRAVEL AREA

PILE

BROKEN BIT

CONEY BOXES

I.W.

24" CMP

CONC. RET. WALL

STONE RETAINING WALL

SCALE: 1 INCH = 40 FEET

MA NAD 83

PROJECT NO. 151022801

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

1/5/2023

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BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT103
Date: JANUARY 5, 2023	
Drawn By: BAL	
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MATCHLINE (SEE SHEET VT103)

MATCHLINE (SEE SHEET VT102)

MATCHLINE (SEE SHEET VT107)

1157-1185 TURNPIKE STREET
093-016
N/F
T L EDWARDS INC
11361/727

093-015
N/F
AGGREGATE INDUSTRIES
25568/516

0 PAGE STREET
a/k/a OLD PAGE STREET
093-017
N/F
T L EDWARDS INC
11469/47

#1101
092-005
N/F
SIMEONE CORP
4801/749

#1
092-021
N/F NSHE STOUGHTON I LLC
21758/350

TP11
ELEV=258.6

TP-8
ELEV=257.3

LB-6
ELEV=236.2

GRAVEL HAUL ROAD

GRAVEL AREA

PILE

RIDGE LINE

100' WETLAND BUFFER ZONE

50' NO TOUCH BUFFER ZONE

WETLAND SERIES W2
ISOLATED VEGETATED WETLAND (IVW)

2-18(UPLAND)
2-1
2-2
2-3
2-4
2-5
2-6
2-7
2-8
2-9
2-10
2-11
2-12
2-13
2-14
2-15
2-16
2-17
2-18
2-18(WETLAND)

ESTIMATED WETLAND BOUNDARY

MA NAD 83

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

1/5/2023

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BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

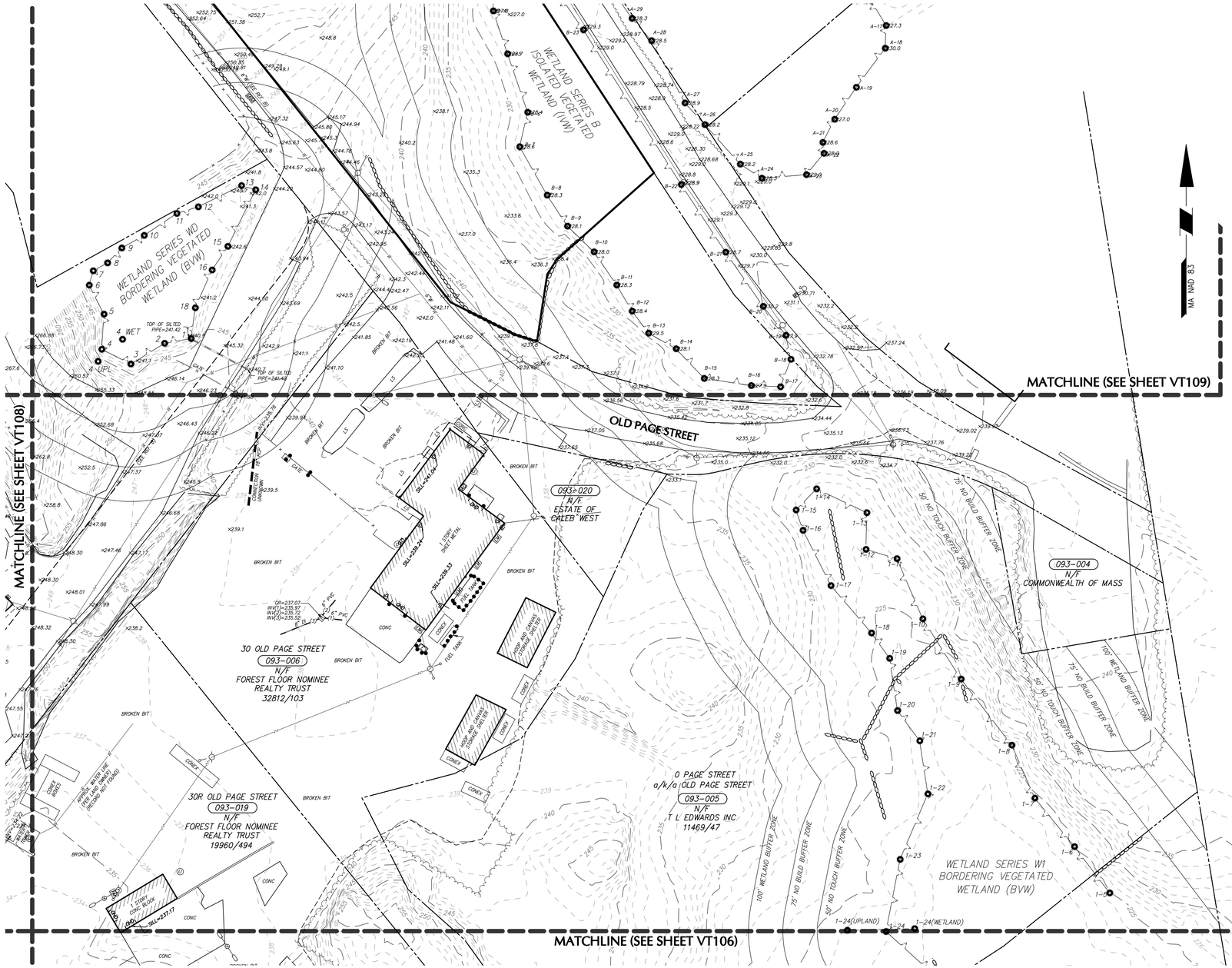
Drawing Title
TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT104
Date: JANUARY 5, 2023	
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Checked By: ICW	Sheet 6 of 11

PROJECT NO. 151022801

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Project
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BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
TOPGRAPHIC PLAN

IAN C. WISURI No. 47403 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

1/5/2023

SCALE: 1 INCH = 40 FEET

Project No.	Drawing No.
151022801	VT105
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 7 of 11

PROJECT NO. 151022801

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MATCHLINE (SEE SHEET VT105)

MATCHLINE (SEE SHEET VT103)

MATCHLINE (SEE SHEET VT107)

0 PAGE STREET
a/k/a OLD PAGE STREET
093-005
N/F
T. L EDWARDS INC
11469/47

30R OLD PAGE STREET
093-019
N/F
FOREST FLOOR NOMINEE
REALTY TRUST
19960/494

1157-1185 TURNPIKE STREET
093-018
N/F
T L EDWARDS INC
11361/727

0 PAGE STREET
a/k/a OLD PAGE STREET
093-017
N/F
T L EDWARDS INC
11469/47

0 PAGE STREET
a/k/a OLD PAGE STREET
093-003
N/F
T L EDWARDS INC
11469/47

#30

ESTIMATED WETLAND BOUNDARY

WETLAND SERIES W1
BORDERING VEGETATED
WETLAND (BVW)

WETLAND SERIES W1

WETLAND SERIES W1
BORDERING VEGETATED
WETLAND (BVW)

1-24(UPLAND)
1-24(WETLAND)
1-24
1-25
1-26
1-27
1-28
1-29
1-30
1-31
1-32
1-34
1-35(UPLAND)
1-35(WETLAND)
1-36
1-37
1-38
1-39
1-58
1-59
1-60
1-61
1-62
1-63
1-64
1-65
1-67
1-68
1-69
1-70
1-71
1-72
1-73
1-74
1-75
1-76
1-77
1-78
1-79
1-81

TP/IT-9
ELEV=234.1

TP/IT-10
ELEV=235.1

LB-7
ELEV=235.5

INV=225.55

INV=223.93

100' WETLAND BUFFER ZONE

75' NO BUILD BUFFER ZONE

50' NO TOUCH BUFFER ZONE

APPROX LOCATION OF WLFT-80 (UNDER DOWNED TREE)

AM VETS MEMORIAL HIGHWAY (ROUTE 24)

MA NAD 83

1/5/2023

SCALE: 1 INCH = 40 FEET

Date	Description	No.
REVISIONS		

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Project
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INDUSTRIAL
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ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

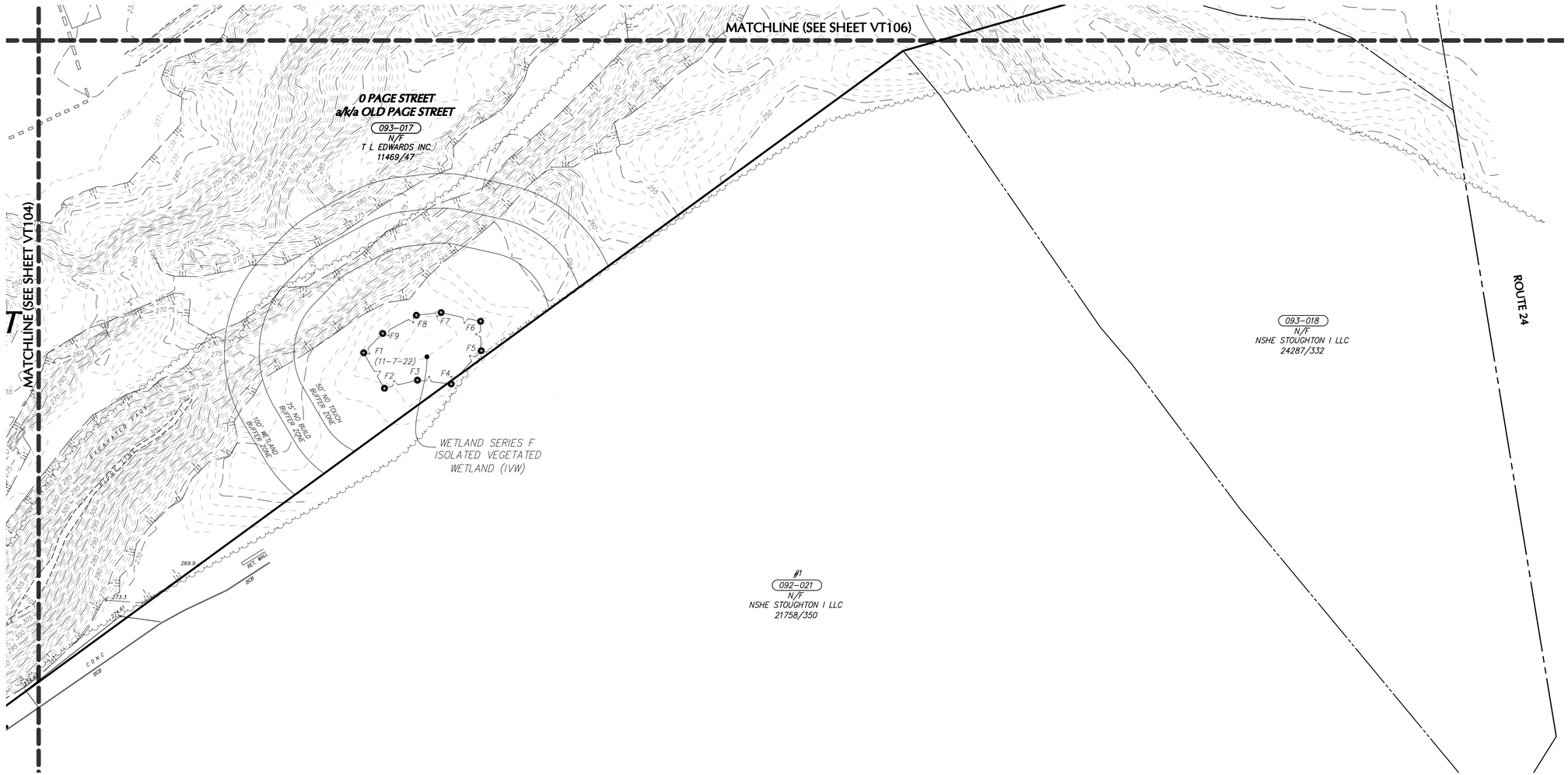
Drawing Title
TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT106
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 8 of 11

PROJECT NO. 151022801

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BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY **MASSACHUSETTS**

Drawing Title
TOPGRAPHIC PLAN

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

1/5/2023

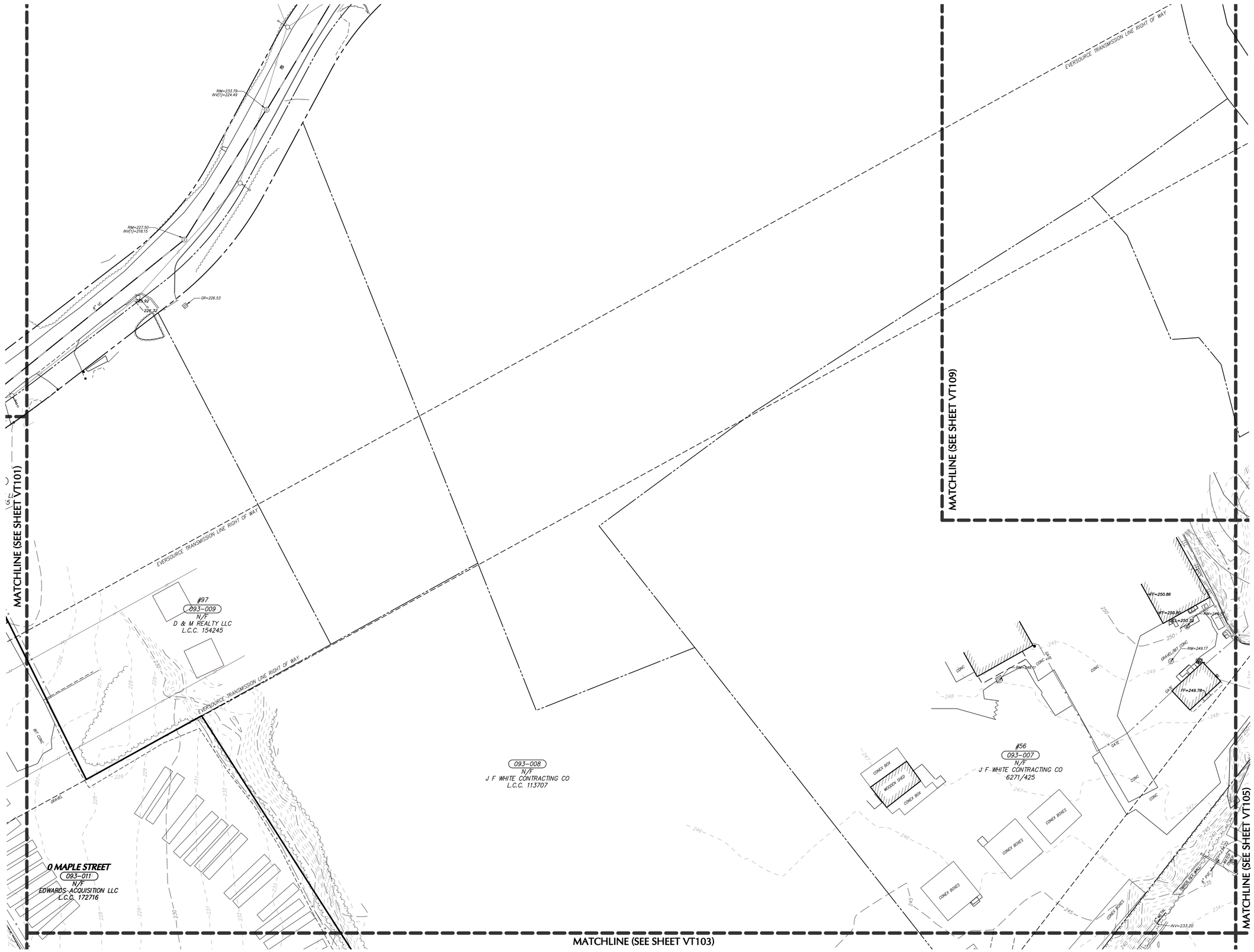
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SCALE: 1 INCH = 40 FEET

Project No.	Drawing No.
151022801	VT107
Date: JANUARY 5, 2023	
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Date	Description	No.
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Project

STOUGHTON, MA
INDUSTRIAL
BROOKFIELD

ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON

NORFOLK COUNTY **MASSACHUSETTS**

Drawing Title

TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT108
Date: JANUARY 5, 2023	
Drawn By: BAL	
Checked By: ICW	Sheet 10 of 11

IAN C. WISURI No.47403 REGISTERED PROFESSIONAL LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

1/5/2023

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

PROJECT NO. 151022801

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MATCHLINE (SEE SHEET VT105)

MATCHLINE (SEE SHEET VT108)

EVERSOURCE TRANSMISSION LINE RIGHT OF WAY

EVERSOURCE TRANSMISSION LINE RIGHT OF WAY

162 PAGE STREET
(094-050)
N/F
T L EDWARDS INC
34595/545

WETLAND SERIES A
ISOLATED VEGETATED
WETLAND (IVW)

WETLAND SERIES B
ISOLATED VEGETATED
WETLAND (IVW)

WETLAND SERIES WD
BORDERING VEGETATED
WETLAND (BVW)

MA NAD 83

LANGAN

PROJECT NO. 151022801

IAN C. WISURI
No. 47403
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

1/5/2023

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
REVISIONS		

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Project
STOUGHTON, MA
INDUSTRIAL
BROOKFIELD
ASSESSOR MAP 093, LOTS 11-14, 16, 17
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
TOPGRAPHIC PLAN

Project No.	Drawing No.
151022801	VT109
Date: JANUARY 5, 2023	
Drawn By: BAL	
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ACCESSIBILITY NOTES

1. WALKWAYS ALONG ACCESSIBLE ROUTES SHALL NOT EXCEED 5% RUNNING SLOPE OR 2% CROSS SLOPE.
2. ALL ADA PARKING SPACES AND PASSENGER LOADING ZONES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ADA EGRESSES SHALL BE FLUSH WITH ADJOINING MATERIAL UNLESS NOTED OTHERWISE.
4. ALL RAMPS SHALL NOT EXCEED 1:12 OR 2% CROSS SLOPE.
5. CONTRACTOR SHALL CONFIRM FIELD CONDITIONS ARE CONSISTENT WITH CONSTRUCTION DOCUMENTS AND NOTIFY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, INC. OF ANY COMPLIANCE ISSUES PRIOR TO CONSTRUCTION.

UTILITY NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE DOMESTIC AND FIRE SERVICE LINE CONNECTIONS TO EXISTING MAINS.
2. TEST PITS ARE TO BE PERFORMED PRIOR TO INSTALLATION OF DOMESTIC AND FIRE SERVICE LINE CONNECTIONS TO CONFIRM THE SIZE AND MATERIAL OF THE MAIN.
3. TAPPING SLEEVES AND GATE VALVE ASSEMBLIES SHALL BE INSTALLED AT EACH DOMESTIC AND FIRE SERVICE LINE CONNECTION AND SHALL BE MANUFACTURED BY CLOW VALVE CO., MUELLER CO., OR AMERICAN VALVE AND HYDRANT.
4. SCHEDULING OF ALL DOMESTIC AND FIRE SERVICE LINE CONNECTION WORK SHALL BE COORDINATED WITH THE TOWN OF STOUGHTON WATER DEPARTMENT AND SEWER DEPARTMENT TO ALLOW FOR A REPRESENTATIVE FROM THE AGENCY TO BE ONSITE TO OVERSEE THE CONNECTIONS AND PERFORM A WATER SHUTDOWN AS NEEDED.
5. WATER METERS AND ASSOCIATED ENCODER RECEIVER TRANSMITTER EQUIPMENT SHALL BE COMPATIBLE WITH THE TOWN'S EXISTING METER READING SYSTEM AND SHALL BE RATED FOR BELOW-GRADE OPERATION.
6. ALL WATER MAINS AND SERVICES SHALL HAVE A MINIMUM OF 5'-0" OF COVER. INSULATION SHALL BE USED FOR ANY MAINS AND SERVICES RECEIVING LESS THAN 5'-0" OF COVER. INSULATION SHALL BE 2-INCHES THICK, "FOAMGLASS" STYLE WITH JACKETING AS MANUFACTURED BY PITTSBURGH CORNING CORP IN ACCORDANCE WITH AWWA C552.
7. ALL WATER MAINS AND SERVICES SHALL MAINTAIN A MINIMUM VERTICAL SEPARATION OF 18-INCHES FROM OTHER UTILITIES WITH STRICT ADHERENCE TO THIS SEPARATION FOR SEWER AND DRAIN LINES IN ACCORDANCE WITH MASSDEP'S GUIDELINES AND POLICIES FOR PUBLIC WATER SYSTEMS. IF ADEQUATE SEPARATION IS NOT MAINTAINED, PIPELINES SHALL BE SLEEVED OR ENCASED IN FLOWABLE AND EXCAVATABLE CONCRETE. IN ADDITION, NO WATER MAINS OR SERVICES SHALL BE INSTALLED WITHIN THE SAME TRENCH AS OTHER UTILITIES. A MINIMUM OF 10-FEET OF HORIZONTAL SEPARATION FROM SEWER OR DRAIN LINES SHALL BE MAINTAINED.
8. WATER FLOW ISOLATION VALVES SHALL OPEN LEFT (COUNTERCLOCKWISE) AND BE RESILIENT SEAT GATE VALVES.
9. VALVE BOXES SHALL BE CAST IRON, ADJUSTABLE SLIDING HEAVY PATTERN TYPE WITH FLANGE ON THE TOP OF THE SECTION, BE STAMPED "WATER" ON THE TOP COVER, BE DIRT-TIGHT, AND FULLY ENCLOSE THE VALVE OPERATING NUT AND STUFFING BOX.
10. HYDRANTS SHALL HAVE DRAINS AND OPEN LEFT (COUNTERCLOCKWISE).
11. HYDRANT PAINT SHALL BE ORANGE (BARREL), REFLECTIVE WHITE (BONNET AND PUMPER NOZZLE CAP), AND BLACK (SIDE NOZZLE CAPS AND OPERATING NUT). ALL HYDRANTS THAT WILL BE OWNED BY THE TOWN SHALL BE PAINTED RED.
12. ALL FIRE HYDRANTS SHALL RECEIVE AN ISOLATION VALVE ALONG THE HYDRANT LATERAL AND A MINIMUM OF TWO PROTECTIVE BOLLARDS.
13. THE DEVELOPER SHALL PROVIDE AS-BUILT RECORD DRAWINGS OF ALL NEW AND EXISTING WATER INFRASTRUCTURE TO THE TOWN OF STOUGHTON WATER DEPARTMENT AND SEWER DEPARTMENT AT THE COMPLETION OF CONSTRUCTION.

GENERAL NOTES

1. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND AND AERIAL SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. FIELD WORK COMPLETED DURING THE MONTH OF DECEMBER 2021 AND INCLUDE REVISED SURVEY MAPS DATED JANUARY 18, 2022.
2. THE SITE LIES IN FLOOD ZONE X AS SHOWN ON THE "FLOOD INSURANCE RATE MAPS" NORFOLK COUNTY, MASSACHUSETTS, FEMA MAP NUMBER 25021C0214E EFFECTIVE JULY 17, 2012.
3. WETLANDS DELINEATED BY EPSILON ASSOCIATES, INC. ON OCTOBER 23, 2021 AND DURING THE MONTHS OF MAY AND JUNE 2022.
4. PROPOSED SITE WORK IMPROVEMENTS SHALL CONFORM TO THE STANDARD DETAILS AND SPECIFICATIONS OF THE TOWN OF STOUGHTON. IN THE ABSENCE OF LOCAL STANDARDS, SITE WORK SHALL CONFORM TO THE REQUIREMENTS OF MASSACHUSETTS DOT STANDARD DETAILS AND TENANT DESIGN GUIDELINES.
5. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE (WWW.DIGSAFE.COM), EXCAVATION TEST HOLES, PERFORMING TEST BORINGS, AND PERFORMING WHATEVER ADDITIONAL INVESTIGATION NECESSARY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES TO REMAIN THROUGHOUT THE CONSTRUCTION PERIOD. ANY CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED UTILITIES DISCOVERED DURING CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER.
6. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS, DIMENSIONS AND DETAILS OF ALL DOORS, RAMPS, SIDEWALKS AND WALLS ASSOCIATED WITH THE BUILDING.
7. ALL IMPROVEMENTS CONSTRUCTED IN THE TOWN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO TOWN OF STOUGHTON STANDARD DETAILS. IN THE ABSENCE OF LOCAL DETAILS & REQUIREMENTS AND WORK IN THE STATE RIGHT-OF-WAY SHALL COMPLY WITH THE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2021 EDITION) AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS (DATED SEPTEMBER 30, 2021).
8. FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
9. ALL SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION REGULATIONS.
10. CONTRACTOR SHALL PREVENT DUST, SEDIMENT AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. ADJOINING STREETS AND PROPERTIES TO BE KEPT FREE OF DEBRIS RESULTING FROM DEMOLITION AND SHALL BE CLEANED ON A DAILY BASIS OR AS NEEDED.
11. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST WHICH MAY CAUSE OFF-SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY.
12. ABBREVIATIONS:
    ARCH. = ARCHITECTURAL
    CONC. = CONCRETE
    INV = INVERT
    EX = EXISTING
    HDPE = HIGH DENSITY POLYETHYLENE PIPE
    PR. = PROPOSED
    RET. = RETAINING
    R&D = REMOVE & DISPOSE
    R&R = REMOVE & REPLACE
    TYP. = TYPICAL
    SWL = SINGLE WHITE LINE
    SYL = SINGLE YELLOW LINE
    CB = CATCH BASIN
    MH = MANHOLE
    DMH = DRAIN MANHOLE
    DCB = DOUBLE CATCH BASIN
    TF = TOP OF FRAME
    INV = INVERT
    YRD = YARD DRAIN
    FES = FLAIRED END SECTION
    AD = AREA DRAIN
    EMH = ELECTRIC MANHOLE
    R.O.W = RIGHT OF WAY
    CO = CLEAN OUT
    CLDI = CONCRETE LINED DUCTILE IRON
    PVC = POLYVINYL CHLORIDE PIPE (SDR-35)
    OCS = OUTLET CONTROL STRUCTURE
    RCP = REINFORCED CONCRETE PIPE
    LF = LINEAR FEET
    RL = ROOF LEADER
    TC = TOP OF CURB
    BC = BOTTOM OF CURB
    TW = TOP OF WALL
    BW = BOTTOM OF WALL
    HP = HIGHPOINT
    LA = LANDSCAPED AREA
    GR = GRADE
    N.T.S. = NOT TO SCALE
    LF = LINEAR FEET
    SSMH = SANITARY SEWER MANHOLE
    FFE = FINISHED FLOOR ELEVATION
    AUL = ACTIVITY AND USE LIMITATION
    HH = HANDHOLE
14. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN HEREON IS TAKEN FROM DESIGN PLANS, AS-BUILT SKETCHES, EXISTING UTILITY COMPANY RECORDS, AND OTHER SOURCES OF INFORMATION AND IS NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY AND IS SUBJECT TO SUCH CORRECTIONS THAT A MORE ACCURATE SURVEY MAY DISCLOSE.
15. THE EXISTING UTILITIES INDICATED HEREON MAY NOT BE LOCATED AS SHOWN. IN ADDITION, OTHER UTILITIES NOT SHOWN HEREON MAY BE PRESENT. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER.
16. ALL UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS/DETAILS OF THE UTILITY COMPANY HAVING AUTHORITY OVER THE PROPOSED WORK. ALL PROPOSED UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ORDINANCES/REQUIREMENTS GOVERNING THE PROPOSED WORK.
17. ANY UTILITY EASEMENTS REQUIRED BY ANY OF THE VARIOUS UTILITY COMPANIES SHALL BE OBTAINED, EXECUTED, AND RECORDED PRIOR TO ANY OF THE AFFECTED UTILITY WORK BEING PERFORMED.
18. ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND UNLESS OTHERWISE NOTED.
19. RESET ALL EXISTING SANITARY AND DRAINAGE STRUCTURES TO MASSACHUSETTS STATE STANDARDS AND AS REQUIRED BY REPAIRING, MILLING OR OVERLAYING.
20. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER.
21. ALL PROPOSED STORM DRAINAGE PIPING TO UTILIZE WATER-TIGHT JOINTS.
22. CLEANOUTS SHALL BE PROVIDED FLUSH TO GRADE AT ALL LOCATIONS OF ROOF DRAIN INTERSECTIONS, BENDS AND UPSTREAM ENDS.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SIZING ALL DRAINAGE STRUCTURES AND SUBMITTING SHOP DRAWINGS TO ENGINEER FOR REVIEW.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAVEMENT REPAIRS REQUIRED AS A RESULT OF ANY UTILITY WORK.
25. ALL RADII ARE 3 FEET UNLESS OTHERWISE NOTED.
26. CONCRETE JOINTS ON SITE ARE TO BE FILLED WITH HOT-APPLIED JOINT FILLER, TO INCLUDE CONCRETE PAVEMENTS, MONOLITHIC CURBING AND MONOLITHIC SIDEWALKS.
27. BOTTOM AND TOP OF RETAINING WALL ELEVATION SPOT SHOTS REPRESENT THE BASE OF THE WALL AT FINISHED GROUND LEVEL AND THE TOP OF THE FACE OF THE WALL RESPECTIVELY.
28. SPOT SHOTS ALONG CURB LINES REPRESENT THE BASE OF THE CURB UNLESS NOTED OTHERWISE.
29. ALL ON-SITE CONCRETE TO BE 4,500 PSI WITH 5% TO 7% AIR ENTRAINMENT UNLESS OTHERWISE NOTED.
30. ALL CURBING IS 6 INCHES UNLESS OTHERWISE NOTED.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SIDE YARD SETBACK LINE		
REAR YARD SETBACK LINE		
WETLAND LIMITS		
50' NO TOUCH ZONE		
75' NO BUILD ZONE		
100' BUFFER ZONE		
BUILDING LINE		
LOADING DOOR LOCATION		
PEDESTRIAN DOOR LOCATION		
MATCHLINE		
CURB LINE (6" UNLESS OTHERWISE NOTED)		
SIGN		
STEEL BOLLARD		
CONCRETE		
HEAVY DUTY CONCRETE		
STANDARD DUTY ASPHALT		
GRAVITY SANITARY LINE		S
SANITARY MANHOLE	S	
STORMWATER MANAGEMENT FEATURE		
RAIN GARDEN		
SNOW STORAGE		
PAVEMENT DEMOLITION		
FULL DEPTH PAVEMENT CONSTRUCTION MILL AND OVERLAY PAVEMENT		
WATER LINE	UW	UW
FIRE SERVICE LOOP		UFW
UNDERGROUND TELECOMMUNICATIONS		UT
UNDERGROUND ELECTRIC		UE
UNDERGROUND GAS		UG
STORM PIPE		
CATCH BASIN		
STORM DRAIN MANHOLE	D	
CONTOUR	322	135
SPOT ELEVATION	X 262.3	X 135.19
TOP OF FINISHED GRADE AT WALL		TW 135.19
BOTTOM OF FINISHED GRADE AT WALL		BW 135.19
RETAINING WALL		
8" WHITE PVC FENCE		
HYDRANT		
GATE VALVE		
TEST PIT	TP-201	
BORING	LB-1	

SOIL EROSION-SEDIMENT CONTROL NOTES

PROPOSED DEVELOPMENT

1. CONSTRUCTION WILL INCLUDE EARTHWORK, CURBING, PAVING, UTILITY INSTALLATION, LANDSCAPING AND BUILDING CONSTRUCTION. ALL DEMOLITION DEBRIS AND SOIL REMOVAL RELATED TO CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL LAWS GOVERNING SUCH ACTIVITIES.
2. THE DETAILED EROSION AND SEDIMENT CONTROL MEASURES ARE SHOWN ON DRAWINGS CE101 AND CE102. THE PROPOSED MEASURES HAVE BEEN DESIGNED TO LIMIT THE MIGRATION OF SOIL SEDIMENT FROM THE SITE. HOWEVER, THE SITE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROLS AND SHALL SUPPLEMENT AND ADJUST THE PLAN AS NEEDED TO PREVENT SOIL EROSION TO THE MAXIMUM EXTENT FEASIBLE. TEMPORARY SEDIMENT BASINS ARE NOT SHOWN ON THE PLANS AS THE EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT TEMPORARY SEDIMENT BASINS THROUGHOUT THE SITE AS NEEDED TO CONTROL SITE RUNOFF AND PREVENT SEDIMENT MIGRATION.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE SOIL AND SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IN ACCORDANCE WITH THE LOCAL GOVERNING AUTHORITY, THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES AND THE MASSACHUSETTS STORMWATER STANDARDS.
2. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF DEMOLITION AND CONSTRUCTION AND DISTURBANCE OF SITE CONTRIBUTORY DRAINAGE AREAS. THE OWNER OR ITS CONTRACTOR SHALL INSPECT, REPAIR AND REMOVE ALL SEDIMENT AND EROSION CONTROL DEVICES, AS INDICATED HEREIN. ALL EARTH CHANGES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME. CLEARING SHALL BE PHASED TO THE EXTENT FEASIBLE TO LIMIT POTENTIAL FOR SOIL EROSION.
3. DISPOSAL OF COLLECTED SEDIMENT SHALL BE MADE TO AREA DESIGNATED BY THE OWNER'S SOIL ENGINEER.
4. FILTER FABRIC/SILT FENCE WILL BE INSTALLED ALONG THE TOE OF ALL CRITICAL CUT AND FILL SLOPES.
5. ALL TOPSOIL NOT TO BE USED FOR FINAL GRADING/LANDSCAPED AREAS SHALL BE REMOVED FROM THE SITE IMMEDIATELY, IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL LAW. ALL TOPSOIL TO BE USED IN LANDSCAPED AREAS SHALL BE STORED/STOCKPILED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL LAW STANDARDS.
6. THE SITE SHALL BE WETTED AS NECESSARY TO PROVIDE DUST CONTROL.
7. PAVEMENT BASE COURSE MUST BE PLACED IN ALL NEW ROADWAY AREAS UPON COMPLETION OF FINE GRADING.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL PAVED ROADWAYS, ON AND OFF-SITE, WHICH MUST BE KEPT FREE OF SITE GENERATED SEDIMENT AT ALL TIMES. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHOD.
9. ALL STORM DRAINAGE OUTLETS MUST BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
10. SILT FENCES AND BARRIERS MUST BE CLEANED OR REPLACED PERIODICALLY TO REMOVE BUILT-UP SILT.
11. ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 0.25 INCHES OR MORE OF RAIN.
12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR FROM DISTURBED AREAS SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.
13. THE CONTRACTOR SHALL CORRECT ANY OMISSIONS, ERRORS, OR FIELD OPERATIONS IMMEDIATELY AND IN ACCORDANCE WITH THE GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
14. THE PROPERTY OWNER AND/OR HIS/HER AGENTS MUST MAINTAIN (REPAIR/REPLACE), WHEN NECESSARY, THE SILTATION CONTROL UNTIL ALL DEVELOPMENT ACTIVITY IS COMPLETED AND ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED.

TEMPORARY STABILIZATION

SEDIMENT DISPOSAL AREAS AND TOPSOIL STOCKPILES NOT SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN FOURTEEN (14) DAYS OF DISTURBANCE SHALL BE STABILIZED AS FOLLOWS:

A. SOIL AMENDMENTS AS NECESSARY.
B. ANNUAL RYE GRASS SEEDING APPLIED AT A RATE OF NOT LESS THAN 1 LB. PER 1,000 SF.
C. MULCH ALL NEWLY SEEDED AREAS WITHIN 80 LBS. OF SALT HAY OR SMALL GRAIN STRAW PER 1,000 SF.
D. WHEN DISTURBED AREAS ARE SCHEDULED FOR IMMEDIATE LANDSCAPING THEY MAY BE MULCHED AND SEEDED PER ITEM C ABOVE.

PERMANENT STABILIZATION

REFER TO PLANS FOR PERMANENT STABILIZATION METHODS + PROPOSED SEED MIXES.

A. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL DISTURBED LAND AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADING. MULCH AS NECESSARY FOR SEED PROTECTION AND ESTABLISHMENT. AMEND SOIL AS NEEDED PRIOR TO PERMANENT SEEDING. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER COMPLETION OF AN EARTH CHANGE OR WHEN SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. ALL DISTURBED AREAS, STOCKPILES OF FILL OR EXCAVATED MATERIAL SHALL BE STABILIZED IN SUCH A MANNER AS NOT TO CAUSE UNREASONABLE HAZARD TO PERSONS OR PROPERTY.
B. MATERIALS SPECIFICATION: LAWN + MEADOW AREAS
   (I) ANY SOIL HAVING A pH OF FOUR OR LESS CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE INCHES OF SOIL HAVING A pH OF FIVE OR MORE PRIOR TO SEED BED PREPARATION.
C. MULCHING SHALL BE DONE AT THE RATE OF SEVENTY TO NINETY POUNDS (70-90 LBS) PER 1,000 SQUARE FEET WITH UNROTTED SALT HAY.
D. LIQUID MULCH BINDERS MUST BE USED TO ANCHOR SALT HAY, HAY OR STRAY MULCHES.
   (I) APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH IN VALLEYS AND AT CREATED BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   (II) USE ONE OF THE FOLLOWING: SYNTHETIC OR ORGANIC BINDERS, BINDERS SUCH AS CURASOL DCA-70, PETRO SET, TERRA TACH, HYDRO MULCH AND AEROSPRAY MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER OF ANCHOR MULCH MATERIALS. BINDERS CONTAINING PETROLEUM PRODUCTS SHALL NOT BE USED.
   NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE TO THE EXCLUSION OF OTHER PRODUCTS.
D. FILL MATERIAL SHALL BE FREE FROM DEBRIS, PERISHABLE OR COMBUSTIBLE MATERIAL AND FROZEN OR WET EARTH OR STONES LARGER THAN THREE INCHES IN MAXIMUM DIMENSION.
E. CONSTRUCTION AREAS SHALL BE PERIODICALLY SPRAYED WITH WATER UNTIL THE SURFACE IS WET TO CONTROL THE GENERATION OF DUST.
F. ALL REVISIONS AFTER APPROVAL HAS BEEN GRANTED SHALL BE FORWARDED TO THE APPROPRIATE DISTRICT FOR REVIEW.
G. THE LOCAL GOVERNING AUTHORITY SHALL RECEIVE WRITTEN NOTIFICATION SEVENTY TWO HOURS BEFORE THE START OF ANY CONSTRUCTION.
H. SEEDBED PREPARATION:
   (I) TOPSOIL SHOULD BE A MINIMUM OF SIX INCHES DEEP (LIGHTLY COMPACTED) BEFORE SEEDING.
   (II) TOPSOIL SHALL BE TESTED PRIOR TO SEEDING.
   (III) WORK SOIL AMENDMENTS INTO SOIL AS NECESSARY AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE ALL CLAY OR SILTY SOIL AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEED BED WHEREVER FEASIBLE.
   (IV) REMOVE FROM THE SURFACE ALL STONES ONE INCH OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
   (V) INSPECT SEED BED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT SOIL COMPACT, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

CONTINGENCY SOIL EROSION AND SEDIMENT CONTROL NARRATIVE

1. THE GENERAL CONTRACTOR WILL DESIGNATE PERSONNEL FOR 24 HOUR EMERGENCY RESPONSE IN THE EVENT OF SEVERE WEATHER AND INCREASED POTENTIAL FOR SEVERE EROSION.
2. THE GENERAL CONTRACTOR IS REQUIRED TO MAINTAIN ON SITE OR HAVE THE ABILITY TO RETRIEVE WITHIN 12 HOURS THE FOLLOWING MATERIALS IN THE EVENT THAT THERE ARE DEFICIENCIES IN THE SESC MEASURES:
   A. 25% OF THE INSTALLED LENGTH OF SILT FENCE
   B. EQUIVALENT TONNAGE OF STONE FOR STABILIZATION OF 2 STABILIZATION ENTRANCES. STONE COULD BE USED FOR SLOPE REPAIRS, ENERGY DISSIPATER ENHANCEMENTS, ETC.
   C. HEAVY EQUIPMENT CAPABLE OF TRENCHING/EXCAVATING LARGE AREAS TO DIVERT AND CONTROL RUNOFF IN A CONTROLLED MANNER.
   D. HAVE DESIGNATED A HYDRO-SEED CONTRACTOR CAPABLE OF RESPONDING TO THE SITE WITHIN 12 HOURS
3. ANY STUMP GRINDINGS OR WOOD CHIPS GENERATED ON-SITE SHOULD BE RETAINED FOR USE TO BACK UP SILT FENCES.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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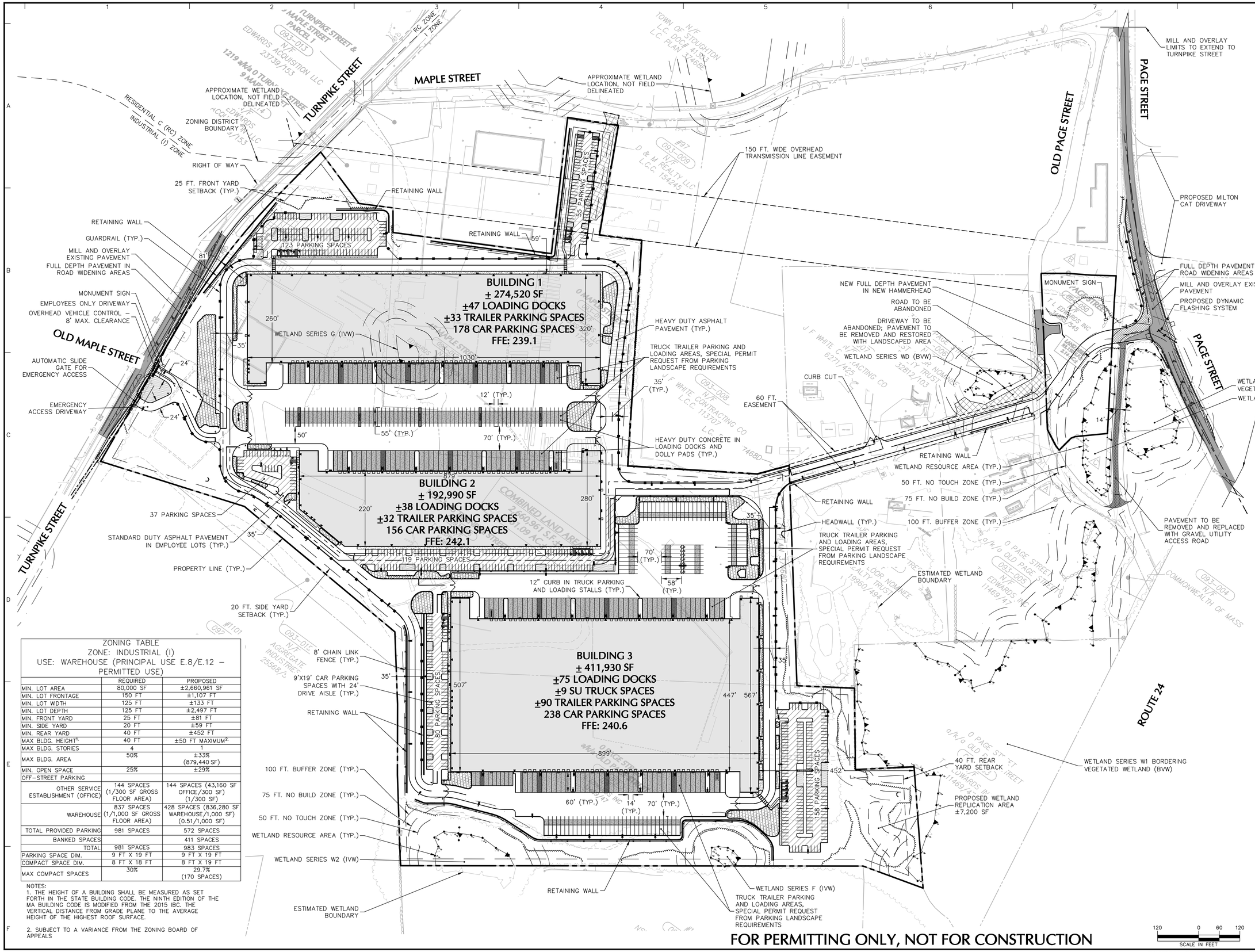
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
MASTER NOTES AND LEGEND

Project No.	Drawing No.
151022801	CS002
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

LANGAN
Project No. 151022801

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ZONING TABLE ZONE: INDUSTRIAL (I) USE: WAREHOUSE (PRINCIPAL USE E.8/E.12 – PERMITTED USE)		
	REQUIRED	PROPOSED
MIN. LOT AREA	80,000 SF	±2,660,961 SF
MIN. LOT FRONTAGE	150 FT	±1,107 FT
MIN. LOT WIDTH	125 FT	±133 FT
MIN. LOT DEPTH	125 FT	±2,497 FT
MIN. FRONT YARD	25 FT	±81 FT
MIN. SIDE YARD	20 FT	±59 FT
MIN. REAR YARD	40 FT	±452 FT
MAX BLDG. HEIGHT[1]	40 FT	±50 FT MAXIMUM[2]
MAX BLDG. STORIES	4	1
MAX BLDG. AREA	50%	±33% (879,440 SF)
MIN. OPEN SPACE	25%	±29%
OFF-STREET PARKING		
OTHER SERVICE ESTABLISHMENT (OFFICE)	144 SPACES (1/300 SF GROSS FLOOR AREA)	144 SPACES (43,160 SF OFFICE/300 SF) (1/300 SF)
WAREHOUSE	837 SPACES (1/1,000 SF GROSS FLOOR AREA)	428 SPACES (836,280 SF WAREHOUSE/1,000 SF) (0.51/1,000 SF)
TOTAL PROVIDED PARKING	981 SPACES	572 SPACES
BANKED SPACES		411 SPACES
TOTAL	981 SPACES	983 SPACES
PARKING SPACE DIM.	9 FT X 19 FT	9 FT X 19 FT
COMPACT SPACE DIM.	8 FT X 18 FT	8 FT X 19 FT
MAX COMPACT SPACES	30%	29.7% (170 SPACES)

NOTES:
1. THE HEIGHT OF A BUILDING SHALL BE MEASURED AS SET FORTH IN THE STATE BUILDING CODE. THE NINTH EDITION OF THE MA BUILDING CODE IS MODIFIED FROM THE 2015 IBC. THE VERTICAL DISTANCE FROM GRADE PLANE TO THE AVERAGE HEIGHT OF THE HIGHEST ROOF SURFACE.

2. SUBJECT TO A VARIANCE FROM THE ZONING BOARD OF APPEALS

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	6
04/10/23	SPECIAL PERMIT APPLICATION	5
02/16/23	PEER REVIEW COMMENTS	4
01/19/23	TRAFFIC PEER REVIEW COMMENTS	3
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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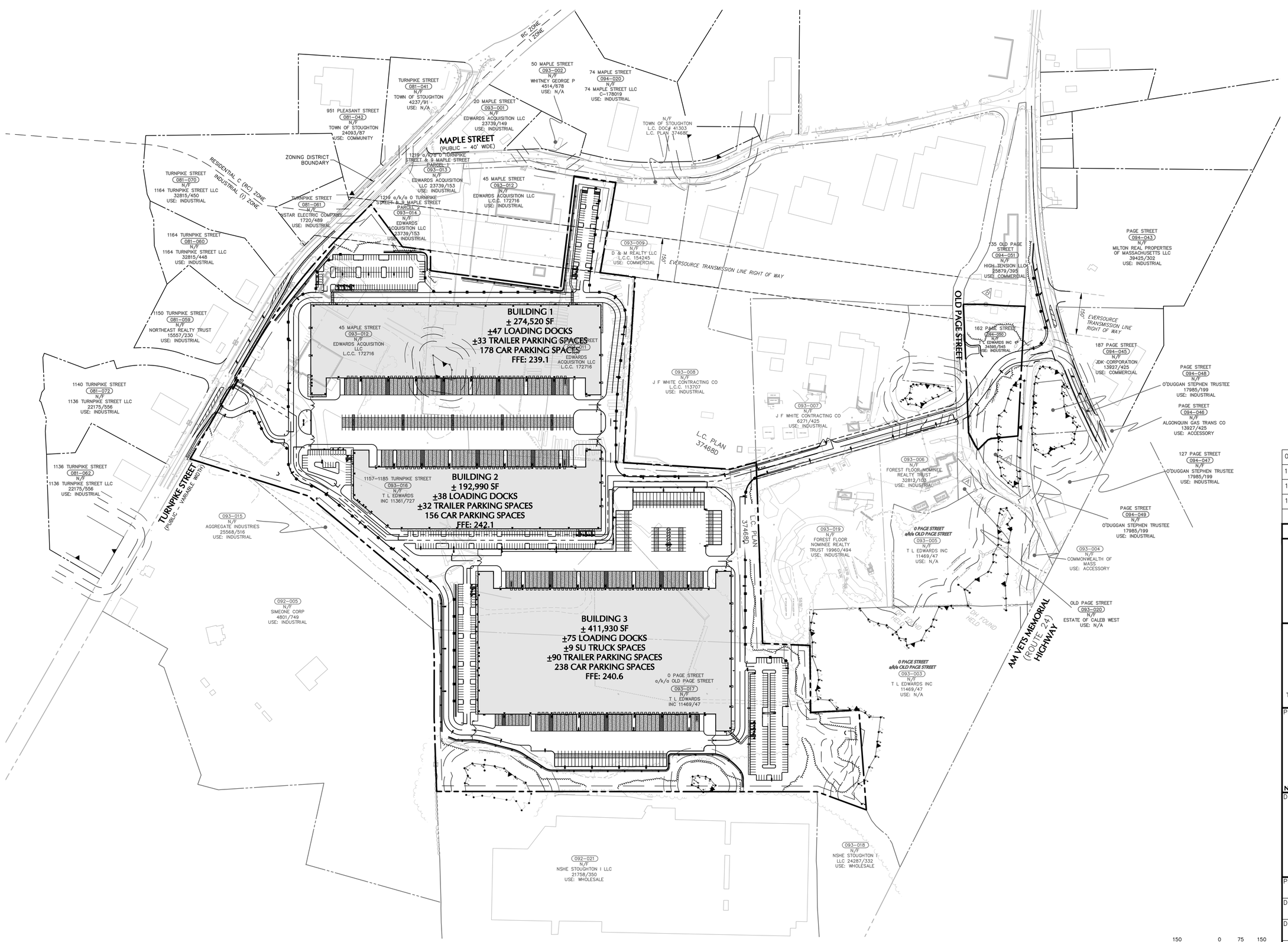
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
OVERALL SITE PLAN

Project No.	Drawing No.
151022801	CS100
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

LANGAN
Project No. 151022801

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Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	4
12/23/22	STORMWATER PEER REVIEW COMMENTS	3
11/03/22	PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES
CIVIL
No. 40203
REGISTERED PROFESSIONAL ENGINEER

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

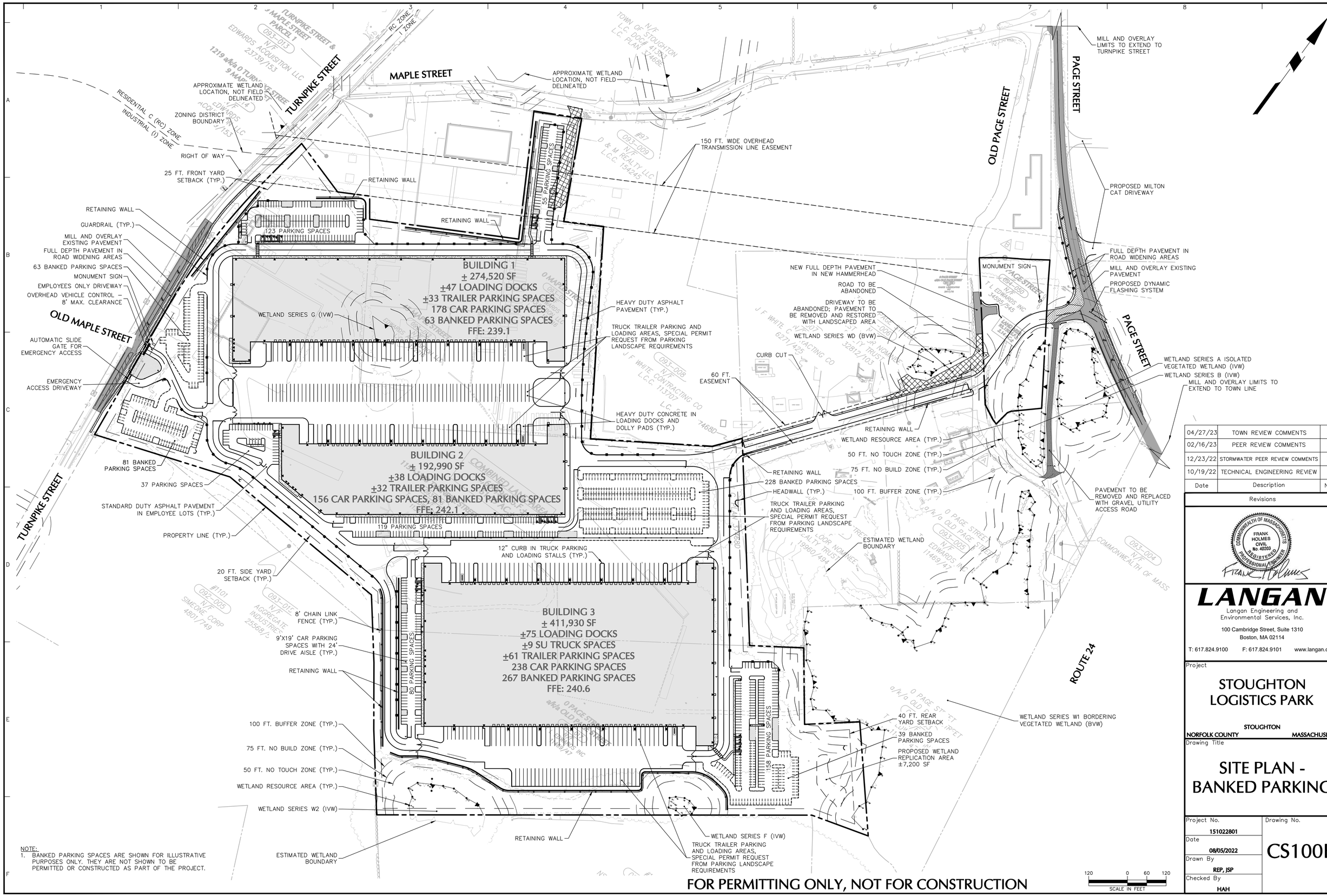
Drawing Title
OVERALL SITE ABUTTER PLAN

Project No.	Drawing No.
151022801	CS100A
Date: 09/29/2022	
Drawn By: REP, JSP	
Checked By: HAH	

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Project No. 151022801

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Date: 2/15/2023 Time: 21:42 User: hholmes Style Table: Langan.stb Layout: CS100 Document Code: 151022801-0501-CS101-0110



NOTE:
1. BANKED PARKING SPACES ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. THEY ARE NOT SHOWN TO BE PERMITTED OR CONSTRUCTED AS PART OF THE PROJECT.

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Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	4
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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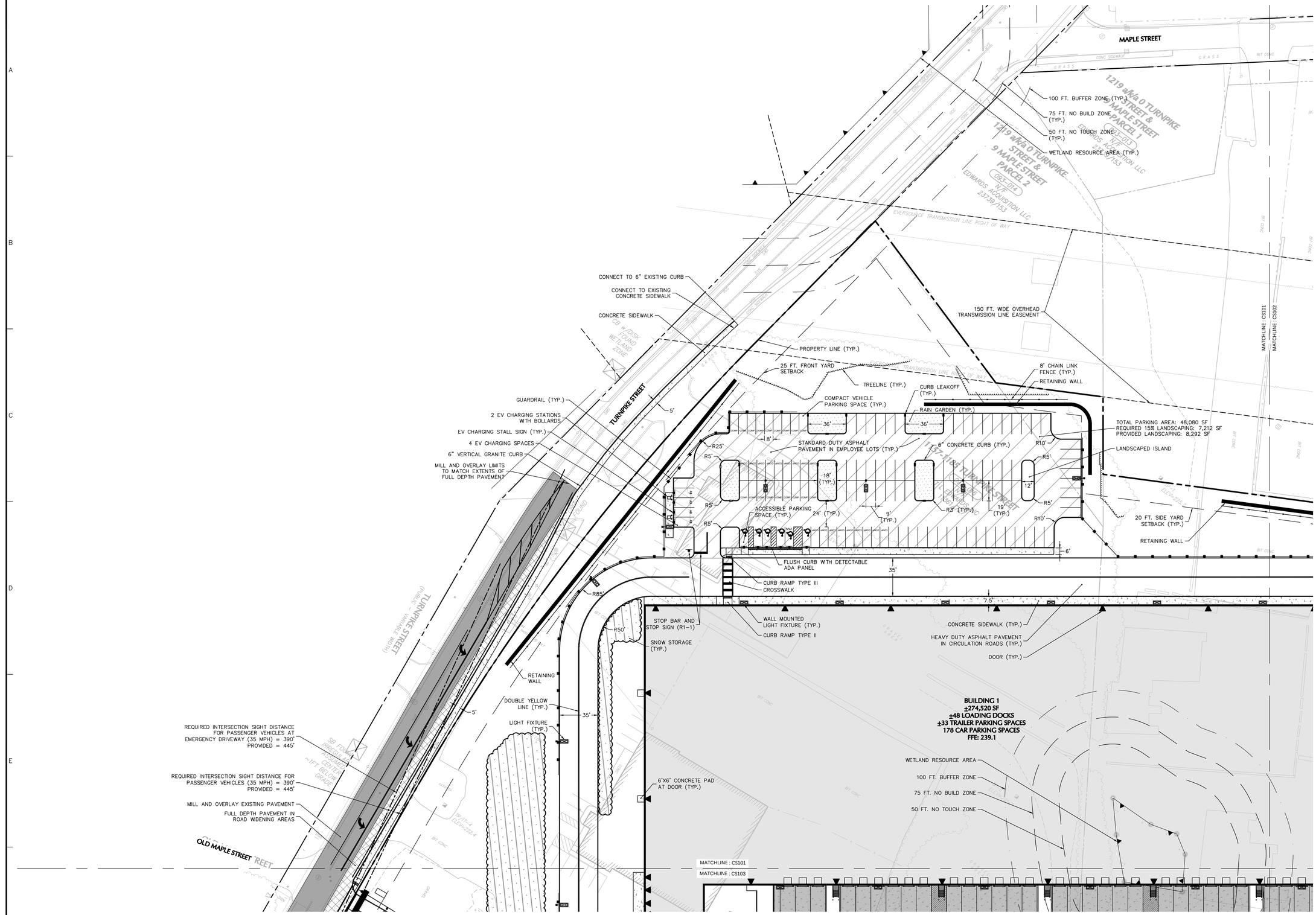
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE PLAN - BANKED PARKING

Project No.	Drawing No.
151022801	CS100B
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

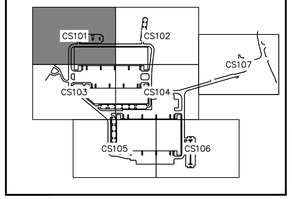
Project No. 151022801

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SHEET LEGEND

1" = 1000'



Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

SITE PLAN I

Project No.	Drawing No.
151022801	CS101
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

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Project No. 151022801

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Date: 2/15/2023 Time: 21:50 User: hholmes Style Table: Langan.stb Layout: CS101 Document Code: 151022801-0501-CS101-0102

MAPLE STREET

45 MAPLE STREET
(083-012)
N/F
EDWARDS ACQUISITION LLC
L.C.C. 172716

EVERSOURCE TRANSMISSION LINE RIGHT OF WAY

MATCHLINE: CS101
MATCHLINE: CS102

150 FT. WIDE OVERHEAD TRANSMISSION LINE EASEMENT

CONCRETE SIDEWALK

SAWCUT
REMOVE EXISTING PAVEMENT
REMOVE EXIST FENCE REPLACE WITH 8' WHITE PVC FENCE
STRIPING FOR NO PARKING AREA
COMPACT VEHICLE PARKING SPACE (TYP.)
CURB LEAKOFF (TYP.)
RAIN GARDEN (TYP.)
STANDARD DUTY ASPHALT PAVEMENT IN EMPLOYEE LOTS
8' CHAIN LINK FENCE (TYP.)
6" CONCRETE CURB (TYP.)

100 FT. BUFFER ZONE (TYP.)
75 FT. NO BUILD ZONE (TYP.)
50 FT. NO TOUCH ZONE (TYP.)
WETLAND RESOURCE AREA (TYP.)

6' 9' 10' 8' 24' 16' (TYP.) 19' (TYP.) 9' (TYP.) R3' (TYP.)

TOTAL PARKING AREA: 21,798 SF
REQUIRED 15% LANDSCAPING: 3,270 SF
PROVIDED LANDSCAPING: 3,294 SF

FLUSH CURB WITH DETECTABLE ADA PANEL
ACCESSIBLE PARKING SPACE (TYP.)
GUARDRAIL (TYP.)
RETAINING WALL
PROPERTY LINE (TYP.)
CURB RAMP TYPE I
R72'
R48'
R10'
R10'
STOP BAR AND STOP SIGN (R1-1)
LIGHT FIXTURE (TYP.)
R85'
20 FT. SIDE YARD SETBACK (TYP.)
DOUBLE YELLOW LINE (TYP.)
CROSSWALK

UNALOT ACQUISITION LLC
L.C.C. 172716

DOOR (TYP.)
CONCRETE SIDEWALK
CURB RAMP TYPE II
WALL MOUNTED LIGHT FIXTURE (TYP.)

R50'
HEAVY DUTY ASPHALT PAVEMENT IN CIRCULATION ROADS (TYP.)
35'
6'
TREELINE (TYP.)

BUILDING 1
±274,520 SF
±48 LOADING DOCKS
±33 TRAILER PARKING SPACES
178 CAR PARKING SPACES
FFE: 239.1

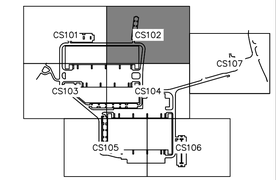
SNOW STORAGE (TYP.)
6'X6' CONCRETE PAD AT DOOR (TYP.)

100 FT. BUFFER ZONE

MATCHLINE: CS102
MATCHLINE: CS104

MATCHLINE: CS102
MATCHLINE: CS107

SHEET LEGEND
1" = 1000'



Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Frank Holmes

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE PLAN II

Project No.	Drawing No.
151022801	CS102
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

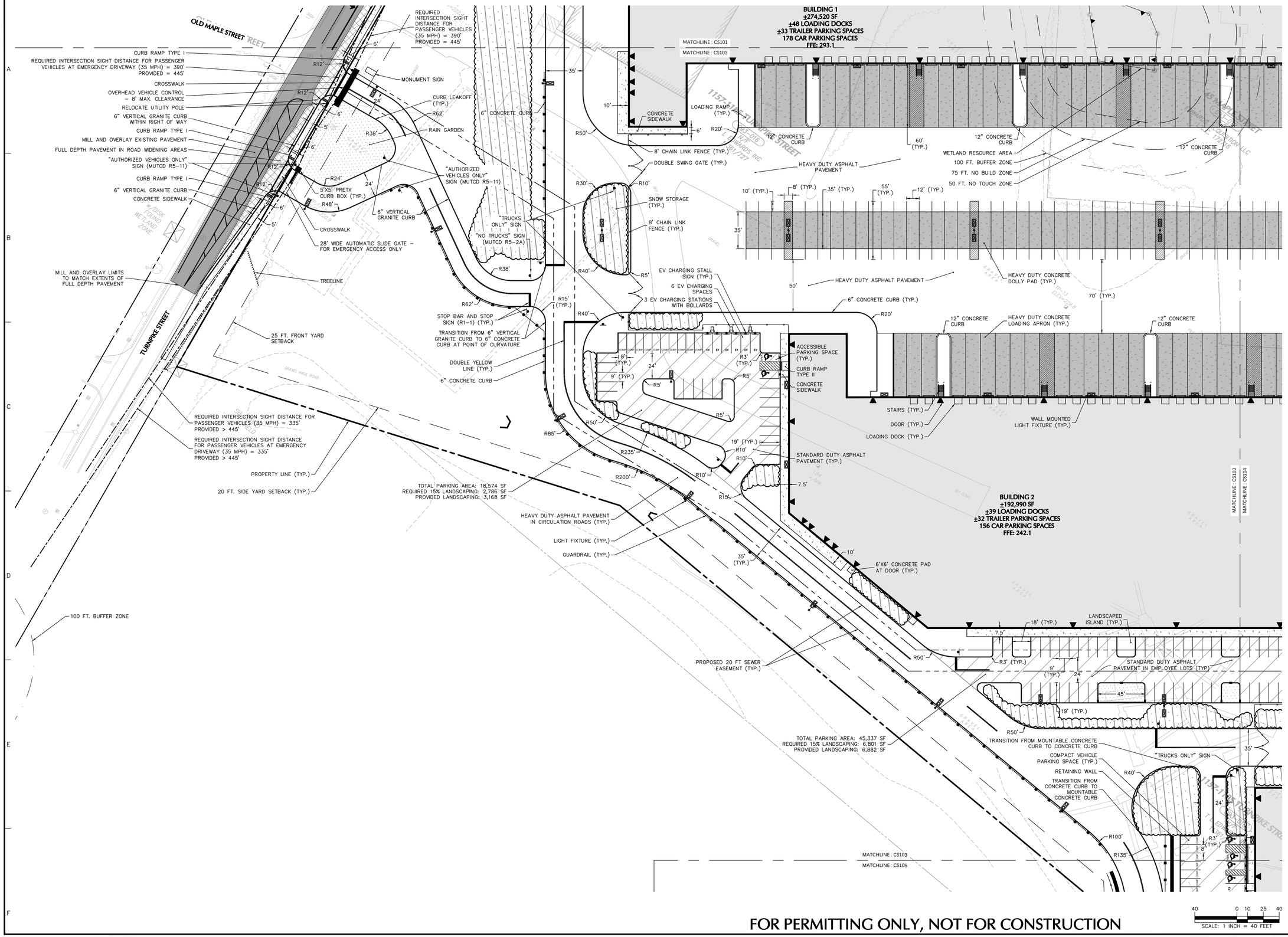
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SCALE: 1 INCH = 40 FEET

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Project No. 151022801

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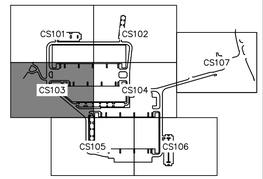
Date: 4/27/2023 Time: 08:39 User: hholmes Style Table: Langan.stb Layout: CS102 Document Code: 151022801-0501-CS101-0103



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SHEET LEGEND

1" = 1000'



Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	5
02/16/23	PEER REVIEW COMMENTS	4
01/19/23	TRAFFIC PEER REVIEW COMMENTS	3
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

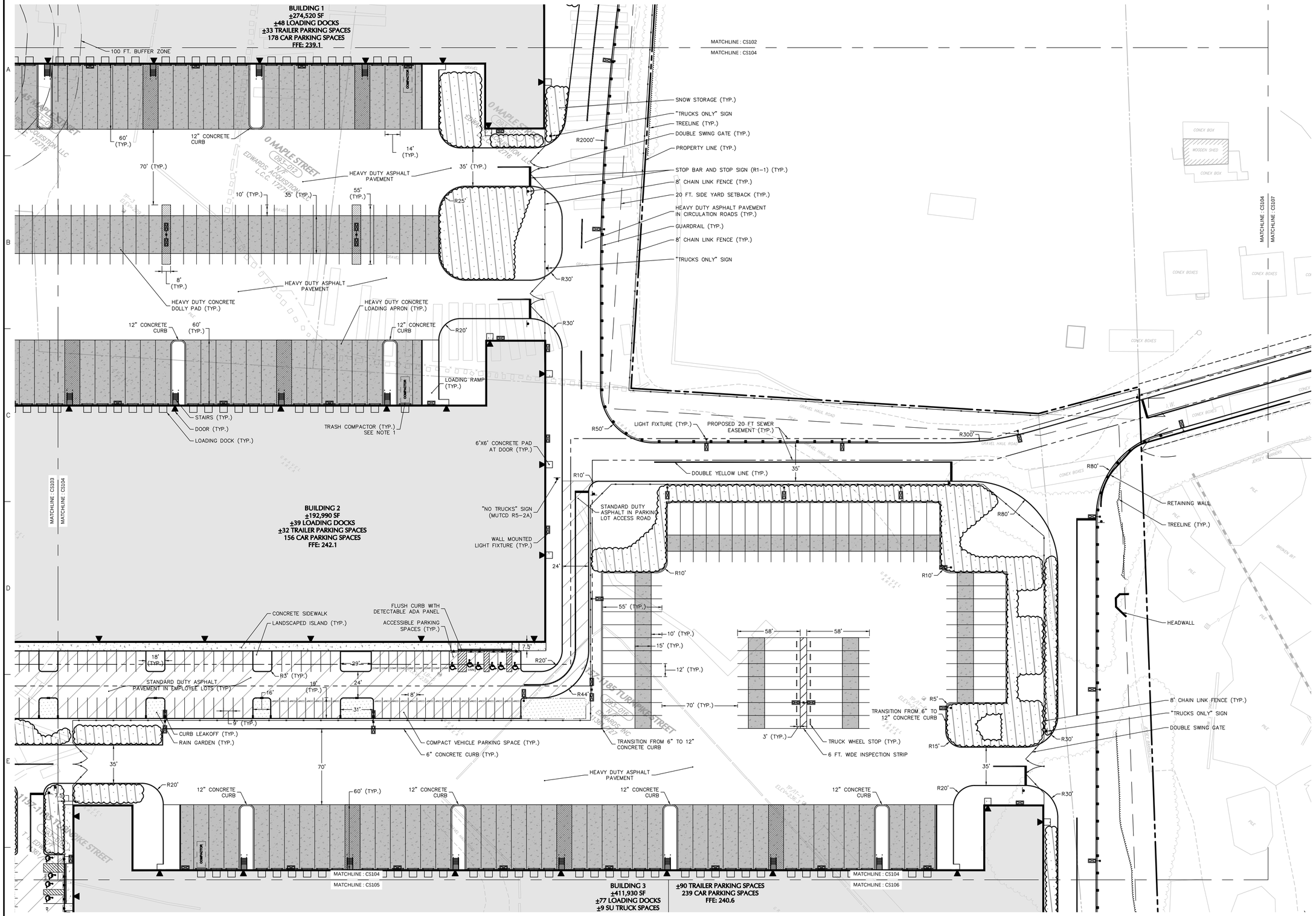
Drawing Title

SITE PLAN III

Project No.	Drawing No.
151022801	CS103
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

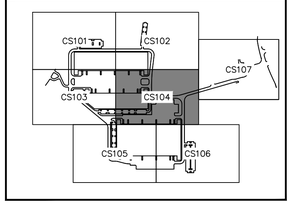
LANGAN
Project No. 151022801

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SHEET LEGEND

1" = 1000'



NOTE:
THE FINAL LOCATIONS OF THE TRASH COMPACTORS WITHIN THE LOADING AREAS ARE TO BE DETERMINED. TRASH COMPACTORS WILL NOT BE VISIBLE FROM THE STREET.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE PLAN IV

Project No.	Drawing No.
151022801	CS104
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

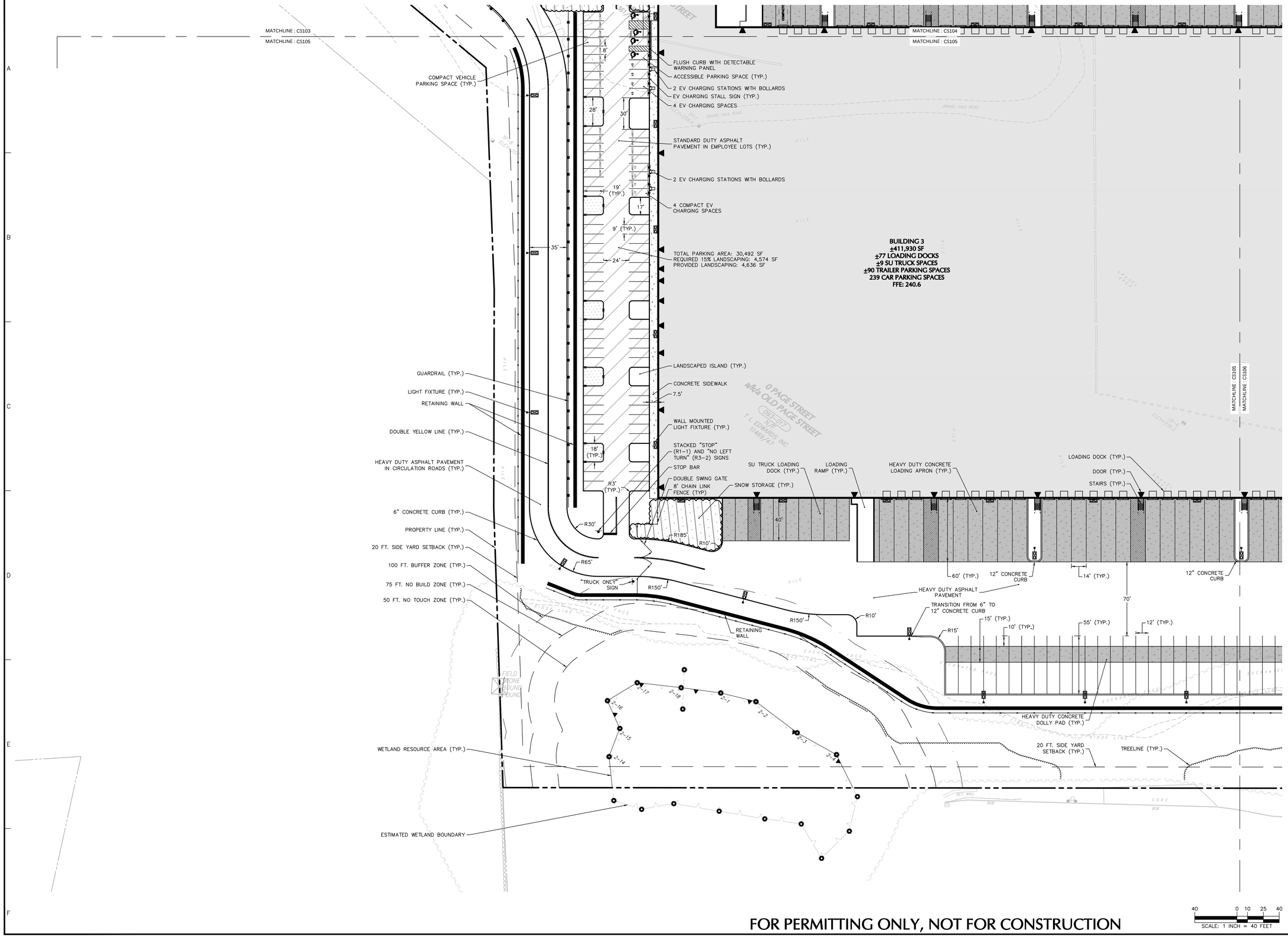
FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

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SCALE: 1 INCH = 40 FEET

LANGAN
Project No. 151022801

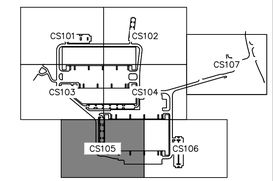
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Date: 2/15/2023 Time: 21:54 User: hholmes Style Table: Langan.stb Layout: CS104 Document Code: 151022801-0501-CS101-0105



SHEET LEGEND

1" = 1000'



Date	Description	No.
01/19/23	TRAFFIC PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

SITE PLAN V

Project No.	Drawing No.
151022801	CS105
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

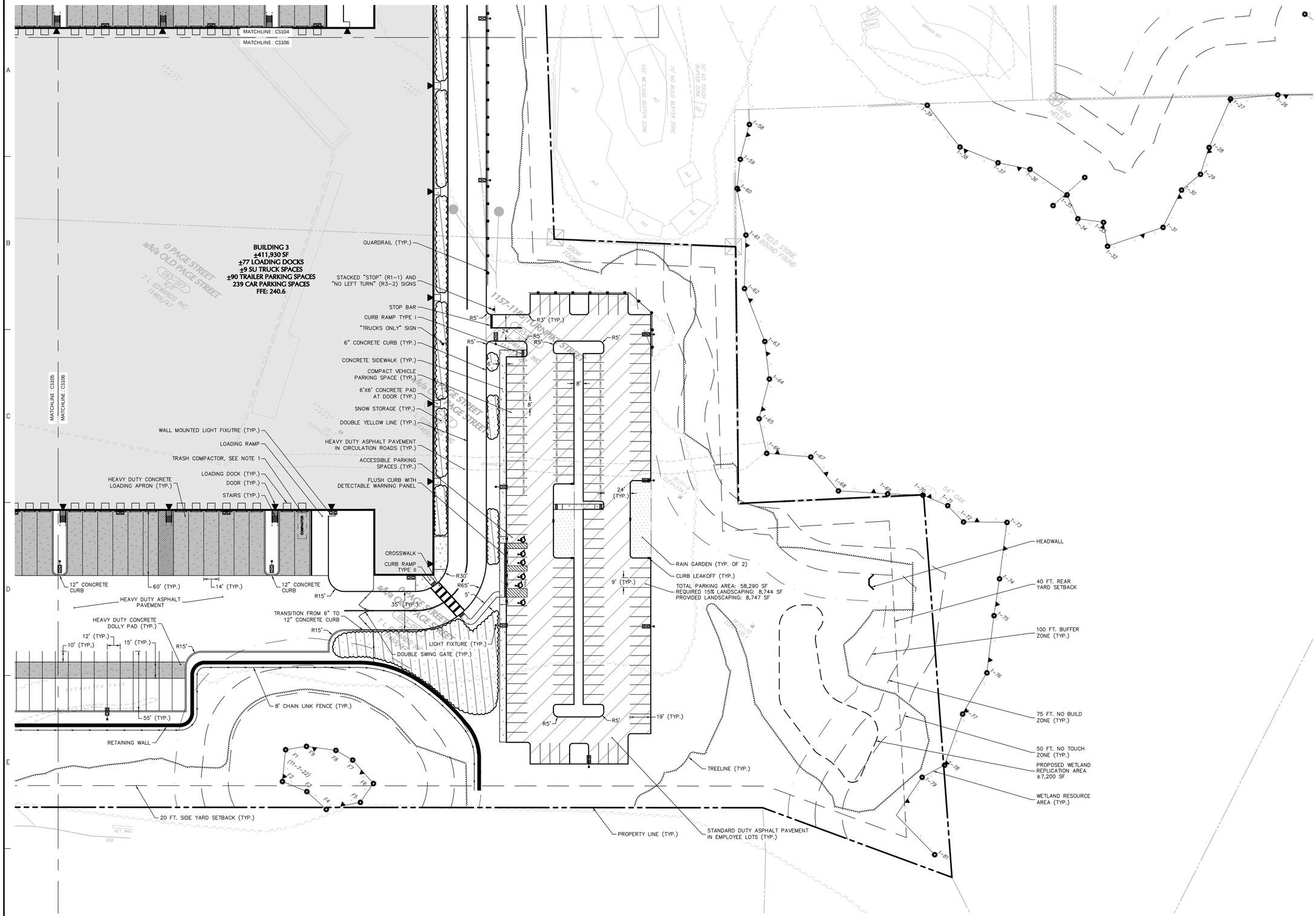
FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

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SCALE: 1 INCH = 40 FEET

LANGAN
Project No. 151022801

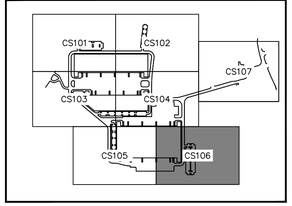
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Date: 1/18/2023 Time: 14:15 User: jpark Style Table: Langan.stb Layout: CS105 Document Code: 151022801-0501-CS101-0106



SHEET LEGEND

1" = 1000'



NOTE:
THE FINAL LOCATIONS OF THE TRASH COMPACTORS WITHIN THE LOADING AREAS ARE TO BE DETERMINED. TRASH COMPACTORS WILL NOT BE VISIBLE FROM THE STREET.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

SITE PLAN VI

Project No.	Drawing No.
151022801	CS106
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

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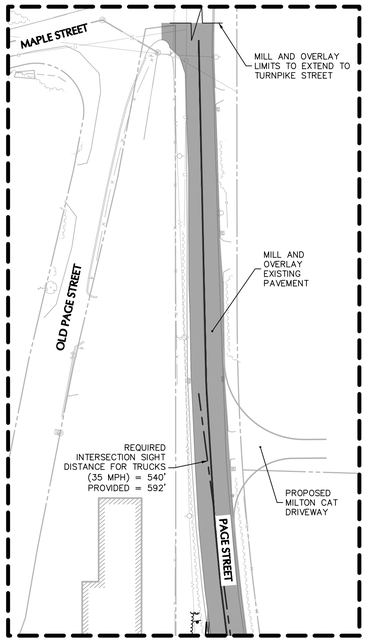
SCALE: 1 INCH = 40 FEET

LANGAN

Project No. 151022801

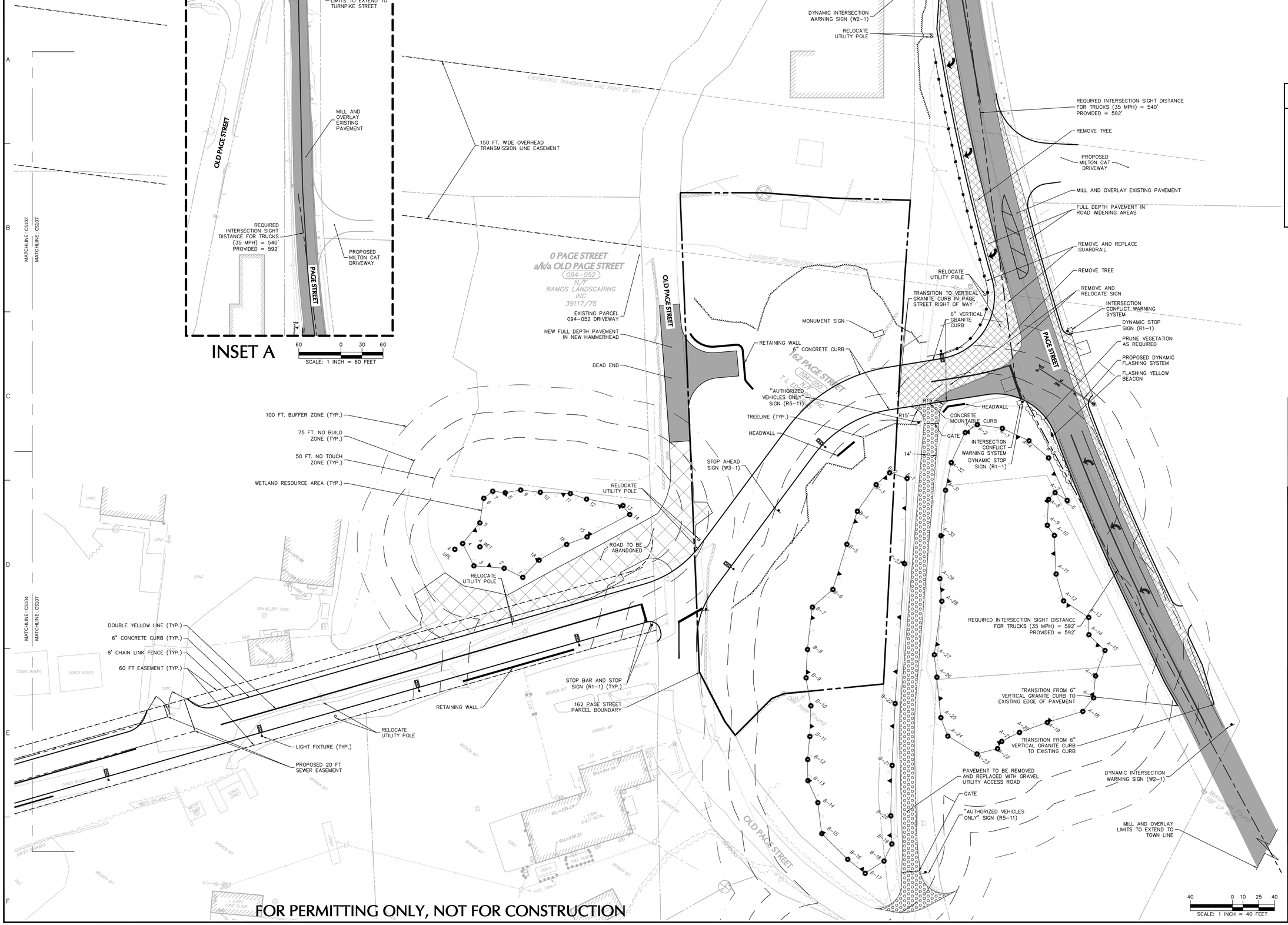
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Date: 2/15/2023 Time: 21:56 User: hholmes Style Table: Langan.stb Layout: CS106 Document Code: 151022801-0501-CS101-0107



INSET A

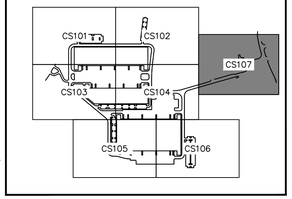




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SHEET LEGEND

1" = 1000'



Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	5
02/16/23	PEER REVIEW COMMENTS	4
01/19/23	TRAFFIC PEER REVIEW COMMENTS	3
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

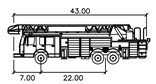
Drawing Title

SITE PLAN VII

Project No.	Drawing No.
151022801	CS107
Date: 08/05/2022	
Drawn By: REP, JSP	
Checked By: HAH	

LANGAN
Project No. 151022801

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Aerial Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

MAPLE STREET

TURNPIKE STREET

OLD MAPLE STREET

TURNPIKE STREET

OLD PAGE STREET

PAGE STREET

PAGE STREET

ROUTE 24

BUILDING 1
± 274,520 SF
±47 LOADING DOCKS
±33 TRAILER PARKING SPACES
178 CAR PARKING SPACES
FFE: 239.1

BUILDING 2
± 192,990 SF
±38 LOADING DOCKS
±32 TRAILER PARKING SPACES
156 CAR PARKING SPACES
FFE: 242.1

BUILDING 3
± 411,930 SF
±75 LOADING DOCKS
±9 SU TRUCK SPACES
±90 TRAILER PARKING SPACES
238 CAR PARKING SPACES
FFE: 240.6

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

120 0 60 120
SCALE IN FEET

LANGAN

Project No. 151022801

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES
CIVIL
No. 40203
REGISTERED PROFESSIONAL ENGINEER

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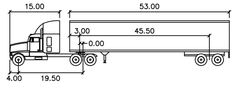
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
FIRE TRUCK TURNING MOVEMENTS

Project No.	Drawing No.
151022801	CS201
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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Date: 12/29/2022 Time: 18:13 User: jpark Style Table: Langan,stb Layout: CS201 Document Code: 151022801-0501-KT101-0101



WB-67

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

TURNPIKE STREET

MAPLE STREET

OLD PAGE STREET

PAGE STREET

OLD MAPLE STREET

TURNPIKE STREET

PAGE STREET

ROUTE 24

BUILDING 1
± 274,520 SF
±47 LOADING DOCKS
±33 TRAILER PARKING SPACES
178 CAR PARKING SPACES
FFE: 239.1

BUILDING 2
± 192,990 SF
±38 LOADING DOCKS
±32 TRAILER PARKING SPACES
156 CAR PARKING SPACES
FFE: 242.1

BUILDING 3
± 411,930 SF
±75 LOADING DOCKS
±9 SU TRUCK SPACES
±90 TRAILER PARKING SPACES
238 CAR PARKING SPACES
FFE: 240.6

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

120 0 60 120
SCALE IN FEET

Date	Description	No.
12/16/22	TRAFFIC PEER REVIEW COMMENTS	2
11/03/22	PEER REVIEW COMMENTS	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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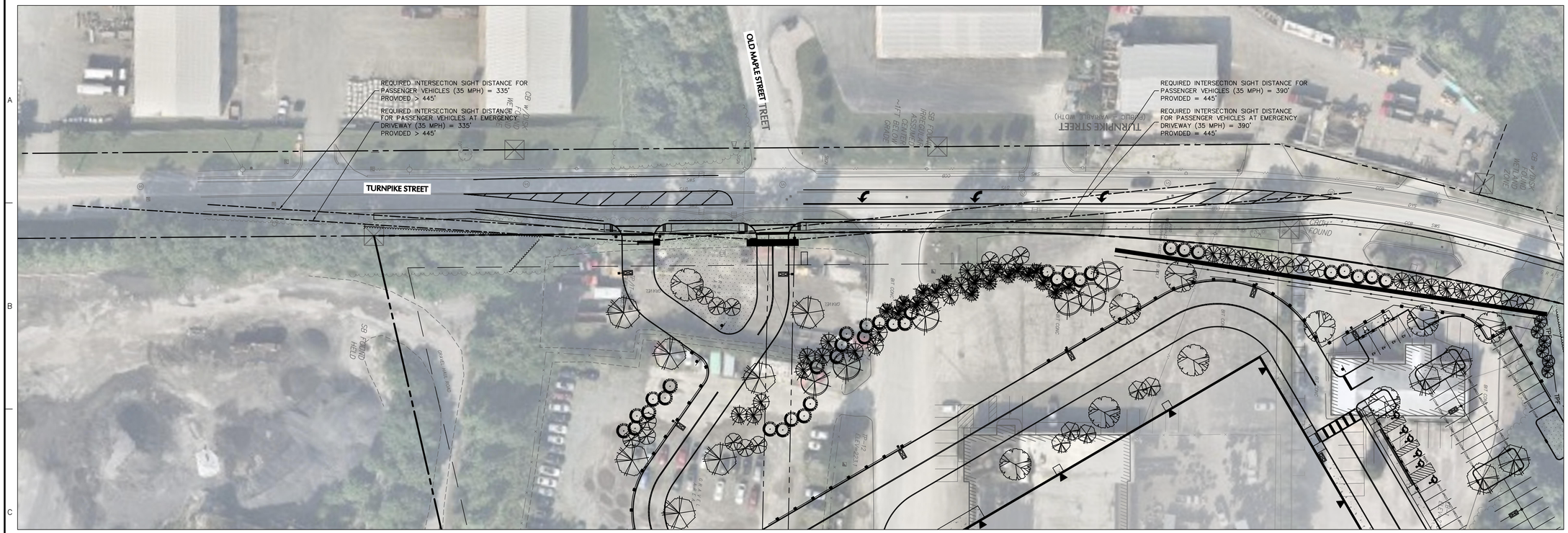
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
WB-67 TURNING MOVEMENTS

Project No.	Drawing No.
151022801	CS202
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

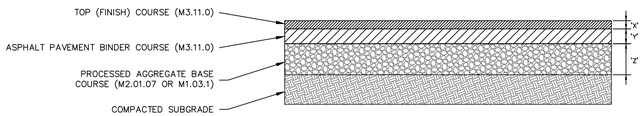
LANGAN
Project No. 151022801

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REQUIRED INTERSECTION SIGHT DISTANCE FOR PASSENGER VEHICLES (35 MPH) = 335'
PROVIDED > 445'
REQUIRED INTERSECTION SIGHT DISTANCE FOR PASSENGER VEHICLES AT EMERGENCY DRIVEWAY (35 MPH) = 335'
PROVIDED > 445'
OLD MAPLE STREET
TURNPIKE STREET
TURNPIKE STREET
(PUBLIC - VARIABLE WIDTH)
REQUIRED INTERSECTION SIGHT DISTANCE FOR PASSENGER VEHICLES (35 MPH) = 390'
PROVIDED = 445'
REQUIRED INTERSECTION SIGHT DISTANCE FOR PASSENGER VEHICLES AT EMERGENCY DRIVEWAY (35 MPH) = 390'
PROVIDED = 445'
SB FOUND
SB FOUND HELD
GRAVEL HAUL ROAD
CB FOUND
CB FOUND
CB FOUND

ASPHALT SECTION	SURFACE COURSE - 'X'	BINDER COURSE - 'Y'	SUBBASE - 'Z'
STANDARD DUTY (CAR PARKING AREAS)	2.0 INCHES	2.0 INCHES	6 INCHES
HEAVY DUTY (DRIVE AISLES & TRUCK AREAS)	2.0 INCHES	4.0 INCHES	12 INCHES

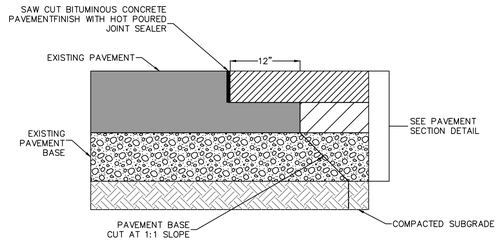
ALL ASPHALT SHALL BE INSTALLED IN 3 INCH MAXIMUM LIFTS



NOTES:

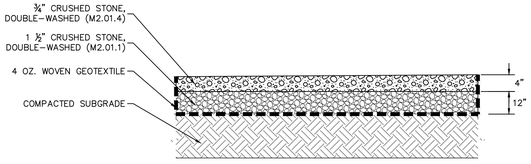
1. PAVING COURSES SHALL BE CONSTRUCTED IN LAYERS WITH A 2 INCH THICK LIFT.
2. ALL AREAS TO BE PAVED SHALL BE PROOFROLLED WITH AT LEAST 6 PASSES OF A SMOOTH ROLLER HAVING A MINIMUM STATIC DRUM WEIGHT OF 10 TONS. ANY SOFT AREAS SHALL BE REMOVED AND REPLACED WITH CLEAN, GRANULAR, FREE-DRAINING SOIL. FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
3. PAVEMENT CLASSES REFER TO MASSACHUSETTS, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION (MDOT SS) M3.11.0 PROCESSED AGGREGATE SHALL REFER TO M2.01.07 OR M1.03.1.

1 ASPHALT PAVEMENT
N.T.S.

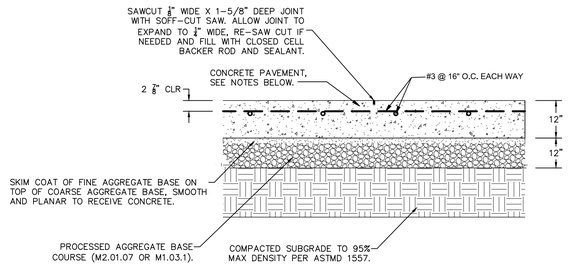


NOTES:
1. CONTRACTOR TO INSTALL TACK COAT ON ALL BUTT EDGES OF EXISTING PAVEMENT

2 SAWCUT PAVEMENT SECTION
N.T.S



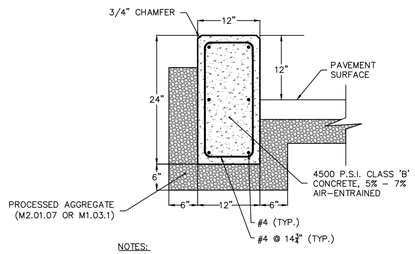
3 GRAVEL UTILITY ACCESS ROAD
N.T.S.



NOTES:

1. SLABS TO BE TREATED WITH ONE (1) PENETRATING SEALER BELOW:
   A. BARRICADE WB244, EUCLID CHEMICAL CO
   B. SS HARDEN X SI, SEALSOURCE INTERNATIONAL, LLC
2. F'C=4,500 PSI MIN., 5-7% AIR ENTRAINMENT, REMOVE SYNTHETIC MICROFIBERS
3. PRIOR TO ANY PAVING ACTIVITIES, THE SUBGRADE OR SUBBASE SHALL BE PROOF ROLLED.
4. PRIOR TO INSTALLATION OF PAVEMENT, THE SUBGRADE SHOULD BE SURFACE COMPACTED WITH A MINIMUM OF 6 PASSES WITH A VIBRATORY ROLLER HAVING A MINIMUM STATIC WEIGHT OF 10-TONS.
5. ANY SOFT AREAS SHALL BE REMOVED AND REPLACED WITH CLEAN, GRANULAR, FREE-DRAINING SOIL.
6. FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
7. TRANSVERSE AND LONGITUDINAL CONTROL JOINTS SHALL BE SAW CUT AT 12 FT MAXIMUM SPACING.
8. DOWEL BARS SHALL BE PLACED AT ALL CONSTRUCTION JOINTS. SPEED DOWELS WITH #8 BARS SHALL BE EMBEDDED A MIN. OF 12" IN EACH DIRECTION AND SPACED AT 24" MIN. O.C. AT ALL CONSTRUCTION JOINTS.
9. SURFACE TEXTURE SHALL BE A MEDIUM BROOM FINISH.

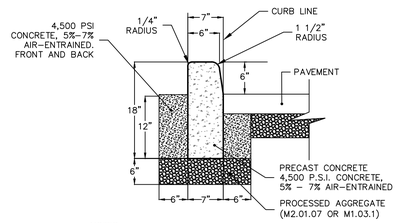
4 HEAVY DUTY CONCRETE PAVEMENT
N.T.S.



NOTES:

1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB AT 20 FOOT INTERVALS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER.
2. ALL CURBS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE A MINIMUM OF SIX INCHES OF PROCESS AGGREGATE SHALL BE INSTALLED AS THE SUBBASE.

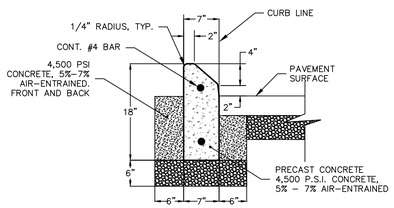
5 12-INCH REINFORCED CONCRETE CURB
N.T.S.



NOTES:

1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB AT 20 FOOT INTERVALS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER.
2. ALL CURBS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE. A MINIMUM OF SIX INCHES OF PROCESSED AGGREGATE (M2.01.07 OR M1.03.1) SHALL BE INSTALLED AS THE SUBBASE.

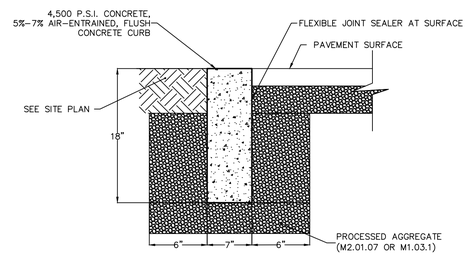
6 6-INCH CONCRETE CURB
N.T.S.



NOTES:

1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB AT 20 FOOT INTERVALS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER.
2. ALL CURBS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE. A MINIMUM OF SIX INCHES OF PROCESSED AGGREGATE (M2.01.07 OR M1.03.1) SHALL BE INSTALLED AS THE SUBBASE.

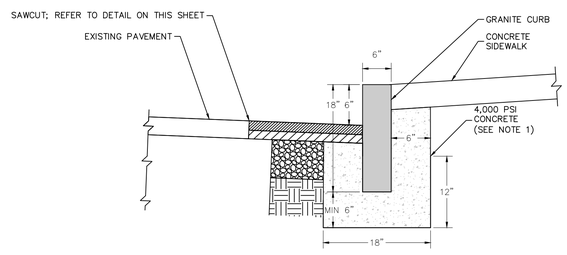
7 MOUNTABLE CONCRETE CURB
N.T.S.



NOTES:

1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB AT 20 FOOT INTERVALS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER.
2. ALL CURBS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE. A MINIMUM OF SIX INCHES OF PROCESSED AGGREGATE (M2.01.07 OR M1.03.1) SHALL BE INSTALLED AS THE SUBBASE.

8 FLUSH CURB
N.T.S.



NOTES:

1. ALL RADII AND JOINTS ARE TO BE SET IN 12" DEEP 18" WIDE 4,000 PSI CONCRETE. STRAIGHT SECTIONS BETWEEN JOINTS CAN BE SET ON PROCESSED AGGREGATE.
2. GROUT ALL JOINTS
3. VERTICAL GRANITE CURB TO BE USED ALONG FRONTAGE ON BROADWAY.

9 VERTICAL GRANITE CURB
N.T.S.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
Revisions		

COMMONWEALTH OF MASSACHUSETTS — FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER

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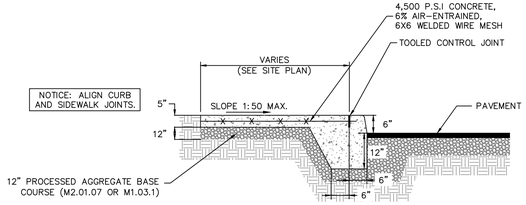
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE DETAILS I

Project No.	Drawing No.
151022801	CS501
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

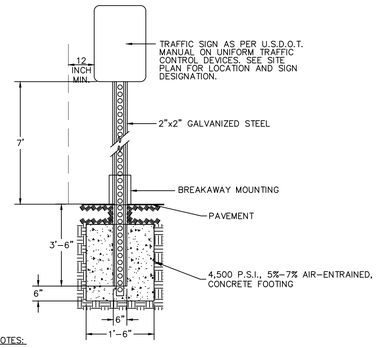
LANGAN Project No. 151022801

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1 MONOLITHIC CONCRETE CURB/SIDEWALK

N.T.S.

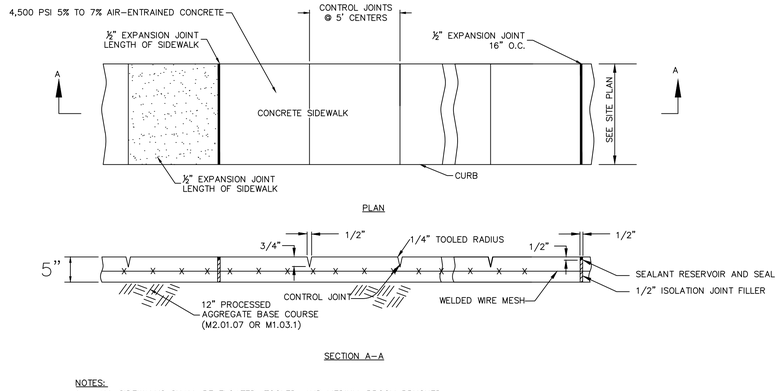


GENERAL NOTES:

1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
3. SIGNS 36" OR GREATER SHALL REQUIRE TWO SIGN POSTS.
4. ALL SIGN POSTS SHALL BE COORDINATED WITH RETAINING WALL AND SLOPE GEOGRID REINFORCEMENT ZONES.

4 SIGNS

N.T.S.

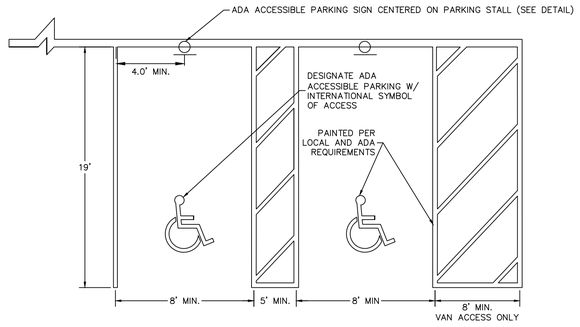


NOTES:

1. ALL SIDEWALKS SHALL BE FLOATED, TOOLED, AND MEDIUM-BROOM BRUSHED.
2. SIDEWALKS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE.
3. SIDEWALK TO BE REINFORCED WITH 6X6 WELDED WIRE MESH.

2 ON-SITE CONCRETE SIDEWALK

N.T.S.



NOTES:

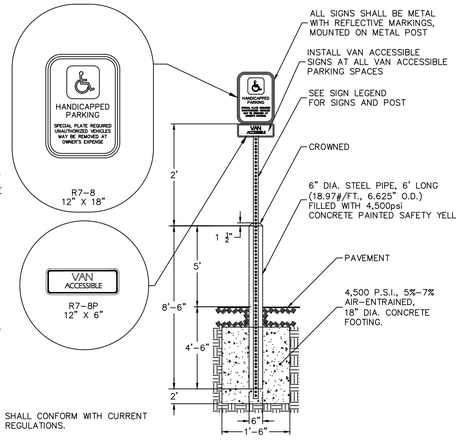
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE F, PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT (ADA), THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND ALL STATE AND LOCAL REQUIREMENTS.
2. TWO COATS OF EPOXY PAINT SHALL BE USED FOR PARKING STALL STRIPING. ALLOW FOR A MINIMUM CURE TIME OF 24 HOURS BETWEEN APPLICATIONS.

5 ADA STALL STRIPING

N.T.S.

NOTES:

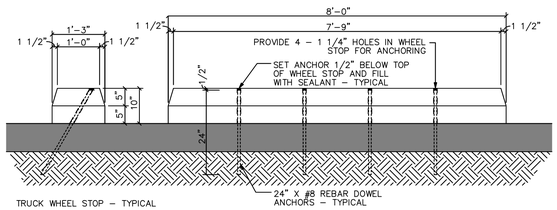
1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL POSTS SHALL BE EMBEDDED 4'-6" MINIMUM BELOW GRADE.
3. ALL STEEL POSTS AND BRACKETS SHALL BE CUT, BENT, AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATION A123-78 (OR LATEST REVISED).
4. POSTS SHALL BE BREAKAWAY TYPE II TWO-PIECE U-POST OR OTHER BREAKAWAY STRUCTURAL SUPPORT HARDWARE AS NOTED IN THE LATEST EDITION OF AASHTO'S "SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS."
5. SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBERS AS SHOWN ON THIS DETAIL AND DIRECTIONAL SIGN SHEET.
6. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT BUT SHALL ENGAGE ALL THREADS IN THE NUT.



HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE & LOCAL CODES AND REGULATIONS.

6 ADA ACCESSIBLE PARKING SIGN

N.T.S

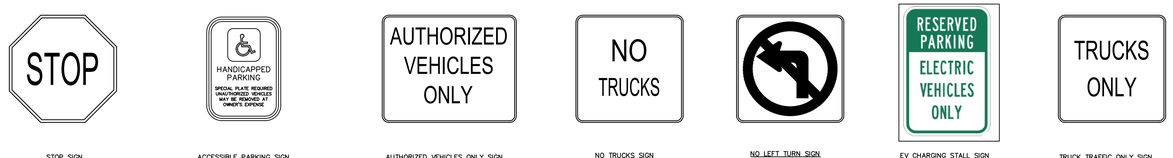


NOTES:

1. CONCRETE WHEEL STOPS TO BE PAINTED SAFETY YELLOW.
2. WHEEL STOPS ARE NOT REQUIRED AT DOCK DOOR LOCATIONS THAT HAVE DOCK SEAL/CUSHION SYSTEMS.
3. IF PARKING SLIP CURB IS 8-IN OR HIGHER WITH STANDOFF DISTANCE OF 6-FT OR MORE FROM OBJECTS SUCH AS FENCES THEN WHEEL STOPS ARE NOT REQUIRED.

7 TRUCK WHEEL STOP

N.T.S.



STOP SIGN
30" X 30" (SINGLE LANE)
36" X 36" (MULTIPLE LANES)
MUTCD: R1-1
USE AT INTERSECTIONS IN PARKING LOT AND DRIVE AISLES
POST AND PANEL MOUNT
NOTE: NO SIGNS SHALL BE MOUNTED TO THE BACK OF A STOP SIGN THAT EXTENDS BEYOND THE EDGES OF THE STOP SIGN.

ACCESSIBLE PARKING SIGN
12" X 18"
MUTCD: R7-8
DOT STANDARD VERTICALLY ORIENTED ACCESSIBLE PARKING SIGN. USE TO DEMARCATE ACCESSIBLE PARKING SPACES. ONE SIGN PER SPACE OR AS REQUIRED BY LOCAL AUTHORITY
POST AND PANEL MOUNT

AUTHORIZED VEHICLES ONLY SIGN
24" X 30"
MUTCD: R5-11
USED TO DEMARCATE EMERGENCY VEHICLE ACCESS ROAD.

NO TRUCKS SIGN
24" X 30"
MUTCD: R5-2A
USED TO DEMARCATE ROADS THAT ARE NOT ACCESSIBLE TO TRUCKS.

NO LEFT TURN SIGN
24" X 30"
MUTCD: R3-2
USE AT INTERSECTIONS WHERE LEFT TURNS ARE NOT PERMITTED.

EV CHARGING STALL SIGN
12" X 18"
ELECTRIC VEHICLE PARKING ONLY. USE TO DEMARCATE ELECTRICAL VEHICLE PARKING. ONE SIGN PER SPACE OR AS REQUIRED BY LOCAL AUTHORITY
POST AND PANEL MOUNT

TRUCK TRAFFIC ONLY SIGN
24" X 18"
USED TO DEMARCATE ROAD FOR TRUCK TRAFFIC ONLY.

8 TRAFFIC SIGNS

N.T.S.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

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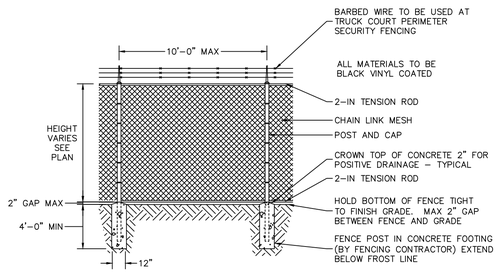
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE DETAILS II

Project No.	Drawing No.
151022801	CS502
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

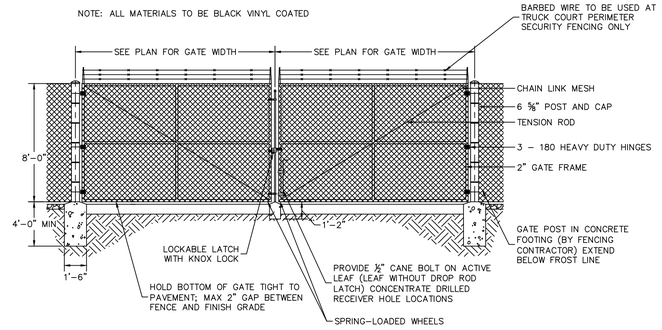
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Project No. 151022801
Date: 12/29/2022 Time: 18:14 User: jpark Style Table: Langan.stb Layout: CS502 Document Code: 151022801-0501-CS501-0102



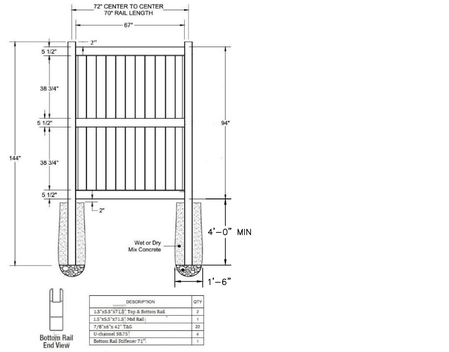
1 CHAIN LINK FENCE

N.T.S.



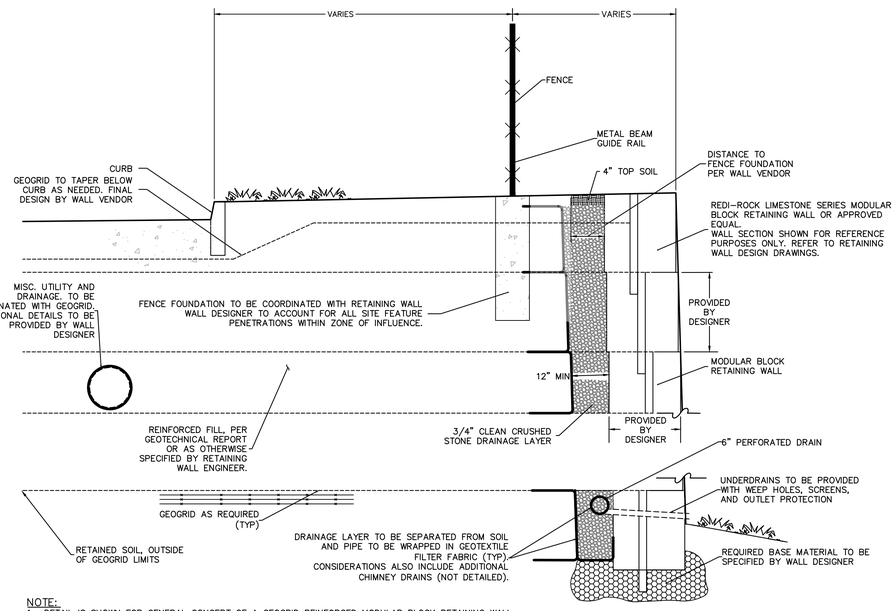
2 CHAIN LINK DOUBLE SWING GATE

N.T.S.



2 8' WHITE PVC FENCE

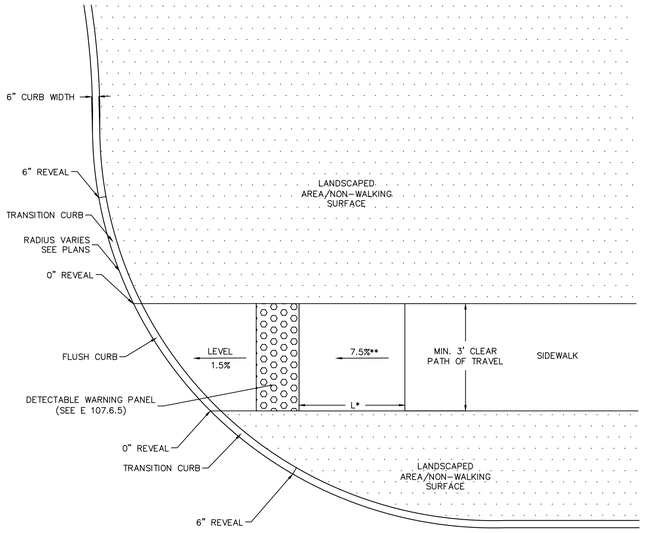
N.T.S.



NOTE:
1. DETAIL IS SHOWN FOR GENERAL CONCEPT OF A GEOGRID REINFORCED MODULAR BLOCK RETAINING WALL.
2. ALL MODULAR BLOCK RETAINING WALLS THREE FEET OR GREATER IN EXPOSED HEIGHT MUST BE DESIGNED AND CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS, MUST BE BASED ON SITE SPECIFIC PROJECT LOADING CONDITIONS (SURCHARGE, ETC.), ARE SUBJECT TO BUILDING CODE AND LOCAL BUILDING PERMITS.
3. MODULAR BLOCK RETAINING WALL SHOWN FOR REFERENCE PURPOSES ONLY. REFER TO RETAINING WALL DESIGN DRAWINGS.
4. SUBGRADE TO BE PREPARED IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS PRIOR TO WALL CONSTRUCTION AND FILL PLACEMENT.
5. REQUIREMENTS FOR WALL BASE MATERIAL, FILL MATERIAL, AND WALL AND GEOGRID TO BE PROVIDED BY THE RETAINING WALL DESIGNER.
6. RETAINING WALL DESIGNER IS RESPONSIBLE FOR INTERNAL STABILITY ANALYSIS, EXTERNAL STABILITY ANALYSIS, AND ESTABLISHING A DESIGN GROUNDWATER ELEVATION FOR THE WALL BASED ON PROPOSED CONSTRUCTION ACTIVITIES, SITE INFILTRATION, AND DRAINAGE.
7. INSPECTIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH PROJECT DOCUMENTS AND THE SCHEDULE OF SPECIAL INSPECTIONS TO INCLUDE SUBGRADE, BACKFILL, GEOGRID, BLOCK TYPE, AND DRAINAGE.

3 TYPICAL RETAINING WALL SECTION (FOR REFERENCE ONLY)

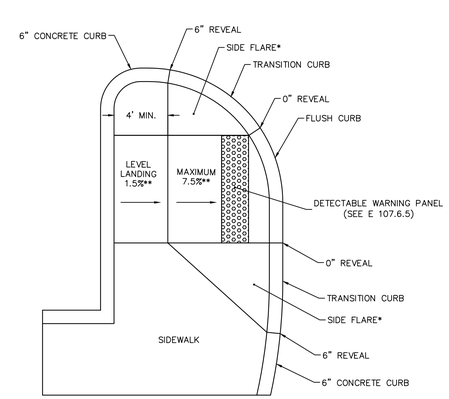
N.T.S.



LEGEND:
** = L=6.5-FT LOW SIDE TRANSITION. FOR HIGH SIDE TRANSITION SEE E 107.9R.
** = TOLERANCE FOR CONSTRUCTION ±0.5%

4 CURB RAMP TYPE I

N.T.S.



LEGEND:
* = SIDE FLARES MUST NOT EXCEED 1:10 SLOPE
** = TOLERANCE FOR CONSTRUCTION ±0.5%

5 CURB RAMP TYPE III

N.T.S.

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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No. 40203
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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SITE DETAILS III

Project No.	Drawing No.
151022801	CS503
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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Date: 4/27/2023 Time: 08:33 User: hholmes Style Table: Langan.stb Layout: CS503 Document Code: 151022801-0501-CS501-0103

LANGAN Project No. 151022801

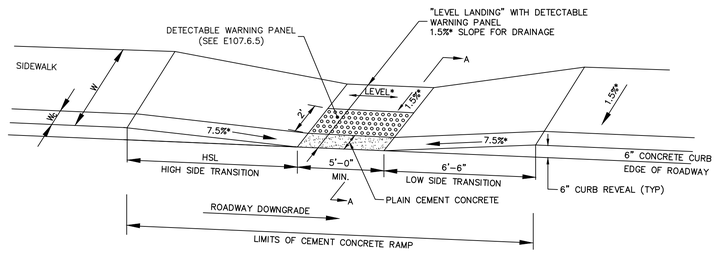
ROADWAY PROFILE GRADE	* HIGH SIDE TRANSITION LENGTH
%	ENGLISH UNITS
=0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" MAX.

NOTE:
1. * BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6"

E107.9R

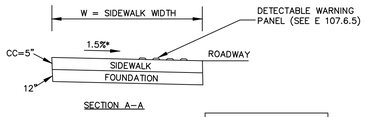
1 TRANSITION LENGTH FOR CURB RAMPS

N.T.S. SOURCE: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION



LEGEND:
HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9R)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%

USABLE SIDEWALK WITH PER AAB = $W - W_C$
USABLE SIDEWALK WITH PER AAB IS NOT TO BE LESS THAN 4'-0"
SEE E 107.6.5 FOR DETAIL OF DETECTABLE WARNING PANEL



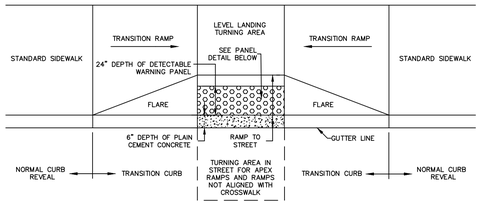
SECTION A–A

NOTE:
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

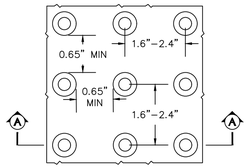
E107.2.1

2 CURB RAMP TYPE II

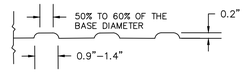
N.T.S. SOURCE: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION



TYPICAL INSTALLATION



DETAIL OF DETECTABLE WARNING PANEL



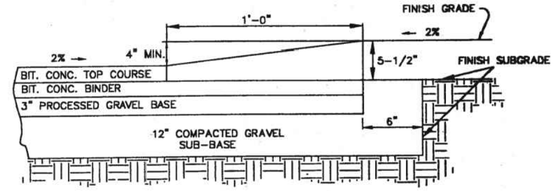
SECTION A–A

NOTES:
1. PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

E107.6.5

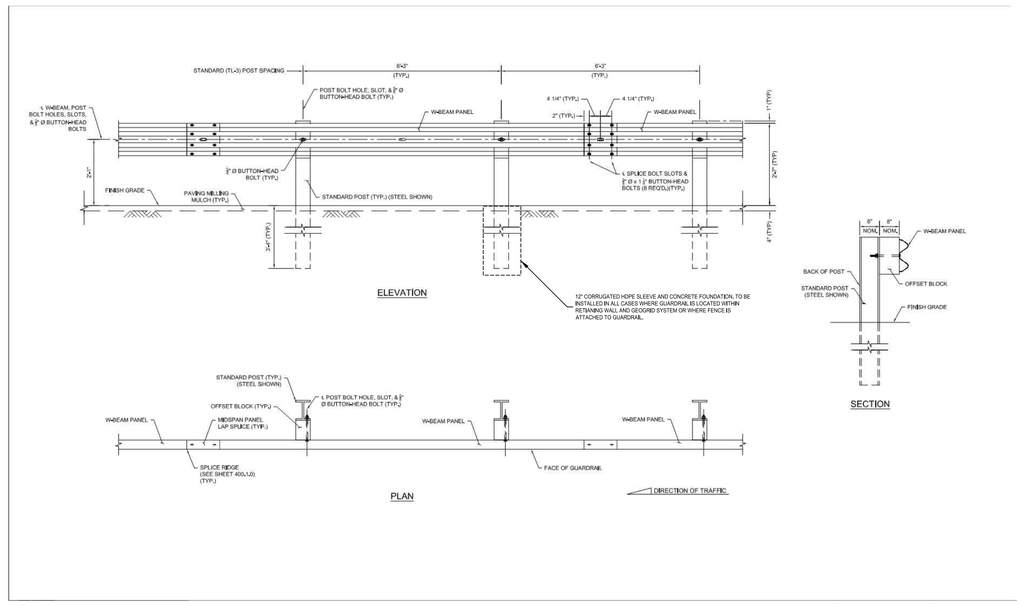
3 DETECTABLE ADA PANEL

N.T.S. SOURCE: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION



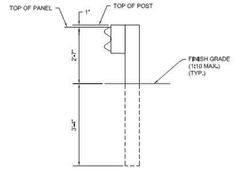
4 CAPE COD BERM

N.T.S. SOURCE: STOUGHTON

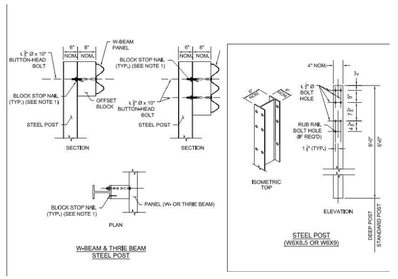


5 METAL BEAM GUARDRAIL

N.T.S. SOURCE: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION



W-BEAM



NOTES:
1. ALL DIMENSIONS OF STANDARD GUARDRAIL COMPONENTS, INCLUDING PANELS, POSTS, OFFSET BLOCKS, BOLTS, NUTS, WASHERS AND HOLES, ARE BASED UPON ENGLISH UNIT CONVERSIONS OF THE AASHTO-ARTBA-AGC JOINT COMMITTEE TASK FORCE 13 REPORT: *A GUIDE TO STANDARDIZING HIGHWAY BARRIER HARDWARE* (http://www.aashtotf13.org/Barrier-Hardware.php).
2. ALL GUARDRAIL MATERIALS SHALL CONFORM TO M8.07.0 UNLESS OTHERWISE INDICATED.
3. APPROVAL BY THE ENGINEER IS REQUIRED WHERE A DIFFERING GUARDRAIL CONFIGURATION IS REQUIRED FOR CONSTRUCTABILITY BEYOND THE OPTIONS SHOWN IN THESE STANDARDS OR THE PLANS.
4. THE BEGIN OR END STATION LABELS SHOWN IN THESE STANDARDS CORRESPOND TO THE STATION AND OFFSET CALLOUTS SPECIFIED IN THE PLANS.
5. USE 12'-6" NOMINAL LENGTH PANELS UNLESS OTHERWISE INDICATED IN THESE STANDARDS OR THE PLANS.
6. ALL LAP SPLICES SHALL BE MIDSPAN UNLESS OTHERWISE SHOWN.
7. LAP SPLICES SHALL BE CONSTRUCTED WITH THE SPLICE RIDGE ORIENTED DOWNSTREAM OF THE FINAL DIRECTION OF TRAFFIC IN THE NEAREST TRAVEL LANE. REORIENTING LAP SPLICES FOR TEMPORARY TRAFFIC CONTROL IS NOT REQUIRED.
8. STANDARD POSTS SHALL BE STEEL OR TIMBER, UNLESS OTHERWISE INDICATED IN THE PLANS, FABRICATED TO THE DIMENSIONS SHOWN ON 400.1.4. POSTS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
9. DEEP POST SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
10. OFFSET BLOCKS, WHERE REQUIRED, SHALL BE TIMBER AND FABRICATED TO THE NOMINAL DIMENSIONS SHOWN ON 400.1.4. PLASTIC OR COMPOSITE OFFSET BLOCKS OF THE SAME NOMINAL DIMENSIONS THAT ARE LISTED ON THE QUALIFIED CONSTRUCTION MATERIALS LIST MAY BE SUBSTITUTED, OFFSET BLOCKS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
11. PAVEMENT MILLING MULCH, WHERE CALLED FOR IN THE STANDARDS, SHALL CONFORM TO SECTION 739.
12. GUARDRAIL DELINEATORS, CONFORMING TO SECTION 601, SHALL BE INSTALLED AT 25' INTERVALS WITHIN 100' OF AN END TREATMENT OR TRAILING ANCHORAGE AND AT 100' INTERVALS IN ALL OTHER AREAS UNLESS OTHERWISE SHOWN IN THE PLANS.
13. MINIMUM OFFSET DISTANCE FROM FACE OF W-BEAM PANEL TO A FIXED (NON-BREAKAWAY) OBJECT SHALL BE 48" FOR TL-2 AND 60" FOR TL-3.

massDOT Massachusetts Department of Transportation Highway Division	CONSTRUCTION STANDARDS SECTION 400	GENERAL NOTES	DATE OF ISSUE: OCTOBER 2017	DRAWING NUMBER: 400.1.0

Date	Description	No.
Revisions		

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Project
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NORFOLK COUNTY MASSACHUSETTS

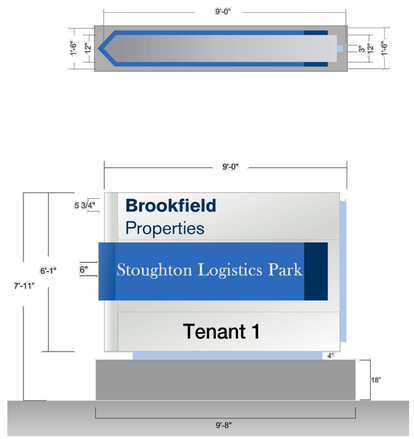
Drawing Title
SITE DETAILS IV

Project No.	Drawing No.
151022801	CS504
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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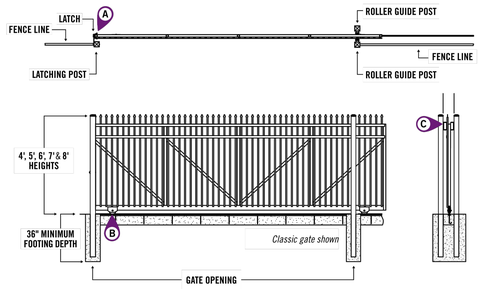
LANGAN Project No. 151022801



1 MONUMENT SIGN
N.T.S. SOURCE: BROOKFIELD PROPERTIES

PASSPORT II®

2"sq x 12ga UPRIGHTS & DIAGONAL BRACES | 1"sq PICKETS | 2" x 4" x 11ga BOTTOM RAIL *(notched & plated for v-track wheels)*



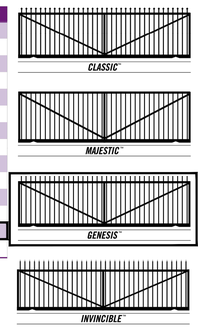
NOTE:
1. FENCE HEIGHT TO BE 8'.
2. FENCE TO BE BLACK POWDERCOAT STEEL.
3. GATE TO BE PASSPORT II 2-RAIL "MAJESTIC" ROLL GATE
4. ACCESS PANEL TO INCLUDE EMERGENCY ACCESS FOB/ACCESS CODE. EMERGENCY ACCESS TO BE PROVIDED TO TOWN EMERGENCY PERSONNEL.

PASSPORT II® | 2-RAIL ROLL GATES

RAIL SPACINGS MATCH MONTAGE II PANELS

8' HEIGHT

OPENING	LENGTH	ITEM NUMBER	WEIGHT	PICKET QTY
4' - 6'	97"	2☒ ⊙209406R*	322 / 325†	20
6' - 8'	125.5"	2☒ ⊙209408R*	384 / 388†	26
8' - 10'	144.5"	2☒ ⊙209410R*	425 / 430†	29
10' - 12'	173"	2☒ ⊙209412R*	487 / 493†	36
12' - 14'	192"	2☒ ⊙209414R**	618 / 625†	40
14' - 16'	230"	2☒ ⊙209416R**	700 / 708†	48
16' - 18'	249"	2☒ ⊙209418R**	741 / 750 †	52
18' - 20'	287"	2☒ ⊙209420R**	824 / 834†	60
20' - 22'	306"	2☒ ⊙209422R**	866 / 876†	64
22' - 24'	325"	2☒ ⊙209424R**	907 / 918†	68
24' - 26'	344"	2☒ ⊙209426R**	949 / 923†	72
26' - 28'	372.5"	2☒ ⊙209428R***	1099 / 1112†	78
28' - 31'	429.5"	2☒ ⊙209431R***	1223 / 1232†	90



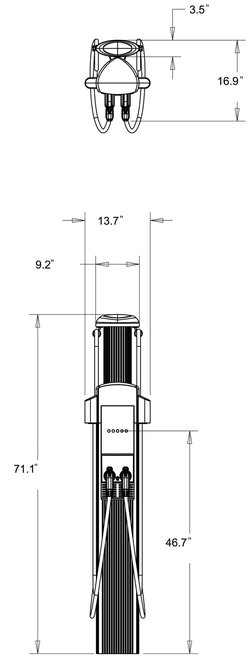
☒ = ***FENCE STYLES AVAILABLE*** | C = Classic M = Majestic G = Genesis I = Invincible†

⊙ = ***COLOR OPTIONS AVAILABLE*** | B = Black N = Bronze W = White S = Sand

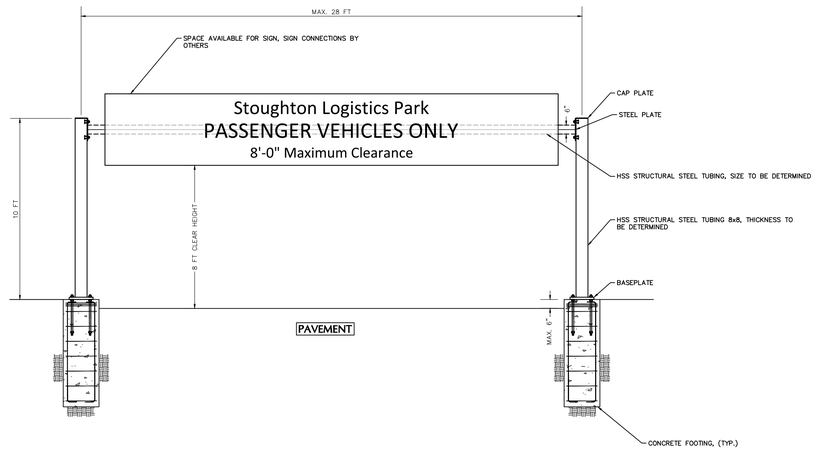
** 2-Bays | ** 4-Bays | *** 6-Bays*

Note: All gates that exceed 192" in length for Invincible and all 8' gates that exceed 192" in length for Classic, Genesis & Majestic will have bolt-on panels with face-welded pales.

2 AUTOMATIC ROLL SLIDE GATE FOR EMERGENCEY ACCESS
N.T.S. SOURCE: AMERISTAR FENCE



3 CHARGEPOINT CT-4021 EV CHARGER
N.T.S. SOURCE: CHARGEPOINT



4 CONCEPTUAL OVERHEAD CLEARANCE STRUCTURE
N.T.S.

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Date	Description	No.
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project
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STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

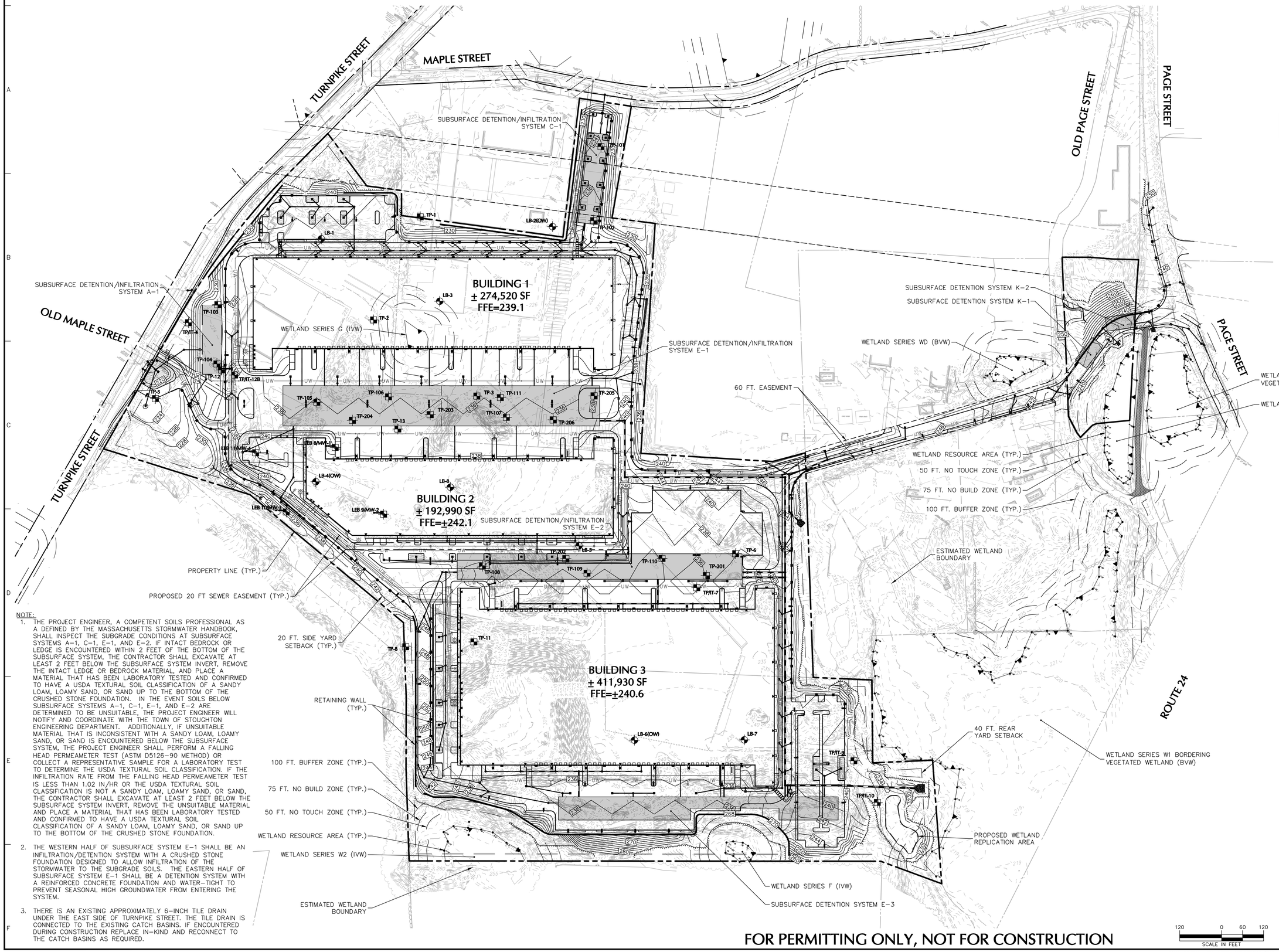
Drawing Title
SITE DETAILS V

Project No.	Drawing No.
151022801	CS505
Date: 10/14/2022	
Drawn By: JSP	
Checked By: HAH	

LANGAN
Project No. 151022801

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Date: 12/29/2022 Time: 18:15 User: jpark Style Table: Langan.stb Layout: CS505 Document Code: 151022801-0501-CS501-0105

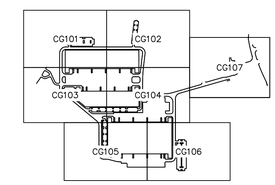


NOTE:

1. THE PROJECT ENGINEER, A COMPETENT SOILS PROFESSIONAL AS A DEFINED BY THE MASSACHUSETTS STORMWATER HANDBOOK, SHALL INSPECT THE SUBGRADE CONDITIONS AT SUBSURFACE SYSTEMS A-1, C-1, E-1, AND E-2. IF INTACT BEDROCK OR LEDGE IS ENCOUNTERED WITHIN 2 FEET OF THE BOTTOM OF THE SUBSURFACE SYSTEM, THE CONTRACTOR SHALL EXCAVATE AT LEAST 2 FEET BELOW THE SUBSURFACE SYSTEM INVERT, REMOVE THE INTACT LEDGE OR BEDROCK MATERIAL, AND PLACE A MATERIAL THAT HAS BEEN LABORATORY TESTED AND CONFIRMED TO HAVE A USDA TEXTURAL SOIL CLASSIFICATION OF A SANDY LOAM, LOAMY SAND, OR SAND UP TO THE BOTTOM OF THE CRUSHED STONE FOUNDATION. IN THE EVENT SOILS BELOW SUBSURFACE SYSTEMS A-1, C-1, E-1, AND E-2 ARE DETERMINED TO BE UNSUITABLE, THE PROJECT ENGINEER WILL NOTIFY AND COORDINATE WITH THE TOWN OF STOUGHTON ENGINEERING DEPARTMENT. ADDITIONALLY, IF UNSUITABLE MATERIAL THAT IS INCONSISTENT WITH A SANDY LOAM, LOAMY SAND, OR SAND IS ENCOUNTERED BELOW THE SUBSURFACE SYSTEM, THE PROJECT ENGINEER SHALL PERFORM A FALLING HEAD PERMEAMETER TEST (ASTM D5126-90 METHOD) OR COLLECT A REPRESENTATIVE SAMPLE FOR A LABORATORY TEST TO DETERMINE THE USDA TEXTURAL SOIL CLASSIFICATION. IF THE INFILTRATION RATE FROM THE FALLING HEAD PERMEAMETER TEST IS LESS THAN 1.02 IN/HR OR THE USDA TEXTURAL SOIL CLASSIFICATION IS NOT A SANDY LOAM, LOAMY SAND, OR SAND, THE CONTRACTOR SHALL EXCAVATE AT LEAST 2 FEET BELOW THE SUBSURFACE SYSTEM INVERT, REMOVE THE UNSUITABLE MATERIAL AND PLACE A MATERIAL THAT HAS BEEN LABORATORY TESTED AND CONFIRMED TO HAVE A USDA TEXTURAL SOIL CLASSIFICATION OF A SANDY LOAM, LOAMY SAND, OR SAND UP TO THE BOTTOM OF THE CRUSHED STONE FOUNDATION.
2. THE WESTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE AN INFILTRATION/DETENTION SYSTEM WITH A CRUSHED STONE FOUNDATION DESIGNED TO ALLOW INFILTRATION OF THE STORMWATER TO THE SUBGRADE SOILS. THE EASTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE A DETENTION SYSTEM WITH A REINFORCED CONCRETE FOUNDATION AND WATER-TIGHT TO PREVENT SEASONAL HIGH GROUNDWATER FROM ENTERING THE SYSTEM.
3. THERE IS AN EXISTING APPROXIMATELY 6-INCH TILE DRAIN UNDER THE EAST SIDE OF TURNPIKE STREET. THE TILE DRAIN IS CONNECTED TO THE EXISTING CATCH BASINS. IF ENCOUNTERED DURING CONSTRUCTION REPLACE IN-KIND AND RECONNECT TO THE CATCH BASINS AS REQUIRED.

SHEET LEGEND

1" = 1000'



Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

OVERALL GRADING & DRAINAGE PLAN

Project No.	Drawing No.
151022801	CG100
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

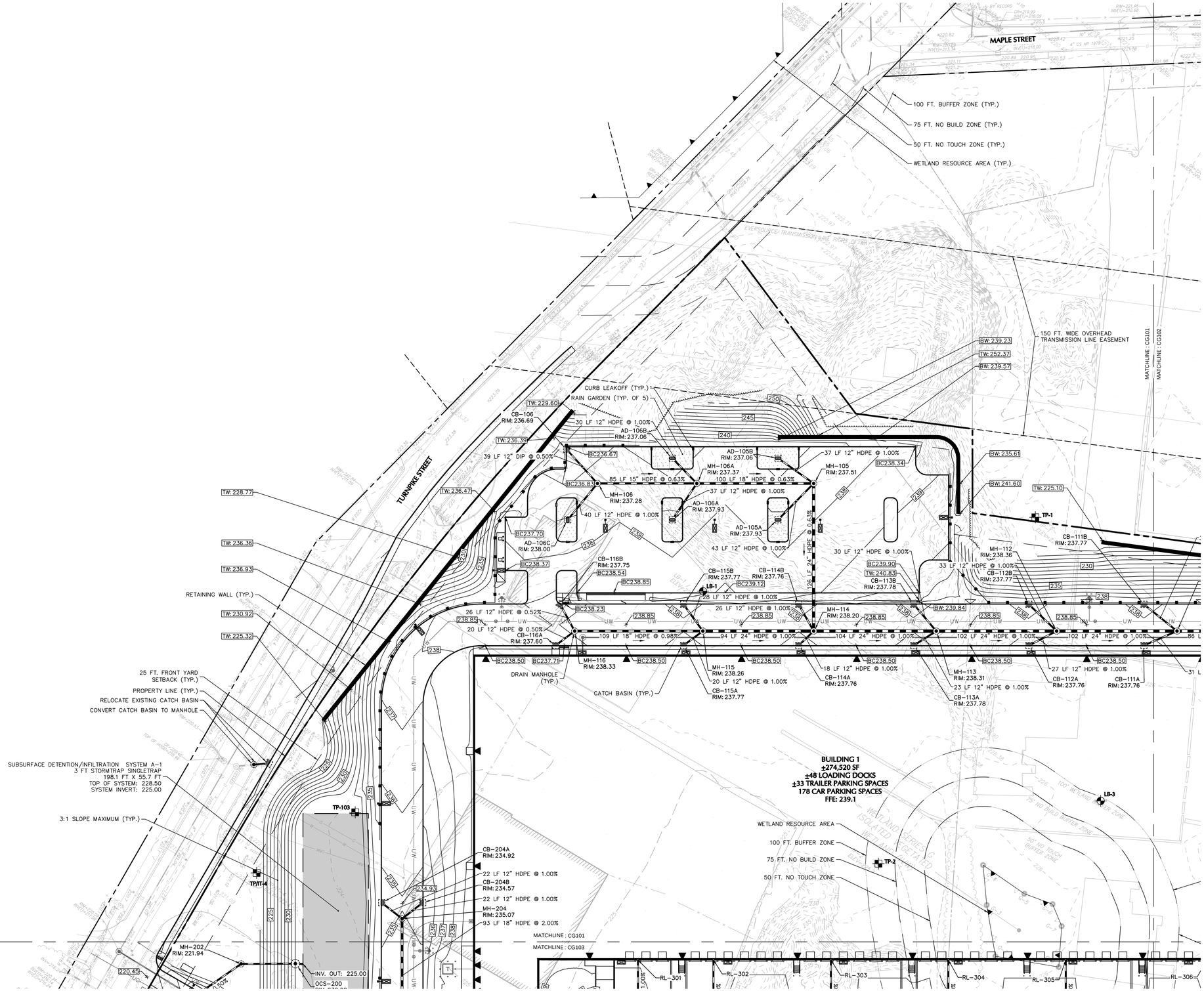
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120 0 60 120
SCALE IN FEET

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Project No. 151022801

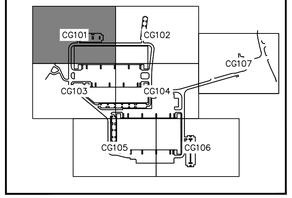
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SHEET LEGEND

1" = 1000'



NOTE:
1. SEE NOTE 1 ON CG100.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING & DRAINAGE PLAN I

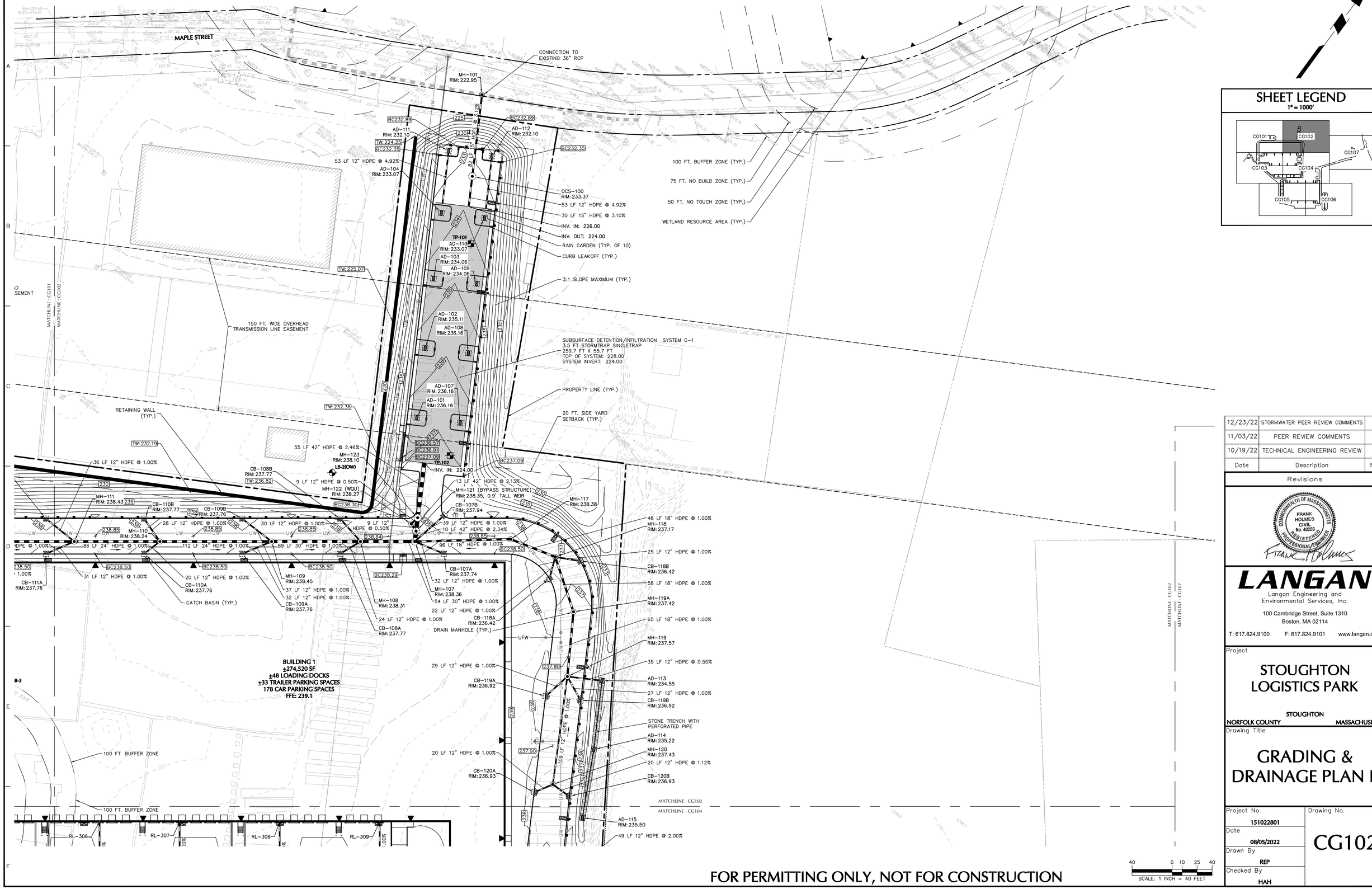
Project No.	Drawing No.
151022801	CG101
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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Date: 2/15/2023 Time: 22:13 User: hholmes Style Table: Langan.stb Layout: CG101 Document Code: 151022801-0501-CG101-0102



SHEET LEGEND

1" = 1000'

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	3
11/03/22	PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

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STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING & DRAINAGE PLAN II

Project No.	Drawing No.
151022801	CG102
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

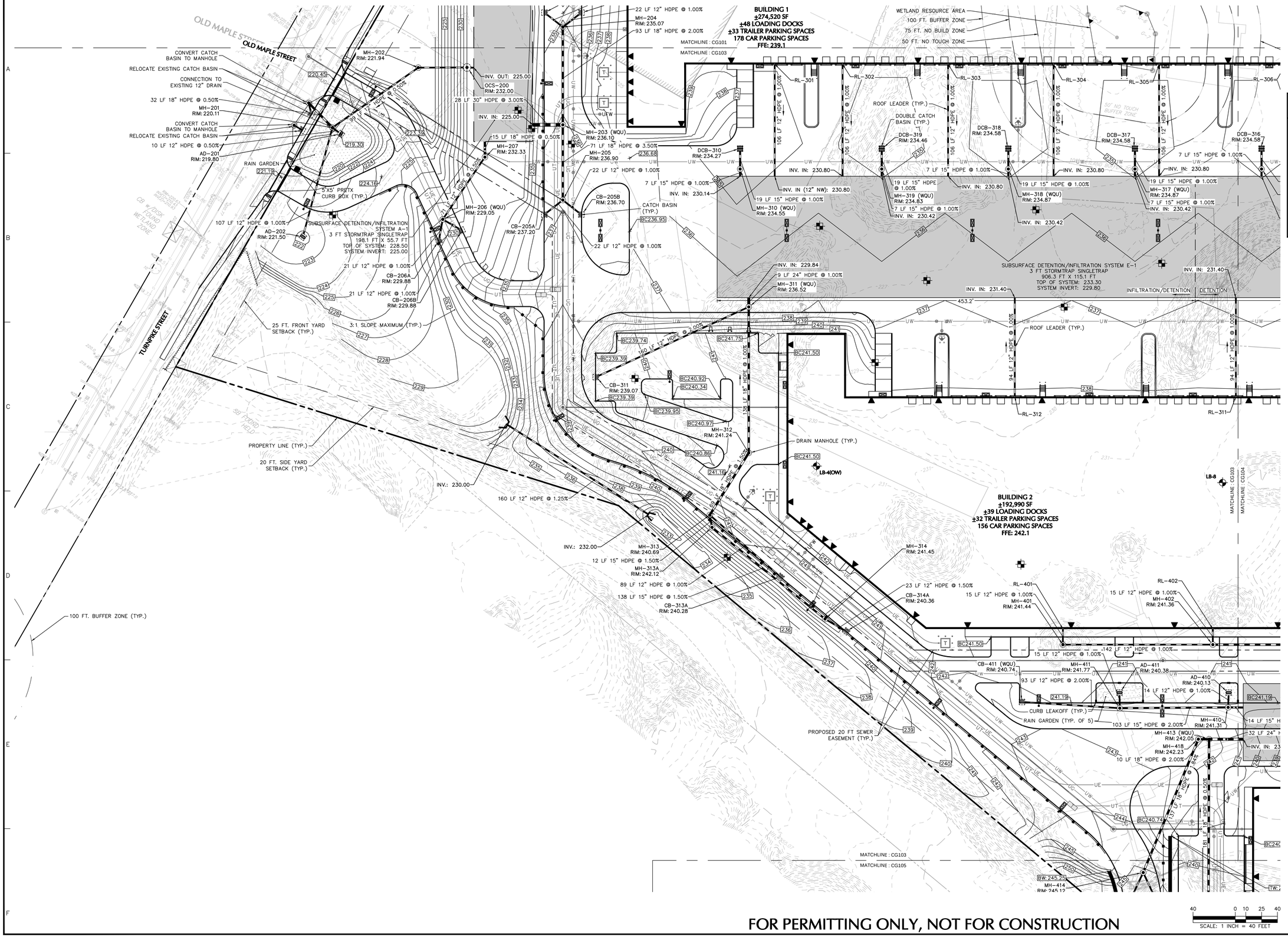
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SCALE: 1 INCH = 40 FEET

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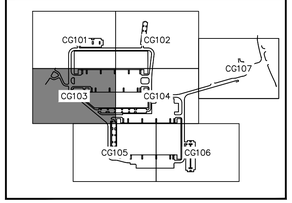
Project No. 151022801

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SHEET LEGEND

1" = 1000'



NOTE:

1. SEE NOTE 1 ON CG100.
2. THE WESTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE AN INFILTRATION/DETENTION SYSTEM WITH A CRUSHED STONE FOUNDATION DESIGNED TO ALLOW INFILTRATION OF THE STORMWATER TO THE SUBGRADE SOILS. THE EASTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE A DETENTION SYSTEM WITH A REINFORCED CONCRETE FOUNDATION AND WATER-TIGHT TO PREVENT SEASONAL HIGH GROUNDWATER FROM ENTERING THE SYSTEM.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

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NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING & DRAINAGE PLAN III

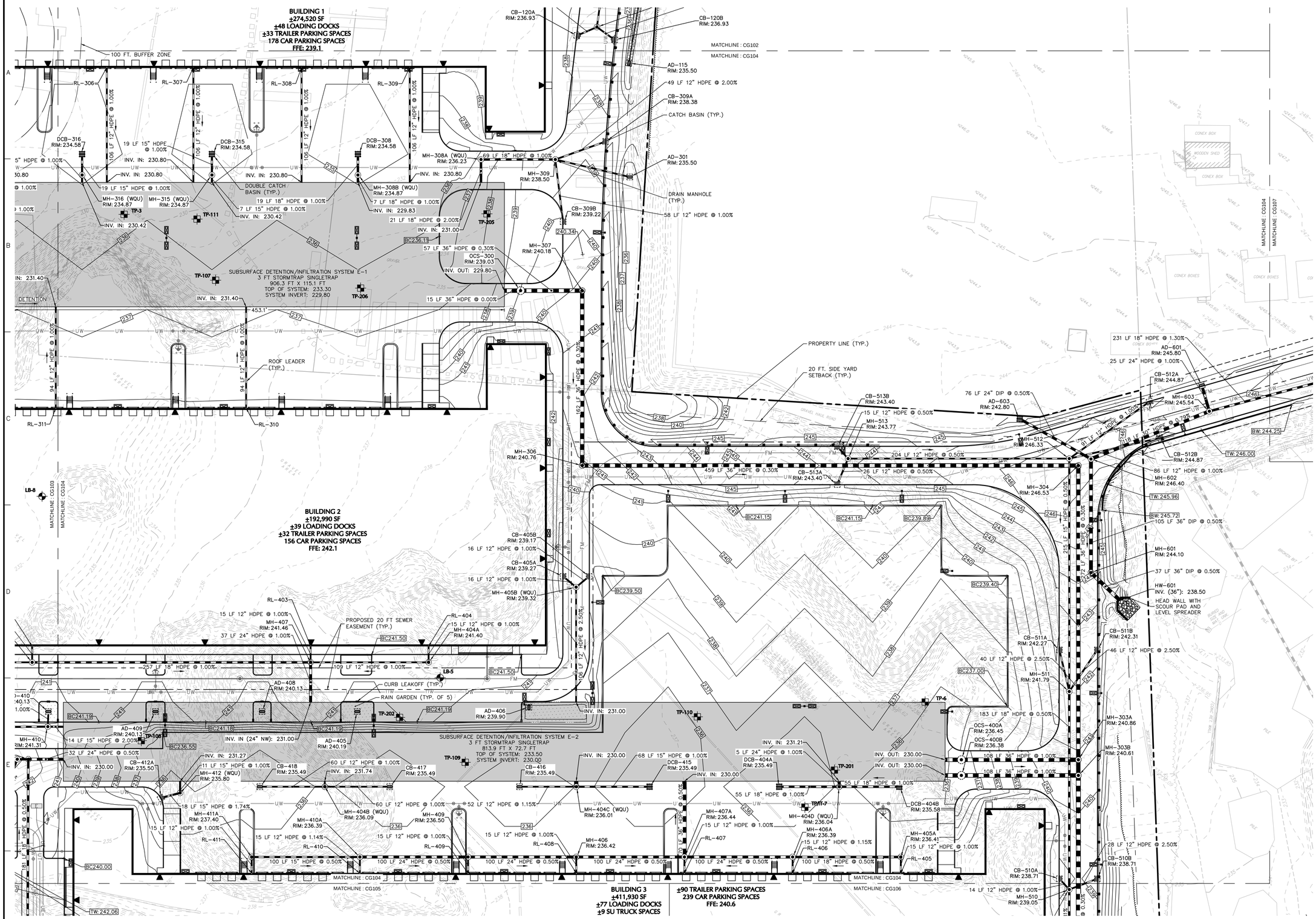
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Date: 08/05/2022	
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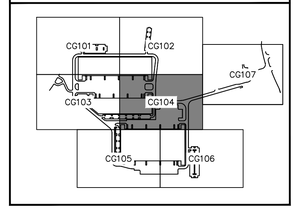
Project No. 151022801

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SHEET LEGEND

1" = 1000'



NOTE:

1. SEE NOTE 1 ON CG100.
2. THE WESTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE AN INFILTRATION/DETENTION SYSTEM WITH A CRUSHED STONE FOUNDATION DESIGNED TO ALLOW INFILTRATION OF THE STORMWATER TO THE SUBGRADE SOILS. THE EASTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE A DETENTION SYSTEM WITH A REINFORCED CONCRETE FOUNDATION AND WATER-TIGHT TO PREVENT SEASONAL HIGH GROUNDWATER FROM ENTERING THE SYSTEM.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

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NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING & DRAINAGE PLAN IV

Project No.	Drawing No.
151022801	CG104
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

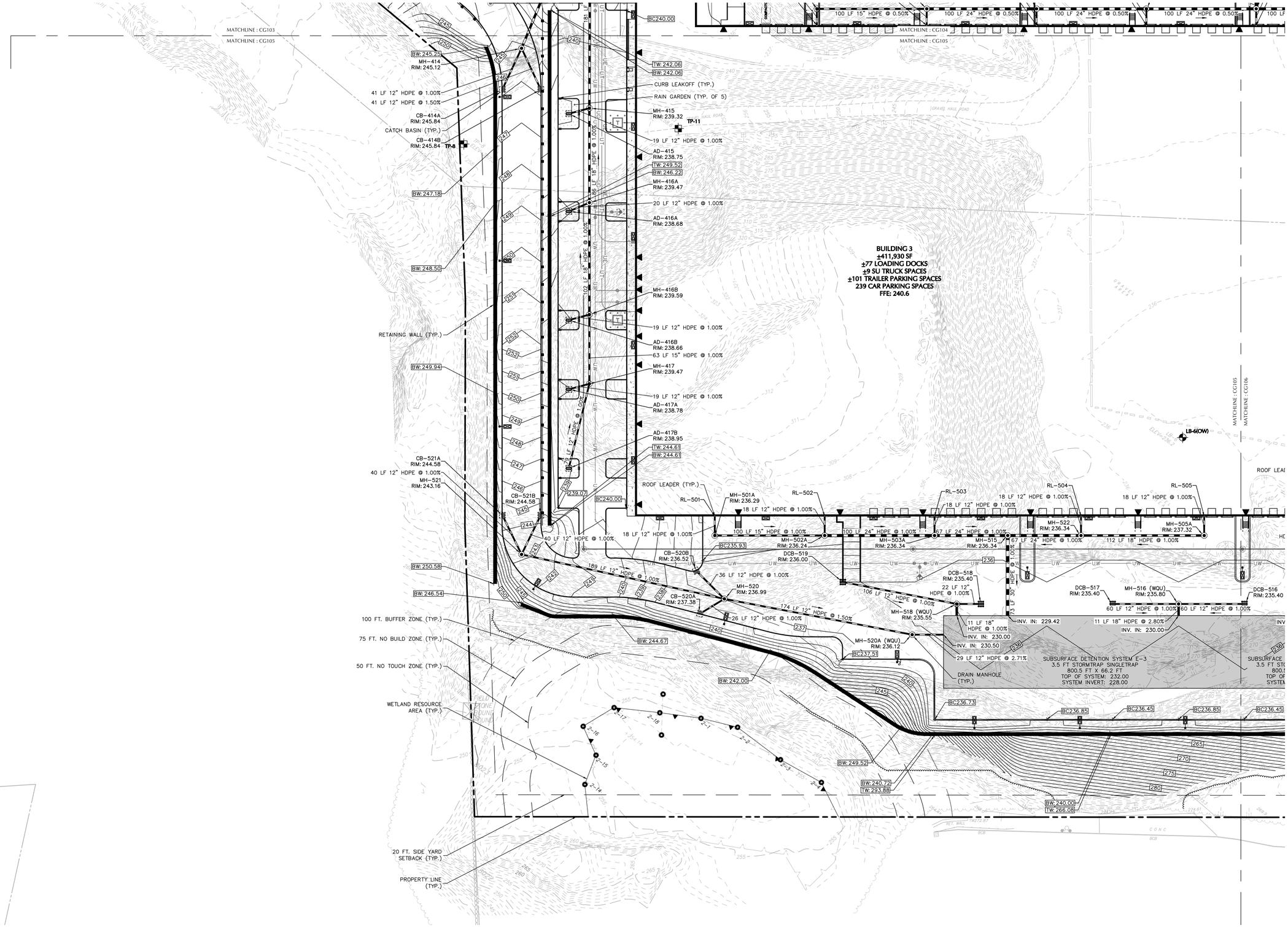
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SCALE: 1 INCH = 40 FEET

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Project No. 151022801

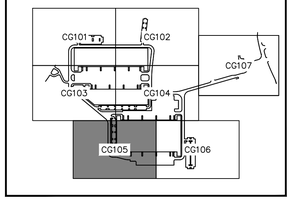
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SHEET LEGEND

1" = 1000'



Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	3
11/03/22	PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

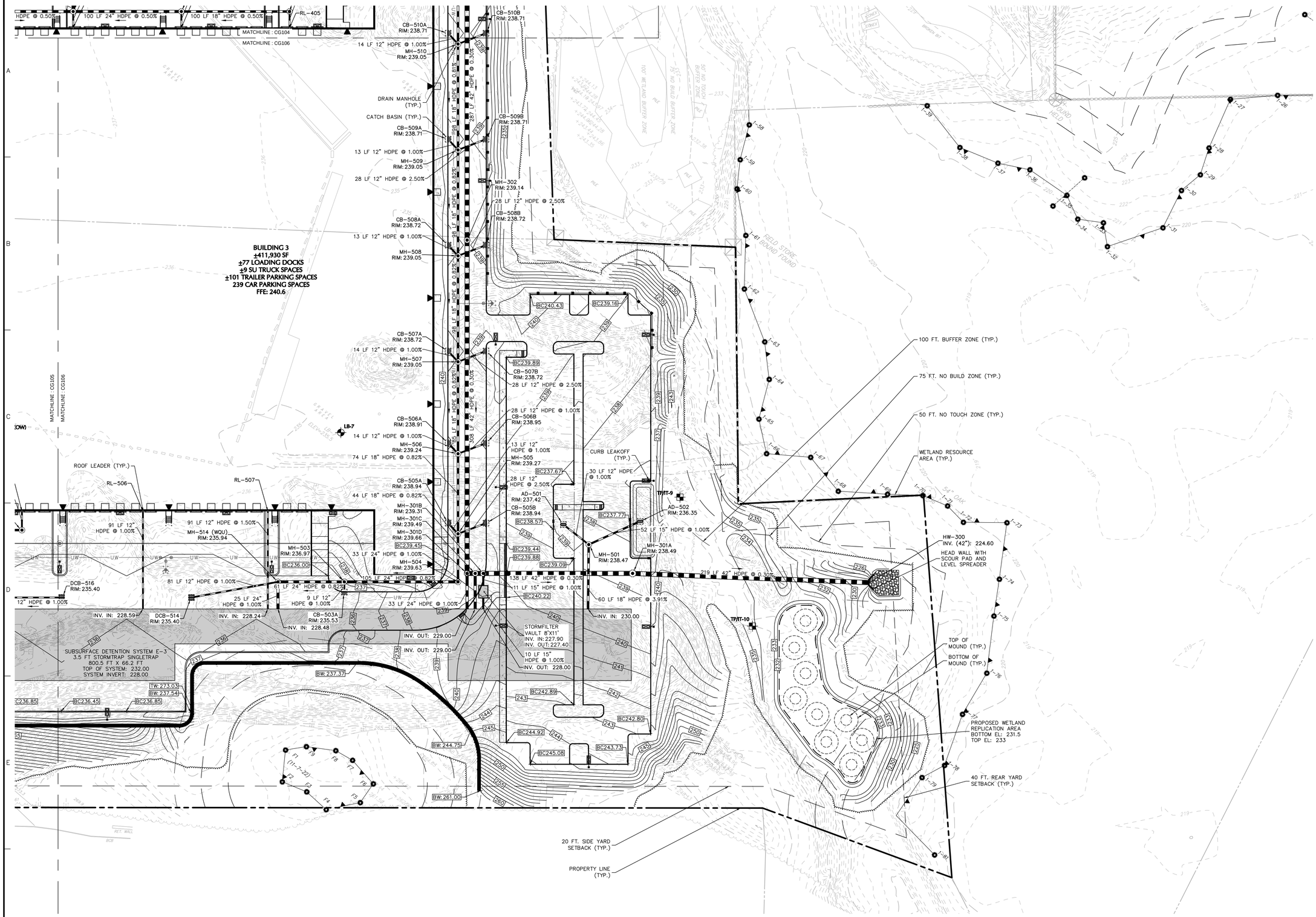
Drawing Title

GRADING & DRAINAGE PLAN V

Project No.	Drawing No.
151022801	CG105
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

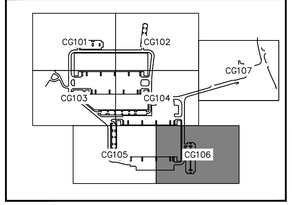
LANGAN
Project No. 151022801

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SHEET LEGEND

1" = 1000'



Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING & DRAINAGE PLAN VI

Project No.	Drawing No.
151022801	CG106
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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SCALE: 1 INCH = 40 FEET

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Project No. 151022801

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Date: 2/15/2023 Time: 22:21 User: hholmes Style Table: Langan.stb Layout: CG106 Document Code: 151022801-0501-CG101-0107

INSET B

SCALE: 1 INCH = 20 FEET

MATCHLINE: CG102
MATCHLINE: CG107
MATCHLINE: CG104
MATCHLINE: CG107

100 FT. BUFFER ZONE (TYP.)
75 FT. NO BUILD ZONE (TYP.)
50 FT. NO TOUCH ZONE (TYP.)
WETLAND RESOURCE AREA (TYP.)

60 FT EASEMENT (TYP.)

PROPOSED 20 FT SEWER EASEMENT (TYP.)

162 PAGE STREET PARCEL BOUNDARY

OLD PAGE STREET

PAGE STREET

REPLACE EXISTING PIPE WITH DUCTILE IRON PIPE AND CONNECT TO PROPOSED MANHOLE; REMOVE EXISTING PIPE BEYOND PROPOSED MANHOLE

CONVERT EXISTING CATCH BASIN TO MANHOLE

RELOCATED CATCH BASIN

INSET B

RELOCATE EXISTING CATCH BASIN

STONE TRENCH WITH PERFORATED PIPE

CONVERT TO MANHOLE

CONNECT PROPOSED HDPE PIPE TO EXISTING RCP PIPE WITH COUPLING INV.: 235.76

CONVERT EXISTING CATCH BASIN TO MANHOLE. CONNECT TO EXISTING DRAIN LINE. LOCATION AND SIZE TO BE FIELD VERIFIED.

SUBSURFACE DETENTION SYSTEM K-1
2.0 FT STORMTRAP SINGLETRAP
74.9 FT X 38.8 FT
TOP OF SYSTEM: 239.00
SYSTEM INVERT: 236.50

SUBSURFACE DETENTION SYSTEM K-2
2.0 FT STORMTRAP SINGLETRAP
74.9 FT X 38.8 FT
TOP OF SYSTEM: 233.20
SYSTEM INVERT: 230.70

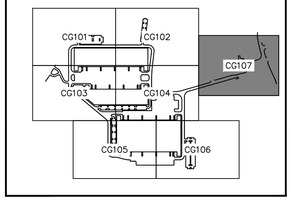
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SCALE: 1 INCH = 40 FEET

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SHEET LEGEND

1" = 1000'



Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING & DRAINAGE PLAN VII

Project No.	Drawing No.
151022801	CG107
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

LANGAN
Project No. 151022801

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Date: 2/15/2023 Time: 22:24 User: hholmes Style Table: Langan.stb Layout: CG107 Document Code: 151022801-0501-CG101-0108

NETWORK A-1 [200 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-201	RIM = 219.80		12" HDPE INV OUT =216.44
AD-202	RIM = 221.50		12" HDPE INV OUT =217.46
CB-204A	RIM = 234.92		12" HDPE INV OUT =231.72
CB-204B	RIM = 234.57		12" HDPE INV OUT =231.72
CB-205A	RIM = 237.20		12" HDPE INV OUT =233.72
CB-205B	RIM = 236.70		12" HDPE INV OUT =233.60
CB-206A	RIM = 229.88		12" HDPE INV OUT =225.90
CB-206B	RIM = 229.88		12" HDPE INV OUT =225.90
CB-207	RIM = 219.84		12" HDPE INV OUT =216.73
MH-201	RIM = 220.11	12" HDPE INV IN =217.00 12" HDPE INV IN =216.39 12" HDPE INV IN =216.39	18" HDPE INV OUT =216.39
MH-202	RIM = 221.94	12" HDPE INV IN =217.50	12" HDPE INV OUT =217.50
MH-203 (WQU)	RIM = 236.10	18" HDPE INV IN =229.00 18" HDPE INV IN =229.00	30" HDPE INV OUT =225.85
MH-204	RIM = 235.07	12" HDPE INV IN =231.50 12" HDPE INV IN =231.50	18" HDPE INV OUT =230.85
MH-205	RIM = 236.90	12" HDPE INV IN =233.50 12" HDPE INV IN =233.37	18" HDPE INV OUT =231.50
MH-206 (WQU)	RIM = 229.05	12" HDPE INV IN =225.69 12" HDPE INV IN =225.69	12" HDPE INV OUT =225.43
MH-207	RIM = 232.33	12" HDPE INV IN =225.07	18" HDPE INV OUT =225.07
MH-208	RIM = 220.06	18" HDPE INV IN =216.23 12" HDPE INV IN =216.68	
OCS-200	RIM = 232.00	12" HDPE INV IN =225.00	12" HDPE INV OUT =218.00

NETWORK C-1 [100 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-101	RIM = 236.16		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-102	RIM = 235.11		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-103	RIM = 234.06		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-104	RIM = 233.07		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-105A	RIM = 237.93		12" HDPE INV OUT =235.00
AD-105B	RIM = 237.06		12" HDPE INV OUT =234.31
AD-106A	RIM = 237.93		12" HDPE INV OUT =235.00
AD-106B	RIM = 237.06		12" HDPE INV OUT =234.31
AD-106C	RIM = 238.00		12" HDPE INV OUT =235.46
AD-107	RIM = 236.16		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-108	RIM = 236.16		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-109	RIM = 234.06		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-110	RIM = 233.07		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-111	RIM = 232.10		12" HDPE INV OUT =228.60
AD-112	RIM = 232.10		12" HDPE INV OUT =228.60
AD-113	RIM = 234.55	6" HDPE INV IN =232.70	12" HDPE INV OUT =232.70
AD-114	RIM = 235.22	6" HDPE INV IN =233.05	6" HDPE INV OUT =233.05
AD-115	RIM = 235.50		6" HDPE INV OUT =233.40
CB-106	RIM = 236.69		12" DIP INV OUT =234.53
CB-107A	RIM = 237.74		12" HDPE INV OUT =234.64
CB-107B	RIM = 237.94		12" HDPE INV OUT =234.59
CB-108A	RIM = 237.77		12" HDPE INV OUT =234.66
CB-108B	RIM = 237.77		12" HDPE INV OUT =234.66
CB-109A	RIM = 237.76		12" HDPE INV OUT =234.66
CB-109B	RIM = 237.76		12" HDPE INV OUT =234.66
CB-110A	RIM = 237.76		12" HDPE INV OUT =234.66
CB-110B	RIM = 237.77		12" HDPE INV OUT =234.66
CB-111A	RIM = 237.76		12" HDPE INV OUT =234.66
CB-111B	RIM = 237.77		12" HDPE INV OUT =234.66
CB-112A	RIM = 237.76		12" HDPE INV OUT =234.66
CB-112B	RIM = 237.77		12" HDPE INV OUT =234.66
CB-113A	RIM = 237.78		12" HDPE INV OUT =234.67
CB-113B	RIM = 237.78		12" HDPE INV OUT =234.67
CB-114A	RIM = 237.76		12" HDPE INV OUT =234.66
CB-114B	RIM = 237.76		12" HDPE INV OUT =234.66
CB-115A	RIM = 237.77		12" HDPE INV OUT =234.66
CB-115B	RIM = 237.77		12" HDPE INV OUT =234.66
CB-116A	RIM = 237.60		12" HDPE INV OUT =234.50
CB-116B	RIM = 237.75		12" HDPE INV OUT =234.55
CB-118A	RIM = 236.42		12" HDPE INV OUT =233.30
CB-118B	RIM = 236.42		12" HDPE INV OUT =233.05
CB-119A	RIM = 236.92		12" HDPE INV OUT =233.82
CB-119B	RIM = 236.92		12" HDPE INV OUT =233.82
CB-120A	RIM = 236.93		12" HDPE INV OUT =233.83
CB-120B	RIM = 236.93		12" HDPE INV OUT =233.83
MH-101	RIM = 222.95	15" HDPE INV IN =220.50	
MH-105	RIM = 237.51	18" HDPE INV IN =233.18 12" HDPE INV IN =234.56 12" HDPE INV IN =233.94	24" HDPE INV OUT =233.18
MH-106	RIM = 237.28	12" DIP INV IN =234.33 12" HDPE INV IN =235.06	15" HDPE INV OUT =234.33
MH-106A	RIM = 237.37	15" HDPE INV IN =233.80 12" HDPE INV IN =234.62 12" HDPE INV IN =234.01	18" HDPE INV OUT =233.80
MH-107	RIM = 238.36	12" HDPE INV IN =234.32 30" HDPE INV IN =225.89 12" HDPE INV IN =234.20 18" HDPE INV IN =229.85	42" HDPE INV OUT =225.89
MH-108	RIM = 238.31	30" HDPE INV IN =226.43 12" HDPE INV IN =234.36 12" HDPE INV IN =234.43	30" HDPE INV OUT =226.43

NETWORK C-1 [100 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
MH-109	RIM = 238.45	24" HDPE INV IN =227.32 12" HDPE INV IN =234.34 12" HDPE INV IN =234.29	30" HDPE INV OUT =227.32
MH-110	RIM = 238.24	24" HDPE INV IN =228.44 12" HDPE INV IN =234.46 12" HDPE INV IN =234.38	24" HDPE INV OUT =228.44
MH-111	RIM = 238.43	24" HDPE INV IN =229.29 12" HDPE INV IN =234.30 12" HDPE INV IN =234.35	24" HDPE INV OUT =229.29
MH-112	RIM = 238.36	24" HDPE INV IN =230.32 12" HDPE INV IN =234.33 12" HDPE INV IN =234.39	24" HDPE INV OUT =230.32
MH-113	RIM = 238.31	24" HDPE INV IN =231.34 12" HDPE INV IN =234.38 12" HDPE INV IN =234.45	24" HDPE INV OUT =231.34
MH-114	RIM = 238.20	24" HDPE INV IN =232.39 12" HDPE INV IN =234.40 12" HDPE INV IN =234.48 24" HDPE INV IN =232.39	24" HDPE INV OUT =232.39
MH-115	RIM = 238.26	18" HDPE INV IN =233.33 12" HDPE INV IN =234.38 12" HDPE INV IN =234.46	24" HDPE INV OUT =233.33
MH-116	RIM = 238.33	12" HDPE INV IN =234.40 12" HDPE INV IN =234.42	18" HDPE INV OUT =234.40
MH-117	RIM = 238.38	18" HDPE INV IN =230.81	18" HDPE INV OUT =230.81
MH-118	RIM = 237.17	18" HDPE INV IN =231.28 12" HDPE INV IN =233.08 12" HDPE INV IN =232.80	18" HDPE INV OUT =231.28
MH-119	RIM = 237.57	12" HDPE INV IN =233.52 12" HDPE INV IN =233.54 12" HDPE INV IN =232.51 12" HDPE INV IN =232.51	18" HDPE INV OUT =232.51
MH-119A	RIM = 237.42	18" HDPE INV IN =231.86	18" HDPE INV OUT =231.86
MH-120	RIM = 237.43	12" HDPE INV IN =233.60 12" HDPE INV IN =233.63	12" HDPE INV OUT =233.60
MH-121 (BYPASS STRUCTURE)	RIM = 238.35	42" HDPE INV IN =225.64	42" HDPE INV OUT =225.64 12" HDPE INV OUT =225.54
MH-122 (WQU)	RIM = 238.27	12" HDPE INV IN =225.50	12" HDPE INV OUT =225.40
MH-123	RIM = 238.10	42" HDPE INV IN =225.36 12" HDPE INV IN =225.36	42" HDPE INV OUT =225.36
OCS-100	RIM = 233.37	15" HDPE INV IN =223.06	15" HDPE INV OUT =223.06

NETWORK E-1 [300 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-301	RIM = 235.50		12" HDPE INV OUT =232.50
CB-309A	RIM = 238.38		12" HDPE INV OUT =234.27
CB-309B	RIM = 239.22		12" HDPE INV OUT =235.60
CB-311	RIM = 239.07		12" HDPE INV OUT =235.95
CB-313A	RIM = 240.28		12" HDPE INV OUT =237.17
CB-314A	RIM = 240.36		12" HDPE INV OUT =236.64
DCB-308	RIM = 234.58		18" HDPE INV OUT =230.09
DCB-310	RIM = 234.27		15" HDPE INV OUT =230.40
DCB-315	RIM = 234.58		15" HDPE INV OUT =230.69
DCB-316	RIM = 234.58		15" HDPE INV OUT =230.69
DCB-317	RIM = 234.58		15" HDPE INV OUT =230.69
DCB-318	RIM = 234.58		15" HDPE INV OUT =230.69
DCB-319	RIM = 234.46		15" HDPE INV OUT =230.69
MH-301A	RIM = 238.49	42" HDPE INV IN =225.26	42" HDPE INV OUT =225.26
MH-301B	RIM = 239.31	42" HDPE INV IN =225.67 15" HDPE INV IN =227.28	42" HDPE INV OUT =225.67
MH-301C	RIM = 239.49	24" HDPE INV IN =228.67 42" HDPE INV IN =225.70	42" HDPE INV OUT =225.70
MH-301D	RIM = 239.66	42" HDPE INV IN =225.72 24" HDPE INV IN =228.67	42" HDPE INV OUT =225.72
MH-302	RIM = 239.14	42" HDPE INV IN =226.64	42" HDPE INV OUT =226.64
MH-303A	RIM = 240.86	36" HDPE INV IN =227.55 36" HDPE INV IN =228.92	36" HDPE INV OUT =227.55
MH-303B	RIM = 240.61	36" HDPE INV IN =227.51 36" HDPE INV IN =228.92	42" HDPE INV OUT =227.51
MH-304	RIM = 246.53	36" HDPE INV IN =228.37	36" HDPE INV OUT =228.37
MH-306	RIM = 240.76	36" HDPE INV IN =229.74	36" HDPE INV OUT =229.74
MH-307	RIM = 240.18	36" HDPE INV IN =230.23	36" HDPE INV OUT =230.23
MH-308A (WQU)	RIM = 236.23	18" HDPE INV IN =231.42	18" HDPE INV OUT =231.43
MH-308B (WQU)	RIM = 234.87	18" HDPE INV IN =229.90	18" HDPE INV OUT =229.90
MH-309	RIM = 238.50	12" HDPE INV IN =235.02 12" HDPE INV IN =233.29 12" HDPE INV IN =232.11	18" HDPE INV OUT =232.11
MH-310 (WQU)	RIM = 234.55	15" HDPE INV IN =230.21	15" HDPE INV OUT =230.21
MH-311 (WQU)	RIM = 236.52	12" HDPE INV IN =232.76 18" HDPE INV IN =229.93	24" HDPE INV OUT =229.93
MH-312	RIM = 241.24	18" HDPE INV IN =233.01	18" HDPE INV OUT =231.31
MH-313	RIM = 240.69	15" HDPE INV IN =234.05 12" HDPE INV IN =236.28	18" HDPE INV OUT =234.05
MH-313A	RIM = 242.12	15" HDPE INV IN =234.23	15" HDPE INV OUT =234.23
MH-314	RIM = 241.45	12" HDPE INV IN =236.29	15" HDPE INV OUT =236.29
MH-315 (WQU)	RIM = 234.87	15" HDPE INV IN =230.49	15" HDPE INV OUT =230.49
MH-316 (WQU)	RIM = 234.87	15" HDPE INV IN =230.49	15" HDPE INV OUT =230.49
MH-317 (WQU)	RIM = 234.87	15" HDPE INV IN =230.49	15" HDPE INV OUT =230.49
MH-318 (WQU)	RIM = 234.87	15" HDPE INV IN =230.49	15" HDPE INV OUT =230.49
MH-319 (WQU)	RIM = 234.83	15" HDPE INV IN =230.49	15" HDPE INV OUT =230.49
OCS-300	RIM = 239.03	36" HDPE INV IN =229.80	36" HDPE INV OUT =230.40
OCS-400A	RIM = 236.45	36" HDPE INV IN =230.00	36" HDPE INV OUT =230.00
OCS-400B	RIM = 236.38	36" HDPE INV IN =230.00	36" HDPE INV OUT =230.00

NETWORK E-2 [400 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-405	RIM = 240.19		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-406	RIM = 239.90		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-408	RIM = 240.13		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-409	RIM = 240.13		CONNECTS TO SUBSURFACE SYSTEM BELOW
AD-410	RIM = 240.13		12" HDPE INV OUT =236.99
AD-411	RIM = 240.38		12" HDPE INV OUT =237.01
AD-415	RIM = 238.75		12" HDPE INV OUT =235.85
AD-416A	RIM = 238.68		12" HDPE INV OUT =235.85
AD-416B	RIM = 238.66		12" HDPE INV OUT =235.85
AD-417A	RIM = 238.78		12" HDPE INV OUT =235.85
AD-417B	RIM = 238.95		12" HDPE INV OUT =235.85
CB-405A	RIM = 239.27		12" HDPE INV OUT =234.16
CB-405B	RIM = 239.17		12" HDPE INV OUT =234.16
CB-411 (WQU)	RIM = 240.74		12" HDPE INV OUT =237.63
CB-412A	RIM = 235.50		15" HDPE INV OUT =231.70
CB-414A	RIM = 245.84		12" HDPE INV OUT =242.59
CB-414B	RIM = 245.84		12" HDPE INV OUT =242.73
CB-416	RIM = 235.49		12" HDPE INV OUT =232.39
CB-417	RIM = 235.49		12" HDPE INV OUT =232.39
CB-418	RIM = 235.49		12" HDPE INV OUT =232.39
DCB-404A	RIM = 235.49		18" HDPE INV OUT =231.82
DCB-404B	RIM = 235.58		18" HDPE INV OUT =231.91
DCB-415	RIM = 235.49		15" HDPE INV OUT =232.11
MH-401	RIM = 241.44	12" HDPE INV IN =235.36	12" HDPE INV OUT =235.36
MH-402	RIM = 241.36	12" HDPE INV IN =233.94 12" HDPE INV IN =235.36	18" HDPE INV OUT =233.94
MH-404A	RIM = 241.40	12" HDPE INV IN =235.36	12" HDPE INV OUT =235.36
MH-404B (WQU)	RIM = 236.09	12" HDPE INV IN =231.79 12" HDPE INV IN =231.79	12" HDPE INV OUT =231.79
MH-404C (WQU)	RIM = 236.01	12" HDPE INV IN =231.79 15" HDPE INV IN =231.44	36" HDPE INV OUT =230.03
MH-404D (WQU)	RIM = 236.04	18" HDPE INV IN =231.35 18" HDPE INV IN =231.26	24" HDPE INV OUT =231.26
MH-405A	RIM = 236.41	12" HDPE INV IN =233.31	18" HDPE INV OUT =231.85
MH-405B (WQU)	RIM = 239.32	12" HDPE INV IN =234.00 12" HDPE INV IN =234.00	12" HDPE INV OUT =233.66
MH-406	RIM = 236.42	24" HDPE INV IN =230.86 12" HDPE INV IN =233.31	24" HDPE INV OUT =230.86
MH-406A	RIM = 236.39	18" HDPE INV IN =231.35 12" HDPE INV IN =233.29	24" HDPE INV OUT =231.35
MH-407	RIM = 241.46	18" HDPE INV IN =231.37 12" HDPE INV IN =235.36 12" HDPE INV IN =234.27	24" HDPE INV OUT =231.37
MH-407A	RIM = 236.44	24" HDPE INV IN =230.85 24" HDPE INV IN =230.36 12" HDPE INV IN =233.31	36" HDPE INV OUT =230.36
MH-409	RIM = 236.50	24" HDPE INV IN =231.36 12" HDPE INV IN =233.31	24" HDPE INV OUT =231.36
MH-410	RIM = 241.31	15" HDPE INV IN =233.72 12" HDPE INV IN =236.85	15" HDPE INV OUT =231.79
MH-410A	RIM = 236.39	15" HDPE INV IN =231.86 12" HDPE INV IN =233.29	24" HDPE INV OUT =231.86
MH-411	RIM = 241.77	12" HDPE INV IN =236.86 12" HDPE INV IN =235.78	15" HDPE INV OUT =235.78
MH-411A	RIM = 237.40	12" HDPE INV IN =233.31	15" HDPE INV OUT =232.36
MH-412 (WQU)	RIM = 235.80	15" HDPE INV IN =231.38	15" HDPE INV OUT =231.38
MH-413 (WQU)	RIM = 242.05	18" HDPE INV IN =230.16 18" HDPE INV IN =235.18	24" HDPE INV OUT =230.16
MH-414	RIM = 245.12	12" HDPE INV IN =242.18 12" HDPE INV IN =242.11	18" HDPE INV OUT =238.00
MH-415	RIM = 239.32	18" HDPE INV IN =232.54 12" HDPE INV IN =235.65	18" HDPE INV OUT =231.07
MH-416A	RIM = 239.47	18" HDPE INV IN =233.40 12" HDPE INV IN =235.64	18" HDPE INV OUT =233.40
MH-416B	RIM = 239.59	15" HDPE INV IN =234.42 12" HDPE INV IN =235.65	18" HDPE INV OUT =234.42
MH-417	RIM = 239.47	12" HDPE INV IN =235.65 12" HDPE INV IN =235.05	15" HDPE INV OUT =235.05
MH-418	RIM = 242.23	18" HDPE INV IN =235.49	18" HDPE INV OUT =235.39

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Project No. 151022801

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
DRAINAGE STRUCTURE REFERENCE SHEET I

Project No.	Drawing No.
151022801	CG201
Date: 08/05/2022	
Drawn By: MPG	
Checked By: HAH	

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NETWORK E-3 [500 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-501	RIM = 237.42		12" HDPE INV OUT =233.87
AD-502	RIM = 236.35		15" HDPE INV OUT =232.85
CB-503A	RIM = 235.53		12" HDPE INV OUT =232.86
CB-505A	RIM = 238.94		12" HDPE INV OUT =235.84
CB-505B	RIM = 238.94		12" HDPE INV OUT =235.84
CB-506A	RIM = 238.91		12" HDPE INV OUT =236.61
CB-506B	RIM = 238.95		12" HDPE INV OUT =236.61
CB-507A	RIM = 238.72		12" HDPE INV OUT =235.61
CB-507B	RIM = 238.72		12" HDPE INV OUT =235.61
CB-508A	RIM = 238.72		12" HDPE INV OUT =235.61
CB-508B	RIM = 238.72		12" HDPE INV OUT =235.61
CB-509A	RIM = 238.71		12" HDPE INV OUT =235.61
CB-509B	RIM = 238.71		12" HDPE INV OUT =235.61
CB-510A	RIM = 238.71		12" HDPE INV OUT =235.61
CB-510B	RIM = 238.71		12" HDPE INV OUT =235.61
CB-511A	RIM = 242.27		12" HDPE INV OUT =239.55
CB-511B	RIM = 242.31		12" HDPE INV OUT =239.59
CB-512A	RIM = 244.87		12" HDPE INV OUT =237.63
CB-512B	RIM = 244.87		12" HDPE INV OUT =237.58
CB-513A	RIM = 243.40		12" HDPE INV OUT =240.30
CB-513B	RIM = 243.40		12" HDPE INV OUT =240.30
CB-520A	RIM = 237.38		12" HDPE INV OUT =233.41
CB-520B	RIM = 236.52		12" HDPE INV OUT =233.41
CB-521A	RIM = 244.58		12" HDPE INV OUT =240.37
CB-521B	RIM = 244.58		12" HDPE INV OUT =240.37
DCB-514	RIM = 235.40		12" HDPE INV OUT =231.30
DCB-516	RIM = 235.40		12" HDPE INV OUT =230.90
DCB-517	RIM = 235.40		12" HDPE INV OUT =230.90
DCB-518	RIM = 235.40		12" HDPE INV OUT =230.90
DCB-519	RIM = 236.00		12" HDPE INV OUT =231.18
MH-501	RIM = 238.47	12" HDPE INV IN =233.57 15" HDPE INV IN =232.33	18" HDPE INV OUT =232.33
MH-501A	RIM = 236.29	12" HDPE INV IN =232.82	15" HDPE INV OUT =232.82
MH-502A	RIM = 236.24	15" HDPE INV IN =231.82 12" HDPE INV IN =232.82	24" HDPE INV OUT =231.82
MH-503	RIM = 236.97	12" HDPE INV IN =232.77 24" HDPE INV IN =229.23	24" HDPE INV OUT =229.23
MH-503A	RIM = 236.34	24" HDPE INV IN =230.82 12" HDPE INV IN =232.82	24" HDPE INV OUT =230.82
MH-504	RIM = 239.63	18" HDPE INV IN =230.09	24" HDPE INV OUT =230.09
MH-505	RIM = 239.27	18" HDPE INV IN =230.45 12" HDPE INV IN =235.70 12" HDPE INV IN =235.15	18" HDPE INV OUT =230.45
MH-505A	RIM = 237.32	12" HDPE INV IN =232.82	18" HDPE INV OUT =232.82
MH-506	RIM = 239.24	18" HDPE INV IN =231.06 12" HDPE INV IN =236.47 12" HDPE INV IN =236.33	18" HDPE INV OUT =231.06
MH-507	RIM = 239.05	18" HDPE INV IN =231.75 12" HDPE INV IN =235.48 12" HDPE INV IN =234.92	18" HDPE INV OUT =231.75
MH-508	RIM = 239.05	12" HDPE INV IN =235.48 12" HDPE INV IN =234.92 18" HDPE INV IN =232.55	18" HDPE INV OUT =232.55
MH-509	RIM = 239.05	18" HDPE INV IN =233.35 12" HDPE INV IN =235.48 12" HDPE INV IN =234.92	18" HDPE INV OUT =233.35
MH-510	RIM = 239.05	18" HDPE INV IN =234.15 12" HDPE INV IN =234.92 12" HDPE INV IN =235.47	18" HDPE INV OUT =234.15
MH-511	RIM = 241.79	15" HDPE INV IN =235.06 12" HDPE INV IN =238.43 12" HDPE INV IN =238.56	18" HDPE INV OUT =235.06
MH-512	RIM = 246.33	12" HDPE INV IN =236.72 12" HDPE INV IN =236.72 12" HDPE INV IN =236.14	15" HDPE INV OUT =236.14
MH-513	RIM = 243.77	12" HDPE INV IN =240.22 12" HDPE INV IN =240.17	12" HDPE INV OUT =237.16
MH-514 (WQU)	RIM = 235.94	24" HDPE INV IN =228.73 12" HDPE INV IN =230.49	24" HDPE INV OUT =228.73
MH-515	RIM = 236.34	24" HDPE INV IN =230.15 24" HDPE INV IN =231.03	30" HDPE INV OUT =230.15
MH-516 (WQU)	RIM = 235.80	12" HDPE INV IN =230.30 12" HDPE INV IN =230.30	18" HDPE INV OUT =230.30
MH-518 (WQU)	RIM = 235.55	12" HDPE INV IN =230.12 12" HDPE INV IN =230.68	18" HDPE INV OUT =230.11
MH-520	RIM = 236.99	12" HDPE INV IN =233.89 12" HDPE INV IN =233.05 12" HDPE INV IN =233.15	12" HDPE INV OUT =233.89
MH-520A (WQU)	RIM = 236.12	12" HDPE INV IN =231.28	12" HDPE INV OUT =231.28
MH-521	RIM = 243.16	12" HDPE INV IN =239.97 12" HDPE INV IN =239.97	12" HDPE INV OUT =235.78
MH-522	RIM = 236.34	18" HDPE INV IN =231.70 12" HDPE INV IN =232.82	24" HDPE INV OUT =231.70

NETWORK D-1 [600 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-601	RIM = 245.80		24" HDPE INV OUT =241.13
AD-602	RIM = 247.76		18" HDPE INV OUT =243.88
AD-603	RIM = 242.80		24" DIP INV OUT =239.59
MH-601	RIM = 244.10	36" DIP INV IN =238.68	36" DIP INV OUT =238.69
MH-602	RIM = 246.40	30" HDPE INV IN =239.51 24" DIP INV IN =239.21	36" DIP INV OUT =239.21
MH-603	RIM = 245.54	18" HDPE INV IN =240.44 24" HDPE INV IN =240.88	30" HDPE INV OUT =240.44
MH-604	RIM = 247.36	18" HDPE INV IN =243.43	18" HDPE INV OUT =243.43
MH-605	RIM = 242.82		18" HDPE INV OUT =236.93
MH-606	RIM = 243.31	18" HDPE INV IN =235.96	18" HDPE INV OUT =235.96

NETWORK J-1 [700 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-701	RIM = 239.79		12" HDPE INV OUT =236.69

NETWORK K-1 [800 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
AD-801	RIM = 235.66		12" HDPE INV OUT =232.00
CB-802A	RIM = 241.13		18" HDPE INV OUT =237.30
CB-802B	RIM = 241.10		18" HDPE INV OUT =237.30
CB-802C	RIM = 241.00		12" HDPE INV OUT =237.90
CB-803A	RIM = 235.20		12" HDPE INV OUT =232.09
CB-803B	RIM = 235.00		12" HDPE INV OUT =231.03
MH-801 (JF4-2-1)	RIM = 234.16	12" HDPE INV IN =230.67	12" HDPE INV OUT =230.59
MH-802 (WQU)	RIM = 241.59	18" HDPE INV IN =237.03 18" HDPE INV IN =237.03 12" HDPE INV IN =237.70	24" HDPE INV OUT =237.03
MH-803 (WQU)	RIM = 235.51	12" HDPE INV IN =231.87 12" HDPE INV IN =230.81	12" HDPE INV OUT =230.81
OCS-801	RIM = 234.32	12" HDPE INV IN =230.70	12" HDPE INV OUT =230.70
OCS-802	RIM = 240.44	12" HDPE INV IN =236.17	12" HDPE INV OUT =231.32

ACCESS ROAD NETWORK [900 SERIES]

STRUCTURE TABLE

STRUCTURE NAME:	RIM:	PIPES IN:	PIPES OUT
CB-901A	RIM = 228.70		12" HDPE INV OUT =224.73
CB-902A	RIM = 232.49		12" HDPE INV OUT =229.20
MH-901	RIM = 228.25	12" HDPE INV IN =224.63 12" HDPE INV IN =224.42	
MH-902	RIM = 231.78	12" HDPE INV IN =228.67	12" HDPE INV OUT =225.05

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Project No. 151022801

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES
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Project

STOUGHTON LOGISTICS PARK

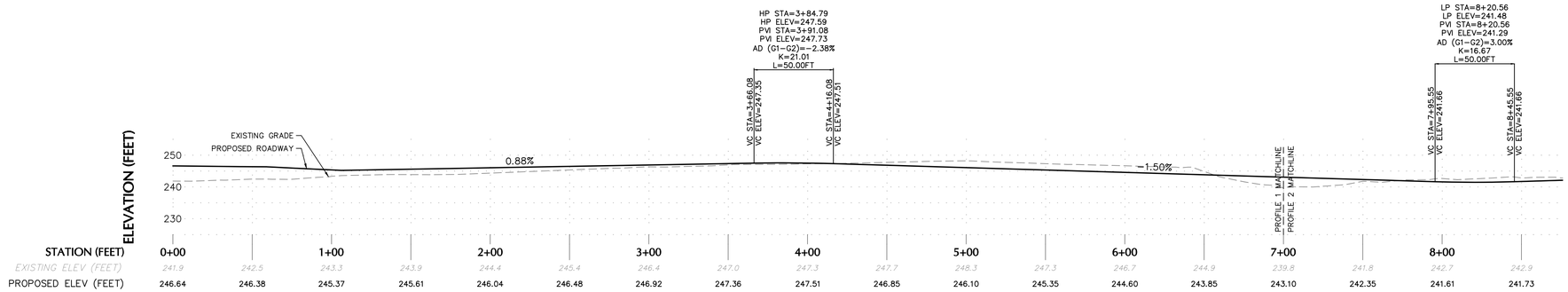
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

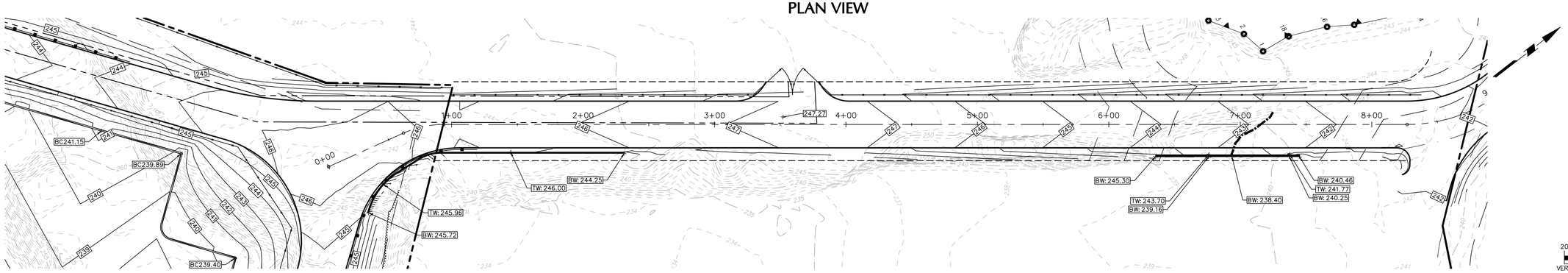
DRAINAGE STRUCTURE REFERENCE SHEET II

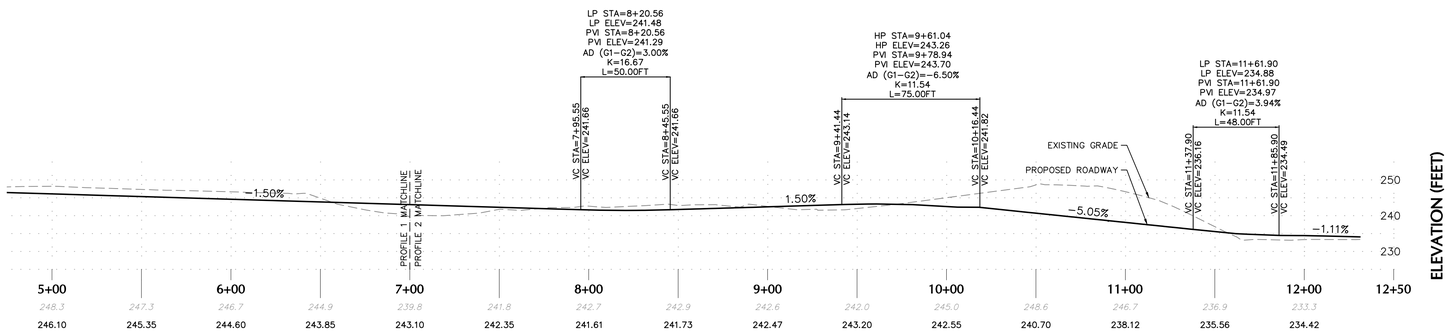
Project No.	Drawing No.
151022801	CG202
Date: 08/05/2022	
Drawn By: MPG	
Checked By: HAH	

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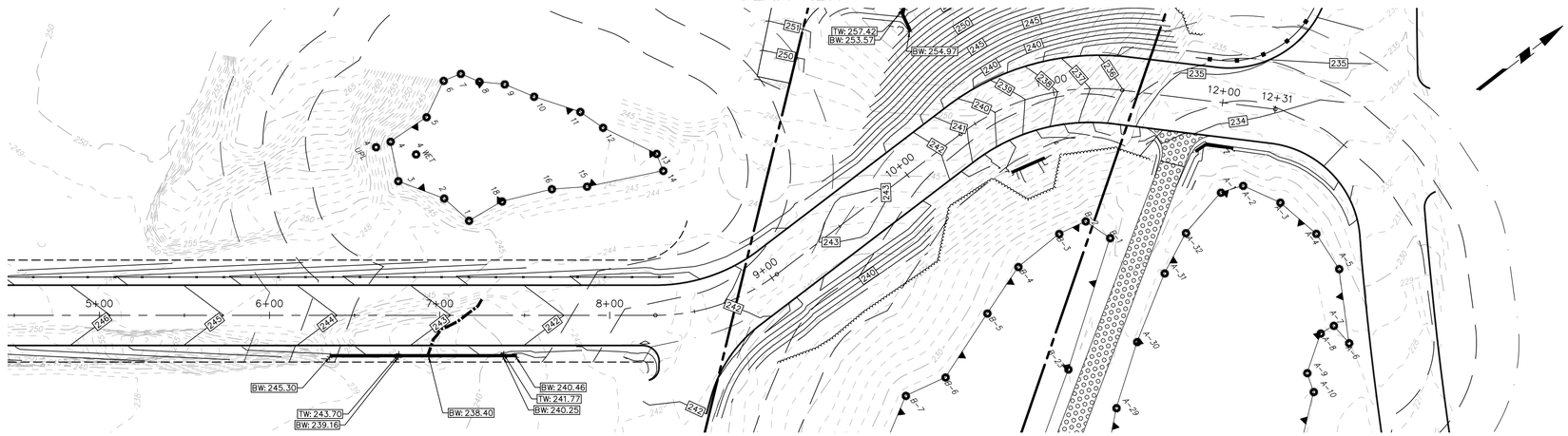


SITE ACCESS ROAD PROFILE 1
PLAN VIEW





SITE ACCESS ROAD PROFILE 2
PLAN VIEW



Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
ROADWAY PROFILE I

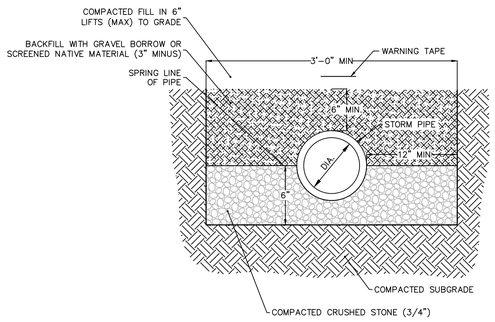
Project No.	Drawing No.
151022801	CG301
Date: 09/23/2022	
Drawn By: JSP	
Checked By: HAH	

20 0 10 20
VERTICAL SCALE: 1 INCH = 20 FEET

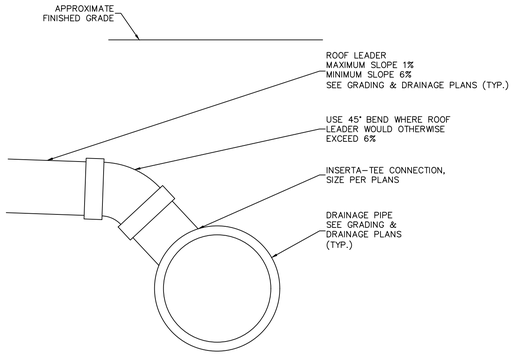
40 0 10 25 40
SCALE: 1 INCH = 40 FEET

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Project No. 151022801

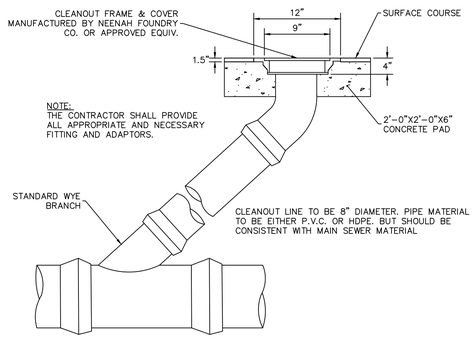
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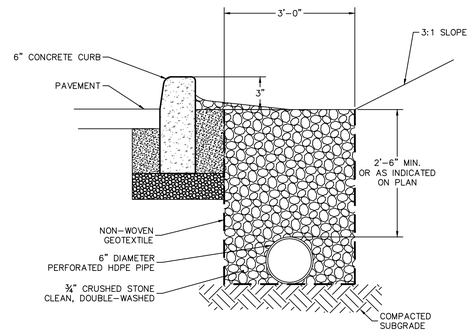
1 STORM PIPE BEDDING
N.T.S



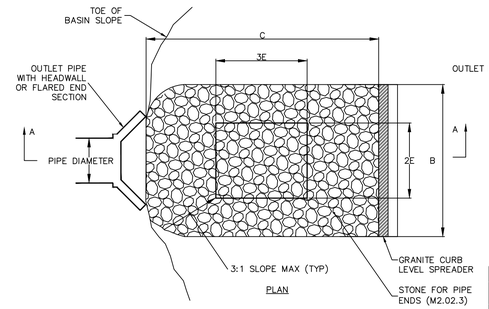
2 ROOF LEADER CONNECTION
N.T.S



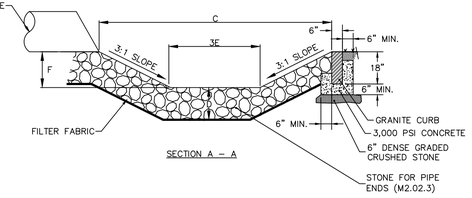
3 CLEANOUT (C.O.)
N.T.S



4 STONE TRENCH WITH PERFORATED PIPE
N.T.S.



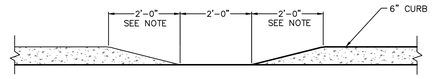
NOTE:
1. SIDE SLOPES SHALL BE 3:1 OR FLATTER
2. REFER TO MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (MASSDOT SS) M2.02.3 STONE FOR PIPE ENDS



SECTION A – A

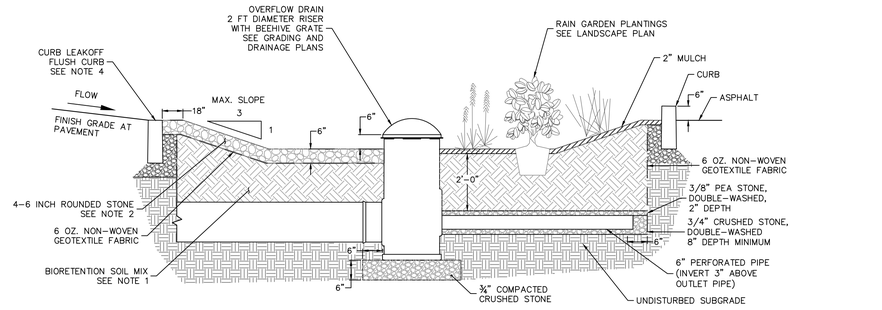
SCOUR PAD DIMENSIONS				
	HW-300	HW-601	HW-701	COMBINED HW-801A & HW-801
B	20 FT	15 FT	8 FT	11 FT
C	24 FT	18 FT	9 FT	10 FT
D	1.5 FT	1.5 FT	1.5 FT	1.5 FT
E	4.0 FT	3 FT	1 FT	–
F	2.0 FT	1.5 FT	1 FT	1 FT

5 SCOUR PAD AND LEVEL SPREADER
N.T.S.



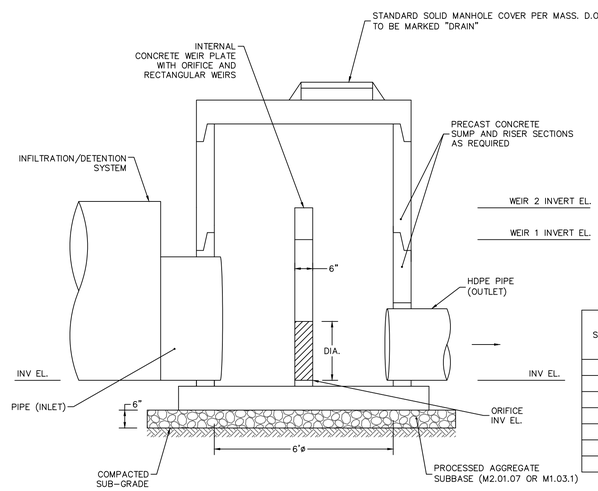
NOTE:
1. REFER TO GRADING AND DRAINAGE PLAN. CURB TRANSITION ONLY ON ONE SIDE WHERE RAIN GARDEN CURB ABUTS ANOTHER CURB PERPENDICULARLY.

CURB LEAKOFF ELEVATION VIEW



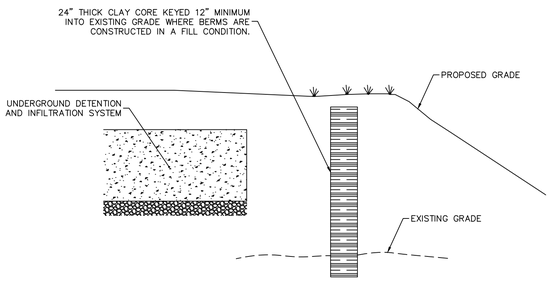
NOTE:
1. REFER TO BIORETENTION SOIL MIX ON SHEET LP501. CONTRACTOR SHALL SUBMIT BIORETENTION SOIL MIX TO PROJECT LANDSCAPE ARCHITECT/ENGINEER OR OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO INSTALLATION.
2. STONE AT CURB LEAKOFFS AND AT PRETX CURB OUTLETS SHALL EXTEND THE WIDTH OF THE CURB CUT FROM THE EDGE OF PAVEMENT TO THE OVERFLOW DRAIN ALONG THE RAIN GARDEN FLOOR.
3. OVERFLOW DRAIN RIM ELEVATION SHALL BE SET 3" LOWER THAN THE LOWEST CURB LEAK OFF ELEVATION. BOTTOM OF RAIN GARDEN SHALL BE SET 6" BELOW OVERFLOW DRAIN RIM ELEVATION.
4. FOR RAIN GARDEN ASSOCIATED WITH AD-201, PRETX CURB STRUCTURES WILL ACT AS CURB LEAKOFFS. REFER TO DETAIL 4 ON SHEET CG 502.
5. SINGLE UNDERDRAIN SHALL BE CENTERED AND EXTENDED LENGTHWISE WITHIN THE FOOTPRINT OF THE RAIN GARDEN.

6 RAIN GARDEN
N.T.S.



SYSTEM ID	STRUCTURE NAME	RIM ELEV. (FT)	ORIFICE 1 INVERT ELEV. (FT)	ORIFICE 1 (IN)	ORIFICE 2 INVERT ELEV. (FT)	ORIFICE 2 (IN)	WEIR 1 INVERT ELEV. (FT)	WEIR 1 HEIGHT (FT)	WEIR 1 WIDTH (FT)	WEIR 2 INVERT ELEV. (FT)	WEIR 2 WIDTH (FT)	OUTLET PIPE SIZE & INVERT ELEV. (FT) DOWNSTREAM OF WEIR
A-1	OCS-200	232.00	225.70	6.0	–	–	227.50	0.5	0.5	228.00	6.0	12-INCH, 218.00
C-1	OCS-100	233.37	–	–	–	–	225.00	2.0	1.0	227.00	6.0	15-INCH, 223.06
E-1	OCS-300	239.03	–	–	–	–	231.50	–	6.0			36-INCH, 230.40
E-2	OCS-400A	236.45	–	–	–	–	231.00	1.8	3.4	232.80	6.0	36-INCH, 230.00
E-2	OCS-400B	236.38	–	–	–	–	231.00	1.8	3.4	232.80	6.0	36-INCH, 230.00
K-1	OCS-802	240.44	236.50	8.5	–	–	238.42	–	6.0	–	–	12-INCH, 236.50
K-2	OCS-801	234.32	230.70	6.0	231.60	8.0	232.70	–	6.0	–	–	12-INCH, 203.70

7 OUTLET CONTROL STRUCTURE - UNDERGROUND SYSTEM
N.T.S.



8 IMPERMEABLE CLAY CORE IN FILL CONDITION
N.T.S

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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
11/03/22	PEER REVIEW COMMENTS	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
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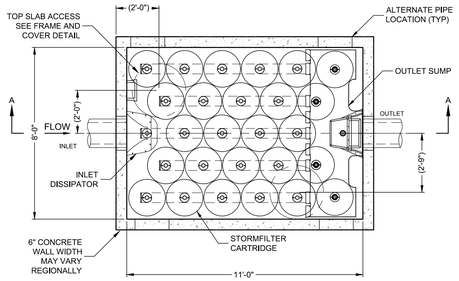
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING AND DRAINAGE DETAILS I

Project No.	Drawing No.
151022801	CG501
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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Project No. 151022801

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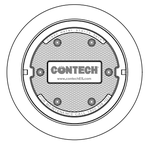


PLAN VIEW

VAULT STYLE: OUTLET SUMP (NIB)

CARTRIDGE SELECTION	NUMBER OF CARTRIDGES: 23
CARTRIDGE HEIGHT	27"
HYDRAULIC DROP (H)	6" MIN. FOR LOW FLOW CARTRIDGES
SPECIFIC FLOW RATE (gpm/sf)	1.67 gpm/sf
CARTRIDGE FLOW RATE (gpm)	18.79

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

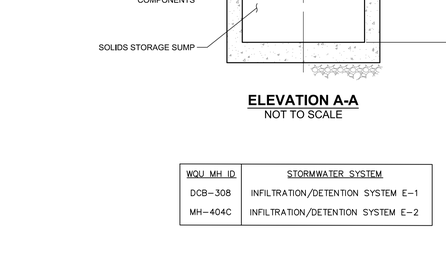


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

STORMWATER SYSTEM
UNDERGROUND
DETENTION SYSTEM E-3

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' – 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONFORMING TO ASTM C-857 AND AASHTO LOAD FACTOR DESIGN METHOD.

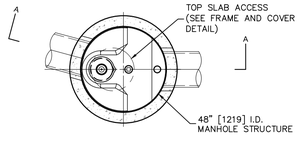
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER VAULT (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT SECTIONS AND ASSEMBLE VAULT.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



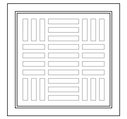
SECTION A-A

1 STORMFILTER 8' X 11'

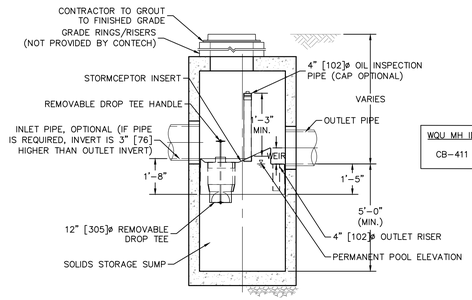
N.T.S. SOURCE: CONTECH



PLAN VIEW
TOP SLAB NOT SHOWN



FRAME AND GRATE
(MAY VARY)
NOT TO SCALE

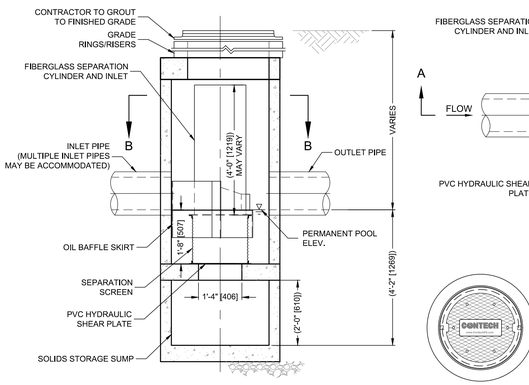


SECTION A-A

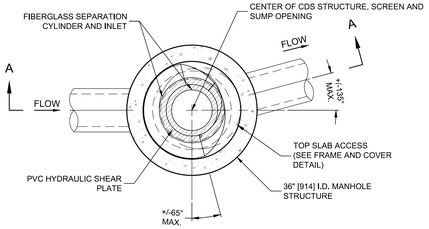
WQU_MH_ID	STORMWATER SYSTEM
CB-411	INFILTRATION/DETENTION SYSTEM E-2

2 STC 450i STORMCEPTOR SEPARATOR

N.T.S. SOURCE: CONTECH



ELEVATION A-A
N.T.S.



PLAN VIEW B-B
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

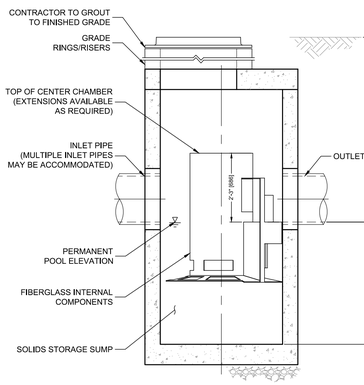
WQU_MH_ID	STORMWATER SYSTEM
MH-405B	INFILTRATION/DETENTION SYSTEM E-2
MH-520A	DETENTION SYSTEM E-3

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4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION, CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.,
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

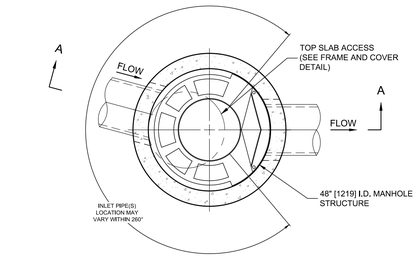
INSTALLATION NOTES
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C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

3 CDS1515-3-C SEPARATOR

N.T.S. SOURCE: CONTECH



ELEVATION A-A
NOT TO SCALE



PLAN VIEW B-B
NOT TO SCALE



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

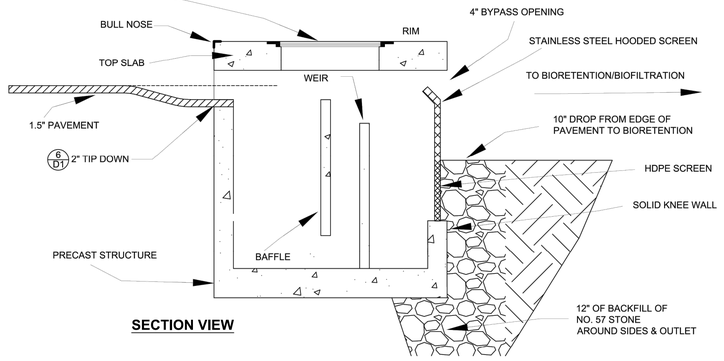
WQU_MH_ID	STORMWATER SYSTEM
DCB-308	INFILTRATION/DETENTION SYSTEM E-1
MH-404C	INFILTRATION/DETENTION SYSTEM E-2

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5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

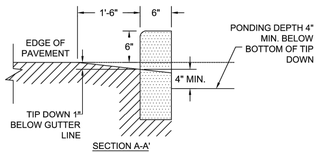
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E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

4 CS-4 CASCADE SEPARATOR

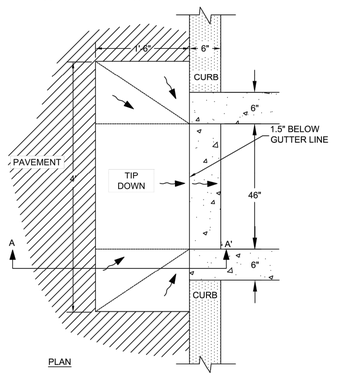
N.T.S. SOURCE: CONTECH



SECTION VIEW



TIP DOWN AT INLET DETAIL



5 PRETX CURB INLET PRETREATMENT

N.T.S. SOURCE: ACF ENVIRONMENTAL

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
11/03/22	PEER REVIEW COMMENTS	1

Revisions

LANGAN
Langan Engineering and Environmental Services, Inc.
100 Cambridge Street, Suite 1310
Boston, MA 02114
T: 617.824.9100 F: 617.824.9101 www.langan.com

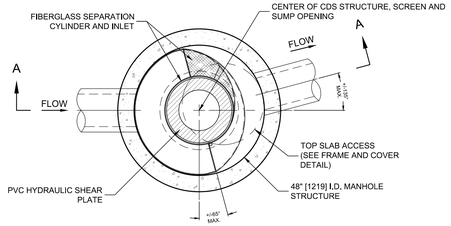
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING AND DRAINAGE DETAILS II

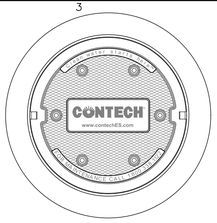
Project No.	Drawing No.
151022801	CG502
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

LANGAN
Project No. 151022801

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PLAN VIEW B-B
N.T.S.

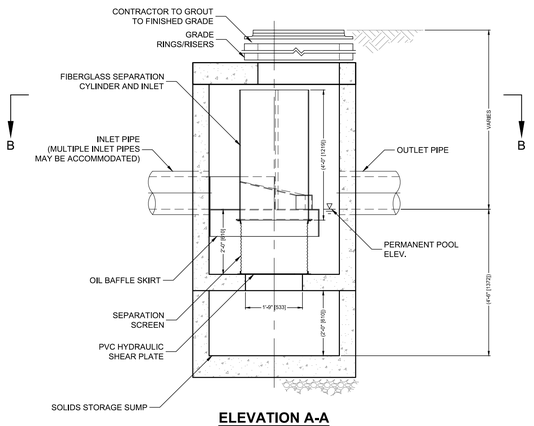


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

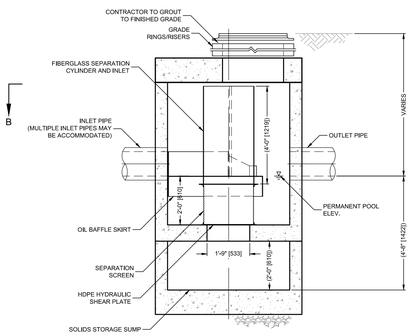
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6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

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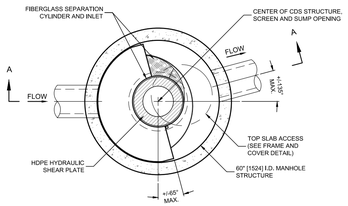
WQU MH ID	STORMWATER SYSTEM
MH-206	INFILTRATION/DETENTION SYSTEM A-1
MH-308	INFILTRATION/DETENTION SYSTEM E-1
DCB-310	INFILTRATION/DETENTION SYSTEM E-1
DCB-315	INFILTRATION/DETENTION SYSTEM E-1
DCB-316	INFILTRATION/DETENTION SYSTEM E-1
DCB-317	INFILTRATION/DETENTION SYSTEM E-1
DCB-318	INFILTRATION/DETENTION SYSTEM E-1
DCB-319	INFILTRATION/DETENTION SYSTEM E-1
MH-404B	INFILTRATION/DETENTION SYSTEM E-2
MH-412	INFILTRATION/DETENTION SYSTEM E-2
MH-516	DETENTION SYSTEM E-3
MH-518	DETENTION SYSTEM E-3
MH-803	DETENTION SYSTEM K-2



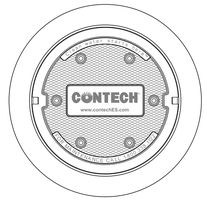
ELEVATION A-A
N.T.S.



ELEVATION A-A
NOT TO SCALE



PLAN VIEW B-B
NOT TO SCALE

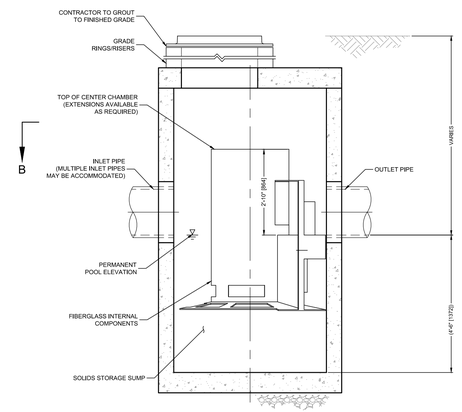


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

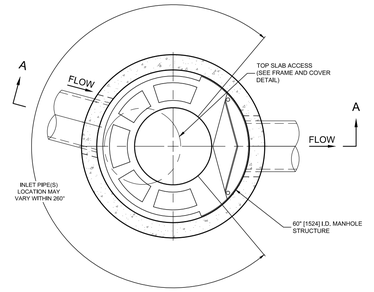
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6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

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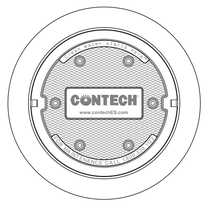
WQU MH ID	STORMWATER SYSTEM
MH-203	INFILTRATION/DETENTION SYSTEM A-1
MH-311	INFILTRATION/DETENTION SYSTEM E-1
MH-413	INFILTRATION/DETENTION SYSTEM E-2
MH-802	DETENTION SYSTEM K-1



ELEVATION A-A
NOT TO SCALE



PLAN VIEW B-B
NOT TO SCALE



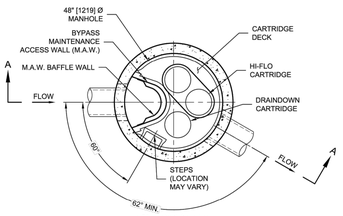
FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

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5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

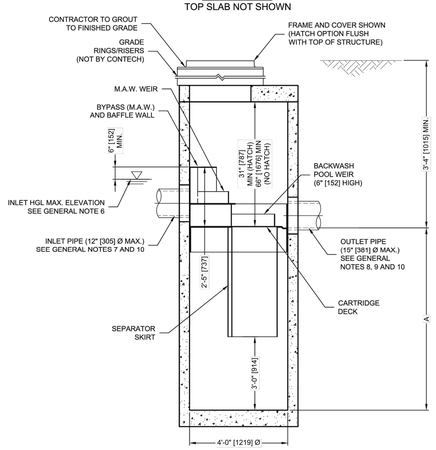
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WQU MH ID	STORMWATER SYSTEM
MH-107	INFILTRATION/DETENTION SYSTEM C-1
MH-404D	INFILTRATION/DETENTION SYSTEM E-2
MH-514	INFILTRATION/DETENTION SYSTEM E-3

1 CDS2015-4-C SEPARATOR
N.T.S. SOURCE: CONTECH



PLAN VIEW
TOP SLAB NOT SHOWN



SECTION A-A

JELLYFISH DESIGN NOTES

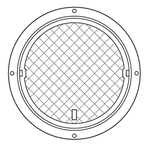
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SIZE, TYPE AND QUANTITY. THE STANDARD MANHOLE STYLE IS SHOWN. THE 48" [1219 mm] Ø MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 0.45 cfs [12.74 L/s] AND MAXIMUM BYPASS CAPACITY IS 2.50 cfs [70.79 L/s]. IF THE SITE CONDITIONS EXCEED THE BYPASS CAPACITY OF THE SYSTEM, AN UPSTREAM DIVERSION STRUCTURE IS REQUIRED. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SIZE	54	40	27	15
FLOW RATE, HIGH-FLO / DRAINDOWN (cfs [L/s])	0.18 / 0.09 [5.10 / 2.55]	0.13 / 0.065 [3.68 / 1.84]	0.09 / 0.045 [2.55 / 1.28]	0.05 / 0.025 [1.42 / 0.71]
MAXIMUM CARTRIDGE QUANTITY HIGH-FLO / DRAINDOWN			/ 1	
PEAK TREATMENT CAPACITY (cfs [L/s])	0.45 [12.74]	0.33 [9.34]	0.22 [6.23]	0.12 [3.40]
OUTLET INVERT TO STRUCTURE INVERT (A) (ft. [mm])	7.42 [188]	6.25 [159]	5.17 [131]	4.17 [106]

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3' [305], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. INLET HGL NOT TO EXCEED 6" [152] BELOW THE TOP OF THE M.A.W. DURING THE PEAK DESIGN STORM, OR 10-YEAR STORM (WHICHEVER IS GREATER).
7. INLET PIPE INVERT ELEVATION VARIES FROM 1" TO 6" [25 TO 152] ABOVE THE OUTLET PIPE INVERT.
8. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
9. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE,AT EQUAL OR GREATER SLOPE.
10. THE DIFFERENCE IN THE INLET AND OUTLET PIPE ELEVATIONS FOR RETROFIT INSTALLATIONS TO EXISTING STORM DRAIN PIPES SHALL BE EQUAL TO THE SLOPE OVER THE DIAMETER OF THE MANHOLE; NOT THE EXCEED 6" [152] IN VERTICAL DIFFERENTIAL BETWEEN INLET AND OUTLET PIPES.
11. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.
12. ALTERNATE UNITS ARE SHOWN IN [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (800) 338-1122.

2 JELLYFISH JF4-2-1 FILTER
N.T.S. SOURCE: CONTECH



HATCH
(36" Ø CAST INTO SLAB)
NOT TO SCALE

STORMWATER SYSTEM
UNDERGROUND DETENTION SYSTEM K-2

3 CDS2015-5-C SEPARATOR
N.T.S. SOURCE: CONTECH

4 CS-5 CASCADE SEPARATOR
N.T.S. SOURCE: CONTECH

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING AND DRAINAGE DETAILS III

Project No.	Drawing No.
151022801	CG503
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

LANGAN
Project No. 151022801

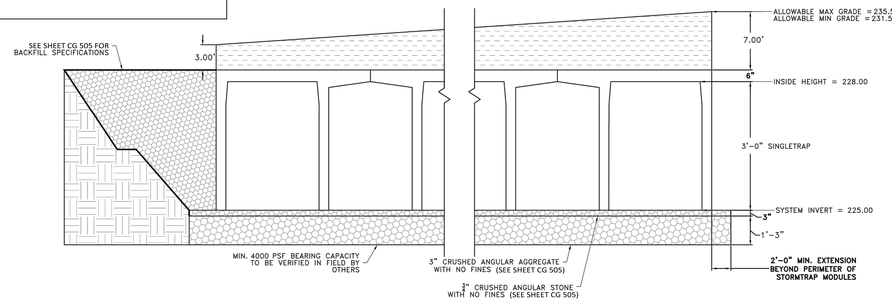
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STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	4000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	29,580.44 CUBIC FEET
UNIT HEADROOM:	3'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 3.00' MAX. 7.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



3'-0" SINGLETRAP

1 STORMTRAP SYSTEM A-1 DESIGN CRITERIA

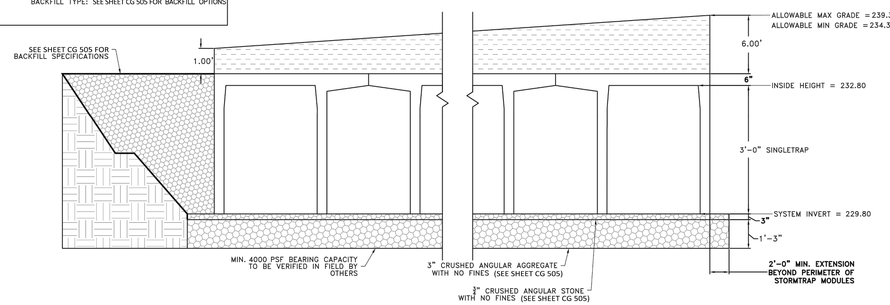
N.T.S. SOURCE: STORMTRAP

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	4000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	140,679.96 CUBIC FEET
TOTAL WATER STORAGE PROV:	281,359.92 CUBIC FEET
UNIT HEADROOM:	3'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 1.00' MAX. 6.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



3'-0" SINGLETRAP – INFILTRATION

3 STORMTRAP SYSTEM E-1 (INFILTRATION/DETENTION) DESIGN CRITERIA

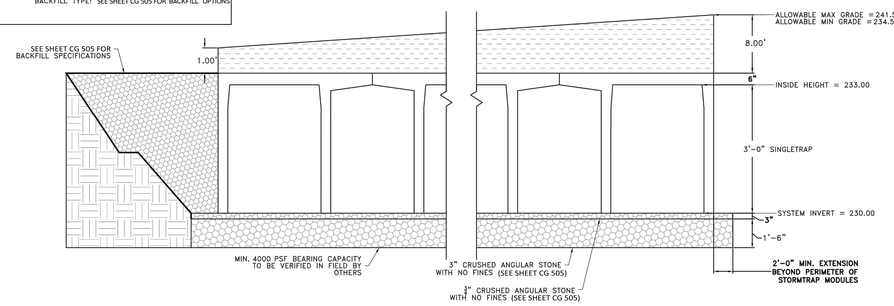
N.T.S. SOURCE: STORMTRAP

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	4000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	159,131.46 CUBIC FEET
UNIT HEADROOM:	3'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 1.00' MAX. 8.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



3'-0" SINGLETRAP

5 STORMTRAP SYSTEM E-2 DESIGN CRITERIA

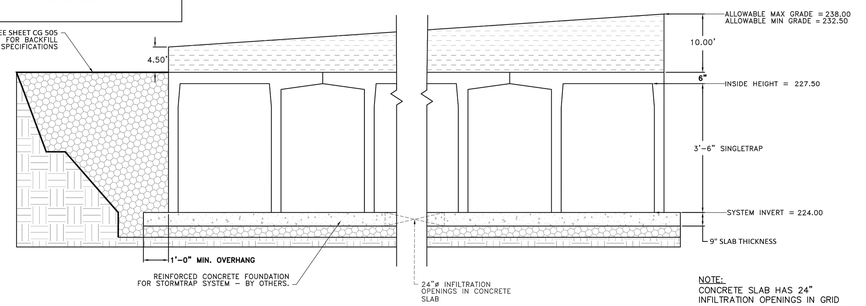
N.T.S. SOURCE: STORMTRAP

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	4000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	45,182.66 CUBIC FEET
UNIT HEADROOM:	3'-6" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 4.50' MAX. 10.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



NOTE:
CONCRETE SLAB HAS 24" INFILTRATION OPENINGS IN GRID PATTERN (5 ROWS, 16 COLUMNS)

3'-6" SINGLETRAP

2 STORMTRAP SYSTEM C-1 DESIGN CRITERIA

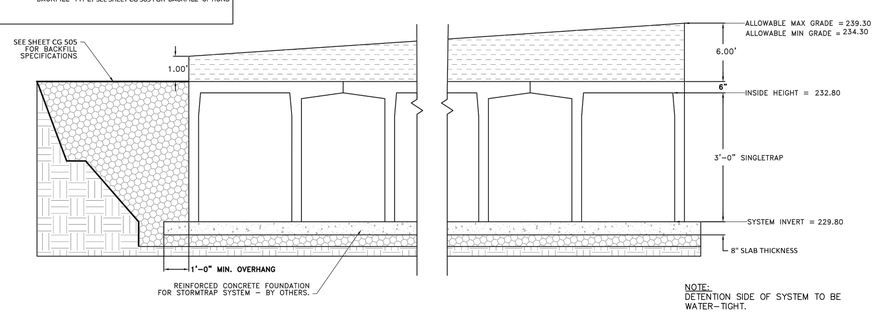
N.T.S. SOURCE: STORMTRAP

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	3000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	140,679.96 CUBIC FEET
TOTAL WATER STORAGE PROV:	281,359.92 CUBIC FEET
UNIT HEADROOM:	3'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 1.00' MAX. 6.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.



NOTE:
DETENTION SIDE OF SYSTEM TO BE WATER-TIGHT.

3'-0" SINGLETRAP – DETENTION

4 STORMTRAP SYSTEM E-1 (DETENTION) DESIGN CRITERIA

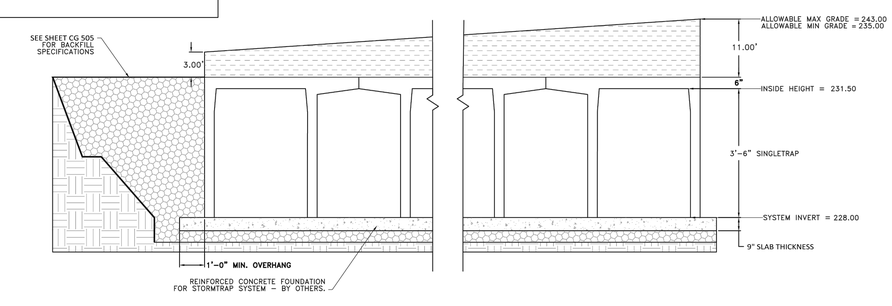
N.T.S. SOURCE: STORMTRAP

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	3000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	132,581.65 CUBIC FEET
UNIT HEADROOM:	3'-6" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 3.00' MAX. 11.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.



3'-6" SINGLETRAP

6 STORMTRAP SYSTEM E-3 DESIGN CRITERIA

N.T.S. SOURCE: STORMTRAP

NOTE:
1. THE PROJECT ENGINEER, A COMPETENT SOILS PROFESSIONAL AS A DEFINED BY THE MASSACHUSETTS STORMWATER HANDBOOK, SHALL INSPECT THE SUBGRADE CONDITIONS AT SUBSURFACE SYSTEMS A-1, C-1, E-1, AND E-2. IF INTACT BEDROCK OR LEDGE IS ENCOUNTERED WITHIN 2 FEET OF THE BOTTOM OF THE SUBSURFACE SYSTEM, THE CONTRACTOR SHALL EXCAVATE AT LEAST 2 FEET BELOW THE SUBSURFACE SYSTEM INVERT, REMOVE THE INTACT LEDGE OR BEDROCK MATERIAL, AND PLACE A MATERIAL THAT HAS BEEN LABORATORY TESTED AND CONFIRMED TO HAVE A USDA TEXTURAL SOIL CLASSIFICATION OF A SANDY LOAM, LOAMY SAND, OR SAND UP TO THE BOTTOM OF THE CRUSHED STONE FOUNDATION. IN THE EVENT SOILS BELOW SUBSURFACE SYSTEMS A-1, C-1, E-1, AND E-2 ARE DETERMINED TO BE UNSUITABLE, THE PROJECT ENGINEER WILL NOTIFY AND COORDINATE WITH THE TOWN OF STOUGHTON ENGINEERING DEPARTMENT. ADDITIONALLY, IF UNSUITABLE MATERIAL THAT IS INCONSISTENT WITH A SANDY LOAM, LOAMY SAND, OR SAND IS ENCOUNTERED BELOW THE SUBSURFACE SYSTEM, THE PROJECT ENGINEER SHALL PERFORM A FALLING HEAD PERMEAMETER TEST (ASTM D5126-90 METHOD) OR COLLECT A REPRESENTATIVE SAMPLE FOR A LABORATORY TEST TO DETERMINE THE USDA TEXTURAL SOIL CLASSIFICATION. IF THE INFILTRATION RATE FROM THE FALLING HEAD PERMEAMETER TEST IS LESS THAN 1.02 IN/HR OR THE USDA TEXTURAL SOIL CLASSIFICATION IS NOT A SANDY LOAM, LOAMY SAND, OR SAND, THE CONTRACTOR SHALL EXCAVATE AT LEAST 2 FEET BELOW THE SUBSURFACE SYSTEM INVERT, REMOVE THE UNSUITABLE MATERIAL AND PLACE A MATERIAL THAT HAS BEEN LABORATORY TESTED AND CONFIRMED TO HAVE A USDA TEXTURAL SOIL CLASSIFICATION OF A SANDY LOAM, LOAMY SAND, OR SAND UP TO THE BOTTOM OF THE CRUSHED STONE FOUNDATION.

2. THE WESTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE AN INFILTRATION/DETENTION SYSTEM WITH A CRUSHED STONE FOUNDATION DESIGNED TO ALLOW INFILTRATION OF THE STORMWATER TO THE SUBGRADE SOILS. THE EASTERN HALF OF SUBSURFACE SYSTEM E-1 SHALL BE A DETENTION SYSTEM WITH A REINFORCED CONCRETE FOUNDATION AND WATER-TIGHT TO PREVENT SEASONAL HIGH GROUNDWATER FROM ENTERING THE SYSTEM.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project
STOUGHTON LOGISTICS PARK
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NORFOLK COUNTY MASSACHUSETTS

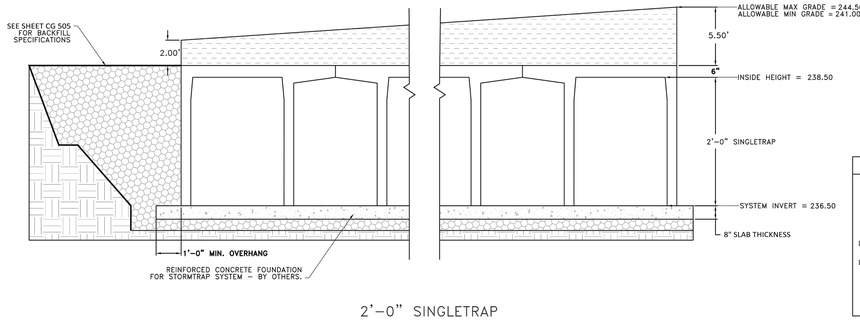
Drawing Title
GRADING AND DRAINAGE DETAILS IV

Project No.	Drawing No.
151022801	CG504
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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LANGAN Project No. 151022801

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SITE SPECIFIC DESIGN CRITERIA

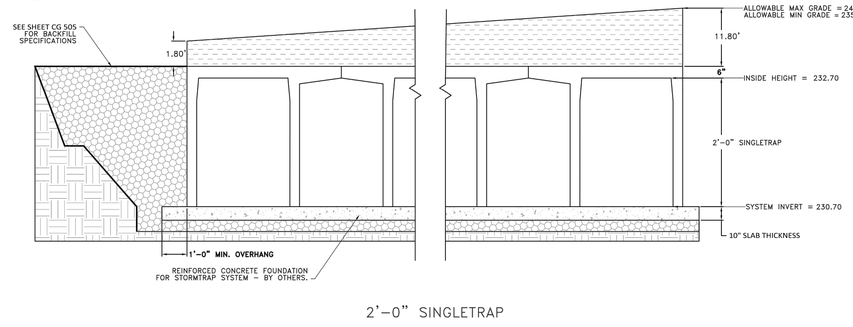
1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 2.00' MAX. 5.50' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	3000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	5,067.19 CUBIC FEET
UNIT HEADROOM:	2'-0" SINGLETRAP

STORMTRAP SYSTEM K-1 DESIGN CRITERIA

1 — N.T.S. — SOURCE: STORMTRAP



SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 1.80' MAX. 11.80' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	**AASHTO HS-20 HIGHWAY LOADING**
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	3000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET CG 505 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
WATER STORAGE PROV:	5,067.19 CUBIC FEET
UNIT HEADROOM:	2'-0" SINGLETRAP

STORMTRAP SYSTEM K-2 DESIGN CRITERIA

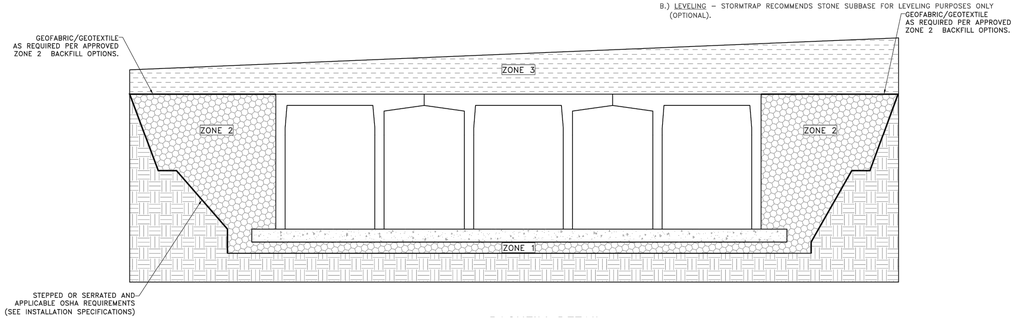
2 — N.T.S. — SOURCE: STORMTRAP

ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1 A	FOUNDATION AGGREGATE	#5 (3") STONE AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 1 B	FOUNDATION AGGREGATE	3" STONE AGGREGATE (SEE NOTE 5 FOR DESCRIPTION)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (KIPS)	MAX GROUND PRESSURE
12"	12"	51.8	1690 psf
	18"	56.1	1219 psf
	24"	68.1	1111 psf
	30"	76.7	1000 psf
	36"	85.0	924 psf

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.

APPROVED ZONE 2 BACKFILL OPTIONS	
OPTION	REMARKS
¾" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.



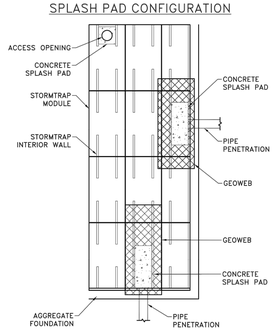
STORMTRAP SYSTEM C-1, E-1, E-3, K-1, K-2 BACKFILL SPECIFICATIONS

4 — N.T.S. — SOURCE: STORMTRAP

NOTES:

1. THE APPROVED GEOWEB SHALL BE PRESTO GEOWEB (GW30V3). THE GEOWEB NOMINAL DIMENSIONS SHALL BE 9-FT x 25-FT.
2. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE STORMTRAP MODULES.
3. THE GEOWEB INFILL MATERIAL SHALL BE #5 AGGREGATE.
4. THE CONCRETE SPLASH PAD SHALL BE INSTALLED WITHIN THE GEOWEB AND IS REQUIRED AT ALL PIPE ENTRY LOCATIONS.
5. THE GEOWEB EDGE SHALL BE INSTALLED 1-FT BEYOND THE OUTER PERIMETER OF THE STORMTRAP SYSTEM.
6. THE GEOWEB LONGITUDINAL DIMENSION (25-FT) SHALL BE INSTALLED PARALLEL TO THE STORMTRAP LEGS.
7. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE CENTERED AT THE PIPE PENETRATION.
8. REFER TO SPLASH PAD LAYOUT FOR CONCRETE SPLASH PAD DIMENSIONS.
9. IF ANY PRODUCT OTHER THAN PRESTO GEOWEB IS TO BE INSTALLED, THE PRODUCT MANUFACTURER IS REQUIRED TO SUBMIT A LETTER STATING THAT THE PRODUCT IS EQUAL OR BETTER THEN PRESTO GEOWEB, BOTH IN PERFORMANCE AND IN STRUCTURAL CAPACITY.
10. ALL GEOWEB AND SPLASH PADS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
11. A CONCRETE SPLASH PAD IS REQUIRED AT ANY ACCESS OPENING THAT HAS AN OPEN GRATE FOR DRAINAGE. THE CONCRETE SPLASH PAD SHALL EXTEND BETWEEN THE UNIT LEG WALLS AND 3'-0" FROM THE CENTERLINE OF THE OPENING ON BOTH SIDES UNLESS SPECIFIED OTHERWISE ON THE SPLASH PAD LAYOUT. GEOWEB IS NOT REQUIRED UNDER ACCESS OPENINGS.

SPLASH PAD CONFIGURATION



STORMTRAP SPLASH PAD & GEOWEB DETAILS

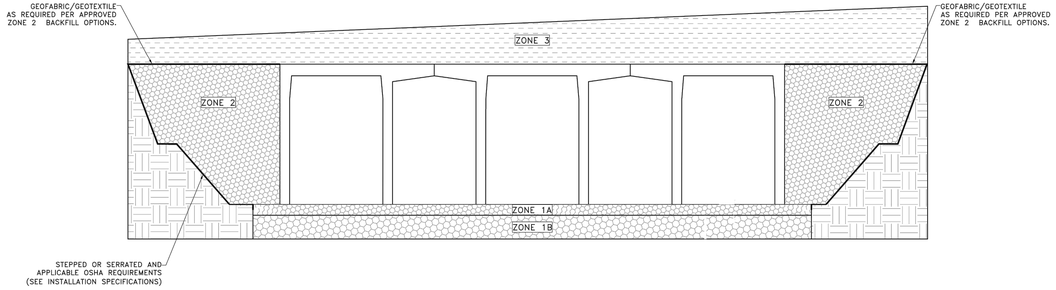
5 — N.T.S. — SOURCE: STORMTRAP

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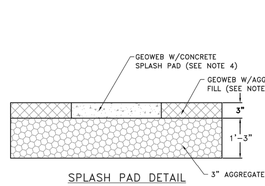


STORMTRAP SYSTEM A-1, E-1, E-2 BACKFILL SPECIFICATIONS

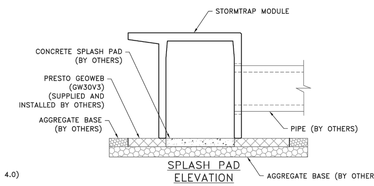
3 — N.T.S. — SOURCE: STORMTRAP

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES

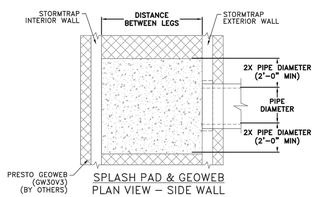
1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRES (PROVIDED BY OTHERS).
2. DURING PLACEMENT OF MATERIAL OVERTOP THE SYSTEM, AT NO TIME SHALL MACHINERY BE USED OVERTOP THAT EXCEEDS THE DESIGN LIMITATIONS OF THE SYSTEM. WHEN PLACEMENT OF MATERIAL OVERTOP, MATERIAL SHALL BE PLACED SUCH THAT THE DIRECTION OF PLACEMENT IS PARALLEL WITH THE OVERALL LONGITUDINAL DIRECTION OF THE SYSTEM WHENEVER POSSIBLE.
3. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED AT A MINIMUM OF 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN HS-20 LOADING CRITERIA TRAVEL OVERTOP THE SYSTEM WITHOUT THE MINIMUM DESIGN COVERAGE. IF TRAVEL IS NECESSARY OVERTOP THE SYSTEM PRIOR TO ACHIEVING THE MINIMUM DESIGN COVER, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. IN SOME CASES, IN ORDER TO ACHIEVE REQUIRED COMPACTION, HAND COMPACTION MAY BE NECESSARY IN ORDER NOT TO EXCEED THE ALLOTTED DESIGN LOADING. SEE CHART FOR TRACKED VEHICLE WIDTH AND ALLOWABLE MAXIMUM PRESSURE PER TRACK.
4. FREE DRAINING AGGREGATE – 80% AGGREGATE RETAINED ON ¾" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN ¾" AND 1" ONLY 5% OF MATERIAL PASSING #8 SIEVE.
5. FREE DRAINING, NO FINES, 3" AGGREGATE – MAJORITY OF STONE SIZE IN BETWEEN 1½" AND 3" – VERY SIMILAR TO AASHTO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.



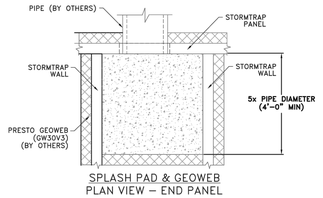
SPLASH PAD DETAIL



SPLASH PAD ELEVATION



SPLASH PAD & GEOWEB
PLAN VIEW – SIDE WALL



SPLASH PAD & GEOWEB
PLAN VIEW – END PANEL

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

LANGAN
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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING AND DRAINAGE DETAILS V

Project No.	Drawing No.
151022801	CG505
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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LANGAN
Project No. 151022801

RECOMMENDED ACCESS OPENING SPECIFICATION

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 3'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED.
2. PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC OR APPROVED EQUAL (SEE STEP DETAIL) ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)

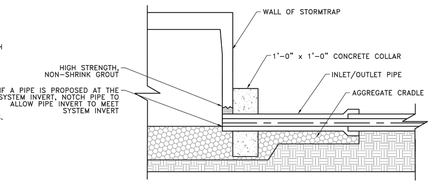
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2. MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE IS ø 36" OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
3. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND AN AGGREGATE CRADLE FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
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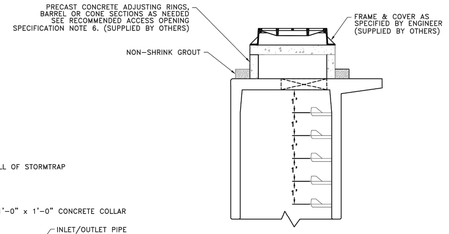
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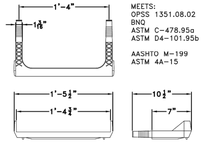
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PIPE CONNECTION DETAIL



RISER / STAIR DETAIL



STEP DETAIL

*** NOTICE *** 03-25-2022

DUE TO CURRENT INCONSISTENCIES IN THE 16" STEP SUPPLY, STORMTRAP MAY SUBSTITUTE THE 16" STEP WITH THE CLOSEST ALTERNATIVE LENGTH STEP UNTIL THE SUPPLY CHAIN ISSUE IS RESOLVED.

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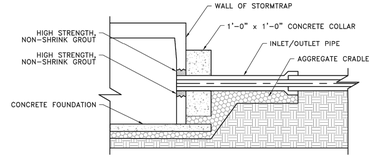
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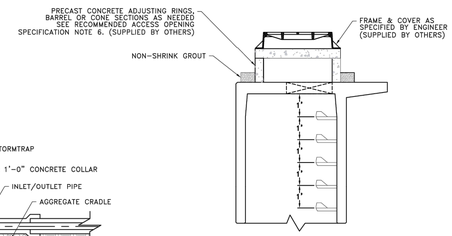
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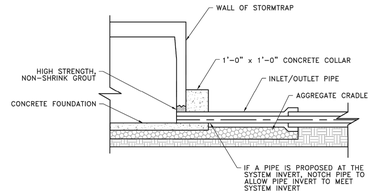
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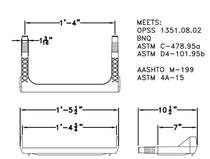




RISER/STAIR DETAIL



PIPE CONNECTION DETAIL



STEP DETAIL

*** NOTICE *** 03-25-2022

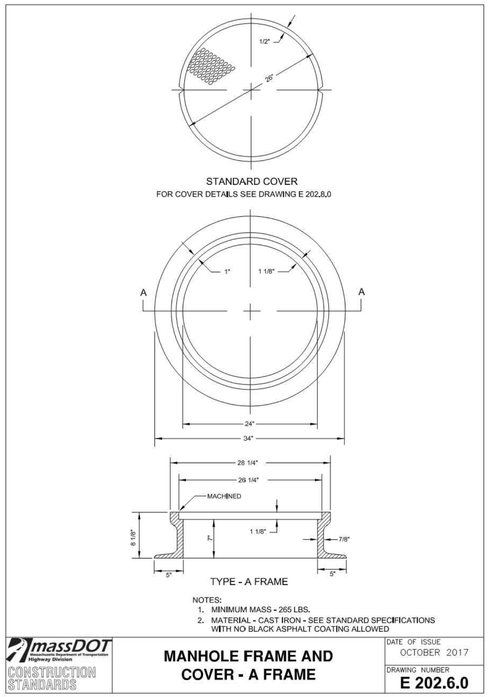
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1 STORMTRAP PIPE/ACCESS OPENING SPECIFICATIONS (SYSTEMS A-1, E-1, E-2)

N.T.S. SOURCE: STORMTRAP

2 STORMTRAP PIPE/ACCESS OPENING SPECIFICATIONS (SYSTEMS C-1, E-3, K-1, K-2)

N.T.S. SOURCE: STORMTRAP



massDOT Highway Division — CONSTRUCTION STANDARDS

MANHOLE FRAME AND COVER - A FRAME

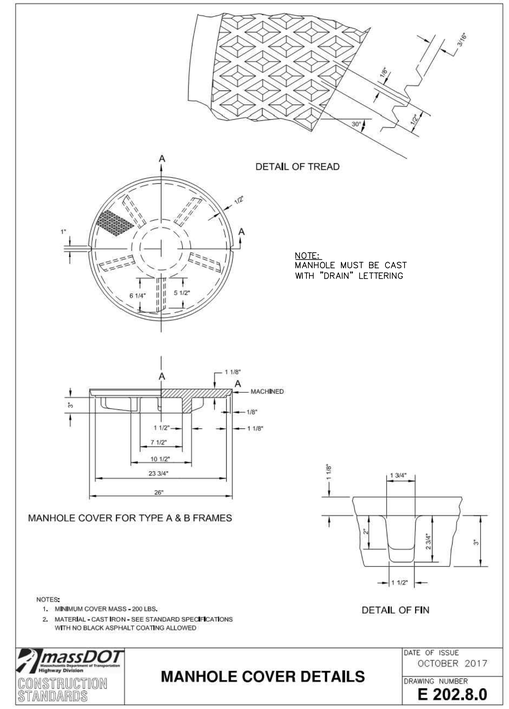
DATE OF ISSUE: OCTOBER 2017

DRAWING NUMBER: **E 202.6.0**

CONTRACTOR SHALL USE SHALLOW RIMS AS NEEDED IN AREAS WITH MINIMAL COVER.

3 MANHOLE FRAME AND COVER

N.T.S



massDOT Highway Division — CONSTRUCTION STANDARDS

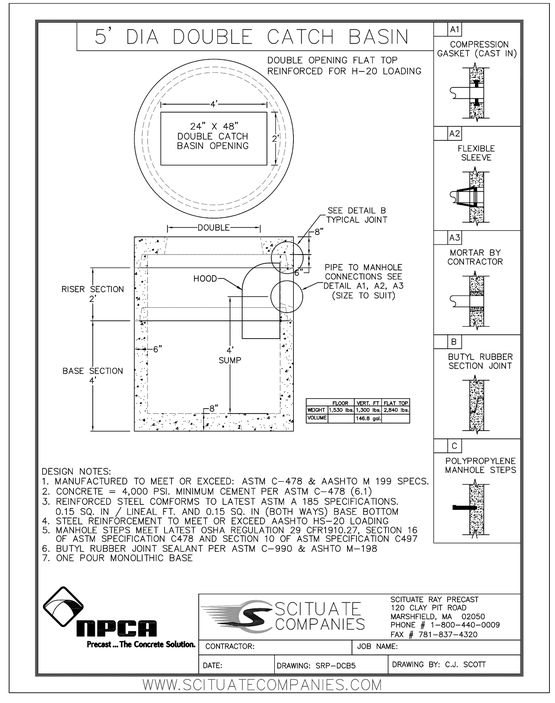
MANHOLE COVER DETAILS

DATE OF ISSUE: OCTOBER 2017

DRAWING NUMBER: **E 202.8.0**

4 MANHOLE COVER DETAILS

N.T.S



5 5' DIA DOUBLE CATCH BASIN

N.T.S.

No.	Description	Date
Revisions		

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

GRADING AND DRAINAGE DETAILS VI

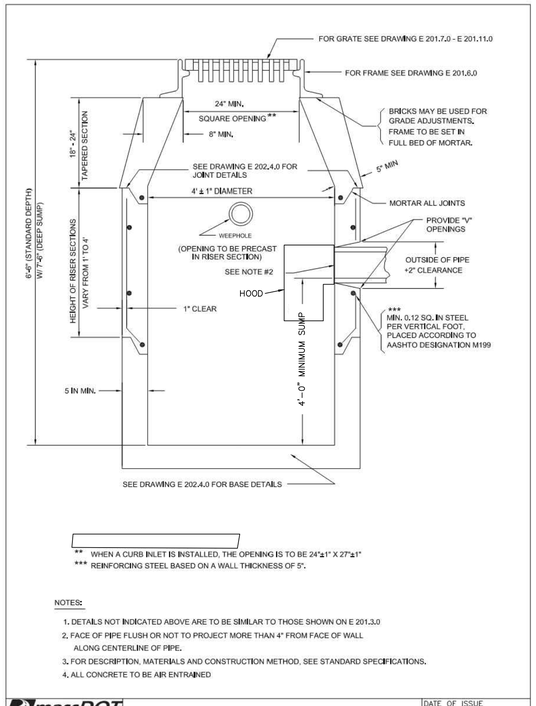
Project No.	Drawing No.
151022801	CG506
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

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Project No. 151022801

Date: 12/29/2022 Time: 18:26 User: jpark Style Table: Langan.stb Layout: CG506 Document Code: 151022801-0501-CG501-0106



** WHEN A CURB INLET IS INSTALLED, THE OPENING IS TO BE 24"±1" X 27"±1"
*** REINFORCING STEEL BASED ON A WALL THICKNESS OF 5".

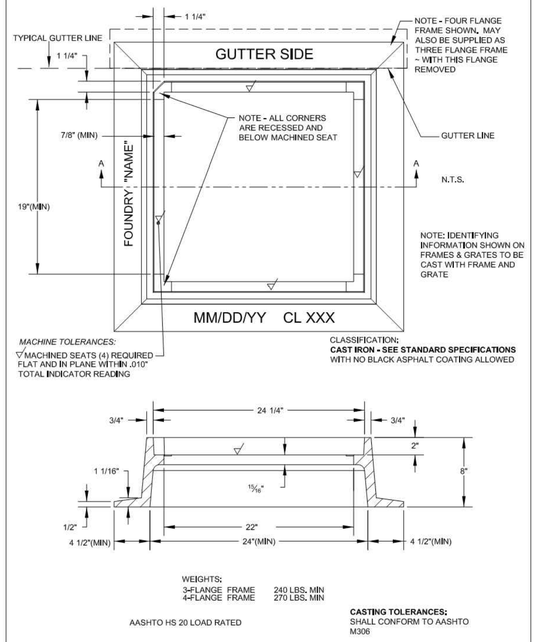
NOTES:

1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN ON E 201.3.0
2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE STANDARD SPECIFICATIONS.
4. ALL CONCRETE TO BE AIR ENTRAINED

massDOT Highway Division — CONSTRUCTION STANDARDS

PRECAST CONCRETE CATCH BASIN

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 201.4.0**



WEIGHTS:
3-FLANGE FRAME 240 LBS. MIN
4-FLANGE FRAME 270 LBS. MIN

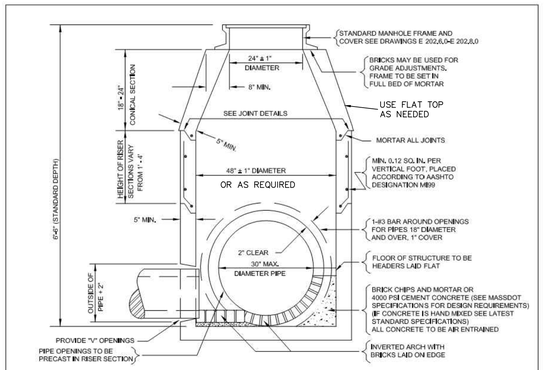
AASHTO HS 20 LOAD RATED

CASTING TOLERANCES:
SHALL CONFORM TO AASHTO M306

massDOT Highway Division — CONSTRUCTION STANDARDS

CATCH BASIN FRAME

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 201.6.0**



NOTE:
1. FOR DESCRIPTIONS, MATERIALS AND CONSTRUCTION METHODS, SEE LATEST STANDARD SPECIFICATIONS.

massDOT Highway Division — CONSTRUCTION STANDARDS

PRECAST CONCRETE MANHOLES 9' OR LESS IN DEPTH

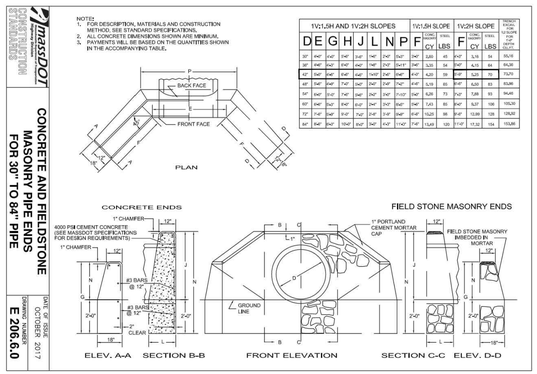
DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 202.4.0**

CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING MANHOLES AND PIPE PENETRATIONS PRIOR TO ISSUING SHOP DRAWINGS FOR REVIEW TO ENSURE CONSTRUCTABILITY.

1 PRECAST CONCRETE CATCH BASIN
N.T.S

2 CATCH BASIN FRAME
N.T.S

3 PRECAST CONCRETE MANHOLES 9' OR LESS IN DEPTH
N.T.S

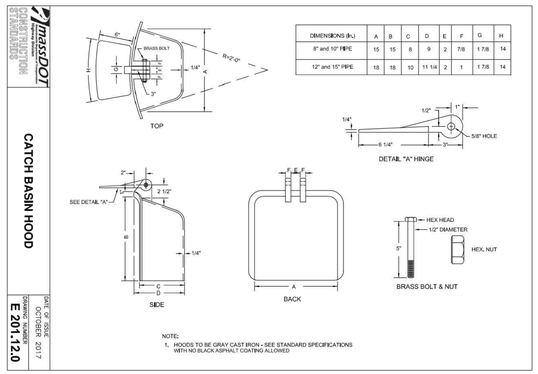


massDOT Highway Division — CONSTRUCTION STANDARDS

CONCRETE AND FIELDSTONE MASONRY PIPE ENDS FOR 30" TO 84" PIPE

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 206.6.0**

4 CONCRETE HEADWALL
N.T.S



massDOT Highway Division — CONSTRUCTION STANDARDS

CATCH BASIN HOOD

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: **E 201.12.0**

NOTE:
1. HOODS TO BE GRAY CAST IRON - SEE STANDARD SPECIFICATIONS WITH NO BLACK ASPHALT COATING ALLOWED

5 CATCH BASIN HOOD
N.T.S

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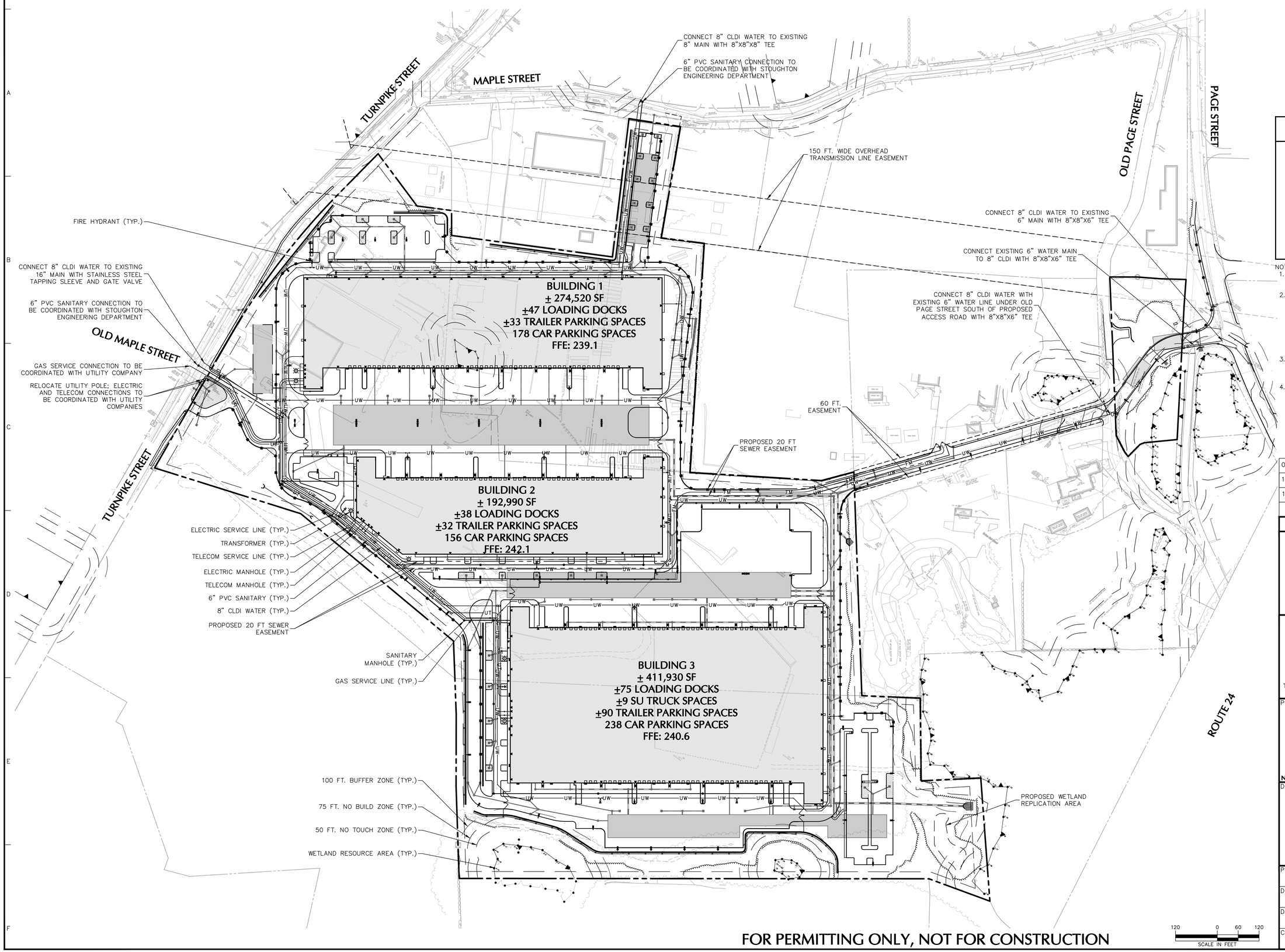
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
GRADING AND DRAINAGE DETAILS VII

Project No.	Drawing No.
151022801	CG507
Date: 08/05/2022	
Drawn By: REP	
Checked By: HAH	

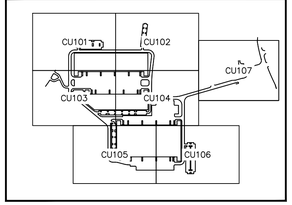
LANGAN
Project No. 151022801

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SHEET LEGEND

1" = 1000'



NOTES:

1. LOCATION OF HANDHOLES ARE SCHEMATIC AND FINAL QUANTITY AND LOCATION SHOULD BE CONFIRMED WITH THE UTILITY PROVIDER.
2. THIS PLAN MAY NOT DEPICT ALL WATER BEND / ANGLES THAT ARE REQUIRED FOR INSTALLATION. THE CONTRACTOR SHALL INSTALL PIPE LENGTHS WITH DEFLECTIONS (WITHIN MANUFACTURER'S TOLERANCE) AS NECESSARY AND PROVIDE ALL HORIZONTAL AND VERTICAL CONNECTIONS, ANGLES AND FITTINGS THAT ARE NEEDED FOR WATER MAIN INSTALLATION.
3. ALL GRAVITY SEWER SHALL BE SDR 35 PVC WITH PUSH ON GASKETED CONNECTIONS AND SHALL CONFORM TO ALL REQUIRED TOWN STANDARDS
4. WATER CONNECTIONS TO BE COORDINATED WITH STOUGHTON WATER DEPARTMENT

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

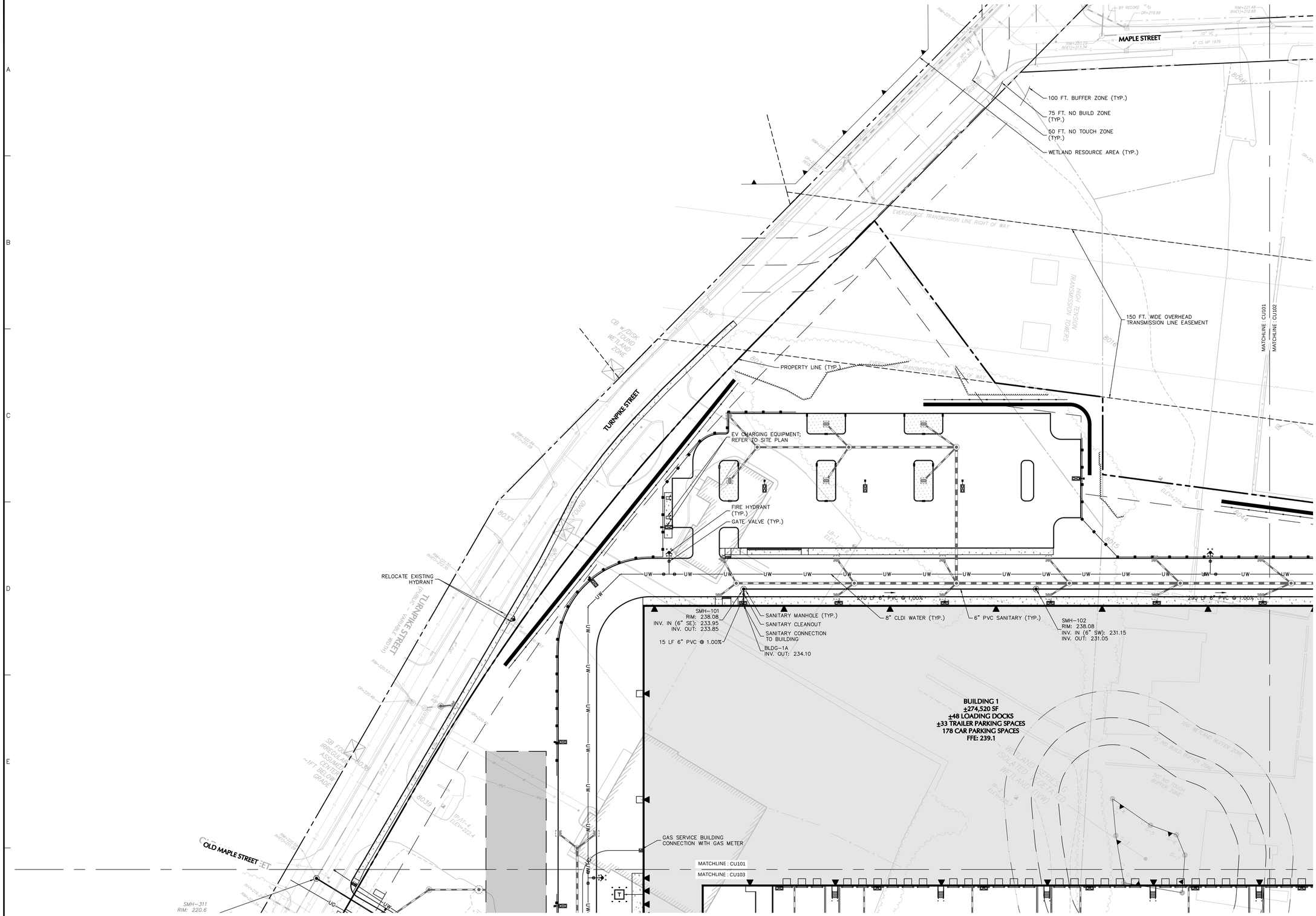
OVERALL UTILITY PLAN

Project No.	Drawing No.
151022801	CU100
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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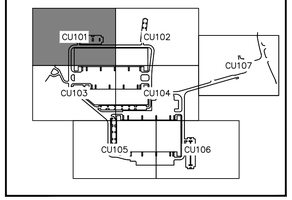
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Project No. 151022801
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Date: 2/15/2023 Time: 22:38 User: hholmes Style Table: Langan.stb Layout: CU100 Document Code: 151022801-0501-CU101-0101



SHEET LEGEND

1" = 1000'



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Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN I

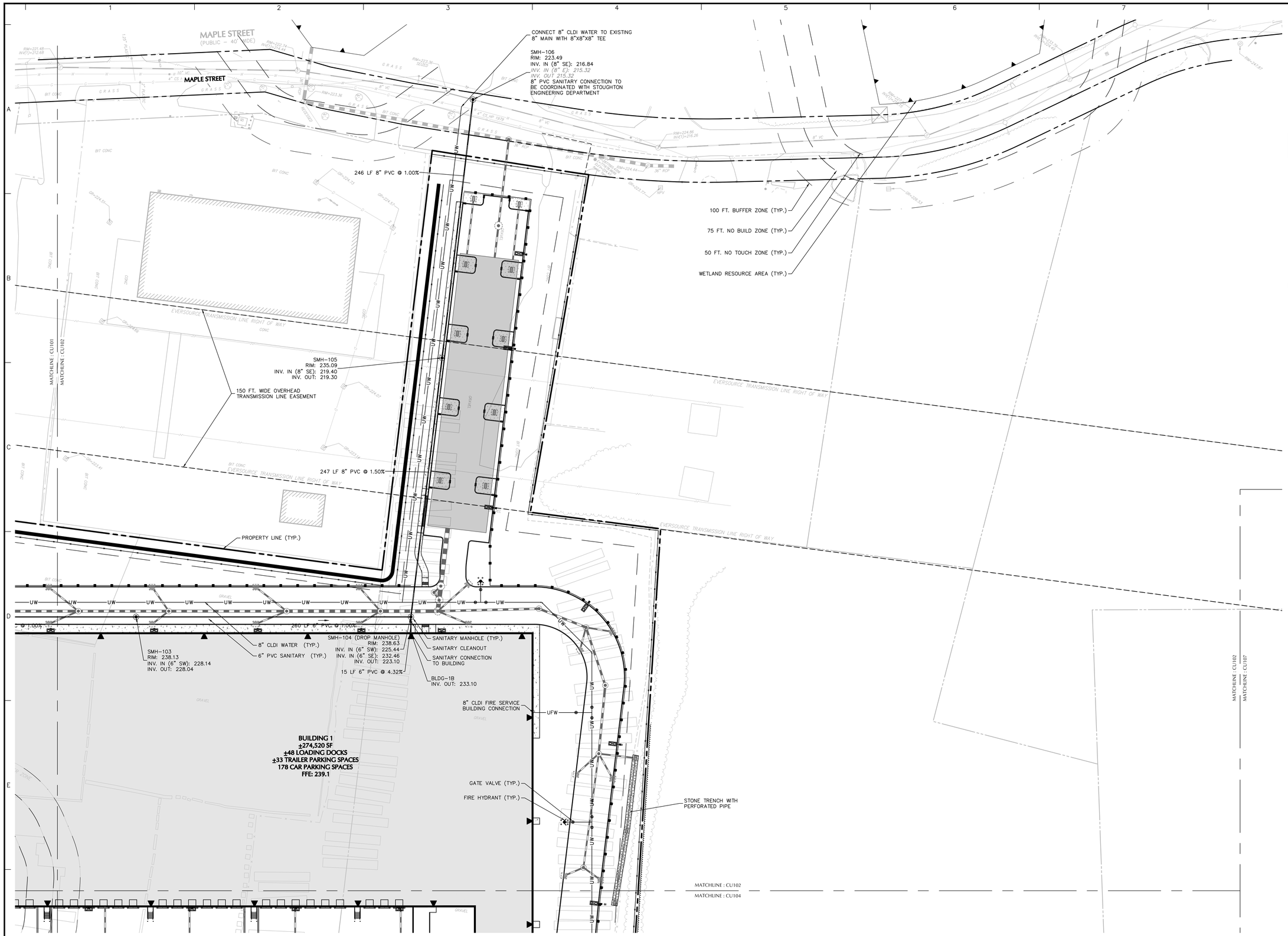
Project No.	Drawing No.
151022801	CU101
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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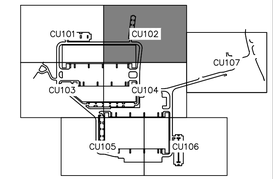
Project No. 151022801

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SHEET LEGEND

1" = 1000'



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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN II

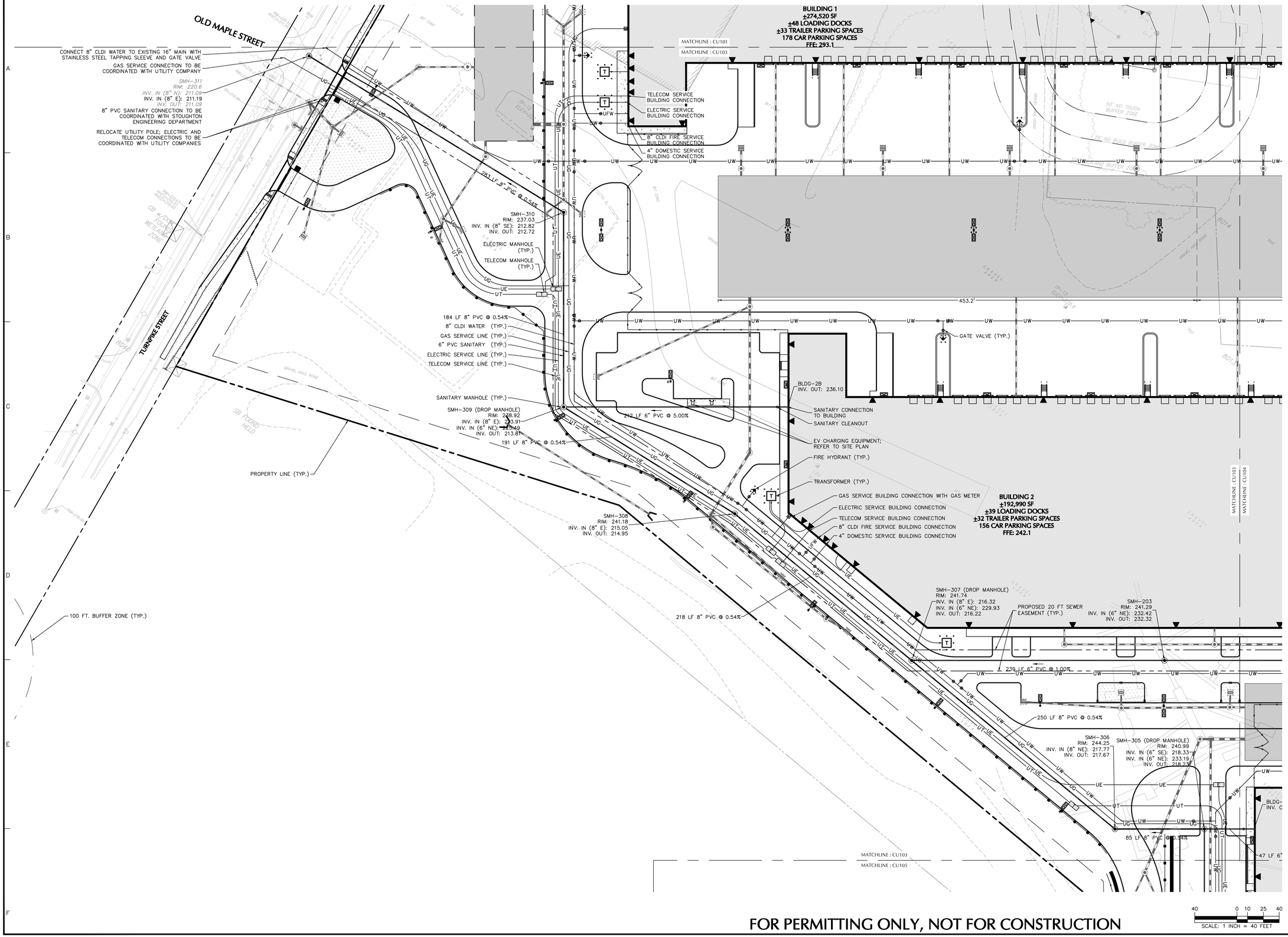
Project No.	Drawing No.
151022801	CU102
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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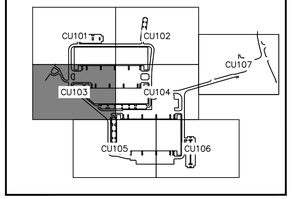
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1" = 1000'



NOTES:

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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN III

Project No.	Drawing No.
151022801	CU103
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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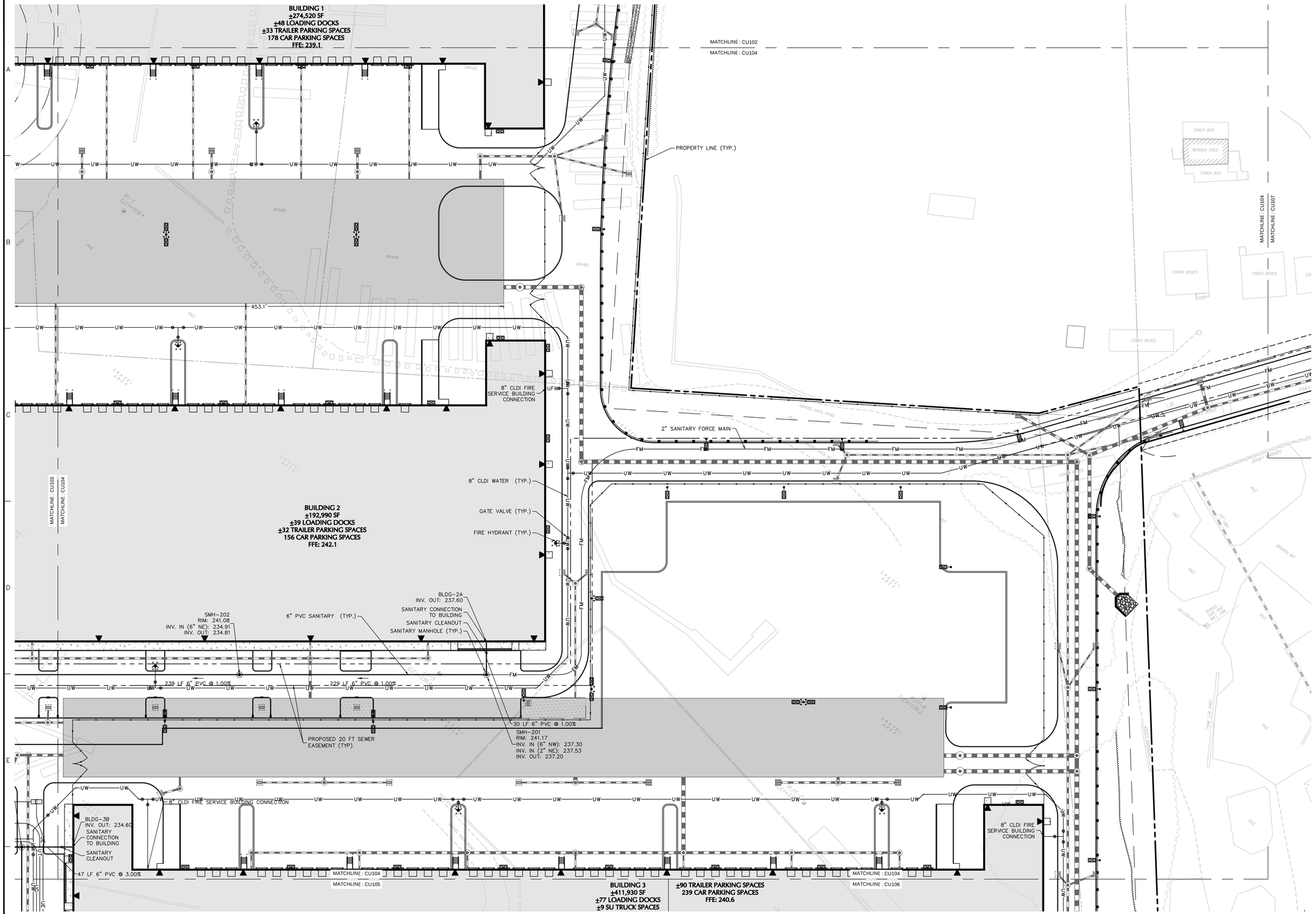
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Project No. 151022801

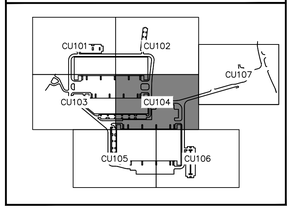
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Date: 12/29/2022 Time: 18:28 User: jpark Style Table: Langan.stb Layout: CU103 Document Code: 151022801-0501-CU101-0104



SHEET LEGEND

1" = 1000'



NOTES:

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Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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STOUGHTON LOGISTICS PARK

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NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN IV

Project No.	Drawing No.
151022801	CU104
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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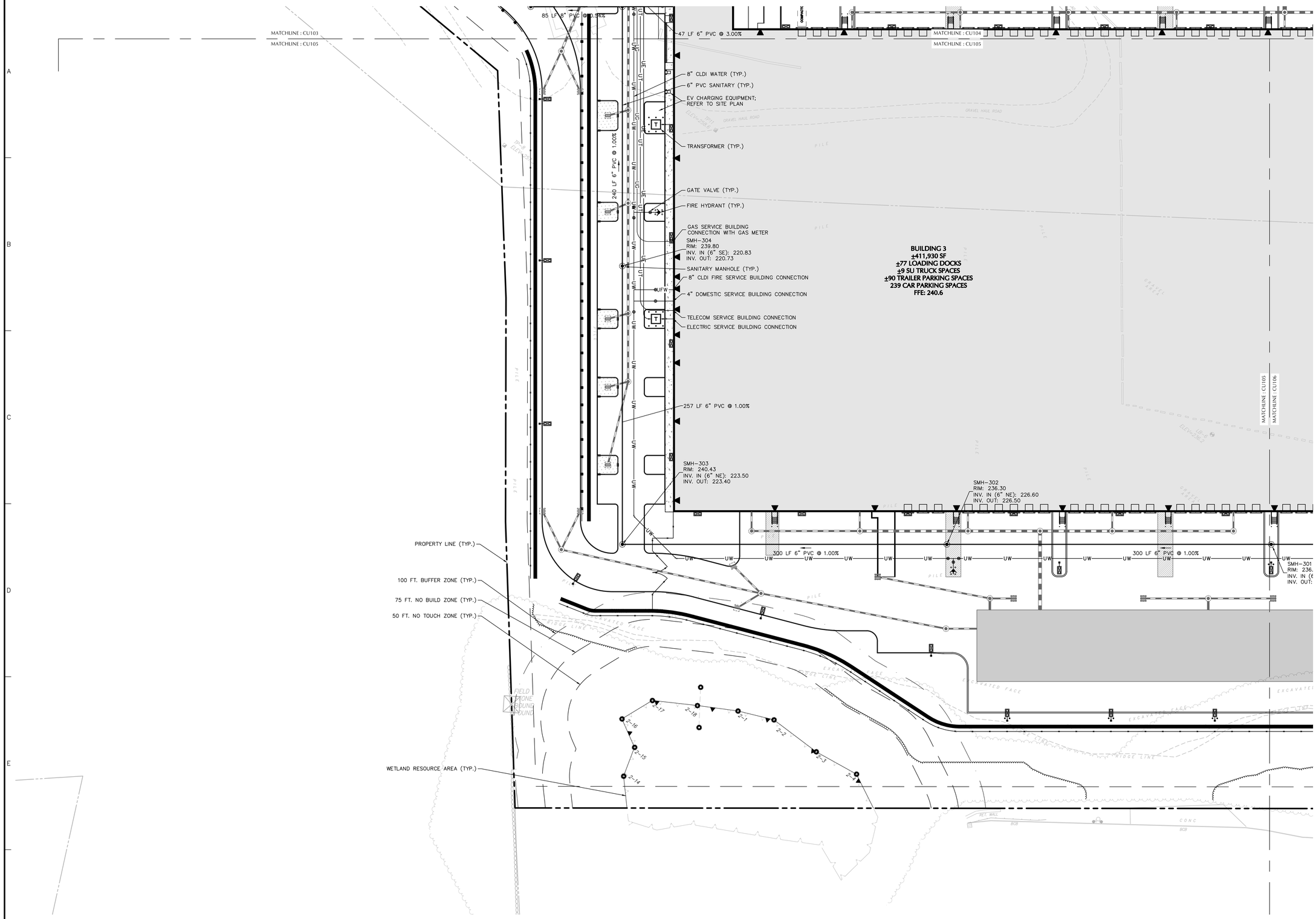
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Project No. 151022801

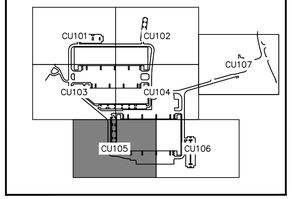
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SHEET LEGEND

1" = 1000'



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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN V

Project No.	Drawing No.
151022801	CU105
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

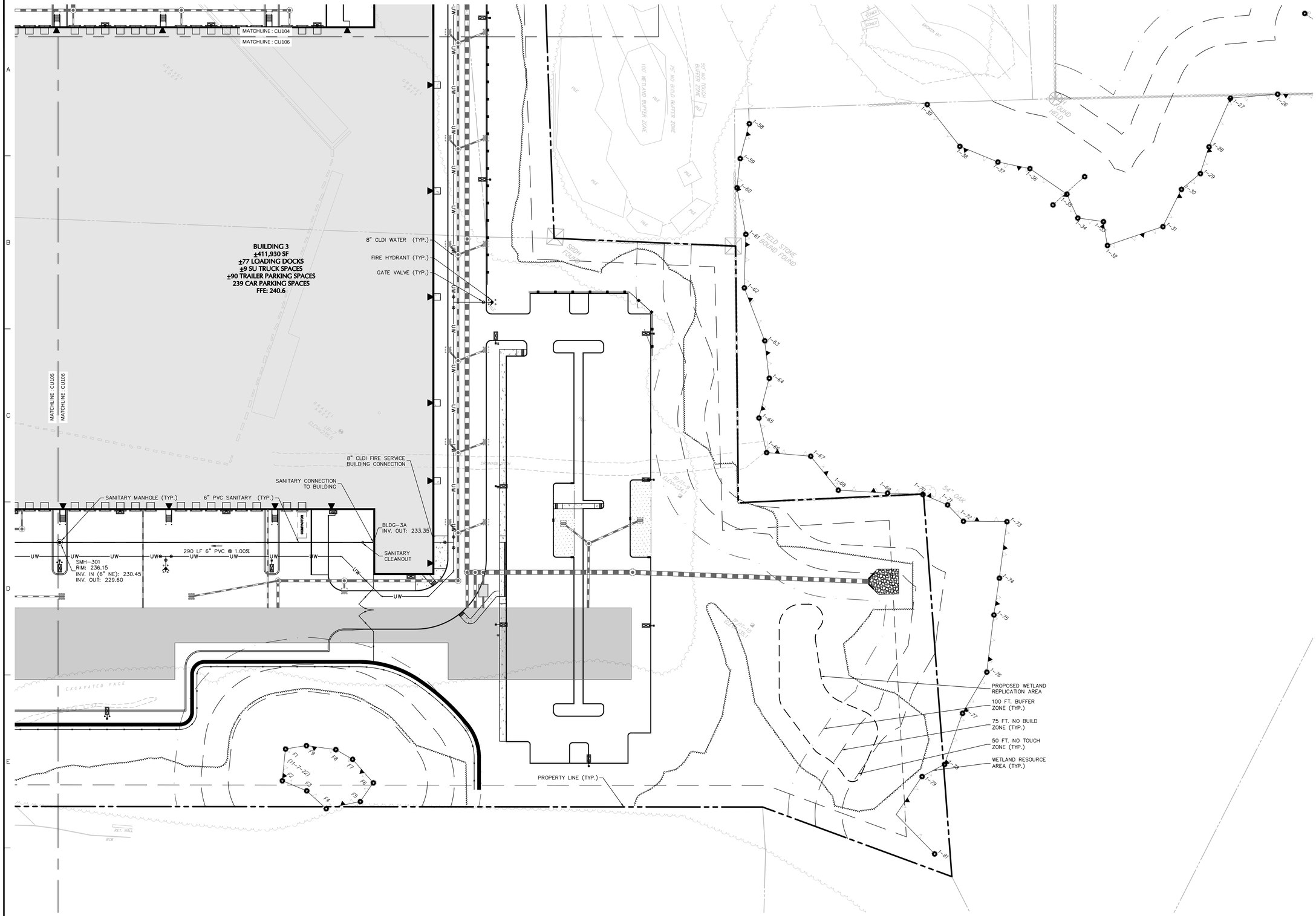
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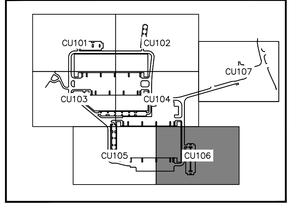
Project No. 151022801

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SHEET LEGEND

1" = 1000'



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40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
UTILITY PLAN VI

Project No.	Drawing No.
151022801	CU106
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

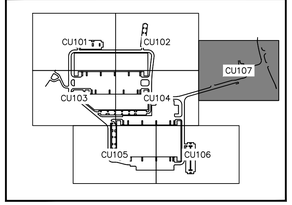
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Project No. 151022801

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SHEET LEGEND

1" = 1000'



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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

UTILITY PLAN VII

Project No.	Drawing No.
151022801	CU107
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

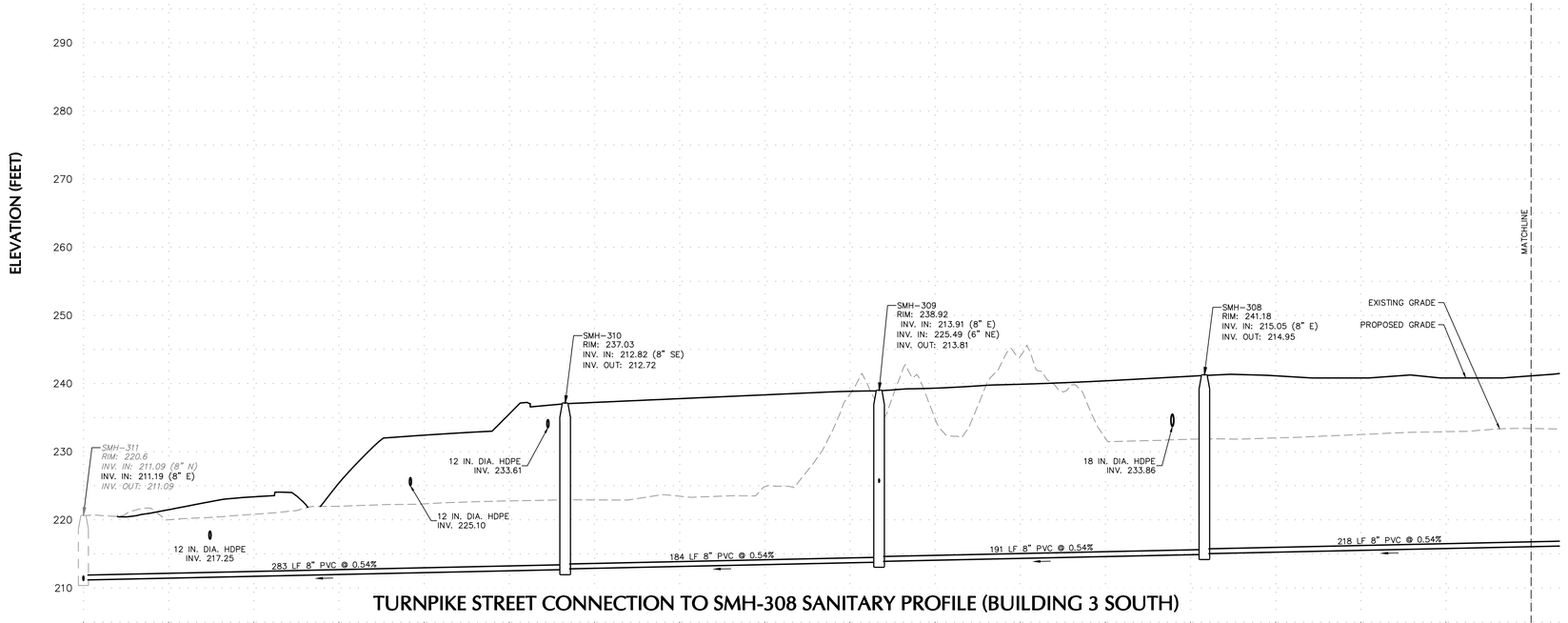
FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

LANGAN
Project No. 151022801

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Date: 12/29/2022 Time: 18:31 User: jpark Style Table: Langan.stb Layout: CU106 Document Code: 151022801-0501-CU101-0108

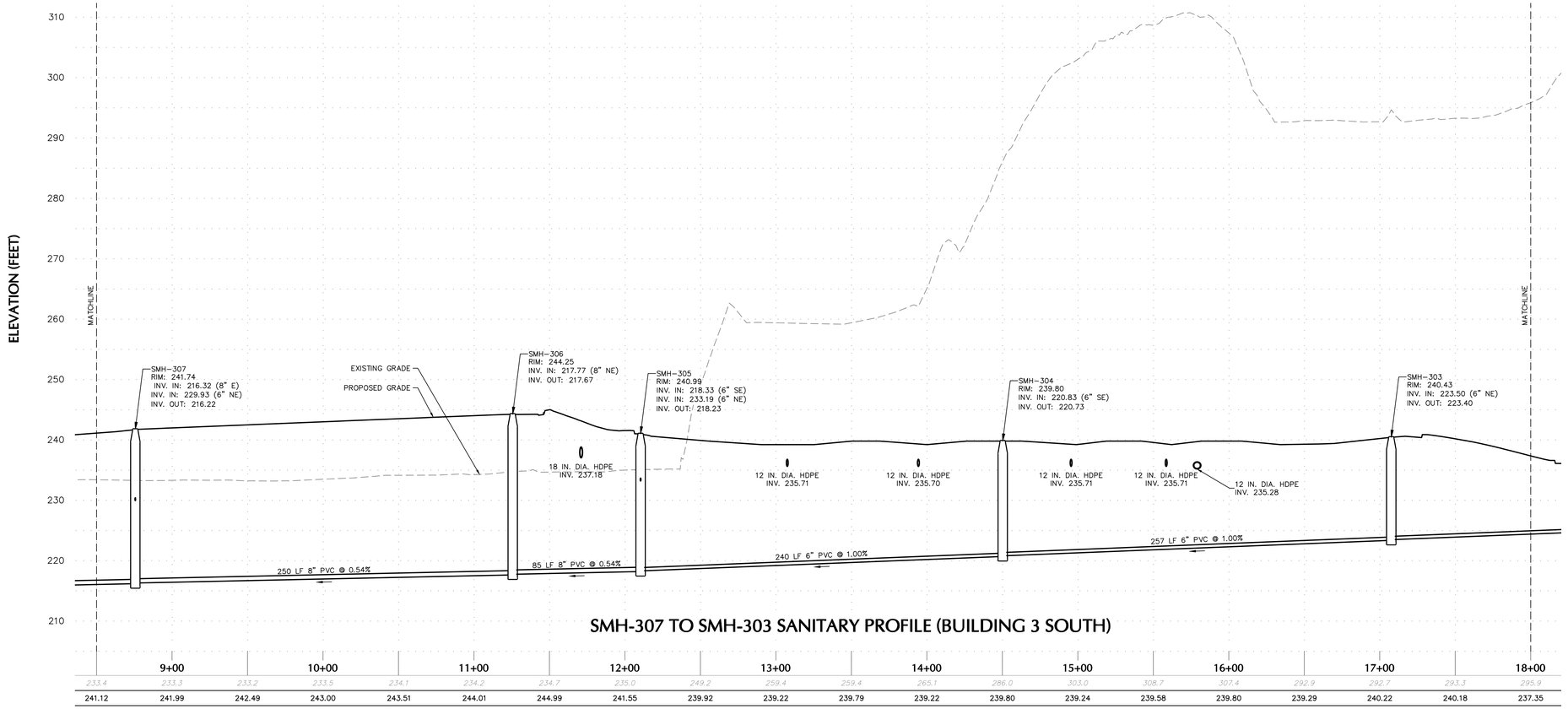


TURNPIKE STREET CONNECTION TO SMH-308 SANITARY PROFILE (BUILDING 3 SOUTH)

STATION (FEET)	0+00	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00
EXISTING ELEV (FEET)	*220.6*	*220.0*	*220.8*	*222.0*	*222.3*	*222.8*	*222.9*	*223.5*	*224.9*	*238.4*	*234.8*	*244.0*	*232.0*	*232.0*	*231.8*	*232.0*	*232.5*	*232.9*	*233.4*
PROPOSED ELEV (FEET)		221.48	223.37	225.38	232.42	235.51	237.22	237.78	238.34	238.86	239.32	239.89	240.39	241.07	241.13	240.81	240.82	241.12	

VERTICAL SCALE: 1 INCH = 10 FEET

HORIZONTAL SCALE: 1 INCH = 40 FEET



SMH-307 TO SMH-303 SANITARY PROFILE (BUILDING 3 SOUTH)

	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00
	233.4	*233.3*	*233.2*	*233.5*	*234.1*	*234.2*	*234.7*	*235.0*	*249.2*	*259.4*	*259.4*	*265.1*	*286.0*	*303.0*	*308.7*	*307.4*	*292.9*	*292.7*	*293.3*	*295.9*
	241.12	241.99	242.49	243.00	243.51	244.01	244.99	241.55	239.92	239.22	239.79	239.22	239.80	239.24	239.58	239.80	239.29	240.22	240.18	237.35

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

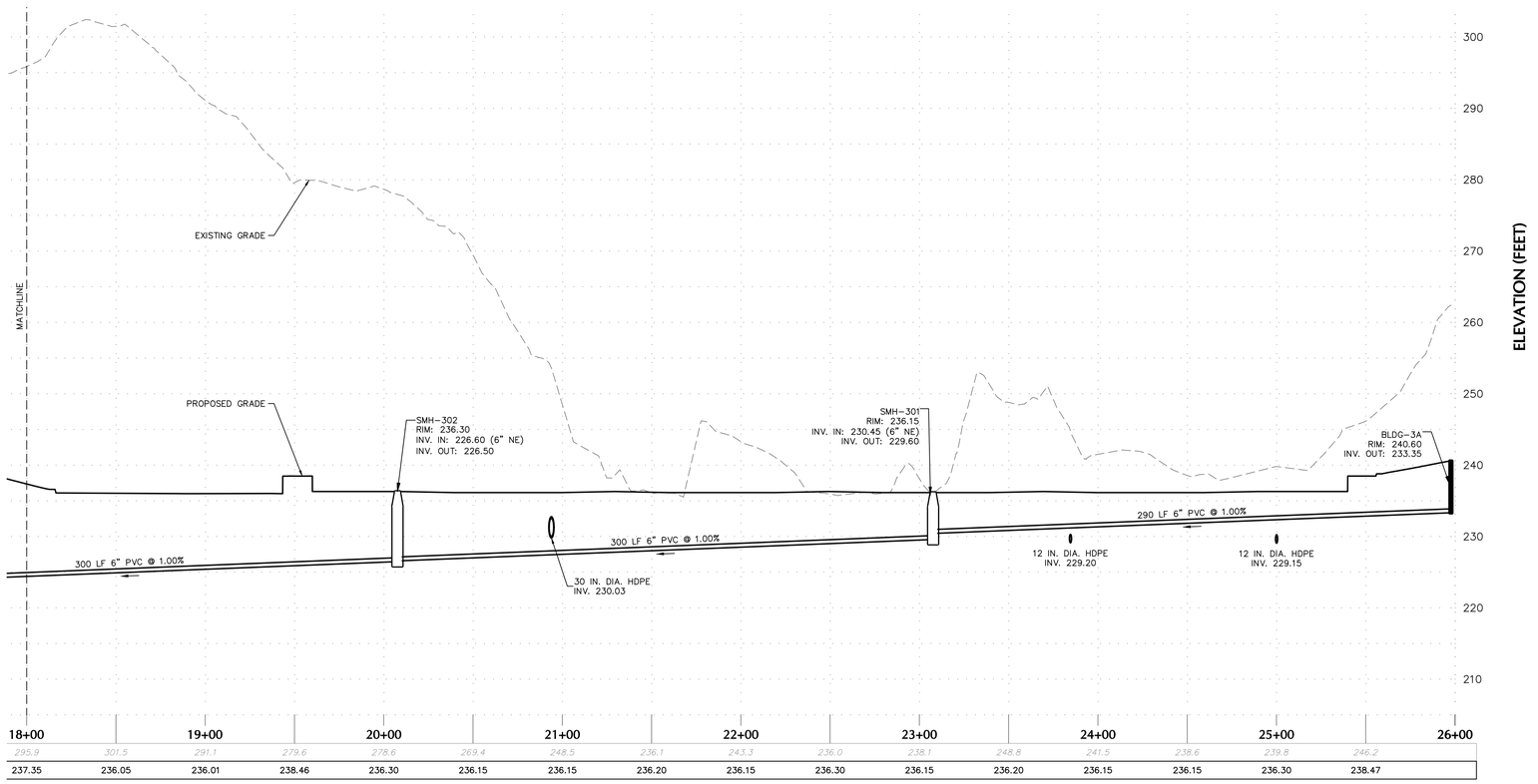
Drawing Title
SANITARY PROFILE I

Project No.	Drawing No.
151022801	CU201
Date: 07/28/2022	
Drawn By: JSP	
Checked By: HAH	

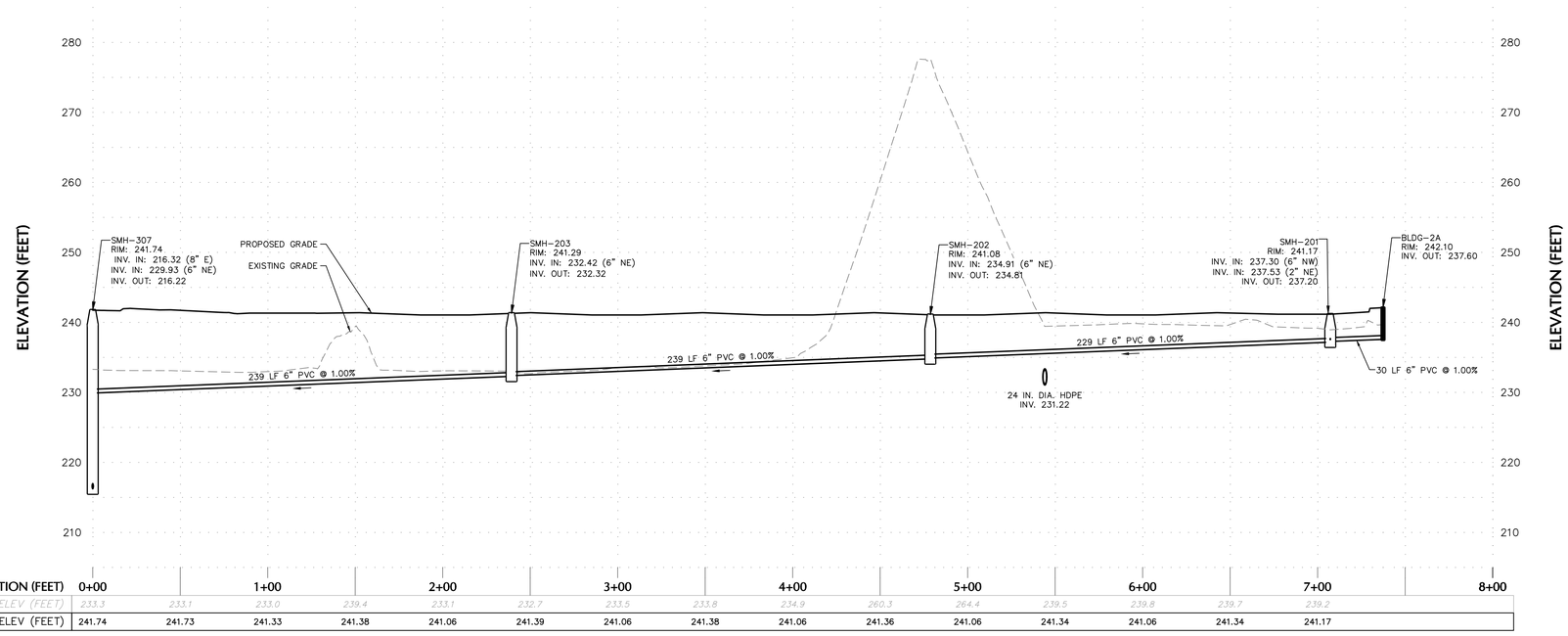
LANGAN
Project No. 151022801

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Date: 12/29/2022 Time: 18:31 User: jpark Style Table: Langan.stb Layout: CU201 Document Code: 151022801-0501-CU201-0101



SMH-302 TO BLDG-3A SANITARY PROFILE (BUILDING 3 SOUTH)



SMH-307 TO BLDG-2A SANITARY PROFILE (BUILDING 2 SOUTH)

VERTICAL SCALE: 1 INCH = 10 FEET

HORIZONTAL SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

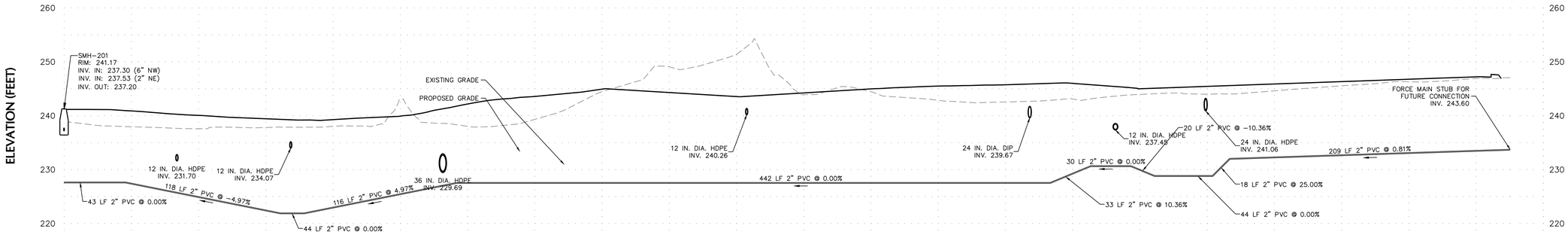
Drawing Title

SANITARY PROFILE II

Project No.	Drawing No.
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Date: 07/28/2022	
Drawn By: JSP	
Checked By: HAH	

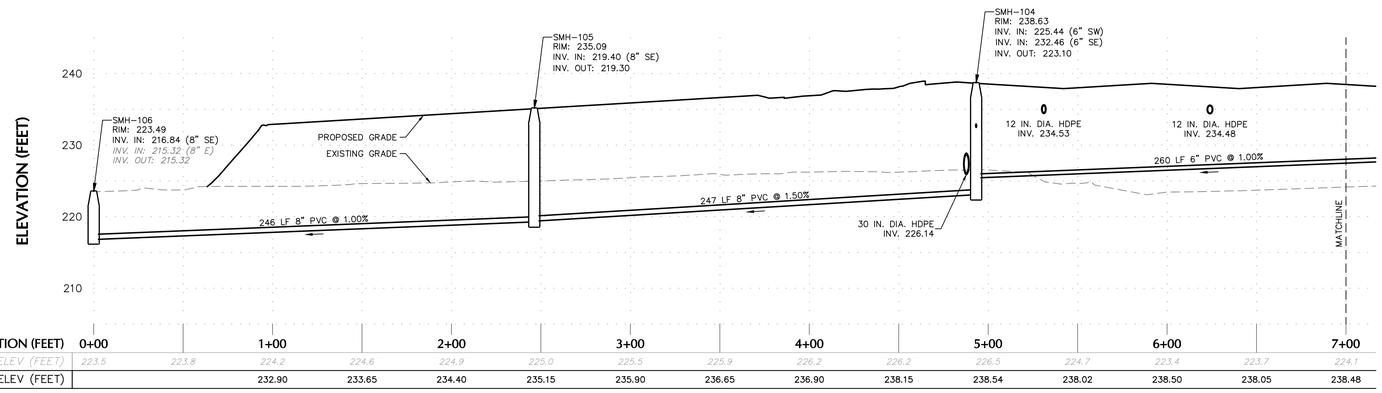
LANGAN Project No. 151022801

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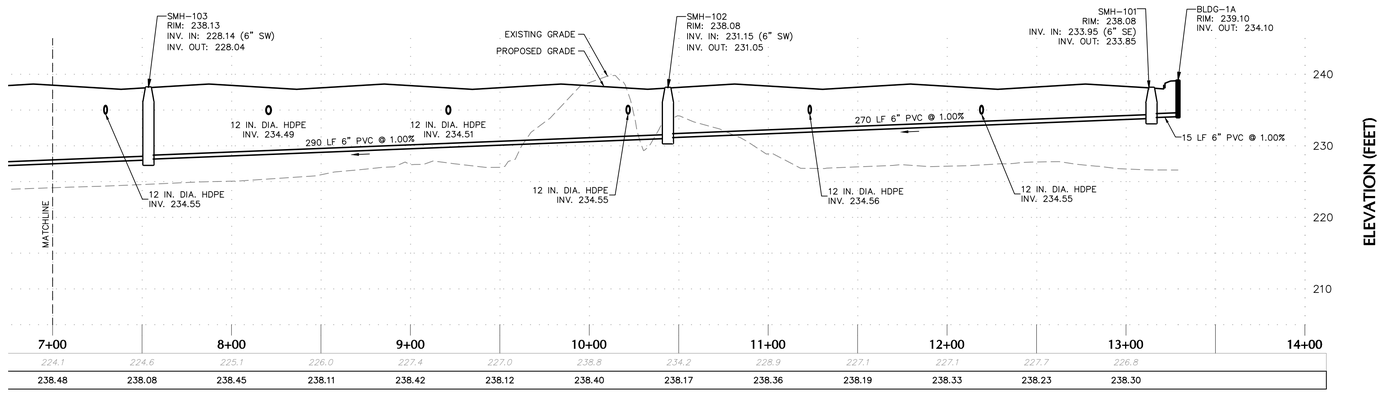
STATION (FEET)	0+00	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00	11+00
EXISTING ELEV (FEET)	*238.9*	*237.9*	*237.6*	*237.8*	*238.0*	*243.1*	*238.0*	*239.3*	*244.4*	*249.1*	*251.4*	*243.9*	*244.5*	*242.9*	*242.5*	*243.1*	*244.0*	*244.0*	*244.6*	*245.5*	*246.3*	*246.9*
PROPOSED ELEV (FEET)	241.17	240.89	240.06	239.44	239.27	239.92	242.17	243.57	244.92	244.30	243.55	244.23	244.98	245.50	245.74	246.01	245.00	245.44	245.89	246.33	246.77	247.21

SMH-201 TO FORCE MAIN STUB FORCE MAIN SANITARY PROFILE



STATION (FEET)	0+00	1+00	2+00	3+00	4+00	5+00	6+00	7+00
EXISTING ELEV (FEET)	*223.5*	*223.8*	*224.2*	*224.6*	*224.9*	*225.0*	*225.5*	*225.9*	*226.2*	*226.2*	*226.5*	*224.7*	*223.4*	*223.7*	*224.1*
PROPOSED ELEV (FEET)		232.90	233.65	234.40	235.15	235.90	236.65	236.90	238.15	238.54	238.02	238.50	238.05	238.48	

MAPLE STREET CONNECTION TO SMH-104 SANITARY PROFILE (BUILDING 1 NORTH)



STATION (FEET)	7+00	8+00	9+00	10+00	11+00	12+00	13+00	14+00
EXISTING ELEV (FEET)	*224.1*	*224.6*	*225.1*	*226.0*	*227.4*	*227.0*	*238.8*	*234.2*	*228.9*	*227.1*	*227.1*	*227.7*	*226.8*	
PROPOSED ELEV (FEET)	238.48	238.08	238.45	238.11	238.42	238.12	238.40	238.17	238.36	238.19	238.33	238.23	238.30	

SMH-104 TO BLDG-1A SANITARY PROFILE (BUILDING 1 NORTH)

10 0 5 10
VERTICAL SCALE: 1 INCH = 10 FEET

40 0 10 25 40
HORIZONTAL SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES
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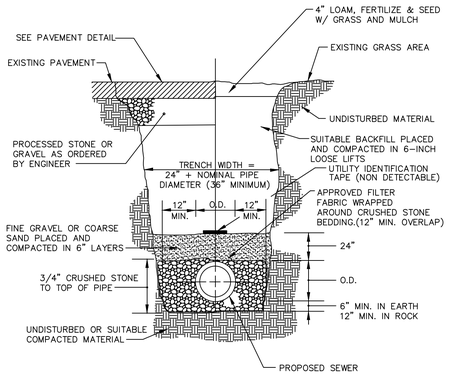
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SANITARY PROFILE III

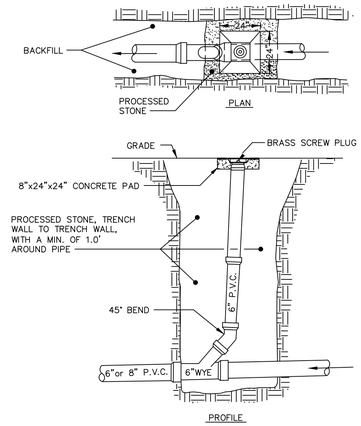
Project No.	Drawing No.
151022801	CU203
Date: 07/28/2022	
Drawn By: JSP	
Checked By: HAH	

LANGAN
Project No. 151022801

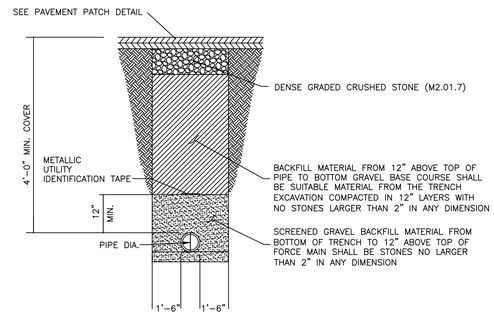
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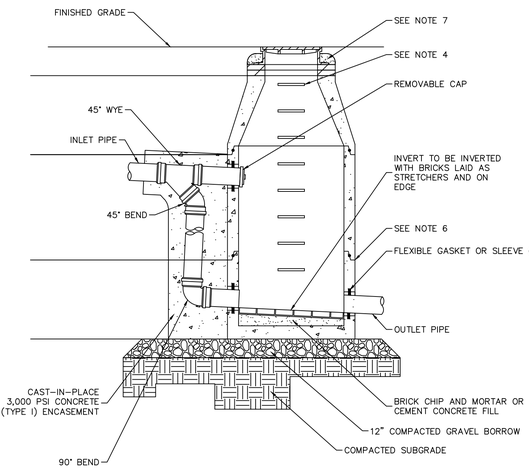
1 SEWER TRENCH SECTION
N.T.S



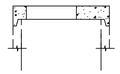
2 SEWER CLEANOUT
N.T.S



3 TYPICAL FORCE MAIN TRENCH
N.T.S

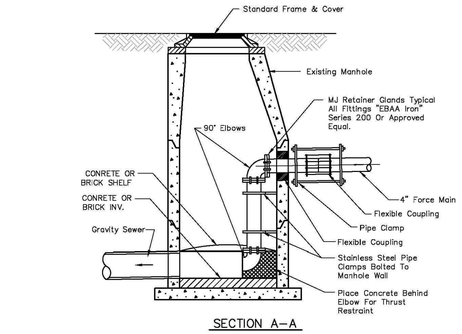


4 DROP MANHOLE
N.T.S.



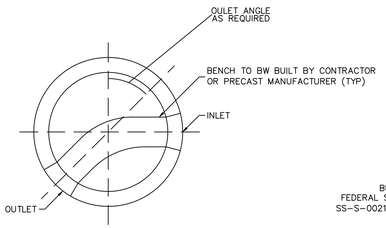
ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-20 LOADING)

NOTES:
1. BASE SECTION SHALL BE MONOLITHIC WITH A 48" INSIDE DIAMETER.
2. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
3. PRECAST CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI, TYPE II CEMENT.
4. MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
5. ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. STANDARD SEWER MANHOLE FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

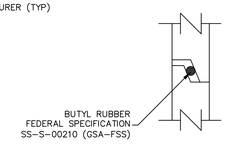


SECTION A-A

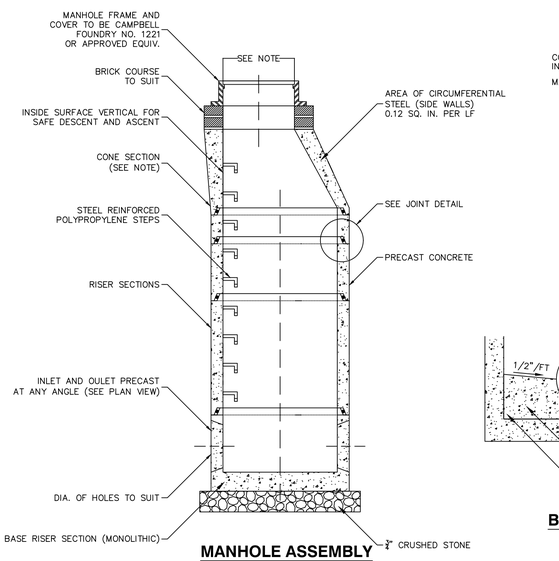
5 FORCE MAIN INTERNAL DROP MANHOLE
N.T.S.



PLAN VIEW OF PRECAST MANHOLE BASE



JOINT DETAIL



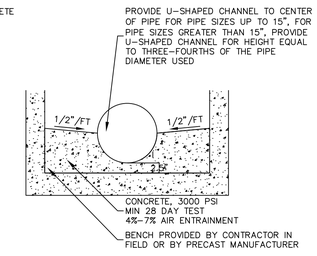
MANHOLE ASSEMBLY

NOTE:

CONE DIMENSIONS	
DIA. OPENING	HEIGHT
24"	24" OR 36"
30"	36"

CONCRETE TO TEST 3000 P.S.I. AT 28 DAYS IN CONFORMANCE WITH ASTM C-478-68

MANHOLES SHALL HAVE PAVED INVERTS.



BENCH DETAIL

6 SANITARY MANHOLE
N.T.S.

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Date	Description	No.
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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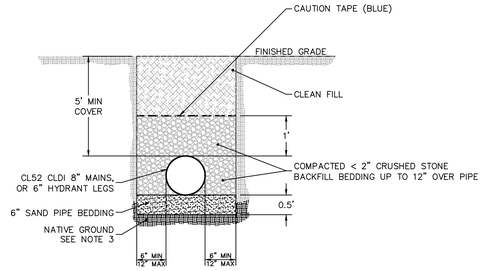
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
UTILITY DETAILS I

Project No.	Drawing No.
151022801	CU501
Date: 08/05/2022	
Drawn By: JSP	
Checked By	

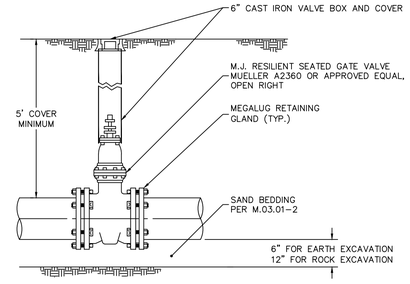
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Project No. 151022801

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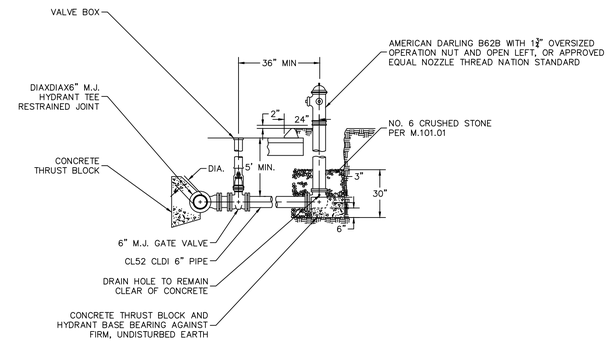


NOTES:
1. TRENCHES IN STABLE SOIL OVER 5 FT DEEP SHALL BE REINFORCED BY APPROVED OSHA METHODS.
2. TRENCHES SHALL BE COMPACTED.
3. IF NATIVE GROUND IS NOT SUITABLE, THE CONTRACTOR SHALL EXCAVATE TO AN ACCEPTABLE DEPTH AND INSTALL MATERIALS AS APPROVED BY ENGINEERS AND UTILITY COMPANY.

1 WATER MAIN TRENCH
N.T.S.

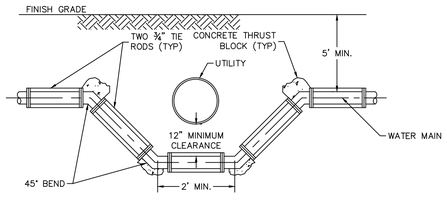


2 M.J. GATE VALVE INSTALLATION
N.T.S.



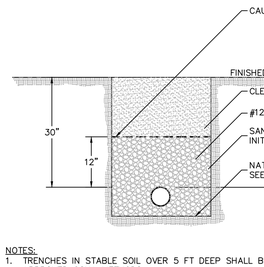
NOTES:
1. ALL MECHANICAL JOINTS TO BE RESTRAINED WITH MEGALUG RETAINER GLANDS.
2. FIRE HYDRANTS SHALL HAVE 5-1/4" MAIN VALVE OPENING, 2 - 2-1/2" HOSE NOZZLES, 1 - 4-1/2" PUMPER NOZZLE AND A 6" M.J. INLET SHOE.

3 FIRE HYDRANT
N.T.S.



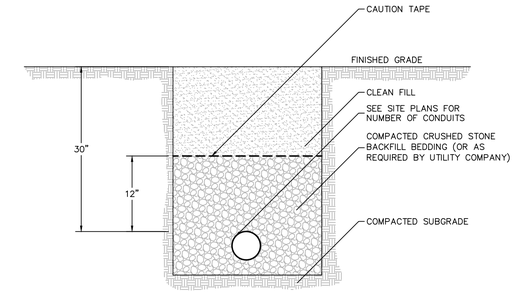
NOTES:
1. WATER MAIN SHALL BE CONSTRUCTED OF CEMENT LINED CLASS 52 DUCTILE IRON PIPE OR BETTER. ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED UNDER THE CROSS PIPE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE CROSSING AS POSSIBLE.
2. WHEREVER WATER MAIN CROSSES SANITARY SEWER PIPES, THE 12" MIN. CLEARANCE SHALL CHANGE TO 18" MIN. CLEARANCE.

4 WATER MAIN DROP
N.T.S.



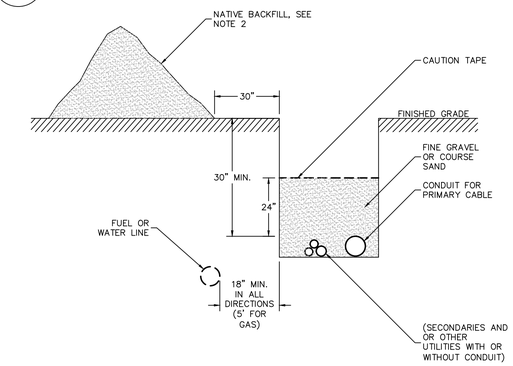
NOTES:
1. TRENCHES IN STABLE SOIL OVER 5 FT DEEP SHALL BE REINFORCED BY APPROVED OSHA METHODS
2. TRENCHES SHALL BE COMPACTED
3. IF NATIVE GROUND IS NOT SUITABLE, THE CONTRACTOR SHALL EXCAVATE TO AN ACCEPTABLE DEPTH AND INSTALL MATERIALS AS APPROVED BY ENGINEERS AND UTILITY COMPANY. CONTRACTOR TO PROVIDE EXCAVATION, BEDDING, SAND BACKFILL AND FIND BACKFILL. GAS COMPANY TO PROVIDE INSTALLATION OF ALL GAS PIPING AND SERVICES.

5 GAS MAIN TRENCH
N.T.S.



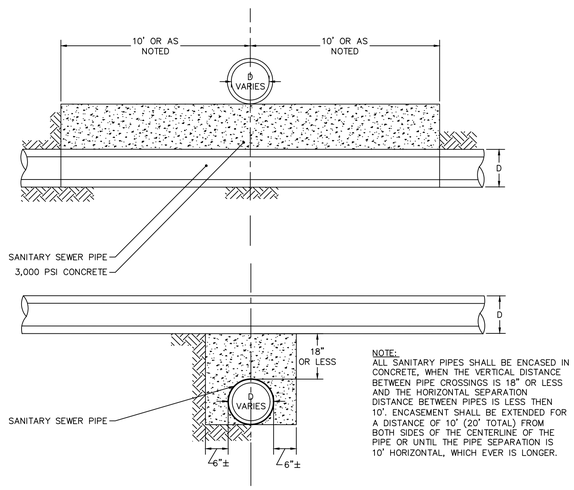
NOTES:
1. TRENCHES IN STABLE SOIL OVER 5 FT DEEP SHALL BE REINFORCED BY APPROVED OSHA METHODS.
2. TRENCHES SHALL BE COMPACTED.

6 TELEPHONE CONDUIT TRENCH
N.T.S.



NOTES:
1. ALL DIRECT-BURIED CABLES SHALL BE INSTALLED AT A DEPTH OF AT LEAST 30 INCHES IN THE FOLLOWING ORDER:
   A. ENSURE THAT THE BOTTOM OF THE TRENCH IS WELL-TAMPED AND FREE OF ROCKS.
   B. INSTALL THE CONDUIT, GLUING ALL COUPLINGS.
   C. INSTALL SECONDARIES AND OTHER UTILITY CABLES OR CONDUITS LARGER THAN 2 INCHES IN MAXIMUM DIAMETER.
   D. BACKFILL WITH 12 INCHES CLEAN FILL NOT TO CONTAIN STONES LARGER THAN 2 INCHES IN MAXIMUM DIAMETER.
   E. INSTALL CABLE WARNING TAPE 12 INCHES OVER THE CONDUIT.
   F. FILL IN THE REMAINDER OF THE TRENCH WITH NATIVE BACKFILL.
2. THE TRENCH SHALL BE BACKFILLED IMMEDIATELY FOLLOWING PLACEMENT OF THE CONDUIT.
3. 1/4-INCH NYLON ROPE AND PLASTIC CONDUIT PLUG TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

7 ELECTRICAL UTILITY TRENCH
N.T.S.



NOTE:
ALL SANITARY PIPES SHALL BE ENCASED IN CONCRETE, WHEN THE VERTICAL DISTANCE BETWEEN PIPE CROSSINGS IS 18" OR LESS AND THE HORIZONTAL SEPARATION DISTANCE BETWEEN PIPES IS LESS THEN 10'. ENCASEMENT SHALL BE EXTENDED FOR A DISTANCE OF 10' (20' TOTAL) FROM BOTH SIDES OF THE CENTERLINE OF THE PIPE OR UNTIL THE PIPE SEPARATION IS 10' HORIZONTAL, WHICH EVER IS LONGER.

8 CONCRETE ENCASEMENT FOR SANITARY SEWER
N.T.S

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Date	Description	No.
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
FRANK HOLMES
CIVIL
No. 40203
REGISTERED PROFESSIONAL ENGINEER

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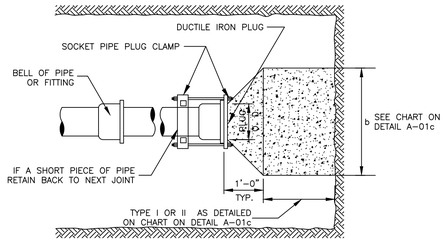
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
UTILITY DETAILS II

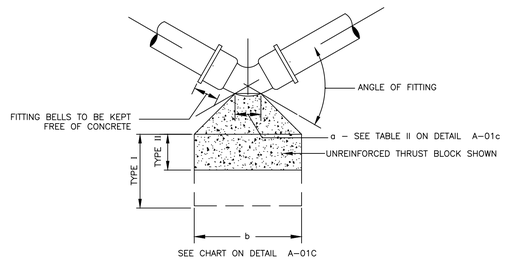
Project No.	Drawing No.
151022801	CU502
Date: 08/05/2022	
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Project No. 151022801

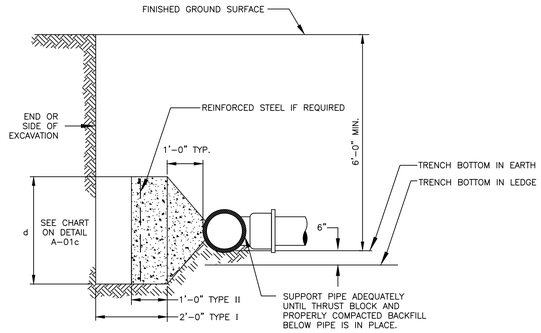
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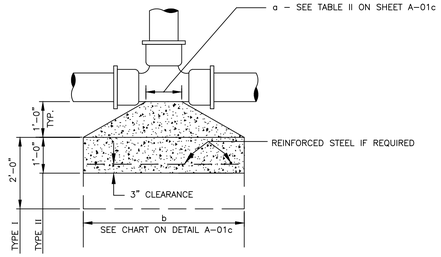
PLAN - DEAD END



PLAN - BEND



TYPICAL SECTION
(FOR TEES, BENDS & DEAD ENDS)



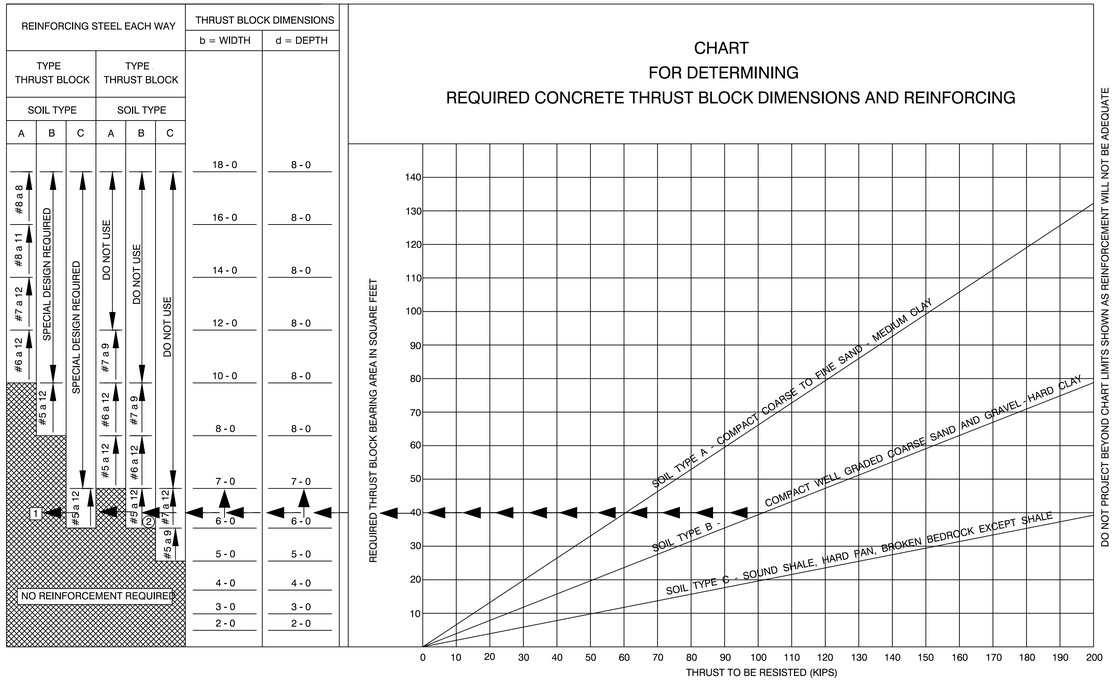
PLAN - TEE

TABLE II - "a" DIMENSION - FEET		
PIPE DIAMETER - INCHES	90° FITTING	OTHERS
6, 8, 10 & 12	1 - 6	1 - 0
16 & 20	2 - 0	1 - 6
24" - 30"	3 - 0	2 - 0

TABLE I - THRUST - KIPS (WATER PRESSURE = 200 P.S.I.)

PIPE DIAMETER INCHES		6	8	10	12	16	20	24	30	36	42
DEAD ENDS AND TEES		5.6	10	15.8	22.6	40.2	62.8	90.4	141.0	203.6	277.0
ANGLE FITTINGS	90°	7.9	14.2	22.4	32.0	56.8	88.8	127.7	199.0	288.0	392.0
	67 1/2°	-	11.1	17.6	25.1	44.7	70.0	100.2	157.0	226.0	308.0
	56 1/4°	-	-	14.9	21.2	37.9	59.2	85.1	133.0	192.0	261.0
	45°	-	-	-	17.3	30.8	48.1	69.0	108.0	156.0	212.0
	33 3/4°	-	-	-	13.1	23.3	36.5	52.5	82.0	118.0	161.0
	22 1/2°	-	-	-	8.8	15.7	24.5	35.2	55.0	79.5	108.0

DESIGN THRUST BLOCKS OR OTHER SUITABLE ANCHORAGE TO SUIT ACTUAL CONDITIONS



1. THRUST BLOCKS REQUIRED AS DIRECTED BY ENGINEER.
2. THE TABLE ABOVE PROVIDES MINIMUM THRUST BLOCK SIZES AND IS BASED ON A SOIL BEARING CAPACITY OF 1,500 LBS PER SQUARE FOOT.
3. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
4. NO JOINTS SHALL BE COVERED WITH CONCRETE.
5. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
6. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
7. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRESS OF 3,000 PSI AT 28 DAYS.
8. REINFORCING STEEL SHALL BE ASTM A615 GRADE 40
9. WATER PRESSURE IN TABLE 1 INCLUDES WATER HAMMER ALLOWANCE

1

THRUST BLOCK DETAILS

N.T.S.

REFERENCE: BOSTON WATER SEWER COMMISSION

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NORFOLK COUNTY MASSACHUSETTS

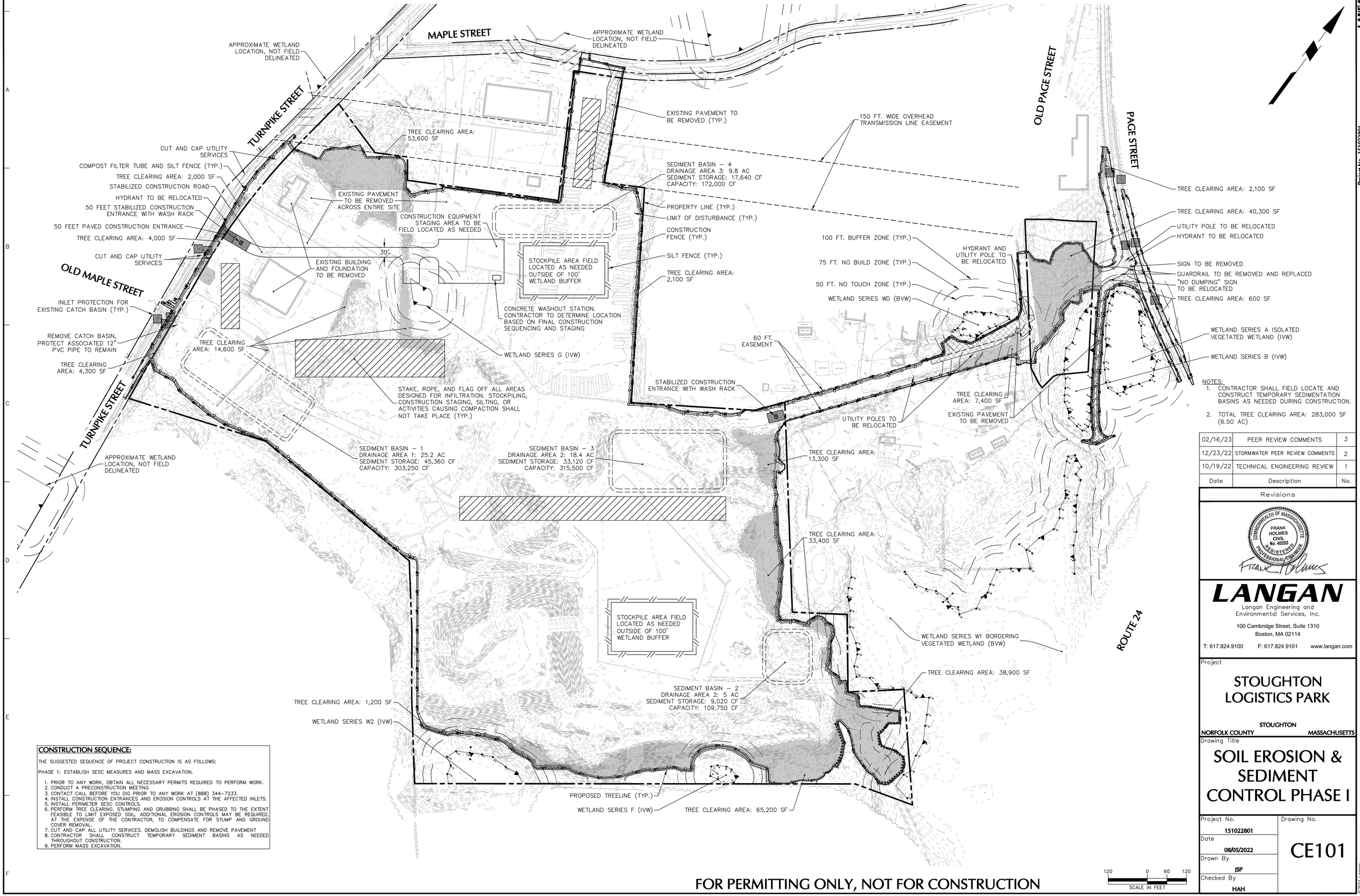
Drawing Title
UTILITY DETAILS III

Project No.	Drawing No.
151022801	CU503
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Date: 12/29/2022 Time: 18:32 User: jpark Style Table: Langan.stb Layout: CU503 Document Code: 151022801-0501-CU501-0103



NOTES:

1. CONTRACTOR SHALL FIELD LOCATE AND CONSTRUCT TEMPORARY SEDIMENTATION BASINS AS NEEDED DURING CONSTRUCTION.
2. TOTAL TREE CLEARING AREA: 283,000 SF (6.50 AC)

CONSTRUCTION SEQUENCE:

THE SUGGESTED SEQUENCE OF PROJECT CONSTRUCTION IS AS FOLLOWS:

PHASE 1: ESTABLISH SESC MEASURES AND MASS EXCAVATION.

1. PRIOR TO ANY WORK, OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM WORK.
2. CONDUCT A PRECONSTRUCTION MEETING
3. CONTACT CALL BEFORE YOU DIG PRIOR TO ANY WORK AT (888) 344-7233.
4. INSTALL CONSTRUCTION ENTRANCES AND EROSION CONTROLS AT THE AFFECTED INLETS.
5. INSTALL PERIMETER SESC CONTROLS.
6. PERFORM TREE CLEARING. STUMPING AND GRUBBING SHALL BE PHASED TO THE EXTENT FEASIBLE TO LIMIT EXPOSED SOIL. ADDITIONAL EROSION CONTROLS MAY BE REQUIRED, AT THE EXPENSE OF THE CONTRACTOR, TO COMPENSATE FOR STUMP AND GROUND COVER REMOVAL.
7. CUT AND CAP ALL UTILITY SERVICES. DEMOLISH BUILDINGS AND REMOVE PAVEMENT
8. CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT BASINS AS NEEDED THROUGHOUT CONSTRUCTION.
9. PERFORM MASS EXCAVATION.

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120 0 60 120
SCALE IN FEET

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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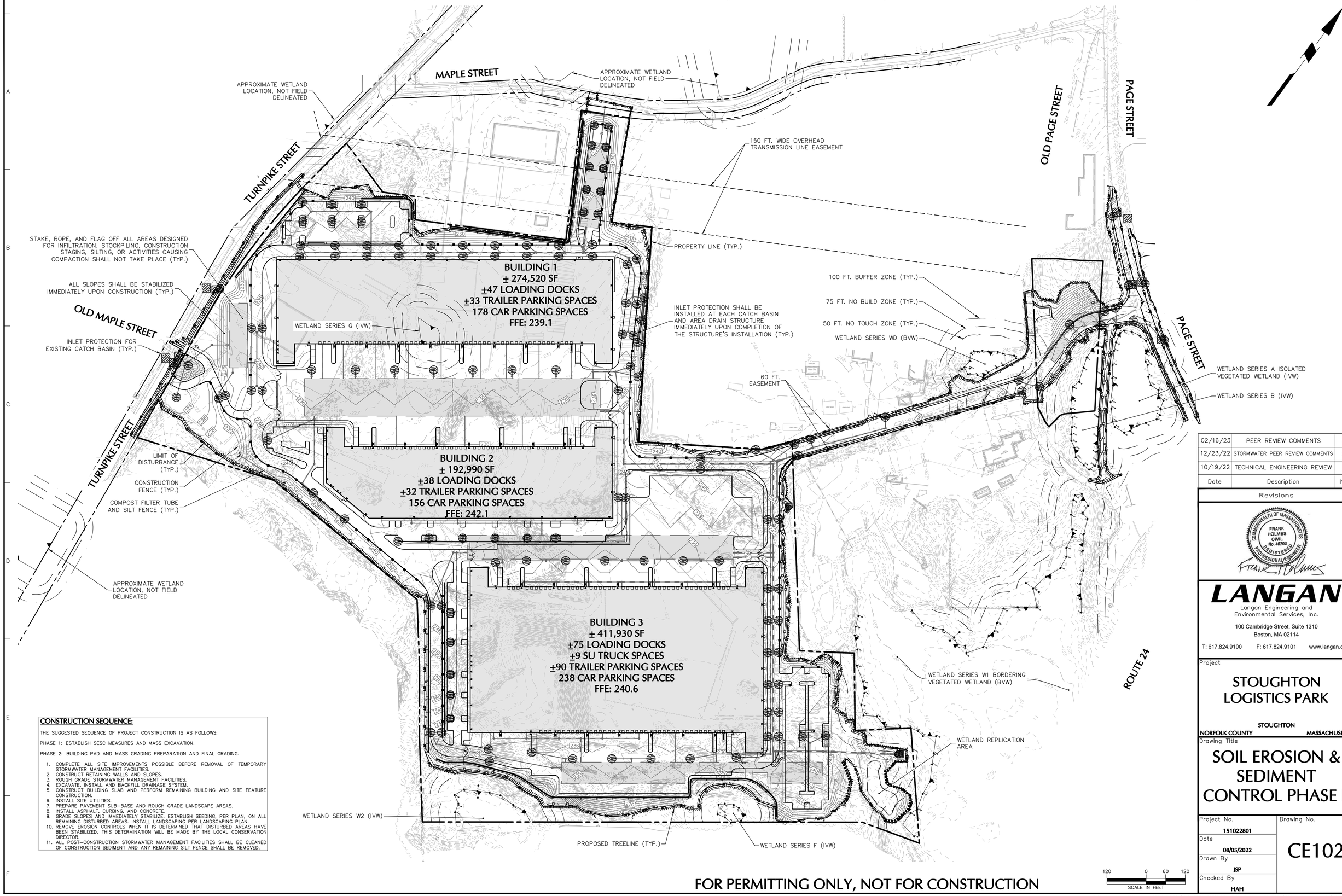
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SOIL EROSION & SEDIMENT CONTROL PHASE I

Project No.	Drawing No.
151022801	CE101
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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Project No. 151022801

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CONSTRUCTION SEQUENCE:

THE SUGGESTED SEQUENCE OF PROJECT CONSTRUCTION IS AS FOLLOWS:

PHASE 1: ESTABLISH SESC MEASURES AND MASS EXCAVATION.

PHASE 2: BUILDING PAD AND MASS GRADING PREPARATION AND FINAL GRADING.

1. COMPLETE ALL SITE IMPROVEMENTS POSSIBLE BEFORE REMOVAL OF TEMPORARY STORMWATER MANAGEMENT FACILITIES.
2. CONSTRUCT RETAINING WALLS AND SLOPES.
3. ROUGH GRADE STORMWATER MANAGEMENT FACILITIES.
4. EXCAVATE, INSTALL AND BACKFILL DRAINAGE SYSTEM.
5. CONSTRUCT BUILDING SLAB AND PERFORM REMAINING BUILDING AND SITE FEATURE CONSTRUCTION.
6. INSTALL SITE UTILITIES.
7. PREPARE PAVEMENT SUB-BASE AND ROUGH GRADE LANDSCAPE AREAS.
8. INSTALL ASPHALT, CURBING, AND CONCRETE.
9. GRADE SLOPES AND IMMEDIATELY STABILIZE. ESTABLISH SEEDING, PER PLAN, ON ALL REMAINING DISTURBED AREAS. INSTALL LANDSCAPING PER LANDSCAPING PLAN.
10. REMOVE EROSION CONTROLS WHEN IT IS DETERMINED THAT DISTURBED AREAS HAVE BEEN STABILIZED. THIS DETERMINATION WILL BE MADE BY THE LOCAL CONSERVATION DIRECTOR.
11. ALL POST-CONSTRUCTION STORMWATER MANAGEMENT FACILITIES SHALL BE CLEANED OF CONSTRUCTION SEDIMENT AND ANY REMAINING SILT FENCE SHALL BE REMOVED.

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120 0 60 120
SCALE IN FEET

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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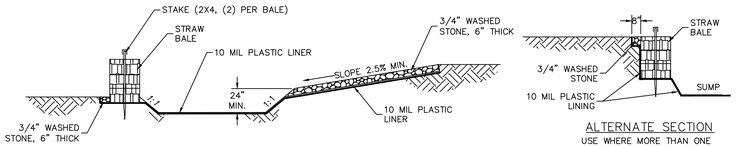
Drawing Title
SOIL EROSION & SEDIMENT CONTROL PHASE II

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Checked By: HAH	

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Date: 2/15/2023 Time: 22:48 User: hholmes Style Table: Langan.stb Layout: CE102 Document Code: 151022801-0501-CE101-0201

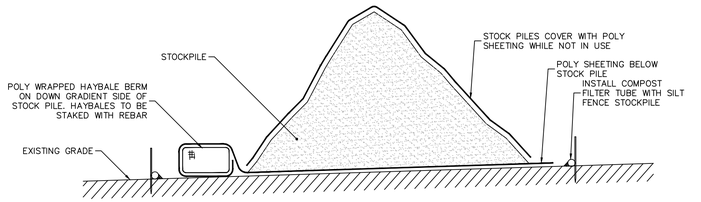


ALL CONCRETE TRUCKS SHALL WASHOUT HERE

WASHOUT SIGN

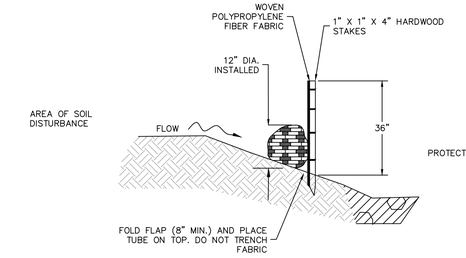
NOTES:
1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE.
2. WASH AND STORMWATER.
3. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
4. .FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12".
5. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
6. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
7. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
8. MANUFACTURING CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

1 CONCRETE WASHOUT AREA
N.T.S.

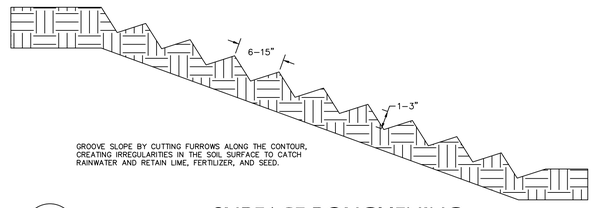


NOTE:
1. SEE SOIL EROSION & SEDIMENT CONTROL PLAN FOR LOCATION OF STOCKPILES
2. STOCK PILES TO BE PLACED ON POLY SHEETING
3. STOCK PILES TO BE COVERED WITH POLY SHEETING WHILE NOT IN USE

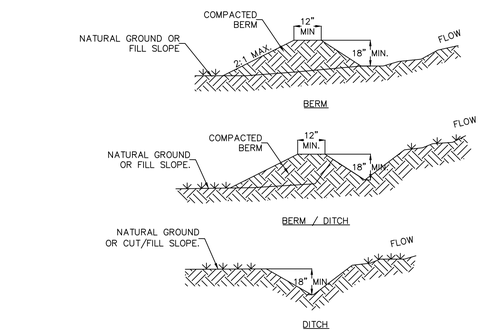
2 TEMPORARY SOIL/CONCRETE STOCKPILE
N.T.S.



3 COMPOST FILTER TUBE & SILT FENCE
N.T.S.

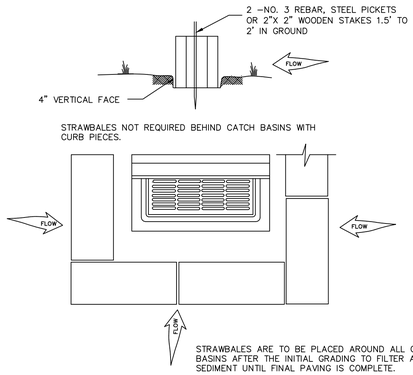


4 SURFACE ROUGHENING
N.T.S.

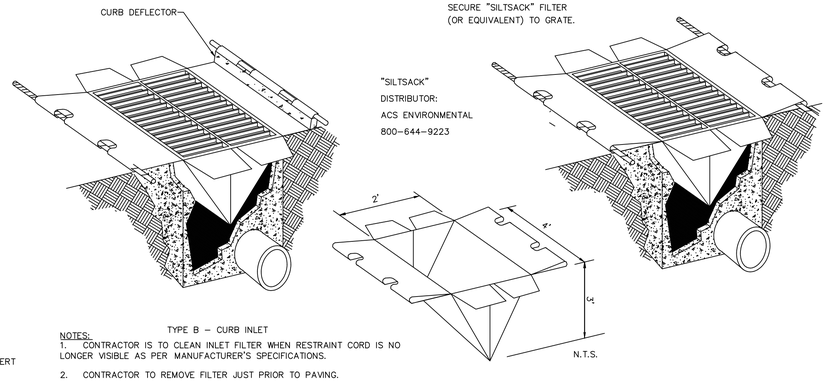


NOTES:
1. POSITIVE GRADE MUST BE PROVIDED TO ASSURE DRAINAGE. 2:1 MAX. SIDE SLOPE. IF SLOPE EXCEEDS 2% OR CHANNEL IS CONSTRUCTED IN FILL, PROVIDE CHANNEL LINER PER DETAIL, EC 5, TRY NOT TO EXCEED 5% (HIGH RUNOFF VELOCITIES RESULT). MAXIMUM DRAINAGE AREA IS 5.00 ACRES WITHOUT SUPPORTING CALCULATIONS FOR PERMANENT CHANNEL. DIVERSIONS AT THE TOPS OF SLOPES MUST EMPTY INTO AN APPROVED SLOPE DRAIN (SEE DETAILS). THE BERM/DITCH IS THE MOST COMMONLY USED DIVERSION.
2. MACHINE COMPACTING OF ALL FILL IS REQUIRED/
3. DIVERSIONS SUFFICIENT TO DIRECT ALL SEDIMENT–LADEN STORMWATER INTO SEDIMENT CONTROL DEVICE MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING OF AREA (OR IN CONJUNCTION WITH THIS OPERATION IF SEDIMENT CONTROLS AND DIVERSIONS ARE INSTALLED AT EACH CRITICAL POINT AS INDICATED).
4. DIVERSIONS SHOULD BE LOCATED AS SHOWN ON THE PLANS AND TO MINIMIZE DAMAGES BY CONSTRUCTION OPERATIONS.
5. DIVERSIONS SHOULD BE SEEDED AND LINED WITH STRAW MAT IF THEY ARE TO REMAIN IN PLACE OVER 14 DAYS.
6. CHECK DIVERSIONS AFTER EACH RAIN, AND ONCE PER SEVEN CALENDAR DAYS OR MORE FREQUENTLY IF REQUIRED BY REGULATORY AGENCY. REPAIR AS NEEDED TO MAINTAIN FUNCTION.

5 TEMPORARY DIVERSION BERM/DITCH
N.T.S.



STRAWBALES ARE TO BE PLACED AROUND ALL CATCH BASINS AFTER THE INITIAL GRADING TO FILTER AND DIVERT SEDIMENT UNTIL FINAL PAVING IS COMPLETE.



TYPE B – CURB INLET

NOTES:
1. CONTRACTOR IS TO CLEAN INLET FILTER WHEN RESTRAINT CORD IS NO LONGER VISIBLE AS PER MANUFACTURER'S SPECIFICATIONS.
2. CONTRACTOR TO REMOVE FILTER JUST PRIOR TO PAVING.

6 INLET PROTECTION
N.T.S.

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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

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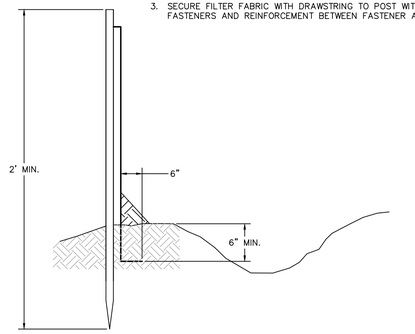
Project
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NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SOIL EROSION & SEDIMENT CONTROL DETAILS I

Project No.	Drawing No.
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Checked By: HAH	

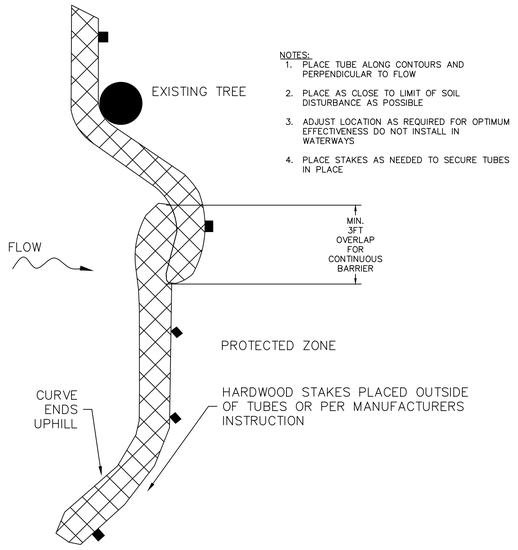
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INSTALLATION NOTES:
1. EXCAVATE AND SECURE BOTTOM 6" OF SILT FENCE BELOW GRADE AS SHOWN.
2. EXCEPT FOR THE END POST, DRIVE ALL POSTS INTO THE GROUND AT BACK SIDE OF TRENCH SPACED A MAXIMUM OF 8 FT O. C.
3. SECURE FILTER FABRIC WITH DRAWSTRING TO POST WITH METAL FASTENERS AND REINFORCEMENT BETWEEN FASTENER AND FABRIC.

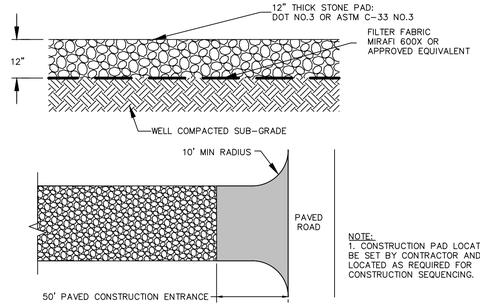
1 SILT FENCE
N.T.S.



NOTES:
1. PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW
2. PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE
3. ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS DO NOT INSTALL IN WATERWAYS
4. PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE

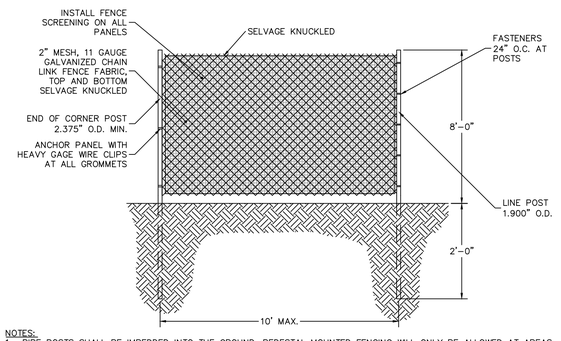
PLAN VIEW

2 SEDIMENT BARRIERS
N.T.S.



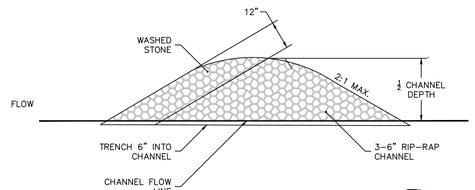
NOTE:
1. CONSTRUCTION PAD LOCATION TO BE SET BY CONTRACTOR AND LOCATED AS REQUIRED FOR CONSTRUCTION SEQUENCING.

3 STABILIZED CONSTRUCTION PAD AND TEMPORARY ACCESS ROAD
N.T.S.

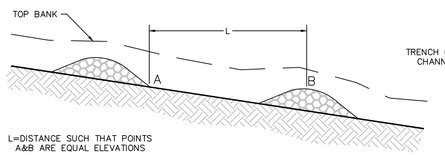


NOTES:
1. PIPE POSTS SHALL BE IMBEDDED INTO THE GROUND. PEDESTAL MOUNTED FENCING WILL ONLY BE ALLOWED AT AREAS APPROVED BY THE PROJECT MANAGER. WHEN ALLOWED, PROVIDE CONCRETE OR GALVANIZED-STEEL BASES FOR SUPPORTING POSTS. PROVIDE BLUE REINFORCED SCRIM SHEETING ON ALL FENCING.

4 TEMPORARY CONSTRUCTION FENCE
N.T.S.

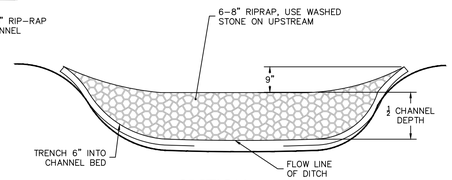


PROFILE



L=DISTANCE SUCH THAT POINTS A&B ARE EQUAL ELEVATIONS

LONGITUDINAL PROFILE



SECTION

NOTES:
1. THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHALL NOT EXCEED ONE HALF THE DEPTH OF THE CHANNEL.
2. MAXIMUM SPACING SHALL BE SO THE TOE OF THE UPSTREAM DAM IS THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
3. REMOVE SEDIMENT WHEN 25% THE HEIGHT OF THE WEIR.
4. REMOVE CHECK DAMS WHEN SITE STABILIZATION IS ACHIEVED.

CHECK DAM SPACING CRITERIA

SPILLWAY HEIGHT	CHANNEL SLOPE	CHECK DAM SPACING
1.5	1%	150 FT.
2.0	1%	200 FT.
1.5	2%	75 FT.
2.0	2%	100 FT.
1.5	3%	50 FT.
2.0	3%	67 FT.
1.5	4%	38 FT.
2.0	4%	50 FT.
1.5	5%	30 FT.
2.0	5%	40 FT.

*ASSUME CHANNEL DEPTH IS 2 TIMES SPILLWAY HEIGHT

5 STONE CHECK DAM
N.T.S.

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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

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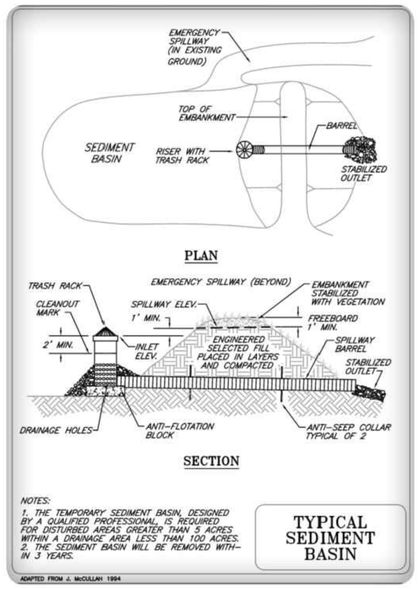
Drawing Title
SOIL EROSION & SEDIMENT CONTROL DETAILS II

Project No.	Drawing No.
151022801	CE502
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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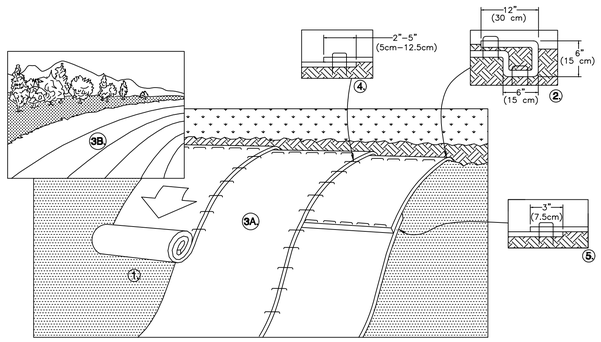
Project No. 151022801



1 SEDIMENT BASIN
N.T.S.

SC150BN SINGLE NET STRAW BLANKET – BIODEGRADABLE SLOPE INSTALLATION

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800–772–2040
www.nagreen.com



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE:
CONTRACTOR TO PROVIDE EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER.

2 EROSION CONTROL BLANKETS (SLOPE STABILIZATION SLOPES 3H:1V AND STEEPER)
N.T.S.

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Date	Description	No.
Revisions		

LANGAN
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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SOIL EROSION & SEDIMENT CONTROL DETAILS III

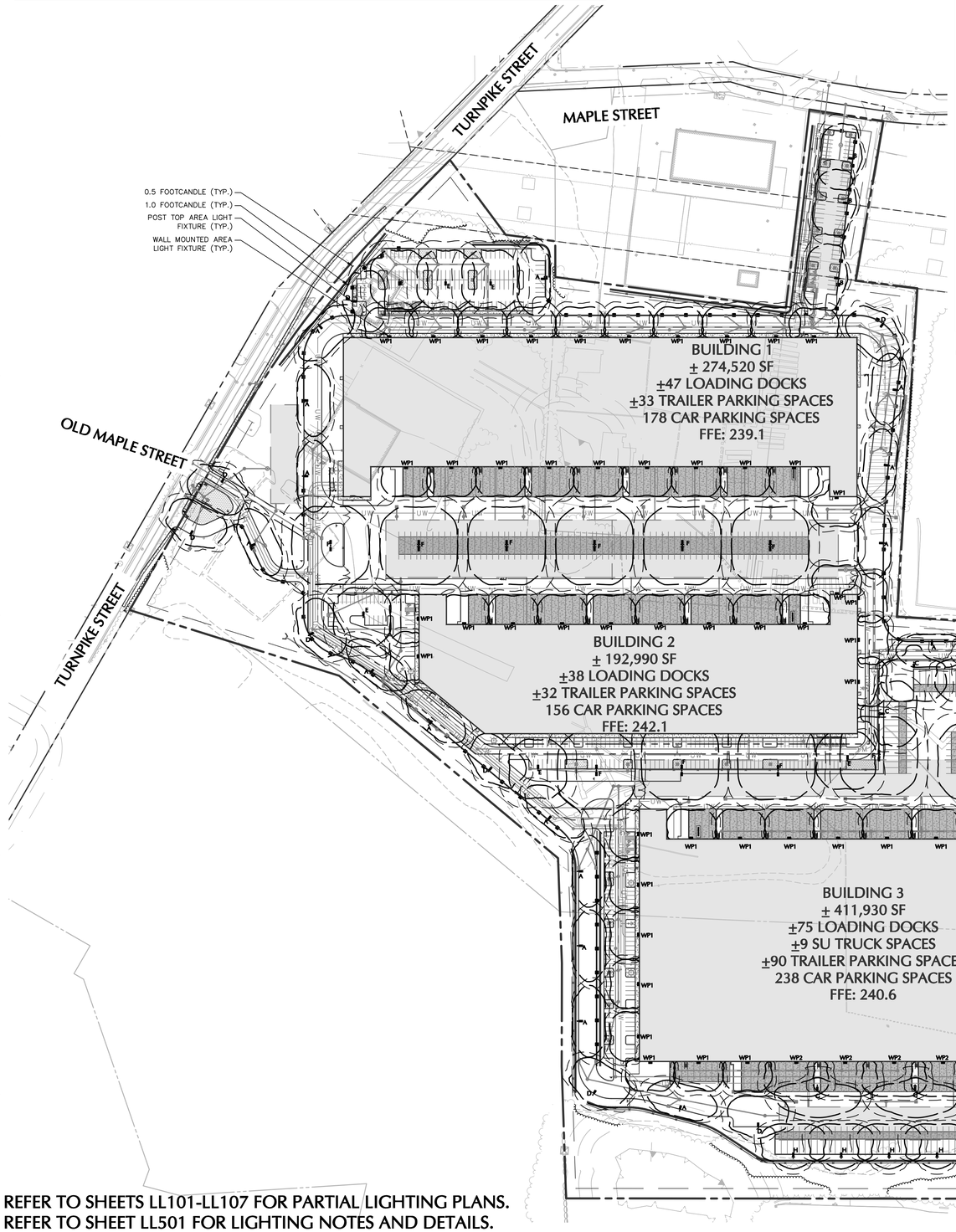
Project No.	Drawing No.
151022801	CE503
Date: 12/23/2022	
Drawn By: JSP	
Checked By: HAH	

LANGAN Project No. 151022801

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TOWN OF STOUGHTON - ZONING BYLAW REGULATIONS COMPLIANCE CHART

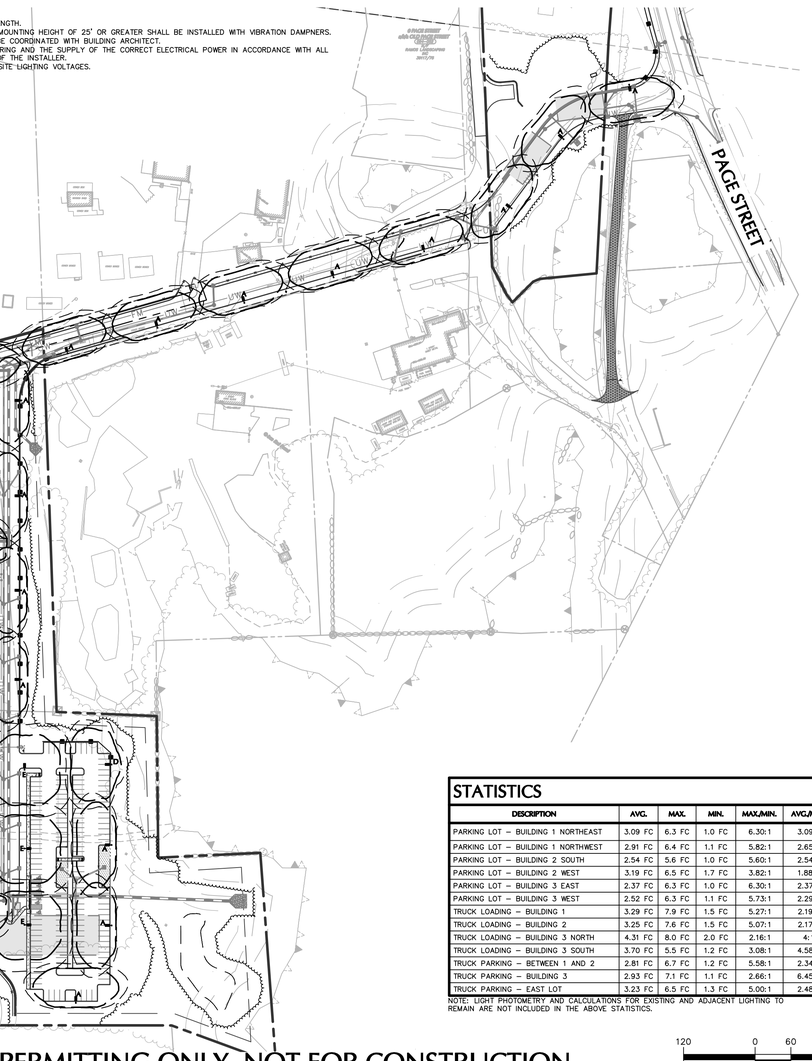
REGULATION SECTION	REQUIRED / PERMITTED	COMPLIANCE
SECTION 5.8 (E)	THE LOCATION OF WALL PACK LUMINAIRES SHALL NOT EXCEED 20'-0" IN HEIGHT.	COMPLIES
SECTION 5.8 (G)	MINIMUM FOOT-CANDLE REQUIREMENT, MEASURED AT GRADE LEVEL IS 1.0 MAXIMUM FOOT-CANDLE REQUIREMENT, MEASURED AT GRADE LEVEL IS 8.0.	COMPLIES



SITE LIGHTING SCHEDULE

SYMBOL	KEY	QTY.	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	LAMP	COLOR TEMPERATURE	OPTICS	LUMENS	LLF	FIXTURE CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.	POLE REMARKS
	A	33	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	343 W LED	3000K	TYPE BACK-LIGHT CONTROL OPTIC	31,043	0.9	DSX2 LED-P6-30K-BLC-RPA-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	B	3	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	448 W LED	3000K	TYPE IV WITH HS SHIELD	44,693	0.9	DSX2 LED-P8-30K-T4M-RPA-HS-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	C	4	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	343 W LED	3000K	TYPE FORWARD THROW	37,863	0.9	DSX2 LED-P6-30K-TFTM-RPA-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	D	9	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	343 W LED	3000K	TYPE FORWARD THROW WITH HS SHIELD	37,863	0.9	DSX2 LED-P6-30K-TFTM-RPA-HS-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	E	11	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	343 W LED	3000K	TYPE V	39,311	0.9	DSX2 LED-P6-30K-T5M-MVOLT-RPA-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	F	11	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE (DOUBLE)	30'-0"	343 W LED	3000K	TYPE V WIDE - BACK TO BACK MOUNTED	78,106	0.9	DSX2 LED-P6-30K-T5W-RPA-DBLXD (DOUBLE)	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM28AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	G	3	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	343 W LED	3000K	TYPE II MEDIUM	37,979	0.9	DSX2 LED-P6-30K-T2M-RPA-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	H	4	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA POST TOP FIXTURE	30'-0"	431 W LED	3000K	TYPE FORWARD THROW	45,657	0.9	DSX2 LED-P8-30K-TFTM-RPA-HS-DBLXD	LITHONIA LIGHTING	ROUND TAPERED STEEL POLE; BLACK	27'-0"	RTS-27-6-6B-DM19AS-VD-DBLXD	POLE TO BE FACTORY CUT TO LENGTH OF 27'; MOUNTED ON 3' HT. EXPOSED CONCRETE BASE
	WP1	52	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA WALL MOUNTED FIXTURE	16'-0" ABOVE FFE (20'-0" ABOVE GROUND PLANE)	217 W LED	3000K	TYPE FORWARD THROW	26,229	0.9	DSX2 LED-P3-30K-TFTM-WBA-DBLXD	N/A	N/A	N/A	N/A	N/A
	WP2	6	LITHONIA LIGHTING	DSX2 LED AREA LUMINAIRE	AREA WALL MOUNTED FIXTURE	16'-0" ABOVE FFE (20'-0" ABOVE GROUND PLANE)	431 W LED	3000K	TYPE FORWARD THROW	45,657	0.9	DSX2 LED-P8-30K-TFTM-WBA-DBLXD	N/A	N/A	N/A	N/A	N/A

NOTE:
1) ALL POLES TO BE FACTORY CUT TO LENGTH.
2) ALL POLE MOUNTED FIXTURES WITH A MOUNTING HEIGHT OF 25' OR GREATER SHALL BE INSTALLED WITH VIBRATION DAMPNERS.
3) WALL-MOUNTED LIGHT LOCATIONS TO BE COORDINATED WITH BUILDING ARCHITECT.
4) ALL MOUNTING METHODS, CONDUITS, WIRING AND THE SUPPLY OF THE CORRECT ELECTRICAL POWER IN ACCORDANCE WITH ALL LOCAL CODES IS THE RESPONSIBILITY OF THE INSTALLER.
5) REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING VOLTAGES.



STATISTICS

DESCRIPTION	AVG.	MAX.	MIN.	MAX./MIN.	AVG./MIN.
PARKING LOT - BUILDING 1 NORTHEAST	3.09 FC	6.3 FC	1.0 FC	6.30:1	3.09:1
PARKING LOT - BUILDING 1 NORTHWEST	2.91 FC	6.4 FC	1.1 FC	5.82:1	2.65:1
PARKING LOT - BUILDING 2 SOUTH	2.54 FC	5.6 FC	1.0 FC	5.60:1	2.54:1
PARKING LOT - BUILDING 2 WEST	3.19 FC	6.5 FC	1.7 FC	3.82:1	1.88:1
PARKING LOT - BUILDING 3 EAST	2.37 FC	6.3 FC	1.0 FC	6.30:1	2.37:1
PARKING LOT - BUILDING 3 WEST	2.52 FC	6.3 FC	1.1 FC	5.73:1	2.29:1
TRUCK LOADING - BUILDING 1	3.29 FC	7.9 FC	1.5 FC	5.27:1	2.19:1
TRUCK LOADING - BUILDING 2	3.25 FC	7.6 FC	1.5 FC	5.07:1	2.17:1
TRUCK LOADING - BUILDING 3 NORTH	4.31 FC	8.0 FC	2.0 FC	2.16:1	4:1
TRUCK LOADING - BUILDING 3 SOUTH	3.70 FC	5.5 FC	1.2 FC	3.08:1	4.58:1
TRUCK PARKING - BETWEEN 1 AND 2	2.81 FC	6.7 FC	1.2 FC	5.58:1	2.34:1
TRUCK PARKING - BUILDING 3	2.93 FC	7.1 FC	1.1 FC	2.66:1	6.45:1
TRUCK PARKING - EAST LOT	3.23 FC	6.5 FC	1.3 FC	5.00:1	2.48:1

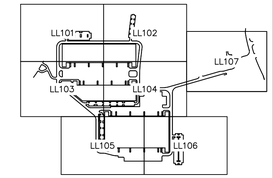
NOTE: LIGHT PHOTOMETRY AND CALCULATIONS FOR EXISTING AND ADJACENT LIGHTING TO REMAIN ARE NOT INCLUDED IN THE ABOVE STATISTICS.

REFER TO SHEETS LL101-LL107 FOR PARTIAL LIGHTING PLANS.
REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.

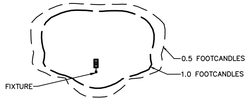
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120 0 60 120
SCALE IN FEET

SHEET LEGEND
1" = 1000'



PHOTOMETRIC LIGHTING TEMPLATE:



NOTE: THE PHOTOMETRIC TEMPLATE REPRESENTS LIGHT THROW FOR EACH INDIVIDUAL FIXTURE. IT DOES NOT REPRESENT LIGHT COMING FROM OTHER SOURCES.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

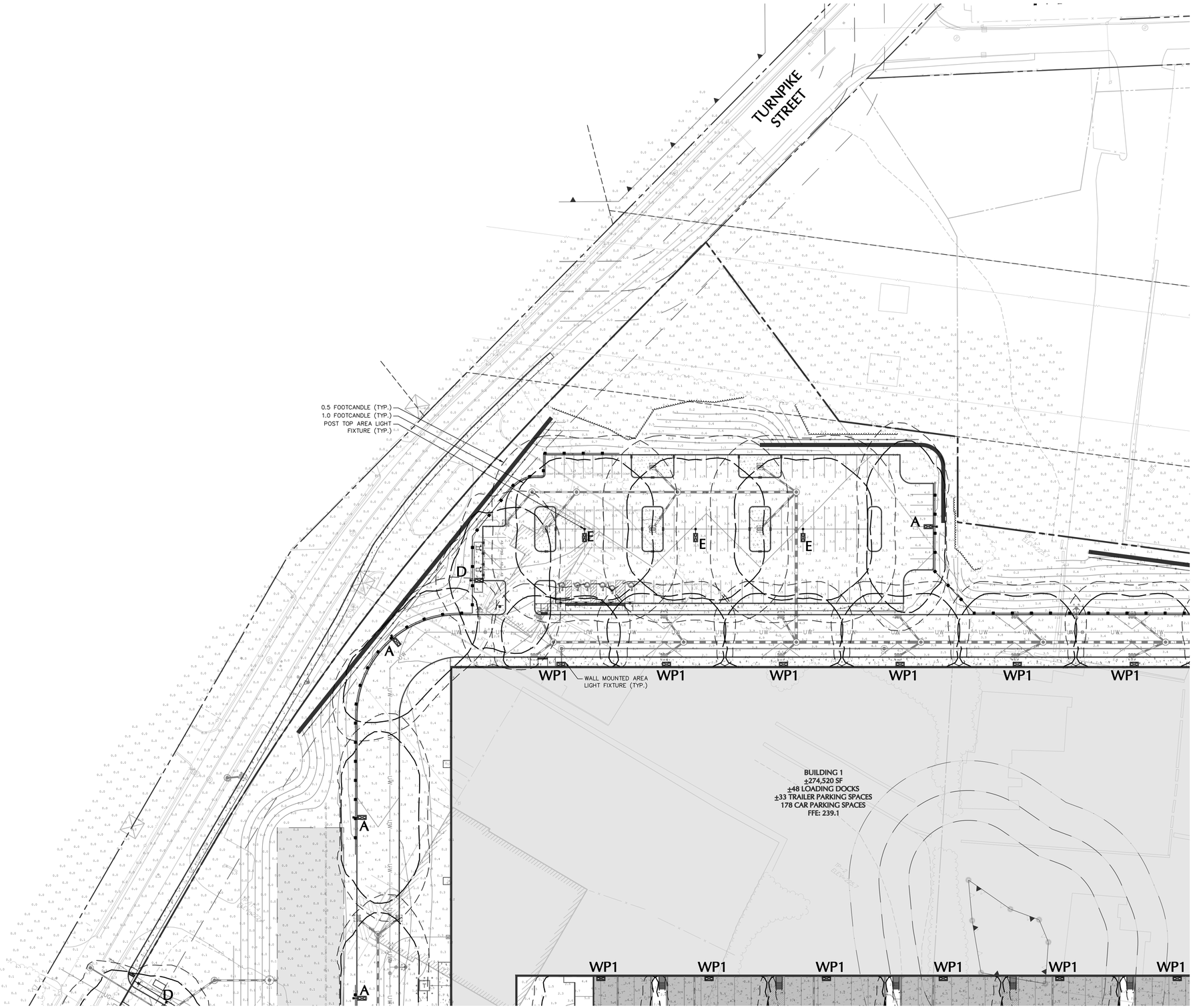
Drawing Title
OVERALL LIGHTING PLAN

Project No.	Drawing No.
151022801	LL100
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

LANGAN
Project No. 151022801

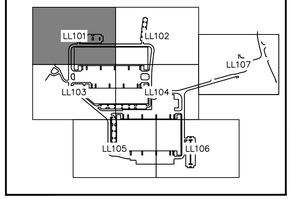
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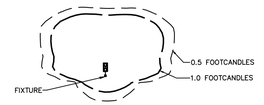


SHEET LEGEND

1" = 1000'



PHOTOMETRIC LIGHTING TEMPLATE:



NOTE: THE PHOTOMETRIC TEMPLATE REPRESENTS LIGHT THROW FOR EACH INDIVIDUAL FIXTURE. IT DOES NOT REPRESENT LIGHT COMING FROM OTHER SOURCES.

REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHT SCHEDULE, AND LIGHT STATISTICS.
REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.

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SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

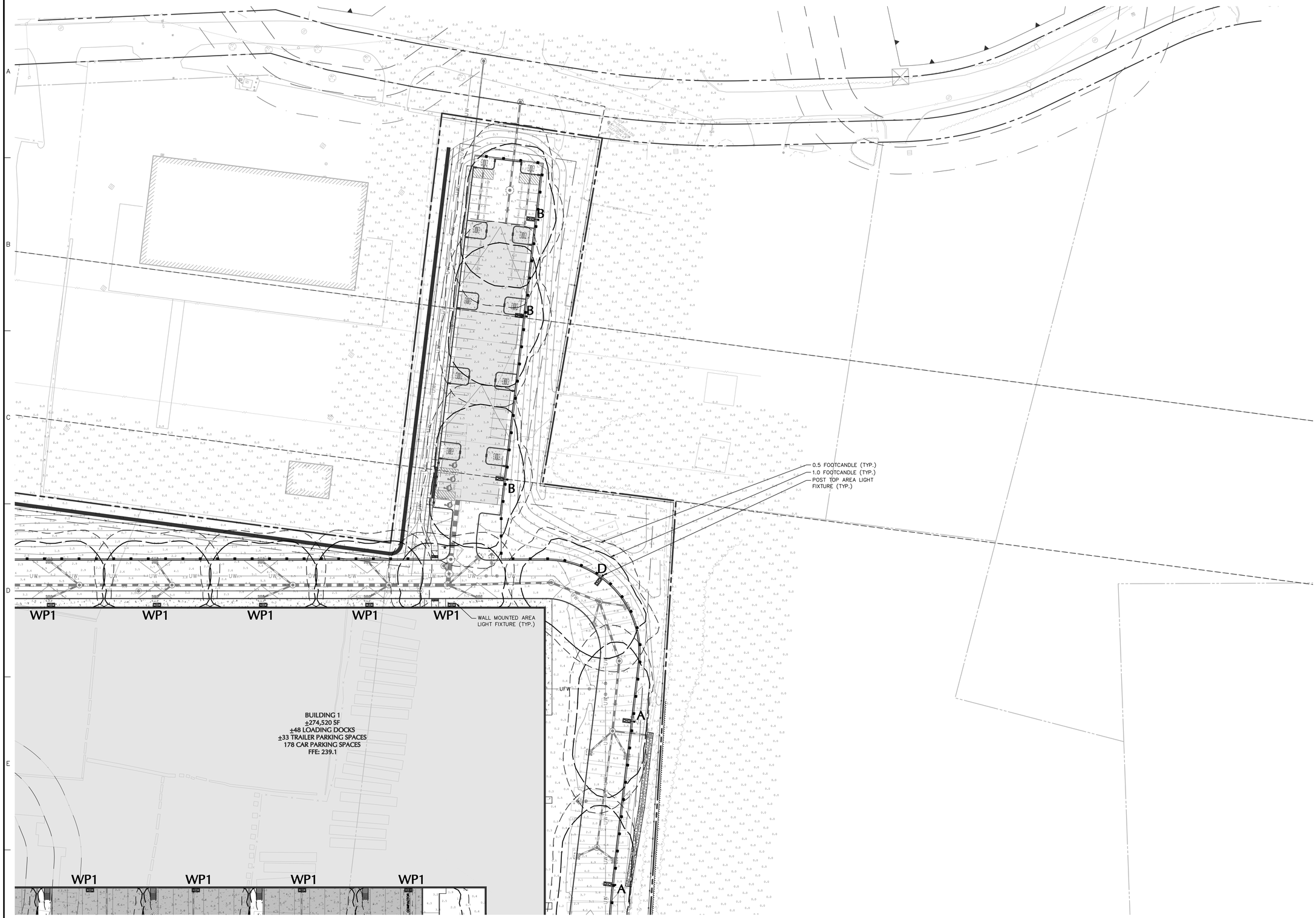
LIGHTING PLAN I

Project No.	Drawing No.
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Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

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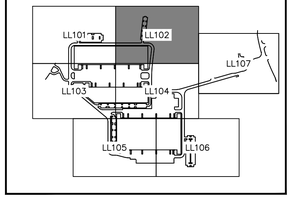
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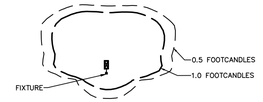


SHEET LEGEND

1" = 1000'



PHOTOMETRIC LIGHTING TEMPLATE:



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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

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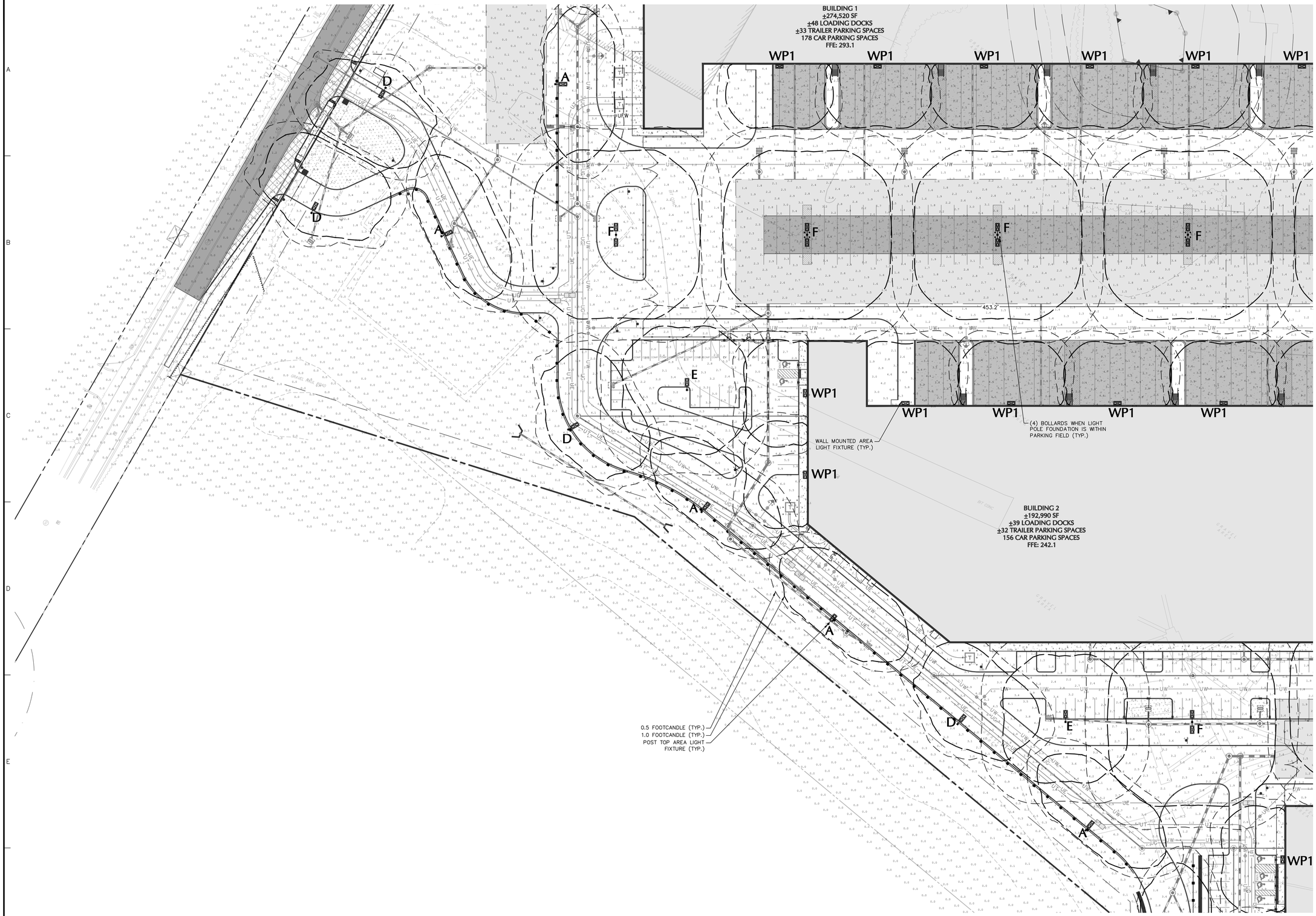
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
LIGHTING PLAN II

Project No.	Drawing No.
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Drawn By: RP	
Checked By: MH	

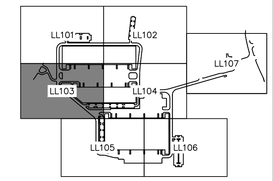
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SHEET LEGEND

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SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

LIGHTING PLAN III

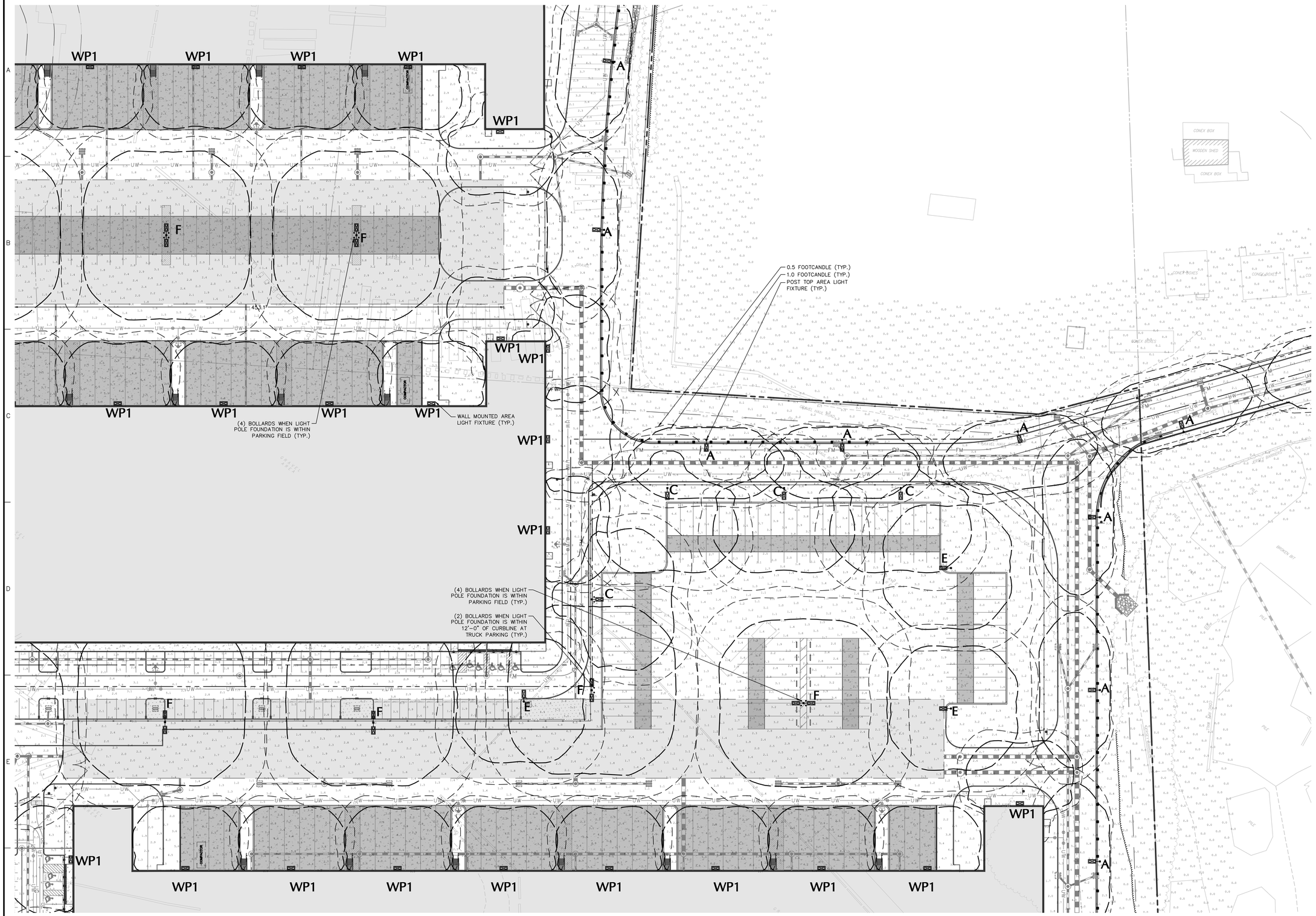
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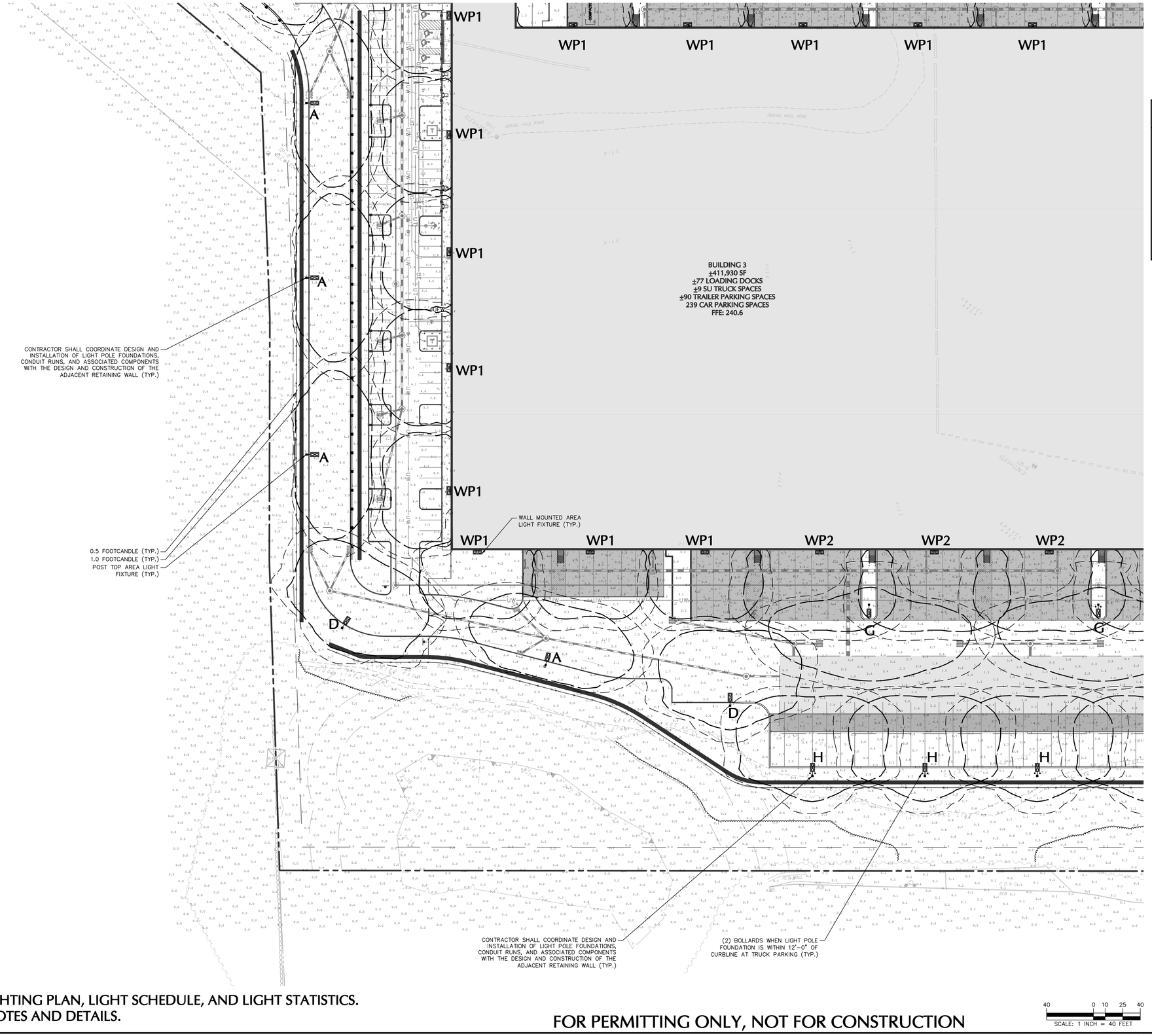
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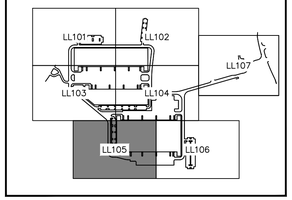
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WP1
F
A
C
E
X
453.1'
(4) BOLLARDS WHEN LIGHT POLE FOUNDATION IS WITHIN PARKING FIELD (TYP.)
WALL MOUNTED AREA LIGHT FIXTURE (TYP.)
0.5 FOOTCANDLE (TYP.)
1.0 FOOTCANDLE (TYP.)
POST TOP AREA LIGHT FIXTURE (TYP.)
(4) BOLLARDS WHEN LIGHT POLE FOUNDATION IS WITHIN PARKING FIELD (TYP.)
(2) BOLLARDS WHEN LIGHT POLE FOUNDATION IS WITHIN 12'-0" OF CURBLINE AT TRUCK PARKING (TYP.)
CONEX BOX
WOODEN SHED
CONEX BOX
CONEX BOXES
CONEX BOXES
CONEX BOXES

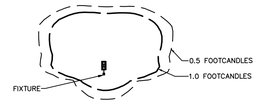


SHEET LEGEND

1" = 1000'



PHOTOMETRIC LIGHTING TEMPLATE:



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40 0 10 25 40
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Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

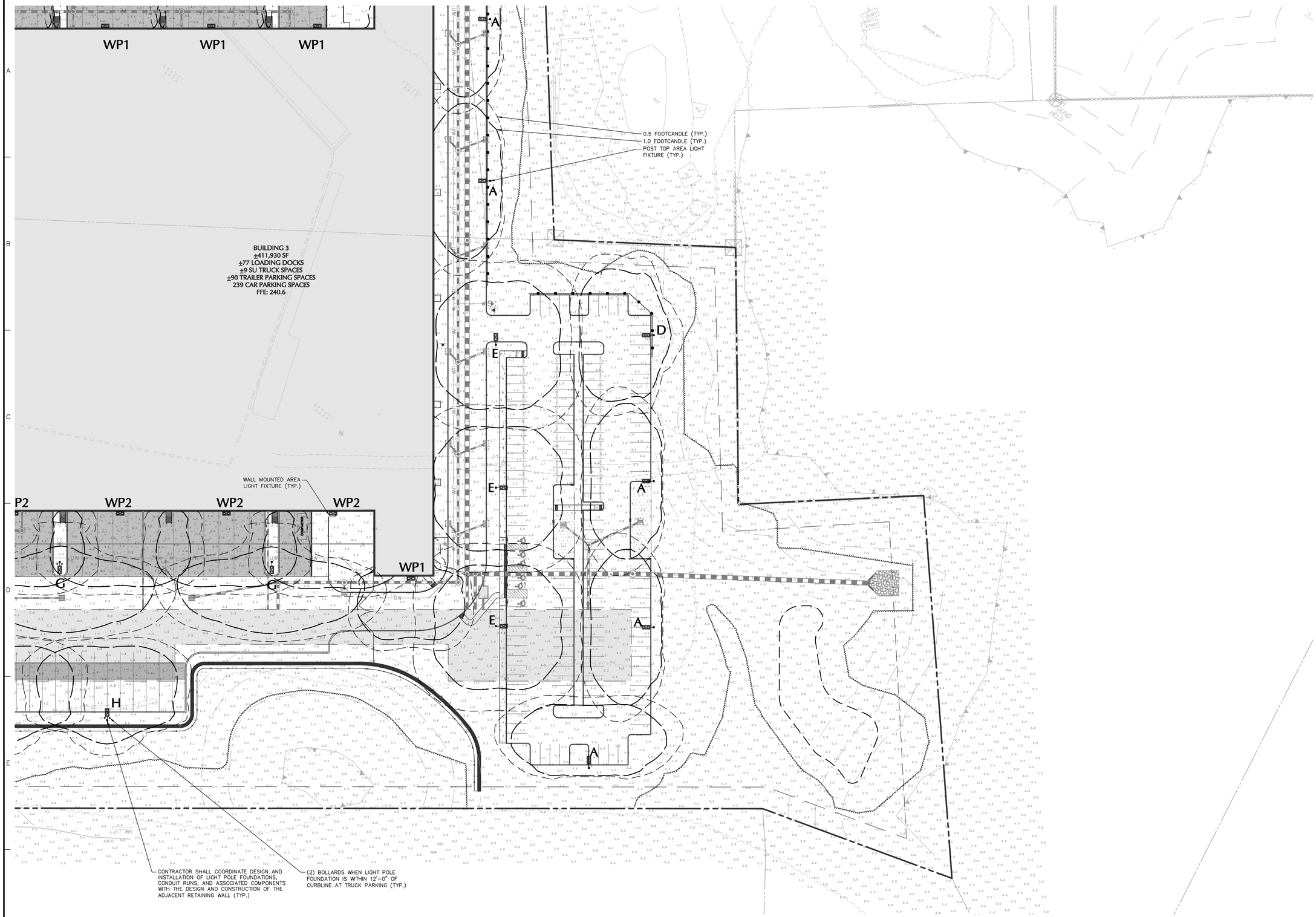
Drawing Title

LIGHTING PLAN V

Project No.	Drawing No.
151022801	LL105
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

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Project No. 151022801

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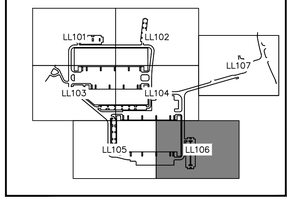


REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHT SCHEDULE, AND LIGHT STATISTICS.
REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.

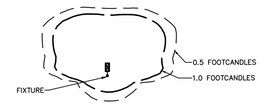
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SHEET LEGEND

1" = 1000'



PHOTOMETRIC LIGHTING TEMPLATE:



NOTE: THE PHOTOMETRIC TEMPLATE REPRESENTS LIGHT THROW FOR EACH INDIVIDUAL FIXTURE. IT DOES NOT REPRESENT LIGHT COMING FROM OTHER SOURCES.

Date	Description	No.
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

LIGHTING PLAN VI

Project No.	Drawing No.
151022801	LL106
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

SCALE: 1 INCH = 40 FEET

LANGAN
Project No. 151022801

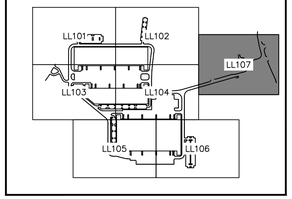
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Date: 2/15/2023 Time: 22:52 User: hholmes Style Table: Langan.stb Layout: LI106 Document Code: 151022801-0501-LL101-0107

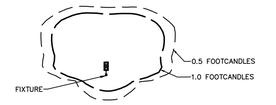


SHEET LEGEND

1" = 1000'



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40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

LIGHTING PLAN VII

Project No.	Drawing No.
151022801	LL107
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

Project No. 151022801

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LIGHTING NOTES:

GENERAL

1. POINT–BY–POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP/ DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS–BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE PLANS.
2. LIGHT LEVEL POINT SPACING IS 10 FT. LEFT TO RIGHT AND 10 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.
3. ALL LIGHTING IS TO BE FULL CUT–OFF.

COMPLIANCE

3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

COORDINATION

5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY AND SAFELY.
6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.
7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.
9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

POLES AND FOOTINGS

10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST–IN–PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, SUCH AS PRECAST, MAY CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.
11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.
12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.
13. ALL POLES HIGHER THAN 25 FT. SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

WALL MOUNTED FIXTURES

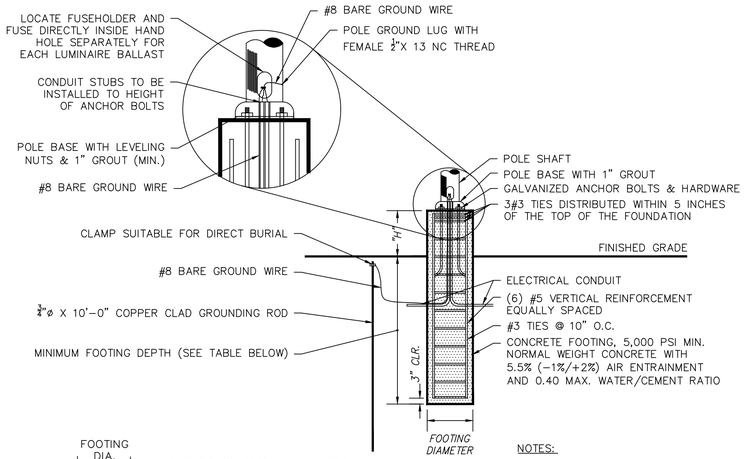
14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.
15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

ADJUSTMENT AND INSPECTION

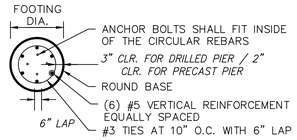
16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.
17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE PLANS.

REQUIREMENTS FOR ALTERNATES

19. ALL LIGHTING SUBSTITUTIONS MUST BE MADE WITHIN 14 DAYS PRIOR TO THE BID DATE TO PROVIDE AMPLE TIME FOR REVIEW AND TO ISSUE AN ADDENDUM INCORPORATING THE SUBSTITUTION WITH THE FOLLOWING REQUIREMENTS:
    - A. ANY SUBSTITUTION TO LIGHTING FIXTURES, POLES, ETC. MUST BE APPROVED BY THE OWNER, ENGINEER AND TENANTS. ANY COST ASSOCIATED WITH REVIEW AND/OR APPROVAL OF THE SUBSTITUTIONS SHALL BE ENTIRELY BORNE BY THE CONTRACTOR
    - B. COMPUTER PREPARED PHOTOMETRIC LAYOUT OF THE PROPOSED LIGHTED AREA WHICH INDICATES, BY ISOFOOTCANDLE, THE SYSTEM'S PERFORMANCE.
    - C. A PHOTOMETRIC REPORT FROM A NATIONAL INDEPENDENT TESTING LABORATORY WITH REPORT NUMBER, DATE, FIXTURE CATALOG NUMBER, LUMINAIRE AND LAMP SPECIFICATIONS; IES CALCULATIONS, POINT BY POINT FOOT CANDLE PLAN, STATISTIC ZONES SHOWING AVERAGE, MAXIMUM, MINIMUM AND UNIFORMITY RATIOS, SUMMARY, ISOLUX PLOT, AND CATALOGUE CUTS. CATALOGUE CUTS MUST IDENTIFY OPTICS, LAMP TYPE, DISTRIBUTION TYPE, REFLECTOR, LENS, BALLASTS, WATTAGE, VOLTAGE, FINISH HOUSING DESCRIPTION AND ALL OTHER PERTINENT INFORMATION.
    - D. POLE MANUFACTURER AASHTO CALCULATIONS INDICATING THE POLE AND ANCHOR BOLTS BEING SUBMITTED ARE CAPABLE OF SUPPORTING THE POLE AND FIXTURE SYSTEMS BEING UTILIZED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
    - E. THE UNDERWRITERS LABORATORY LISTING AND FILE NUMBER FOR THE SPECIFIC FIXTURE(S) TO BE UTILIZED.
    - F. A COLOR PHOTOGRAPH THAT CLEARLY SHOWS THE REPLACEMENT FIXTURE POLE MOUNTED, THE FIXTURE'S COLOR, FINISH, AND PHYSICAL CHARACTERISTICS.



POLE BASE SECTION



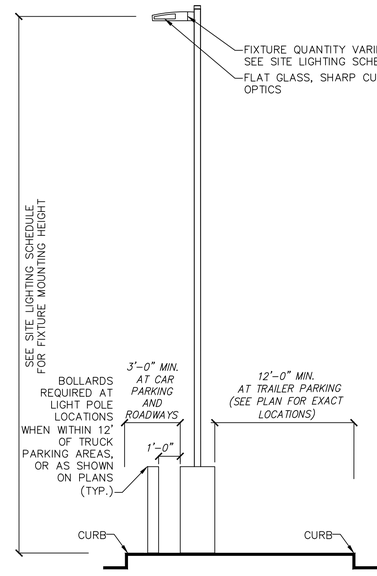
PLAN

MOUNTING HEIGHT	FOOTING DEPTH	FOOTING DIAMETER	EXPOSED HEIGHT "H"	VERTICAL REINFORCEMENT
30'	7'–8"	2'–0"	3'–0"	6 #5 BARS

NOTES:

1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER.
2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER 250–86, N.E.C.
3. CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF ACI 318. CAST–IN–PLACE SHALL HAVE UNCONFINED COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI AT 28–DAYS. DEFORMED REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60.
4. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL.
5. IF POLE BASE IS CAST–IN–PLACE, POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND–RUBBED SMOOTH.
6. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT.
7. THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.
8. CONTRACTOR TO CONFIRM GROUNDING DESIGN WITH MEP.

1 LIGHT POLE FOUNDATION DETAIL
N.T.S.



SECTION

NOTE:

1. ALL LIGHTS WITH 25' MOUNTING HEIGHT OR GREATER TO RECEIVE FACTORY INSTALLED VIBRATION DAMPENERS.

2 LIGHT POLE
N.T.S.



D-Series Size 2
LED Area Luminaire

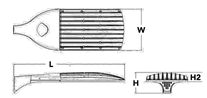
Buy American

Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	1.1 ft² (0.10 m²)
Length:	40" (101.6 cm)
Width:	15" (38.1 cm)
Height 1:	7-1/4" (18.4 cm)
Height 2: (max):	3.5"
Weight:	36lbs



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. The Size 2 is ideal for replacing 400-1000W metal halide in area lighting applications with energy savings of up to 80% and expected service life of over 100,000 hours.

Ordering Information **EXAMPLE:** DSX2 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX2 LED

Series	LEDs	Color temperature	Distribution		Voltage	Mounting
DSX2 LED	**Forward optics** P1 P5[1] P2 P6 P3 P7[1] P4 P8[1] **Rotated optics** P10[1] P13[1,2] P11[1] P14[1,2] P12[1]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I Short (Automotive) T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	T5VS Type V Very Short[1] T5S Type V Short[1] T5M Type V Medium[1] T5W Type V Wide[1] BLC Backlight control[3] LCCO Left corner cutoff[3] RCCO Right corner cutoff[3]	MVOLT[4] XVOLT (277V-480V)[4,5,6] 120[4] 208[4] 240[4] 277[4] 347[4] 480[4]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[6] WBA Wall bracket[7] SPUMBA Square pole universal mounting adaptor[7] RPUMBA Round pole universal mounting adaptor[7] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[8]

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[9] PIRHN Network, Bi-Level motion/ambient sensor[10] PER NEMA twist-lock receptacle only (no controls)[11] PER5 Five-wire receptacle only (no controls)[11,16] PER7 Seven-wire receptacle only (no controls)[11,16] DMG 0-10V dimming extend out back of housing for external control (no controls)[12] DS Dual switching[10,13]	PIRH Bi-level, motion/ambient sensor, 15–30' mounting height, ambient sensor enable at 5fc[10] PIRH1FC3V High/low, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 1fc[10] FAO Field Adjustable Output[14]	**Shipped installed** HS House-side shield[15] SF Single fuse (120, 277, 347V)[5] DF Double fuse (208, 240, 480V)[5] L90 Left rotated optics[1] R90 Right rotated optics[1] HA 50°C ambient operations[5] BAA Buy American(r) Act Compliant **Shipped separately** BS Bird spikes[17] EGS External glare shield	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

LITHONIA LIGHTING
COMMERCIAL OUTDOOR

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DSX2-LED
Rev. 07/19/21
Page 1 of 6

3 AREA POLE MOUNTED AND WALL MOUNTED CUTSHEET
N.T.S.

LITHONIA LIGHTING®

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Round tapered steel general purpose pole for up to 50-foot mounting heights.

CONSTRUCTION —

Pole Shaft: Weldable-grade hot-rolled, commercial-quality carbon steel tubing with a minimum yield of 55,000 psi. Uniform wall thickness of 11-gauge 1 (0.120") or 7-gauge (0.179"). Shafts are one-piece construction with a full-length longitudinal high-frequency electric resistance weld. Round in cross-section having a uniform taper of approximately .14" per foot.

Pole Top: Options include tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. Side drilled and open top poles include a removable steel top cap with set screws.

Handhole: Rectangular reinforced handhole having nominal dimensions of 3 x 5" for 5.9" shaft and oval shaped 4 x 6.5" for all other shafts. Cover with attachment screws included. Handhole is located 18" above the base.

Base Cover: A two-piece ABS plastic full base cover is provided with each pole assembly on pole shaft diameters of 9" or less. Shaft sized greater than 9" have a sheet steel two-piece base cover. Additional base cover options are available upon factory request. Bolt cover caps can be substituted on most pole shaft sizes. Options include heavy duty two-piece cast aluminum full base cover and bolt cover caps. All base covers and bolt cover caps are finished to match pole.

Anchor Base/Bolts: Anchor base is fabricated from hot-rolled carbon steel plate that conforms to ASTM A36 that meets or exceeds a minimum yield of 36,000 psi. Base plate and shaft are circumferentially welded top and bottom. Top portion of anchor bolt is galvanized per ASTM A-153. Made of steel rod having a minimum yield strength of 55,000 psi. Each anchor bolt is furnished with two hex nuts and two flat washers.

HARDWARE — Fasteners are high-strength galvanized, zinc-plated or stainless steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SA and SB classifications of ASTM D3359. Powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

GROUNDING — Provision located inside handhole rim. Grounding hardware is not included (provided by others).

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT.

Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Anchor Base Poles

RTS

ROUND TAPERED STEEL FLORIDA RATINGS

Buy American



OUTDOOR

POLE-RTS-FLA

4 POLE CUTSHEET
N.T.S.

REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHT SCHEDULE, AND LIGHT STATISTICS.
REFER TO SHEETS LL101-LL107 FOR PARTIAL LIGHTING PLANS.

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Date	Description	No.

Revisions

Signature Date

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
LIGHTING NOTES AND DETAILS

Project No.	Drawing No.
151022801	LL501
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	Sheet 0 of 1

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Project No. 151022801

TABLE 1 - BUFFER ZONE ENHANCEMENT AREA PLANTINGS

KEY	QTY.	PLANT NAME	COMMON NAME	SIZE	ROOT	INDICATOR STATUS
TREES AND SHRUBS						
QR	10	QUERCUS RUBRA	RED OAK	4–6' HT	CONT.	FACU–
PV	10	PRUNUS VIRGINIANA	CHOKECHERRY	4–6' HT	CONT.	FACU
AC	35	AMELANCHIER CANADENSIS	SERVICEBERRY/ SHADBLOW	3–4' HT	CONT.	FAC
CA	35	CORNUS ALTERNIFOLIA	ALTERNATE–LEAVED DOGWOOD	3–4' HT	CONT.	UPL
PM	35	ARONIA/ PHOTINA MELANOCARPA	BLACK CHOKEBERRY	3–4' HT	CONT.	FAC
SEED MIX						
–	16 LBS	NEW ENGLAND CONSERVATION/ WILDLIFE MIX	–	1 LB/1,750 SF.	–	VARIED

NOTE:
1. ALL PLANTINGS TO BE SPACED GENERALLY AS NOTED ON THE PLANTING SCHEDULE AND BE DIVIDED EQUALLY BETWEEN 3 WETLAND BUFFER AREAS.
2. ASSUMES AN AVERAGE PLANT SPACING OF ROUGHLY 15–FEET ON CENTER THROUGHOUT AN APPROXIMATELY 28,600 SF PLANTING AREA.
3. NEW ENGLAND CONSERVATION/ WILDLIFE MIX TYPICALLY CONSISTS OF VIRGINIA WILD RYE (ELYMUS VIRGINICUS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM (ANDROPOGON GERARDII), RED FESCUE (FESTUCA RUBRA), SWITCH GRASS (PANICUM VIRGATUM), PARTRIDGE PEA (CHAMAECRISTA FASCICULATA), PANICLEDLEAF TICK TREFOIL (DESMODIUM PANICULATUM), INDIAN GRASS (SORGHASTRUM NUTANS), BLUE VERVAIN (VERBENA HASTATA), BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA), BLACK EYED SUSAN (RUDBECKIA HIRTA), COMMON SNEEZEWEED (HELENIUM AUTUNALE), HEATH ASTER (ASTERPILOSUS/SYMPHYOTRICHUM PILOSUM), EARLY GOLDENROD (SOLIDAGO JUNCEA), UPLAND BENTGRASS (AGROSTIS PERENNANS).

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
AR	20	ACER RUBRUM	RED MAPLE	2 1/2–3" CAL.	B+B	–
AROG	19	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2–3" CAL.	B+B	–
AS	37	ACER SACCHARUM	SUGAR MAPLE	2 1/2–3" CAL.	B+B	–
GTIK	33	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'	SKYLINE THORNLESS HONEYLOCUST	2 1/2–3" CAL.	B+B	–
LSR	17	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SEEDLESS SWEETGUM	2 1/2–3" CAL.	B+B	–
LT	5	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2 1/2–3" CAL.	B+B	–
QBC	17	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2–3" CAL.	B+B	–
TXAR	20	TILIA X AMERICANA 'REDMOND'	REDMOND LINDEN	2 1/2–3" CAL.	B+B	–
ORNAMENTAL TREE(S)						
AGAB	20	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	14–16'	B+B	–
BND	39	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	10–12'	B+B	–
EVERGREEN TREE(S)						
CLY	27	X CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	6–7'	B+B	–
JVES	23	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EMERAL SENTINEL REDCEDAR	4–5'	B+B	–
PIAB	38	PICEA ABIES	NORWAY SPRUCE	6–7'	B+B	–
PS	53	PINUS STROBUS	EASTERN WHITE PINE	6–7'	B+B	–
EVERGREEN SHRUB(S)						
ICC	13	ILEX CRENATA 'COMPACTA'	COMPACT JAPANESE HOLLY	24–30"	#3 CAN	–
GROUND COVER						
JE	4164	JUNCUC EFFUSUS	SOFT RUSH	1 GAL.	CONTAINER	spaced @ 18" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

RESTORATION SIZE PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
–	40	ACER RUBRUM	RED MAPLE	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	ACER SACCHARUM	SUGAR MAPLE	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	QUERCUS ALBA	WHITE OAK	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	QUERCUS RUBRA	RED OAK	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	QUERCUS PALUSTRIS	PIN OAK	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	TILIA AMERICANA	AMERICAN LINDEN	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	40	LIRIODENDRON TULIPIFERA	TULIP TREE	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
ORNAMENTAL TREE(S)						
–	32	BETULA ALLEGHANIENSIS	YELLOW BIRCH	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.
–	32	BETULA POPULIFOLIA	GRAY BIRCH	1 GAL.	CONTAINER	SPACED AT 8–10' O.C.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

BUILDING 1
± 274,520 SF
±47 LOADING DOCKS
±33 TRAILER PARKING SPACES
178 CAR PARKING SPACES
FFE: 239.1

BUILDING 2
± 192,990 SF
±38 LOADING DOCKS
±32 TRAILER PARKING SPACES
156 CAR PARKING SPACES
FFE: 242.1

BUILDING 3
± 411,930 SF
±75 LOADING DOCKS
±9 SU TRUCK SPACES
±90 TRAILER PARKING SPACES
238 CAR PARKING SPACES
FFE: 240.6

BUFFER ZONE ENHANCEMENT AREA 1

BUFFER ZONE ENHANCEMENT AREA 2

BUFFER ZONE ENHANCEMENT AREA 3

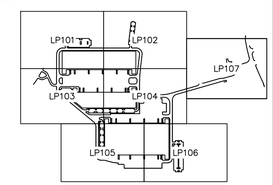
WETLAND REPLICATION AREA

REFER TO SHEETS LP101-LP107 FOR PARTIAL PLANTING PLANS.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

120 0 60 120
SCALE IN FEET

SHEET LEGEND
1" = 1000'



Date	Description	No.
04/10/23	SPECIAL PERMIT APPLICATION	4
02/16/23	PEER REVIEW COMMENTS	3
12/23/22	STORMWATER PEER REVIEW COMMENTS	2
10/19/22	TECHNICAL ENGINEERING REVIEW	1

Revisions

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

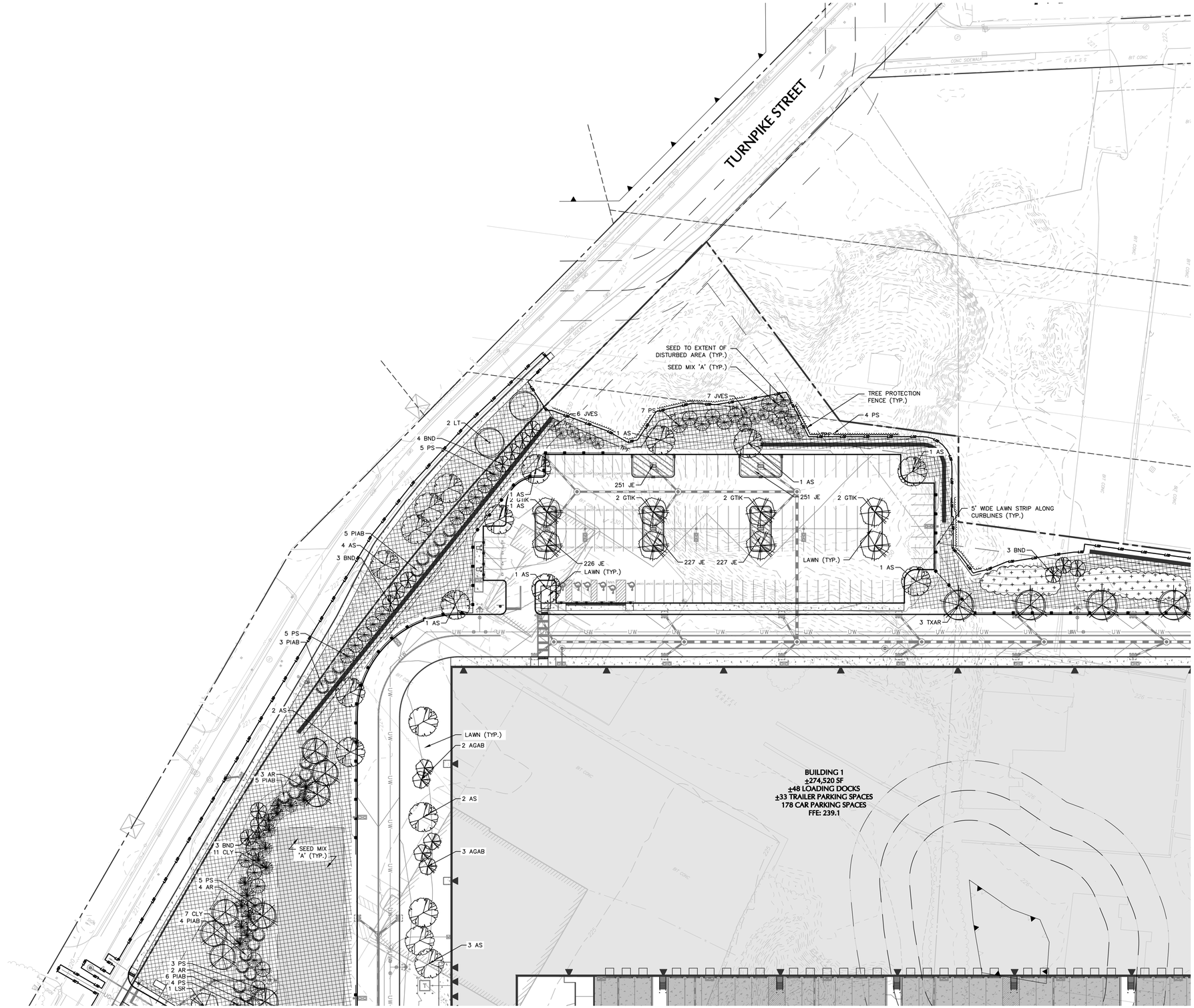
Drawing Title
OVERALL PLANTING PLAN

Project No.	Drawing No.
151022801	LP100
Date: 04/10/2023	
Drawn By: RP	
Checked By: MH	

LANGAN
Project No. 151022801

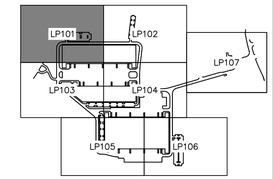
©2023 Langan

Date: 4/10/2023 Time: 15:55 User: shui Style Table: Langan.stb Layout: LP100 Document Code: 151022801-0501-LP101-0101



SHEET LEGEND

1" = 1000'



REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

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40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

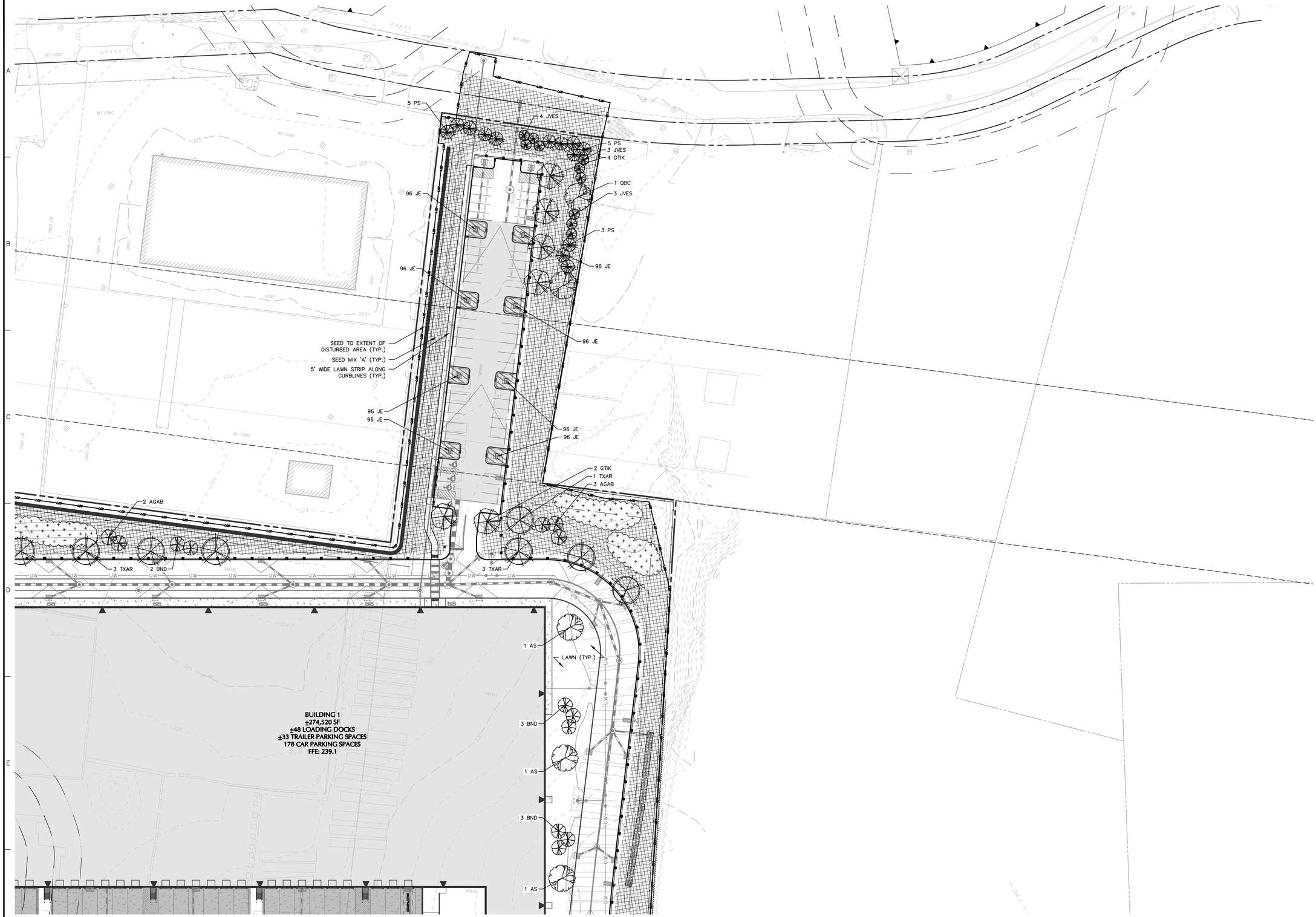
PLANTING PLAN I

Project No.	Drawing No.
151022801	LP101
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

Project No. 151022801

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Date: 4/27/2023 Time: 09:07 User: hholmes Style Table: Langan.stb Layout: LP101 Document Code: 151022801-0501-LP101-0102



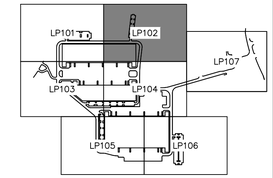
REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

SCALE: 1 INCH = 40 FEET

SHEET LEGEND

1" = 1000'



Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

PLANTING PLAN II

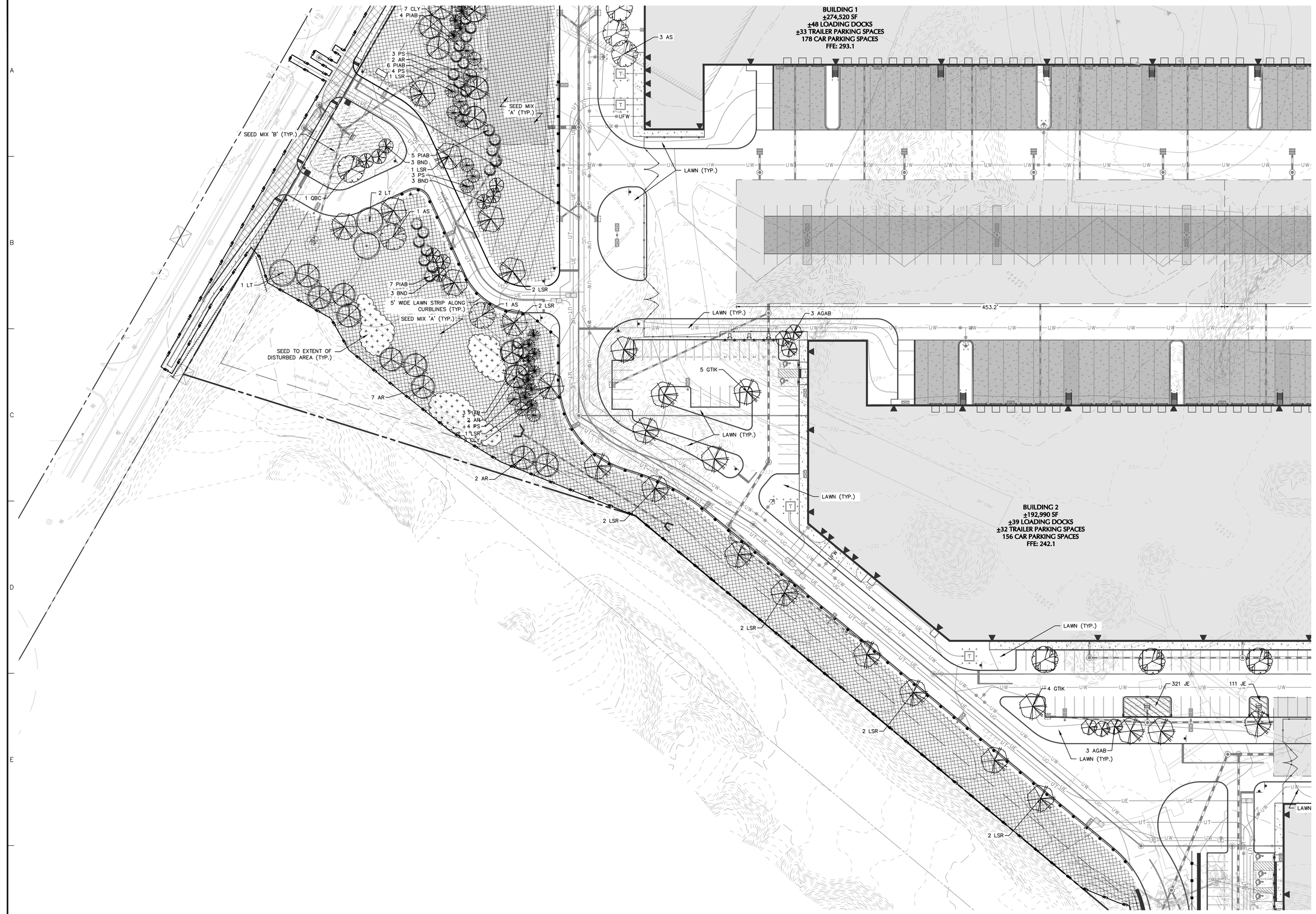
Project No.	Drawing No.
151022801	LP102
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

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Project No. 151022801

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Date: 4/27/2023 Time: 09:15 User: hholmes Style Table: Langan.stb Layout: LP102 Document Code: 151022801-0501-LP101-0103

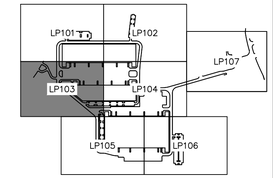


REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

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SHEET LEGEND

1" = 1000'



Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

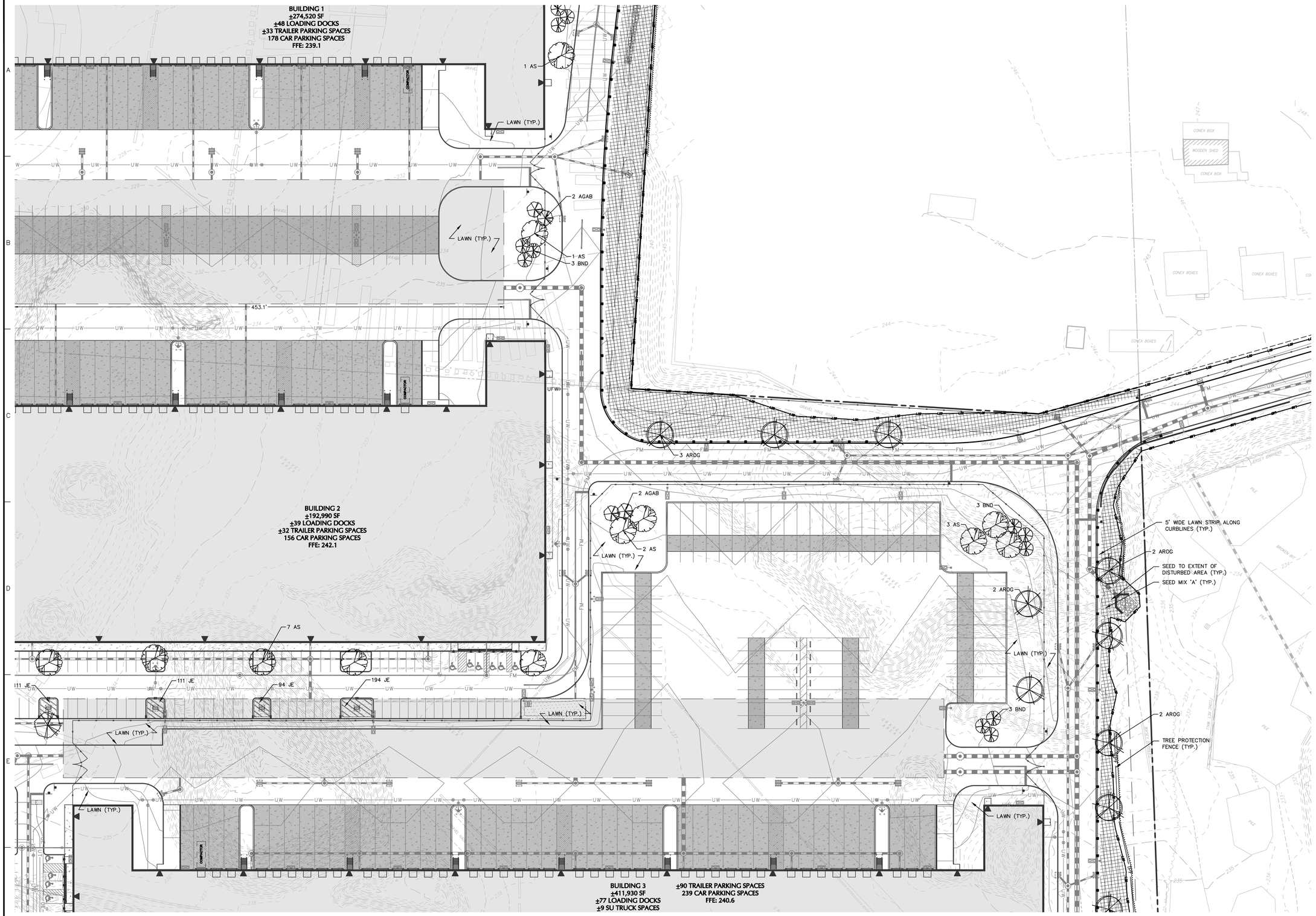
PLANTING PLAN III

Project No.	Drawing No.
151022801	LP103
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

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Project No. 151022801

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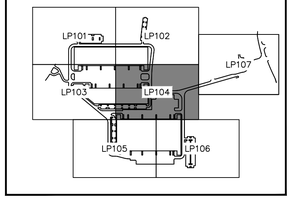
REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

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SCALE: 1 INCH = 40 FEET

SHEET LEGEND

1" = 1000'



Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

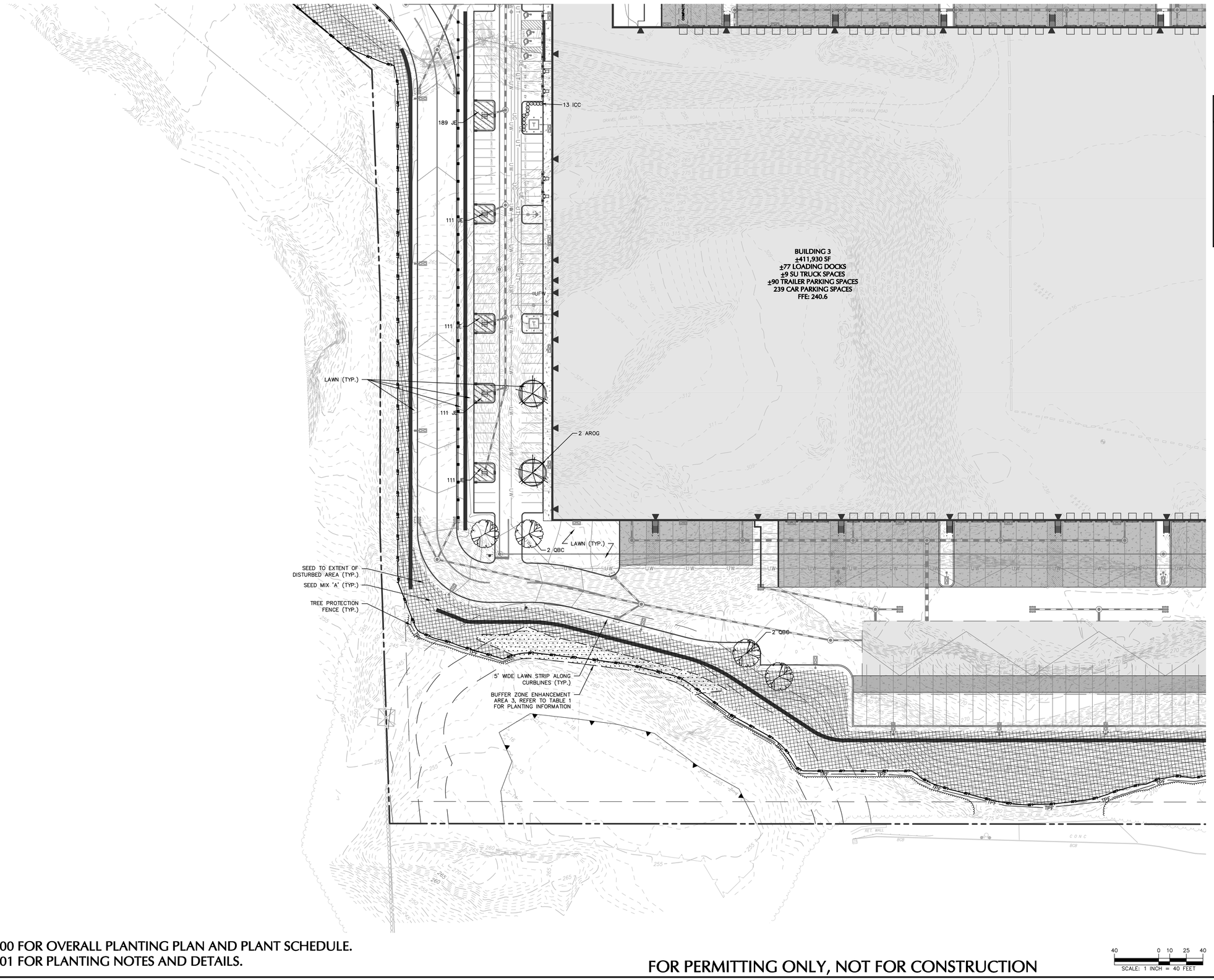
PLANTING PLAN IV

Project No.	Drawing No.
151022801	LP104
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

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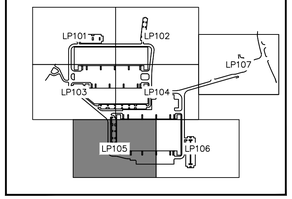
Project No. 151022801

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SHEET LEGEND

1" = 1000'



Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

PLANTING PLAN V

Project No.	Drawing No.
151022801	LP105
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

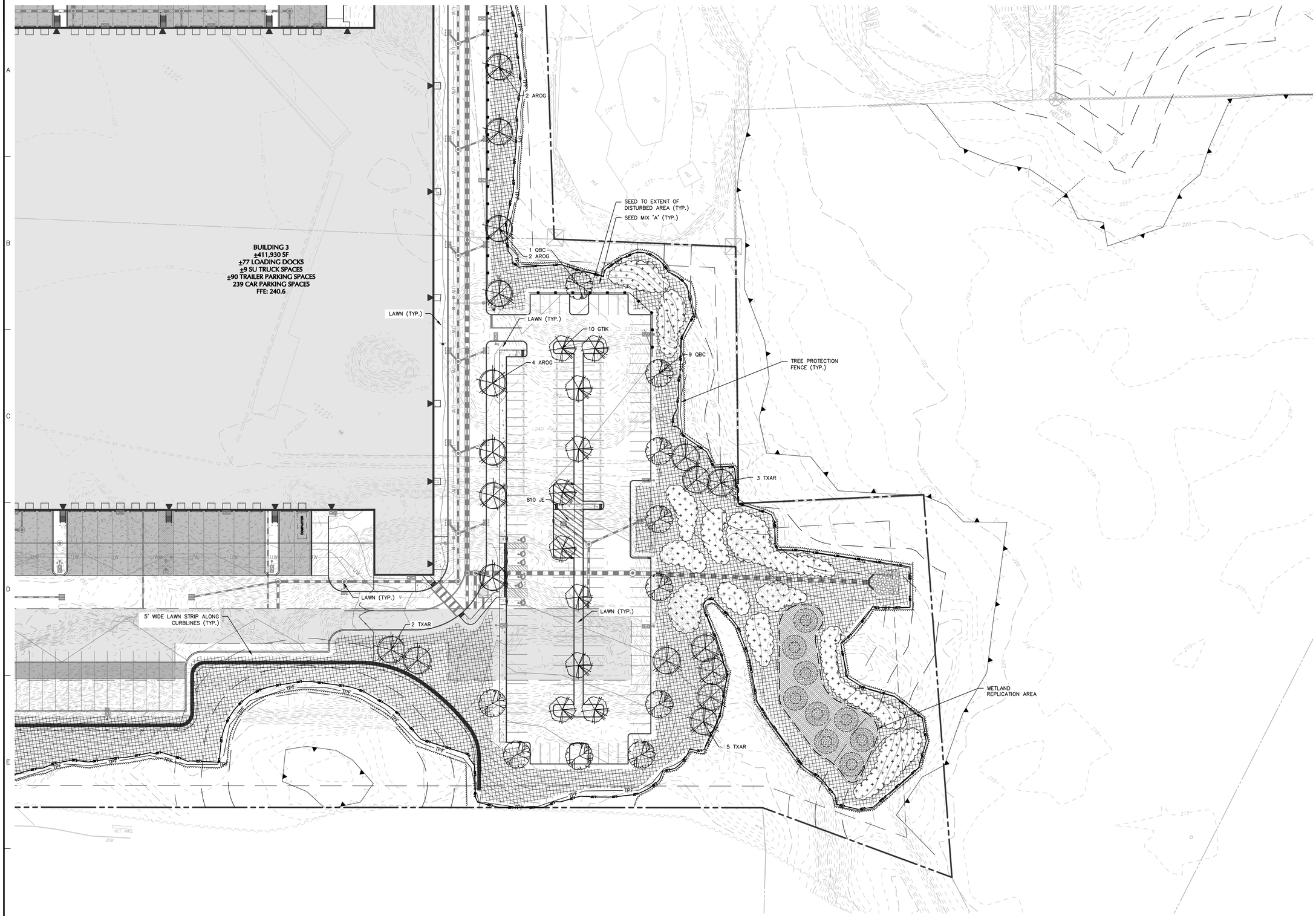
REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

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SCALE: 1 INCH = 40 FEET

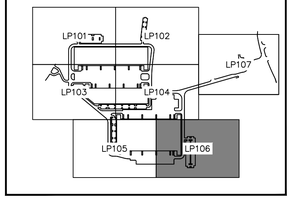
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Project No. 151022801



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REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

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40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	3
02/16/23	PEER REVIEW COMMENTS	2
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT NO. 4089

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Project

STOUGHTON LOGISTICS PARK

STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title

PLANTING PLAN VI

Project No.	Drawing No.
151022801	LP106
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

LANGAN
Project No. 151022801

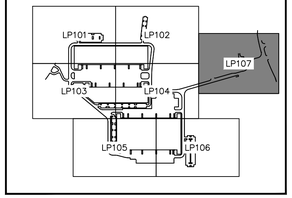
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Date: 4/27/2023 Time: 10:10 User: hholmes Style Table: Langan.stb Layout: LP106 Document Code: 151022801-0501-LP101-0107



SHEET LEGEND

1" = 1000'



REFER TO SHEET LP100 FOR OVERALL PLANTING PLAN AND PLANT SCHEDULE.
REFER TO SHEET LP501 FOR PLANTING NOTES AND DETAILS.

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40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
12/23/22	STORMWATER PEER REVIEW COMMENTS	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
MICHAEL A. PAPA
NO. 4089
REGISTERED LANDSCAPE ARCHITECT

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

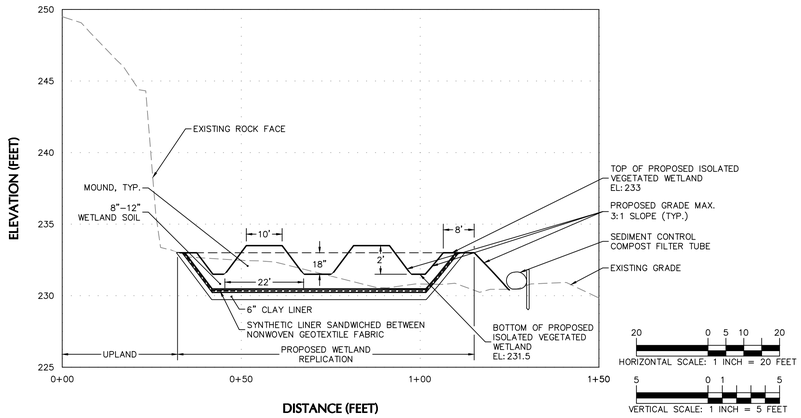
Drawing Title
PLANTING PLAN VII

Project No.	Drawing No.
151022801	LP107
Date: 08/05/2022	
Drawn By: RP	
Checked By: MH	

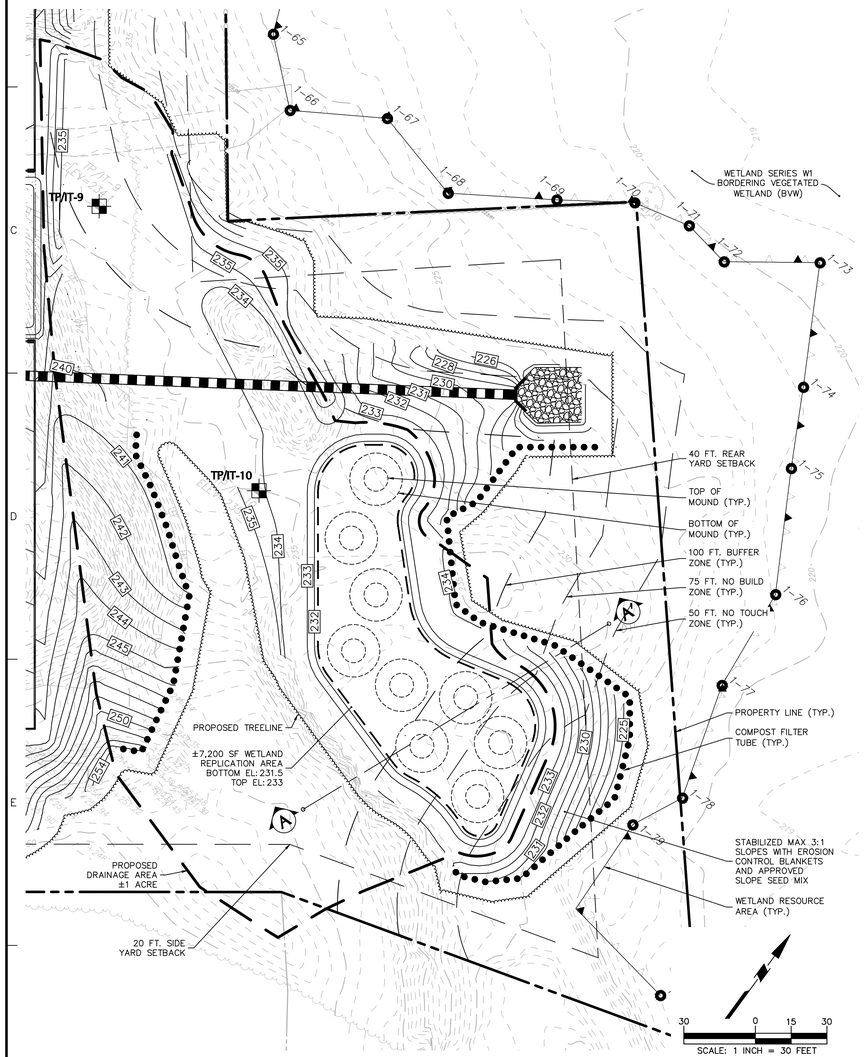
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Project No. 151022801

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Date: 12/30/2022 Time: 10:43 User: jpark Style Table: Langan.stb Layout: LP107 Document Code: 151022801-0501-LP101-0108

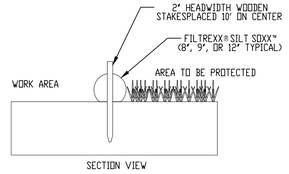


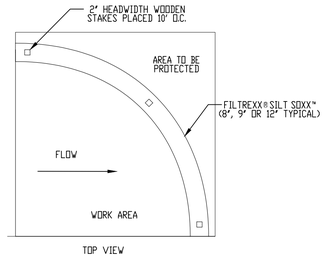
1 WETLAND REPLICATION SECTION A-A'



2 WETLAND REPLICATION AREA PLAN VIEW

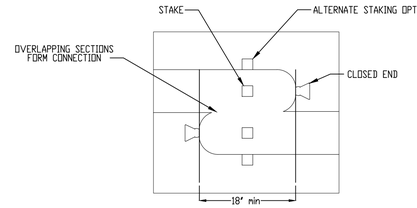
FILTREXX® SILT SOXX™





NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST SOCK CONNECTION/ATTACHMENT DETAIL



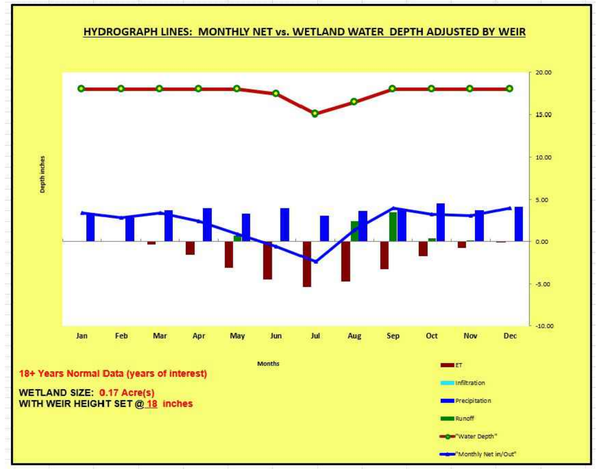
3 SEDIMENT CONTROL COMPOST FILTER TUBE

SOURCE: FILTREXX

Plant Name	Plant Height	Plant Quantity	Wetland Indicator Status	Planting Notes
Black Chokeberry *(Aronia pyrifolia)*	36-48"	15	FAC	A medium-sized shrub (6-10') with small white to pinkish flowers in the spring. Persistent red berries are eaten by wildlife in winter. Very soil adaptable. Plant in upland fringe bordering Wetland Replication Area and upland areas disturbed by construction access.
Sweet Pepperbush *(Clethra alnifolia)*	36-48"	10	FAC+	A medium-sized shrub found in coastal and inland wetlands. Provides food and cover for birds. Tolerates drier sites. Plant on mounds and along fringe of Wetland Replication Area.
Northern Arrowwood *(Viburnum dentatum)*	36-48"	10	FACW-	A medium shrub (6-12') common in shrub swamps and forested wetlands. Tolerates partial shade and various soil moisture. Plant on mounds and slopes of Wetland Replication Area.
Buttonbush *(Cephalanthus occidentalis)*	36-48"	10	OBL	Medium-sized shrub, white globular-shaped flowers in summer. Prefers soils flooded or saturated for long periods or fluctuating hydrology. Nutlets are food for ducks and other birds. Plant in depressions of Wetland Replication Area.
Winterberry *(Ilex verticillata)*	36-48"	10	FACW+	Medium to tall shrub found in a variety of wetlands. Shade to full sun. Bright red berries persist into winter and are important wildlife food. Plant on slopes of mounds in Wetland Replication Area.
	TOTAL	**55**		
Ernst OBL-FACW Perennial Food and Cover Wetland Mix™ (or approved equivalent)	20 lbs/acre	3.5 lbs	Varied	This wetland restoration and mitigation mix contains common native species to create a permanent grass and forb cover. Seed from October-May in full sun or partially shaded areas in rich, wet, saturated soils; tolerates standing water during the dormant season and part of the growing season. Source: Ernst Seeds https://www.ernstseed.com/product/obl-facw-perennial-food-cover-wetland-mix/ Plant in Wetland Replication Area.
New England Wetland Plants New England Conservation / Wildlife Mix	25 lbs/acre	4.5 lbs	Varied	The New England Conservation/Wildlife Mix provides a permanent cover of grasses, wildflowers, and legumes. For both good erosion control and wildlife habitat value. The mix is designed to be a no-maintenance seeding, and is appropriate for cut and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects. https://newp.com/seed-mixes/#Wildlife-Mix Plant along upland slopes of Wetland Replication Area and restored access areas.

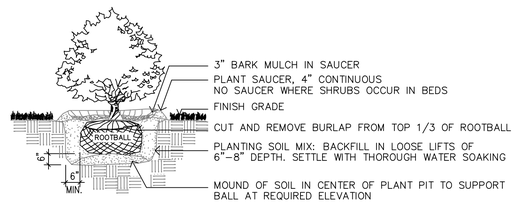
NOTE: SHRUBS SHALL BE PLANTED ON THE TOP OF THE MOUNDS WITH 30–36" SPACING O.C.

4 WETLAND REPLICATION AREA PLANTING & SEEDING TABLE



5 WETLAND WATER DEPTH HYDROGRAPH

NOTE: SHRUB SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO NURSERY OR FIELD GRADE



6 TYPICAL SHRUB PLANTING

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Date	Description	No.

Revisions

FRANK HOLMES CIVIL No. 40203 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
WETLAND REPLICATION PLAN

Project No.	Drawing No.
151022801	LP201
Date: 02/16/2023	
Drawn By: JSP	
Checked By: HAH	

LANGAN Project No. 151022801

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ISOLATED VEGETATED WETLAND AND VERNAL POOL HABITAT CREATION NOTES

AN ISOLATED VEGETATED WETLAND AND VERNAL POOL HABITAT REPLICATION AREA ("WETLAND REPLICATION AREA") CONSTRUCTION SEQUENCE AND MONITORING PROTOCOL SHALL BE IMPLEMENTED AS FOLLOWS (WHERE DEVIATIONS EXIST BETWEEN THESE NOTES OR THE WETLAND REPLICATION AREA DESIGN DRAWINGS AND THE ORDER OF CONDITIONS, THE ORDER OF CONDITIONS SHALL CONTROL):

PURPOSE

1. THE PURPOSE OF THE WETLAND REPLICATION AREA IS TO MITIGATE UNAVOIDABLE IMPACTS ASSOCIATED WITH THE FILLING OF AN ISOLATED VEGETATED WETLAND ("IVW") LOCATED TOWARDS THE CENTER OF THE PROJECT SITE. THE WETLAND REPLICATION AREA SHALL BE CONSTRUCTED AT AN APPROXIMATELY 2:1 RATIO, RESULTING IN ABOUT 7,200 S.F. OF NEW WETLANDS. THE WETLAND REPLICATION AREA SHALL BE CONSTRUCTED IN A MANNER SUCH THAT IT PROVIDES ENHANCED WETLAND FUNCTIONS AND VALUES RELATIVE TO THE WETLAND THAT IS BEING FILLED, INCLUDING THE CREATION OF IMPORTANT WILDLIFE HABITAT FEATURES FOR POTENTIAL VERNAL POOL INDICATOR SPECIES. AN IMPORTANT CONSIDERATION TOWARDS THE CREATION OF VERNAL POOL HABITAT IS THAT IT BE SUFFICIENTLY WET DURING THE SPRING BREEDING PERIOD (TYP. MARCH THROUGH JUNE) TO ALLOW FOR THE METAMORPHOSIS OF CERTAIN FACULTATIVE AND OBLIGATE VERNAL POOL INDICATOR SPECIES, INCLUDING BUT NOT LIMITED TO WOOD FROG (LITHOBATES SYLVATICUS) AND SPOTTED SALAMANDER (AMBYSTOMA MACULATUM), AMONG OTHER SPECIES.

CONSTRUCTION OVERSIGHT BY QUALIFIED PERSONNEL

2. THE CONSTRUCTION OF THE WETLAND REPLICATION AREA, INCLUDING FINE GRADING, SOILS PLACEMENT, LINER INSTALLATION, AND PLANTINGS, SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A QUALIFIED WETLAND SCIENTIST ("WS") HIRED BY THE APPLICANT. THE WS SHALL BE ON SITE TO MONITOR CONSTRUCTION OF THE WETLAND REPLICATION AREA TO ENSURE COMPLIANCE WITH THE MITIGATION PLAN AND TO ADJUST WHEN NEEDED TO MEET MITIGATION GOALS. FIELD ADJUSTMENTS MAY INCLUDE BUT ARE NOT NECESSARILY LIMITED TO MODIFICATIONS TO SUB-GRADES, FINAL GRADES, MICRO-TOPOGRAPHY, SEDIMENT CONTROLS, PLACEMENT OF WOODY DEBRIS AND OTHER WILDLIFE HABITAT FEATURES, AND PLANTINGS (BOTH SPECIES AND PLACEMENT, DEPENDING ON NURSERY AVAILABILITY) BASED ON SITE SPECIFIC CONDITIONS AT THE TIME OF CONSTRUCTION.
3. AT LEAST 14 DAYS PRIOR TO THE START OF CONSTRUCTION AND THE PRE-CONSTRUCTION KICK-OFF MEETING IDENTIFIED IN THE ORDER OF CONDITIONS, THE APPLICANT SHALL PROVIDE TO THE COMMISSION FOR REVIEW AND APPROVAL THE WRITTEN QUALIFICATIONS, DEMONSTRATED PROJECT EXPERIENCE, AND CREDENTIALS OF THE DESIGNATED WS THAT WILL BE OVERSEEING CONSTRUCTION OF THE WETLAND REPLICATION AREA.

REESTABLISHED WETLAND FLAGGING AND SEDIMENT CONTROLS

4. PROJECT SURVEYORS SHALL RE-ESTABLISH AND RE-LABEL WETLAND FLAGS AS PER THE RECORD DRAWINGS USING WOODEN STAKES INSTALLED WITHIN 100-FEET OF THE WETLAND REPLICATION AREA. PROJECT SURVEYORS SHALL ALSO STAKE OUT THE LIMITS OF THE PROPOSED WETLAND REPLICATION AREA. THE STAKES SHALL REMAIN IN PLACE UNTIL WETLAND VEGETATION HAS BECOME FULLY ESTABLISHED. THIS SURVEY AND STAKING WORK SHALL OCCUR PRIOR TO CONSTRUCTION OF THE WETLAND REPLICATION AREA.
5. PRIOR TO CONSTRUCTION, 12-INCH DIAMETER COMPOST FILTER TUBES SHALL BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS ALONG THE DOWNGRADIENT EDGE OF THE WETLAND REPLICATION AREA TO PROTECT DOWNGRADIENT BORDERING VEGETATED WETLANDS (AS SHOWN ON THE RECORD DRAWINGS). THE BALANCE OF THE PERIMETER OF THE WETLAND REPLICATION AREA SHALL BE ENCIRCLED WITH THE SAME SEDIMENT CONTROL MEASURES AFTER THE GRADING AND PLANTING WORK IS COMPLETE.

REFERENCE WETLANDS

6. LOCATING THE WETLAND REPLICATION AREA NEAR OTHER SIMILAR IVWS, AS DEPICTED ON THE RECORD DRAWINGS (SEE REFERENCE WETLANDS IVW SERIES 2 AND IVW SERIES F), INCREASES THE POTENTIAL FOR A GREATER VARIETY AND NUMBER OF VERTEBRATE AND INVERTEBRATE SPECIES TO USE THE NEW WETLAND AREA. THESE NEARBY WETLANDS MAY PROVIDE A SOURCE OF AMPHIBIAN, REPTILES, INSECTS, AND PLANTS THAT CAN READILY COLONIZE A NEW VERNAL POOL.
7. THE FINAL GRADING OF THE WETLAND REPLICATION AREA SHOULD BE SIMILAR TO THE TWO REFERENCE IVWS IN ORDER TO MIMIC THE DESIRED WET-DRY HYDROLOGY CYCLE OBSERVED THEREIN. FOR PERSPECTIVE, IVW SERIES 2 IS APPROXIMATELY 18 TO 24-INCHES DEEP AND THE IVW SERIES F IS APPROXIMATELY 12 TO 18-INCHES DEEP. THEREFORE, THE ELEVATION OF THE WETLAND REPLICATION AREA SHOULD BE SHALLOW AND GENERALLY NOT CHANGE BY MORE THAN 18 TO 24-INCHES FROM THE UPPER TO THE LOWER EDGE.

SYNTHETIC LINER INSTALLATION TECHNIQUE

8. BEFORE CONSTRUCTION OF THE WETLAND REPLICATION AREA BEGINS, TWO TEST PITS SHALL BE CONDUCTED WITHIN THE WETLAND REPLICATION AREA. THE TEST PITS SHALL BE INSPECTED BY THE WETLAND SCIENTIST AND REVIEWED WITH THE TOWN. IF GROUNDWATER IS ENCOUNTERED THE WETLAND SCIENTIST AND TOWN WILL DETERMINE IF THE WETLAND REPLICATION AREA SHOULD BE CONSTRUCTED WITHOUT A LINER.
9. IF THERE IS NO GROUNDWATER AND THERE ARE NO SURFACE WATER BODIES OR CLAY SOILS NEAR THE SURFACE OF THE WETLAND REPLICATION AREA SITE TO CREATE THE DESIRED HYDROLOGIC CONDITIONS, THE WETLAND SHALL BE CONSTRUCTED USING A COMBINATION CLAY AND SYNTHETIC LINER TECHNIQUE (CREATING A PERCHED WETLAND CONDITION). THE SYNTHETIC LINER SHALL BE AN APPROVED COMMERCIAL "FISH GRADE / AQUATIC SAFE" NON-TOXIC LINER, WELDED AT THE FACTORY (I.E., FACTORY SEAMED) AND CUT TO THE SPECIFIED SIZE. LINERS MADE OF EPDM (ETHYLENE PROPYLENE MONOMER) THAT IS 45 MILLIMETERS THICK OR RPE (REINFORCED POLYETHYLENE) THAT IS 30 MILLIMETERS THICK ARE APPROPRIATE. THE CLAY LINER COMPONENT SHALL BE INSTALLED BENEATH THE SYNTHETIC LINER TO A UNIFORM THICKNESS OF 6-INCHES ON A PREPARED SUBBASE. THE CLAY LINER SHALL BE COMPACTED WITH A "SHEEP'S FOOT" ROLLER. THE CLAY LINER MATERIAL SHALL HAVE >50% FINES, A PLASTICITY INDEX (PI) >12, AND PERMEABILITY OF $1X10^{-5}$ CM/S OR LESS.
10. PRIOR TO INSTALLATION OF THE LINER(S), ALL EXISTING VEGETATION, ROOTS, ROCKS, BOULDERS, STICKS, AND OTHER DEBRIS SHALL BE CLEARED FROM THE WETLAND REPLICATION AREA SITE. SHARP ROCKS AND DEBRIS CAN CUT OR PENETRATE THE SYNTHETIC LINER. THE WETLAND REPLICATION AREA SHALL BE EXCAVATED TO SUBGRADE ACCOUNTING FOR THE INSTALLATION OF THE LINER MATERIALS AND WETLAND SOIL BACKFILL.
11. TO PROTECT THE SYNTHETIC LINER FROM SHARP ROCKS OR STICKS, IT SHALL BE SANDWICHED BETWEEN TWO 8 OUNCE ENVIRONMENTAL GRADE NON-WOVEN GEOTEXTILE FABRIC AND SHALL BE ONE PIECE EACH FACTORY SEAMED OR IN PANELS OVERLAPPED BOTH SIDE-TO-SIDE AND END-TO-END BY A MINIMUM OF 12 TO 18 INCHES. NON-WOVEN GEOTEXTILE FABRIC SHALL BE THEN COVERED WITH AT LEAST 8 TO 12-INCHES OF "WETLAND SOIL" (SEE SPECIFICATIONS BELOW FOR ADDITIONAL DETAIL). AMPHIBIANS AND INSECTS MAY ALSO SPEND THE WINTER ON THE BOTTOM OF THE WETLAND IN THE SOIL PLACED OVER THE LINER. THE TOP EDGES OF THE SYNTHETIC LINER AND GEOTEXTILE FABRIC SHALL BE EXTENDED 18 INCHES AND ANCHORED WITH 12-INCH LONG GALVANIZED STEEL LANDSCAPE SPIKES AND WASHERS PLACED APPROXIMATELY 18-INCHES APART OR BY A 12-INCH BY 12-INCH TRENCH OR AS PER MANUFACTURER SPECIFICATIONS. ANCHORING THE LINER WILL KEEP IT FROM BEING PUSHED DOWN INTO THE DEPRESSION WHEN IT IS BEING COVERED WITH SOIL.
12. EXCESS LINER GEOTEXTILE MATERIAL SHALL BE CUT AND PROPERLY DISPOSED OF. THE PERIMETER OF THE INSTALLED LINER SHALL BE DELINEATED WITH WIRE FLAGS SO THAT HEAVY EXCAVATOR EQUIPMENT DOES NOT TRAVEL OVER THE LINER AND CAUSE SHEARING FROM DIFFERENTIAL COMPACTION WHEN PLACING WETLAND SOIL OR INSTALLING PLANTS ON THE PROPOSED MOUNDS.
13. THE WETLAND REPLICATION AREA'S EDGE SHOULD BE SOMEWHAT IRREGULAR, LIKE THE TWO REFERENCE WETLANDS, WITH GRADUAL SLOPES LEADING TO THE WATER'S EDGE. THESE GRADUAL SLOPES CAN BE IMPORTANT TO THE EMIGRATION OF FULLY DEVELOPED AMPHIBIAN LARVAE.
14. PRIOR TO PLACEMENT OF WETLAND SOIL, THE SITE CONTRACTOR SHALL PROVIDE THE WS WITH AN INTERIM AS-BUILT. THE INTERIM AS BUILT SHALL INCLUDE A SURFACE AREA CALCULATION CONFIRMING THAT SUFFICIENT AREA HAS BEEN PROVIDED (EXCLUDING SIDE SLOPES), AS PER THE ORDER OF CONDITIONS.
15. EXISTING WETLAND SOILS FROM THE WETLAND FILL LOCATION ARE NOT SUITABLE FOR RE-USE IN THE WETLAND REPLICATION AREA DUE TO THE PRESENCE OF INVASIVE SPECIES. HOWEVER, TOPSOIL EXCAVATED FROM THE WETLAND REPLICATION AREA SITE MAY BE REPURPOSED AND AMENDED WITH AN EVENLY MIXED ORGANIC/MINERAL SOIL ("WETLAND SOIL") IMPORTED FROM A REPUTABLE OFF-SITE SOURCE / SUPPLIER AS APPROVED BY THE WS. THE DEPTH OF SOIL PLACED IN THE WETLAND REPLICATION AREA SHALL BE APPROXIMATELY 12-INCHES THROUGHOUT, BRINGING GRADES TO THE FINAL DESIRED ELEVATIONS.
16. AS NOTED ABOVE, THE PERIMETER OF THE INSTALLED LINER SHALL BE DELINEATED WITH WIRE FLAGS SO THAT HEAVY EXCAVATOR EQUIPMENT DOES NOT TRAVEL OVER THE LINER AND CAUSE SHEARING FROM DIFFERENTIAL COMPACTION WHEN PLACING WETLAND SOIL OR INSTALLING PLANTS.
17. FOLLOWING PLACEMENT OF THE WETLAND SOIL, MICRO-TOPOGRAPHY ("PITS AND MOUNDS") SHALL THEN BE ESTABLISHED USING CONTINUOUS ROUGH GRADING ("ROUGH AND LOOSEN TECHNIQUE"). THE MICRO-TOPOGRAPHY WORK SHALL OCCUR BY HAND (OR A LONG ARM REACH EXCAVATOR) UNDER THE DIRECT SUPERVISION OF THE WS. THE TROUGH OF A DEPRESSION/PIT SHALL BE CONTINUOUS WITH THE CREST OF A MOUND, WHICH SHALL BE CONTINUOUS WITH THE TROUGH OF THE NEXT DEPRESSION/PIT. THE ENTIRE WETLAND REPLICATION AREA SHALL BE SCULPTED USING THE PIT-AND-MOUND METHOD WHERE THE FEATURES ARE, ON AVERAGE, 24-INCHES IN HEIGHT FROM THE TOP OF THE CREST ON THE MOUND TO THE BOTTOM OF THE TROUGH IN THE PIT. THE WIDTH OF THE CONSTRUCTED MOUNDS SHALL BE APPROXIMATELY 10-FEET (MEASURED AT THE TOP) AND SPACED APPROXIMATELY 25 TO 30-FEET ON-CENTER. UNLESS OTHERWISE DIRECTED BY THE WS, ROUGHLY 50 PERCENT OF THE SURFACE AREA OF THE WETLAND REPLICATION AREA SHOULD BE MOUNDS AND 50 PERCENT SHOULD BE PITS. .

WOODY DEBRIS AND PLANTINGS

18. THE WETLAND REPLICATION AREA SHALL BE SOWN WITH THE APPROVED WETLAND SEED MIX ACCORDING TO MANUFACTURER'S SPECIFICATIONS. TO MINIMIZE THE SPREAD OF INVASIVE PLANT SPECIES AND PREVENT EROSION, THE SPECIFIED SEED MIX SHALL BE COVERED WITH A MINIMUM 2-INCH LAYER OF WEED-FREE STRAW MULCH (THE USE OF HAY MULCH IS PROHIBITED). OR, IF NOT SOWN DURING THE GROWING SEASON, BY MULCHING WITH TACKIFIERS.
19. THE WETLAND REPLICATION AREA SIDE SLOPES AND ACCESS ROUTES SHALL BE STABILIZED WITH A BIODEGRADABLE EROSION CONTROL BLANKET AND THE SLOPE SEED MIX SPECIFIED ON THE RECORD DRAWINGS.
20. THE WETLAND SEED MIX AND ADJACENT SLOPE MIX SHALL BE SOWN ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. A MANUFACTURER'S CERTIFICATE OF COMPLIANCE TO THE SPECIFICATION SHALL BE PROVIDED BY THE MANUFACTURER WITH EACH SHIPMENT OF SEED AND SUBMITTED TO THE WS. THESE CERTIFICATES SHALL INCLUDE THE GUARANTEED PERCENTAGES OF PURITY, WEED CONTENT AND GERMINATION OF THE SEED AND ALSO THE NET WEIGHT AND DATE SHIPPED. NO SEED MAY BE SOWN UNTIL THE SITE CONTRACTOR HAS SUBMITTED THE CERTIFICATES TO THE WS.
21. COARSE WOODY DEBRIS CONSISTING OF LOGS AND BRANCHES SHALL BE PLACED WITHIN THE BASIN (BY HAND OR LONG ARM REACH EXCAVATOR) TO PROVIDE SHELTER FOR ANIMALS DURING THE POOL'S WET AND DRY PHASES. THE DEBRIS WILL ALSO PROVIDE A PLACE FOR SALAMANDERS TO ATTACH EGG MASSES. THE WOODY DEBRIS SHOULD COVER AT LEAST 4% OF THE SURFACE OF THE WETLAND REPLICATION AREA. LEAVES RAKED FROM THE BASIN SHALL BE SPREAD ACROSS THE BOTTOM OF THE DEPRESSION.
22. NATIVE PLANTINGS SHALL BE INSTALLED AROUND THE UPPER EDGES OF THE WETLAND REPLICATION AREA AND ON THE TOPS AND SIDES OF THE CONSTRUCTED MOUNDS WITHOUT PENETRATING THE SYNTHETIC LINER, AS PER THE APPROVED PLANTING TABLE. THE WS MAY PROPOSE SUBSTITUTIONS RELATIVE TO SPECIES, SIZE, AND QUANTITIES IF THERE IS LIMITED AVAILABILITY OF PLANT STOCK AT THE TIME OF PLANTING. ALL PLANT MATERIAL SHALL BE PURCHASED FROM A NEW ENGLAND NURSERY AND GUARANTEED BY THE SITE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. IF THE PLANT MATERIAL IS PURCHASED FROM A NURSERY LOCATED OUTSIDE NEW ENGLAND OR FROM A LOCAL NURSERY THAT OBTAINS ITS PLANT MATERIAL FROM OUTSIDE NEW ENGLAND, THE PLANT MATERIAL MUST BE PROPERLY ACCLIMATED TO NEW ENGLAND FOR ONE FULL GROWING SEASON BEFORE PLANTING. THE WS SHALL INSPECT PLANT MATERIAL AT THE TIME OF DELIVERY TO ASSESS HEALTH AND VIGOR AND CONFIRM THAT THE QUANTITIES, SIZE, AND NATIVE SPECIES CONFORM TO THE APPROVED PLANTING PLAN, SPECIES LIST, PERMIT CONDITIONS AND RECORD DRAWINGS. THE WS SHALL HAVE THE AUTHORITY TO REJECT ANY PLANT MATERIAL THEY DETERMINE DOES NOT MEET THESE CRITERIA OR PERMIT CONDITIONS.
23. THE WS SHALL OVERSEE THE PLANTING WORK TO ENSURE CONFORMANCE WITH THESE SPECIFICATIONS. PLANTINGS SHALL BE CLUSTERED AND SPACED RANDOMLY AT THE DIRECTION OF THE SUPERVISING WS TO SIMULATE NATURAL GROWTH PATTERNS AND WHERE APPROPRIATE STRUCTURAL CONTEXT WITH OTHER PLANTINGS CAN BE MAINTAINED. THE USE OF STRAW MULCH AROUND WOODY PLANTINGS IS REQUIRED.
24. PLANT MATERIAL SHALL BE PLANTED ON THE DAY THE DELIVERY IN THE EVENT PRACTICABLE, THE SITE CONTRACTOR SHALL PROTECT, AND WATER STOCK NOT PLANTED IN CONSULTATION WITH THE WS AND NURSERY. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A 3-DAY PERIOD AFTER DELIVERY TO THE SITE. ANY PLANTS NOT INSTALLED DURING THIS 3-DAY PERIOD MAY BE REJECTED BY THE WS.
25. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI 260 (REV.1980) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
26. NO FERTILIZATION IS NECESSARY AT PLANTING TIME. IN SUBSEQUENT GROWING SEASON(S), SLOW RELEASE FERTILIZERS SUITABLE FOR SATURATED SOIL CONDITIONS MAY BE APPROPRIATE BASED ON PLANT GROWTH.
27. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL OR CONTAINER ONLY.
28. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AS DETERMINED BY THE SUPERVISING WS. THIS IS TYPICALLY BETWEEN APRIL 15 AND JUNE 15 AND SEPTEMBER 15 THROUGH NOVEMBER 15. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-SETTING ANY PLANTS THAT BECOME DISLODGED OR UPROOTED BECAUSE OF FROST HEAVES OR OTHER ENVIRONMENTAL FACTORS DURING THE FIRST TWO GROWING SEASONS.
29. SET ALL PLANTS PLUMB AND STRAIGHT. LOCATE PLANT IN THE CENTER OF THE PIT.
30. DUE TO UNPREDICTABILITY OF SHORT TERM LOCAL HYDROLOGIC CONDITIONS AND THE NEED FOR ADDITIONAL CARE TO ESTABLISH NEW PLANTINGS THE SITE CONTRACTOR SHALL IRRIGATE THE PLANTINGS, AS NECESSARY, DURING THE COURSE OF THE FIRST FULL GROWING SEASON AFTER PLANTING.
31. PLANTING HOLE WIDTH SHOULD BE A MINIMUM OF THREE TIMES THE DIAMETER OF THE ROOT BALL (BUT DO NOT PENETRATE THE SYNTHETIC LINER). ROOT BALLS SHALL BE MULCHED.
32. CONTAINER PLANTS SHOULD BE PLANTED AT THE SAME DEPTH AS GROWN IN THE CONTAINER.

POST CONSTRUCTION COMPLIANCE MONITORING

33. FOLLOWING THE INITIAL PLANTING OF THE WETLAND REPLICATION AREA, THE WS SHALL DOCUMENT IN WRITING TO THE COMMISSION THAT THE AREA HAS BEEN CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE ORDER OF CONDITIONS AND RECORD DRAWINGS. SUCH DOCUMENTATION SHALL BE ACCOMPANIED BY A FINAL, STAMPED AS-BUILT PLAN PROVIDED BY PROJECT SURVEYORS. THE AS-BUILT PLAN SHALL DEPICT THE LOCATIONS OF INSTALLED PLANTINGS, FINAL GRADE CONTOURS (1-FOOT CONTOUR INTERVALS WITH REPRESENTATIVE SPOT ELEVATIONS IN PLAN-VIEW AND A MINIMUM OF TWO SECTION VIEWS), AND THE OVERALL LIMITS OF GRADING. THE AS-BUILT SHALL INCLUDE A SURFACE AREA CALCULATION CONFIRMING THAT SUFFICIENT AREA HAS BEEN PROVIDED (EXCLUDING SIDE SLOPES), AS PER THE ORDER OF CONDITIONS. LOCATIONS OF CROSS-SECTIONS SHOULD BE INDICATED ON THE PLAN VIEW. THE WS REPORT TO THE COMMISSION SHALL INCLUDE REPRESENTATIVE SITE PHOTOGRAPHS OF THE WETLAND REPLICATION AREA, A DISCUSSION OF HYDROLOGIC CONDITIONS, NUMBER AND TYPES OF PLANTS AND SEED INSTALLED IN THE REPLICATION AREA AND RECEIPTS FROM THE PLANT NURSERY AND WETLAND SOIL SOURCE (PROVIDED BY THE SITE CONTRACTOR), AND A DISCUSSION OF ANY FIELD MODIFICATIONS DEEMED NECESSARY BY THE WS TO MEET THE PROJECT PURPOSE AND GOALS.
34. FOLLOWING CONSTRUCTION, THE WETLAND REPLICATION AREA WILL BE MONITORED BY A QUALIFIED WS FOR FIVE (5) FULL GROWING SEASONS. FOR MONITORING PURPOSES, A GROWING SEASON IS DEFINED HEREIN AS THE TIME PERIOD BETWEEN MARCH 1 AND OCTOBER 31 IN ANY GIVEN YEAR, DEPENDING UPON WEATHER CONDITIONS. DURING YEARS 1 AND 2, THE WS WILL CONDUCT MONTHLY INSPECTIONS BETWEEN MARCH AND JUNE TO DETERMINE IF VERNAL POOL INDICATOR SPECIES ARE USING THE NEWLY CONSTRUCTED WETLAND; FOLLOWED BY A FINAL INSPECTION IN OCTOBER AND AN ANNUAL WRITTEN REPORT SUBMITTED NO LATER THAN DECEMBER 1ST. DURING YEARS 3 THROUGH 5, THE WS SHALL CONDUCT INSPECTIONS IN THE SPRING AND FALL WITH AN ANNUAL REPORT SUBMITTED NO LATER THAN DECEMBER 1ST FOLLOWING EACH MONITORING PERIOD. DURING EACH MONITORING EVENT, THE WS WILL TALLY AND INSPECT THE HEALTH AND VIGOR OF THE WETLAND MITIGATION PLANTINGS, ASSESS THE GERMINATION OF THE WETLAND SEED MIX, AND DOCUMENT ANY OBSERVED WILDLIFE ACTIVITY (INCLUDING VERNAL POOL ACTIVITY). ANY PLANT MATERIAL THAT HAS FAILED TO ESTABLISH ITSELF AND HAS IMPAIRED THE RESTORATION AREA FROM PROVIDING THE NECESSARY PLANT SPECIES FUNCTIONS SHALL BE REPLACED IN KIND OR SUBSTITUTED FOR A SPECIES THAT IS ESTABLISHING MORE SUCCESSFULLY IN THE MITIGATION AREA (AS RECOMMENDED BY THE WS).
35. THE SEDIMENT CONTROL BARRIERS SHALL BE DISASSEMBLED AND PROPERLY DISPOSED OF BY THE SITE CONTRACTOR AFTER THE REPLICATION AREA IS DEEMED STABLE BY THE WS. SEDIMENT COLLECTED BY THESE DEVISES SHALL BE REMOVED AND DISPOSED OF IN A MANNER THAT PREVENTS EROSION AND TRANSPORT TO A WATERWAY OR WETLAND.

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.

Revisions

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Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

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GENERAL LANDSCAPE PLANTING NOTES

1. NAMES OF PLANTS AS DESCRIBED ON THIS PLAN CONFORM TO THOSE GIVEN IN "STANDARDIZED PLANT NAMES", 1942 EDITION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF PLANT VARIETIES NOT INCLUDED THEREIN CONFORM TO NAMES GENERALLY ACCEPTED IN NURSERY TRADE.
2. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE, AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED, SHALL BE COVERED BY A NATURAL MULCH THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST.
3. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER.
4. STANDARDS FOR TYPE, SPREAD, HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT INFESTATION.
5. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SIZE SHOULD BE SIMILAR IN SHAPE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY AND SEWER LINES PRIOR TO THE START OF EXCAVATION ACTIVITIES. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.
7. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, THE CONTRACTOR SHALL SUBMIT PROOF OF NON-AVAILABILITY TO THE LANDSCAPE ARCHITECT AND OWNER, TOGETHER WITH A WRITTEN PROPOSAL FOR USE OF AN EQUIVALENT MATERIAL.
8. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS, FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL AND LOCATION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT UNLESS OTHERWISE INSTRUCTED.
9. THE LANDSCAPE ARCHITECT MAY REVIEW PLANT MATERIALS AT THE SITE, BEFORE PLANTING, FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AS DIRECTED BY THE LANDSCAPE ARCHITECT OR OWNER.
10. DELIVERY, STORAGE, AND HANDLING
    A. PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.
    B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING TRANSIT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR HANDLING.
    C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED FROM THE TOP OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.
    D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.
11. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STUMPS, TRASH AND OTHER UNSIGHTLY DEBRIS. ALL FINE GRADED AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CLUMPS AND AND UNEVEN SURFACES PRIOR TO PLANTING OR MULCHING.
12. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES.
13. NEW PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF ONE YEAR FOLLOWING ACCEPTANCE BY THE OWNER. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THIS PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
14. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF-SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.
15. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH.
16. THE BACKFILL MIXTURE AND SOIL MIXES TO BE INSTALLED PER THE SPECIFICATIONS.
17. AFTER PLANT IS PLACED IN TREE PIT LOCATION, ALL TWINE HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO 1/3 OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.
18. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR.
19. ALL FENCE INSTALLATION SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, LAWN AND GRASSES, OR IRRIGATION WORK.
20. FOR ANY DISCREPANCIES BETWEEN THE PLANT SCHEDULE AND PLANTING PLAN THE GRAPHIC QUANTITY SHOWN SHALL GOVERN.
21. PLANT MATERIALS SHALL NOT BE PLANTED UNTIL THE FINISHED GRADING HAS BEEN COMPLETED.
22. ALL PLANT INSTALLATIONS SHALL BE COMPLETED EITHER BETWEEN APRIL 1 – JUNE 15 OR AUGUST 15 – NOVEMBER 1, UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT. SEE LAWN SEEDING DATES IN SEEDING NOTES.

LANDSCAPE MAINTENANCE NOTES

1. MAINTENANCE OPERATIONS BEFORE APPROVAL:
    A. PLANT CARE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS SATISFACTORILY INSTALLED AND SHALL CONTINUE THROUGHOUT THE LIFE OF THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE PROJECT.
    B. CARE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS AS ORIGINALLY INSTALLED, WATERING WHEN NEEDED OR DIRECTED, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
    C. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEAD, DEFECTIVE AND/OR REJECTED PLANTS AS REQUIRED BEFORE FINAL ACCEPTANCE.
2. MAINTENANCE DURING CONSTRUCTION:
    A. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE WATERED, MULCHED, WEEDED, PRUNED, SPRAYED, FERTILIZED, OILED/WAXED, AND OTHERWISE MAINTAINED AND PROTECTED UNTIL PROVISIONAL ACCEPTANCE. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE AND POSITION, PLANTING SAUCER RESTORED, AND DEAD MATERIAL REMOVED. STAKES AND WIRES SHALL BE TIGHTENED AND REPAIRED. DEFECTIVE WORK SHALL BE CORRECTED AS SOON AS POSSIBLE AFTER IT BECOMES APPARENT AND WEATHER AND SEASON PERMIT.
    B. IF A SUBSTANTIAL NUMBER OF PLANTS ARE SICKLY OR DEAD AT THE TIME OF INSPECTION, ACCEPTANCE SHALL NOT BE GRANTED AND THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF ALL PLANTS SHALL BE EXTENDED FROM THE TIME REPLACEMENTS ARE MADE OR EXISTING PLANTS ARE DEEMED ACCEPTABLE BY THE LANDSCAPE ARCHITECT.
    C. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE SPECIFIED ON THE PLANT LIST OR THAT WHICH WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE BORNE BY THE CONTRACTOR. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
    D. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER INSPECTION AND PROVISIONAL ACCEPTANCE.
    E. AT THE END OF THE ESTABLISHMENT PERIOD, INSPECTION SHALL BE MADE AGAIN. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR UNSATISFACTORY TO THE LANDSCAPE ARCHITECT OR OWNER SHALL BE REMOVED FROM THE SITE AND REPLACED DURING THE NORMAL PLANTING SEASON.
3. LAWN MAINTENANCE:
    A. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH PORTION OF LAWN IS PLANTED AND CONTINUE FOR 8 WEEKS AFTER ALL LAWN PLANTING IS COMPLETED.
    B. WATER TO KEEP SURFACE SOIL MOIST, REPAIR WASHED OUT AREAS BY FILLING WITH TOPSOIL, LIMING, FERTILIZING AND RE-SEEDING; MOW TO 2 1/2 – 3 INCHES AFTER GRASS REACHES 3 1/2 INCHES IN HEIGHT, AND MOW FREQUENTLY ENOUGH TO KEEP GRASS FROM EXCEEDING 3 1/2 INCHES. WEED BY LOCAL SPOT APPLICATION OF SELECTIVE HERBICIDE ONLY AFTER GRASS IS WELL-ESTABLISHED.

LAWN SEED MIX

1. LAWN SEED MIX: LESCO GRASS SEED – ALL PRO TRANSITION MIX (3 TURF-TYPE TALL-FESCUE GRASSES)

    NOTES:
    A) SEED RATE:
        1) NEW ESTABLISHMENT: SEED AT A RATE OF 6–8 LBS/1000 SQ FT
        2) RENOVATION: 20–50% EXISTING COVER: 5–7 LBS/1000 SQ FT
           50–75% EXISTING COVER: 4–6 LBS/1000 SQ FT
2. GENERAL SEED NOTES:
    A) FINAL SEED MIXTURES, RATES, AND SPECIES TO BE DETERMINED BASED ON PROJECT LANDSCAPE ARCHITECT REVIEW.
    B) SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 15) OR THE FALL (SEPTEMBER 1 TO OCTOBER 15).
    C) ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A GLYPHOSATE-BASED HERBICIDE PER MANUFACTURER'S SPECIFICATIONS.
    D) IT IS RECOMMENDED THAT CONTRACTOR INSTALL SEED MIXTURE USING A NO–TILL TRUAX–TYPE DRILL SEEDER WHERE APPLICABLE.
    E) THERE MUST BE CONTINUOUS SOIL MOISTURE FOR 4–6 WEEKS TO ALLOW FOR PROPER GERMINATION.

LAWN WATERING SCHEDULE

THE FOLLOWING WATERING SCHEDULE COVERS ROUGHLY 8 WEEKS TO ESTABLISH A HEALTHY STAND OF GRASS FROM SEED. THE CONTRACTOR SHALL BE OBLIGATED TO ENSURE A HEALTHY STAND OF GRASS AT THE END OF THE MAINTENANCE/BOND PERIOD. ANY BARE OR DEAD AREAS IN THE LAWN SHALL BE PREPARED, RESEEDED AND REESTABLISHED PRIOR TO THE END OF THE MAINTENANCE/BOND PERIOD AND TO THE SATISFACTION OF THE PROJECT LANDSCAPE ARCHITECT AND THE OWNER.

IMPORTANT ASPECTS TO ATTAINING AND SUSTAINING A HEALTHY STAND OF GRASS ARE THE INSTALLATION OF TOPSOIL, SEED BED PREPARATION, ATTAINING OPTIMAL pH FOR THE INTENDED PLANT SPECIES, FERTILIZING, MULCH COVERING, AND SUFFICIENT WATERING PER THESE NOTES AND/OR PROJECT SPECIFICATIONS.

1. SEEDING SHALL BE DONE DURING THE SEASONS SPECIFIED IN THE LAWN SEED MIX NOTES AND/OR PROJECT SPECIFICATIONS.
2. AFTER THE SEEDBED IS PREPARED, SEED IS INSTALLED, AND MULCH IS APPLIED, WATER LIGHTLY TO KEEP THE TOP 2 INCHES OF SOIL CONSISTENTLY MOIST, NOT SATURATED. AT NO TIME SHOULD WATER BE APPLIED TO THE POINT OF RUNOFF OR THE DISPLACEMENT OF SEED.
3. DEPENDING ON SOIL TEMPERATURES, IT MAY TAKE SEVERAL WEEKS FOR GERMINATION TO OCCUR. DIFFERENT SPECIES WITHIN THE MIX GERMINATE AT DIFFERENT TIMES AND THEREFORE CONTRACTOR SHOULD CONTINUE THE LIGHT WATERING, AS DESCRIBED ABOVE, UNTIL THERE IS AT LEAST 2 INCHES OF GROWTH THROUGHOUT.
4. AT THIS POINT, WATERING FREQUENCY MAY BE REDUCED TO EVERY 3 TO 5 DAYS. WATER SHALL BE APPLIED TO WET A 6 INCH MINIMUM SOIL DEPTH TO PROMOTE HEALTHY DEEP ROOTS.
5. BEGIN MOWING ONCE PER WEEK AFTER THE GRASS HAS REACHED 3 INCHES HEIGHT. MOW TO A HEIGHT OF NO LESS THAN 2–3 INCHES. AFTER 2 TO 3 WEEKS OF MOWING, CONTINUE TO WATER TO A 6 INCH MINIMUM SOIL DEPTH AS NECESSARY PER WEATHER CONDITIONS, AND SOIL MOISTURE SENSORS IF APPLICABLE.

PLANTING SOIL SPECIFICATIONS

1. PLANTING SOIL, ALTERNATELY MAY BE REFERRED TO AS TOPSOIL, SHOULD BE FRIABLE, FERTILE, WELL DRAINED, FREE OF DEBRIS, TOXINS, TRASH AND STONES OVER 1/2" DIA., IT SHOULD HAVE A HIGH ORGANIC CONTENT THAT IS FRIABLE TO SUSTAIN HEALTHY PLANT GROWTH AND SHOULD LOOK AESTHETICALLY PLEASING HAVING NO NOXIOUS ODORS.
2. PLANTING SOIL:

    REUSE SURFACE SOILS STOCKPILED ON SITE, VERIFYING COMPLIANCE WITH PLANTING SOIL AND TOPSOIL CRITERIA IN THIS SPECIFICATION THROUGH TESTING. CLEAN SURFACE SOIL OF ALL ROOTS, PLANTS, SOD, AND GRAVEL OVER 1" IN DIAMETER AND DELETERIOUS MATERIALS. IF ON-SITE SOILS ARE TO BE USED FOR PROPOSED PLANTING, THE CONTRACTOR SHALL DEMONSTRATE, THROUGH SOIL TESTING, THAT ON-SITE SOILS MEET THE SAME CRITERIA AS INDICATED IN NOTES PLANS AND SPECIFICATIONS.

    SUPPLEMENT AS REQUIRED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES WHEN TOPSOIL AND PLANTING SOIL QUANTITIES ARE INSUFFICIENT. OBTAIN SOILS DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4" DEEP. DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, MARSHES OR CONTAMINATED SITES.

    CONTRACTOR SHALL TEST SOILS AND FURNISH SAMPLES UPON REQUEST. PACKAGED MATERIALS SHALL BE UNOPENED BAGS OR CONTAINERS, EACH BEARING A NAME, GUARANTEE, AND TRADEMARK OF THE PRODUCER. MATERIAL COMPOSITION, MANUFACTURER'S CERTIFIED ANALYSIS, AND THE WEIGHT OF THE MATERIALS. SOIL OR AMENDMENT MATERIALS SHALL BE STORED ON SITE TEMPORARILY IN STOCKPILES PRIOR TO PLACEMENT AND SHALL BE PROTECTED FROM INTRUSION OF CONTAMINANTS AND EROSION. AFTER MIXING, SOIL SHALL BE STORED IN A TARPAULIN UNTIL TIME OF ACTUAL PLANTING.

    ALL PLANTING SOILS SHALL BE SUBMITTED FOR TESTING TO THE STATE COOPERATIVE EXTENSION SERVICE, OR APPROVED EQUAL, PRIOR TO DELIVERY TO THE SITE. CONTRACTOR SHALL FURNISH SOIL SAMPLES AND SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER AT A RATE OF ONE SAMPLE PER 500 CUBIC YARDS TO ENSURE CONSISTENCY ACROSS THE TOTAL VOLUME OF PLANTING SOIL REQUIRED. TEST RESULTS SHALL EVALUATE FOR ALL CRITERIA LISTED IN THIS SPECIFICATION. IF TESTING AGENCY DETERMINES THAT THE SOILS ARE DEFICIENT IN ANY MANNER AND MAY BE CORRECTED BY ADDING AMENDMENTS, THE CONTRACTOR SHALL FOLLOW STATED RECOMMENDATIONS FOR SOIL IMPROVEMENT AND FURNISH SUBMITTALS FOR ALL AMENDMENTS PRIOR TO DELIVERY OF SOIL TO THE PROJECT SITE.

    A. THE FOLLOWING TESTING SHOULD BE PERFORMED AND RESULTS GIVEN TO THE LANDSCAPE ARCHITECT FOR APPROVAL BEFORE INSTALLATION:
        a. PARTICLE SIZE ANALYSIS – LOAMY SAND: 60–75% SAND, 25–40% SILT, AND 5–15% CLAY.
        b. FERTILITY ANALYSIS: pH (5.5–6.5), SOLUBLE SALTS (LESS THAN 2 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM
        c. ORGANIC MATTER CONTENT: 2.5–5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS
        d. TOXIC SUBSTANCE ANALYSIS
        e. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED
        f. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE
3. SOIL AMENDMENT FOR PLANT MATERIAL:

    IF SOIL ORGANIC CONTENT IS INADEQUATE, SOIL SHALL BE AMENDED WITH COMPOST OR ACCEPTABLE, WEED FREE, ORGANIC MATTER. ORGANIC AMENDMENT SHALL BE WELL COMPOSTED, PH RANGE OF 6–8; MOISTURE CONTENT 35–55% BY WEIGHT 100% PASSING THROUGH 1" SIEVE; SOLUBLE SALT CONTENT LESS THAN 0.5 MM HOS/CM; MEETING ALL APPLICABLE ENVIRONMENTAL CRITERIA FOR CLEAN FILL.

    A. ORGANIC MATTER AS A SOIL AMENDMENT: LEAF MOLD WITH 60–90% ORGANIC CONTENT BY WEIGHT. SHREDDED LEAF LITTER, COMPOSTED FOR A MINIMUM OF 1 YR. SHOULD BE FREE OF DEBRIS, STONES OVER 1/2", WOOD CHIPS OVER 1".

    B. SOIL IN BEDS AND PLANTING ISLANDS OTHER THAN BACKFILL MATERIAL AND TOPSOIL, SHOULD BE FRIABLE, WELL DRAINED, AND FREE OF DEBRIS, INCLUDING STONES AND TRASH.

    C. AMENDMENTS FOR BACK FILL IN TREE AND SHRUB PITS:
        a. GROUND LIMESTONE (WITH A MIN. OF 88% OF CALCIUM AND MAGNESIUM CARBONATES) USED PENDING RESULTS OF SOIL ANALYSIS.
           – BRING pH LEVELS TO 5.5 MIN. TO 6.5 FOR NON–ERICACEOUS PLANTS
           – BRING pH LEVELS TO 4.5 MIN. TO 5.5 FOR ERICACEOUS PLANTS
        b. TERRA–SORB BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN PLANTER BACKFILL MIXTURE WITH TREES AND SHRUBS.
        c. MYCOR–ROOT SAVER BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN BACKFILL MIXTURE WITH TREES.
4. WHERE PLANTING AREAS ARE PROPOSED FOR FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.
5. BIORETENTION SOIL MIX
    a. BIORETENTION SOIL MIX IS TO BE USED IN ALL DETENTION BASINS AND RAIN GARDENS.
    b. MIX TO CONSIST OF 60% COARSE SAND, 40% SUBMITTED TOPSOIL/HORTICULTURAL SOIL MIX
    c. TOPSOIL/HORTICULTURAL SOIL MIX: REFER TO SPECIFICATIONS LISTED IN SECTION ABOVE
    d. COARSE SAND

    1) PARTICLE SIZE ANALYSIS

SIEVE	PERCENT PASSING
3/8 INCH (9.5 MM)	100
NO 4 (4.75 MM)	95–100
NO 8 (2.36 MM)	80–100
NO 16 (1.18 MM)	50–85
NO 30 (.60 MM)	25–60
NO 50 (.30 MM)	10–30
NO 100 (.15 MM)	2–10
NO 200 (0.75 MM	2–5

    2) CHEMICAL ANALYSIS
        PH: LOWER THAN 7.0
        TOXIC SUBSTANCE ANALYSIS

    e. FINAL BIORETENTION MIX

    1) PARTICLE SIZE ANALYSIS
        a) SAND – 80–85%
        b) SILT – 10–15%
        c) CLAY – 2–5%

        NOT MORE THAN 1% OF MATERIAL TO BE RETAINED BY A #4 SIEVE

    2) CHEMICAL ANALYSIS
        a) PH – 5.5–6.5
        b) SOLUBLE SALTS: LESS THAN 2 MMHO/CM

    3) CONTRACTOR TO SUBMIT TOXIC SUBSTANCE ANALYSIS AND MATERIAL DRAINAGE RATE IN ADDITION TO INFORMATION LISTED ABOVE. DRAINAGE RATE OF MATERIAL TO EXCEED 1 INCH/HOUR
6. CLEAN SOIL FILL IN LANDSCAPE AREAS:

    LANDSCAPE FILL MATERIAL, BELOW PLANTING SOILS, SHALL HAVE THE PHYSICAL PROPERTIES OF A SANDY LOAM WITH AN ORGANIC CONTENT OF LESS THAN 2% AND A PH BETWEEN 5 – 7.
7. SOIL PLACEMENT:
    A. CONTRACTOR TO PROVIDE SIX INCHES (6") MINIMUM DEPTH PLANTING SOIL LAYER IN LAWN AREAS, TWELVE INCHES (12") MINIMUM DEPTH PLANTING SOIL LAYER IN GROUNDCOVER AND PERENNIAL AREAS, EIGHTEEN INCHES (18") MINIMUM DEPTH PLANTING SOIL LAYER IN SHRUB AREAS, AND THIRTY–SIX INCHES (36") MINIMUM DEPTH PLANTING SOIL LAYER IN TREE PLANTING AREAS.

    B. SCARIFY AND/OR TILL COMPACTED SUBSOILS TO A MINIMUM DEPTH OF 6 INCHES. THOROUGHLY MIX A 6 INCH DEPTH LAYER OF PLANTING SOIL INTO THE SUBSOIL PRIOR TO PLACING PLANTING SOIL AT THE DEPTHS INDICATED ABOVE. PLANTING SOIL SHALL BE PLACED IN 12–18" LIFTS AND WATER THOROUGHLY BEFORE INSTALLING NEXT LIFT. REPEAT UNTIL DEPTHS AND FINISH GRADES HAVE BEEN ACHIEVED. NO SOILS SHALL BE PLACED IN A FROZEN OR MUDDY CONDITION.

    C. PLANTING SOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON–SITE PLANTING SOIL UTILIZED IN ALL PLANTING AREAS.
8. SOIL CONDITIONING:
    A. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM. LOWER pH USING ELEMENTAL SULFUR ONLY. PEAT MOSS OR COPPER SULFATE MAY NOT BE USED. GROUND LIMESTONE AS A SOIL AMENDMENT MATERIAL WILL ONLY BE USED PENDING RESULTS OF SOIL ANALYSIS. PROVIDE WITH MINIMUM 88% CALCIUM AND MAGNESIUM CARBONATES AND SHALL HAVE TOTAL 100% PASSING THE 10 MESH SIEVE, MINIMUM 90% PASSING 20 MESH SIEVE, AND MINIMUM 60% PASSING 100 MESH SIEVE.

    B. ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

    C. SOIL MODIFICATIONS (PENDING RESULTS OF SOIL ANALYSIS):
        a. THOROUGHLY TILL ORGANIC MATTER (LEAF COMPOST) INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A pH HIGHER THAN 7.0. PEAT MOSS MAY NOT BE USED AS ORGANIC MATTER AMENDMENT.
        b. MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.
        c. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

MEADOW SEED NOTES

MEADOW SEED MIX A – ERNMX–181 (NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS)

22% SORGHASTRUM NUTANS	INDIANGRASS
20% LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
17% SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
15% ELYMUS CANADENSIS	CANADA WILDRYE
5% ELYMUS VIRGINICUS	VIRGINIA WILDRYE
4% AGROSTIS PERENNANS	AUTUMN BENTGRASS
4% AGROSTIS SCABRA	TICKLEGRASS
4% TRIDENS FLAVUS	PURPLETOP
2% CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
2% ECHINACEA PURPUREA	PURPLE CONEFLOWER
1% COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS
1% LIATRIS SPICATA	MARSH BLAZING STAR
1% MONARDA FISTULOSA	WILD BERGAMOT
1% PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE
1% RUDBECKIA HIRTA	BLACKEYED SUSAN

NOTES:
SEED AT A RATE OF 60 LBS/ACRE OF 100% PURE LIVE SEED.

MEADOW SEED MIX "B" – ERNST SEED MIX ERNMX–180 "RAIN GARDEN MIX"

33.4%	SCHIZACHYRIUM SCOPARIUM, 'ITASCA,' MN ECOTYPE, LITTLE BLUESTEM
20.0%	ELYMUS VIRGINICUS, 'MADISON,' VIRGINIA WILDRYE
7.0%	CAREX VULPINOIDEA, PA ECOTYPE, FOX SEDGE
5.6%	CHASMANTHIUM LATIFOLIUM, WV ECOTYPE, RIVER OATS
5.5%	ECHINACEA PURPUREA, PURPLE CONEFLOWER
3.0%	CHAMAECRISTA FASCICULATA, PA ECOTYPE, PARTRIDGE PEA
3.0%	COREOPSIS LANCEOLATA; LANCELEAF COREOPSIS
3.0%	PANICUM CLANDESTINUM, TIOGA, DEERTONGUE
3.0%	PANICUM RIGIDULUM, PA ECOTYPE, REDTOP PANICGRASS
3.0%	RUDBECKIA HIRTA, BLACKEYED SUSAN
2.0%	VERBENA HASTATA, PA ECOTYPE, BLUE VERVAIN
2.0%	HELIOPSIS HELIANTHOIDES, PA ECOTYPE, OXEYE SUNFLOWER
1.8%	ASCLEPIAS INCARNATA, PA ECOTYPE, SWAMP MILKWEED
1.0%	CAREX SCOPARIA, PA ECOTYPE, BLUNT BROOM SEDGE
1.0%	SENNA HEBECARPA, VA & WV ECOTYPE, WILD SENNA
0.6%	HELENIUM AUTUMNALE, PA ECOTYPE, COMMON SNEEZEWEED
0.5%	ASTER NOVAE–ANGLIAE, PA ECOTYPE, NEW ENGLAND ASTER
0.5%	ASTER PRENANTHOIDES, PA ECOTYPE, ZIGZAG ASTER
0.5%	BAPTISIA AUSTRALIS, SOUTHERN WV ECOTYPE, BLUE FALSE INDIGO
0.5%	PYCNANTHEMUM TENUIFOLIUM, NARROWLEAF MOUNTAIN MINT
0.5%	ZIZIA AUREA, GOLDEN ALEXANDERS
0.4%	MONARDA FISTULOSA, FORT INDIANTOWN GAP–PA ECOTYPE, WILD BERGAMOT
0.3%	EUPATORIUM PERFOLIATUM, PA ECOTYPE, BONESET
0.3%	JUNCUS TENUIS, PA ECOTYPE, PATH RUSH
0.2%	JUNCUS EFFUSUS, SOFT RUSH
0.2%	SOLIDAGO NEMORALIS, PA ECOTYPE, GRAY GOLDENROD
0.2%	SOLIDAGO RUGOSA, PA ECOTYPE, WRINKLELEAF GOLDENROD

NOTES:
1. SEED AT A RATE OF 20 LBS./ACRE.
2. FOR SPR

SHADE TREE



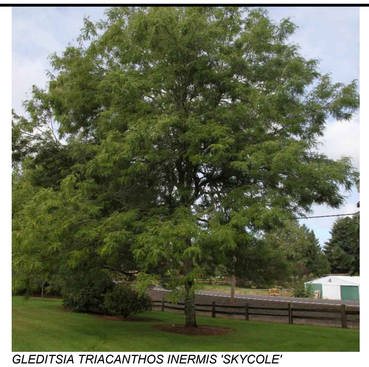
ACER RUBRUM
RED MAPLE



ACER RUBRUM 'OCTOBER GLORY'
OCTOBER GLORY RED MAPLE



ACER SACCHARUM
SUGAR MAPLE



GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'
SKYLINE THRONLESS HONEYLOCUST



*LIQUIDAMBAR STY*RACIFLUA 'ROTUNDILOBA'
SEEDLESS SWEETGUM



LIRIODENDRON TULIPIFERA
TULIP TREE

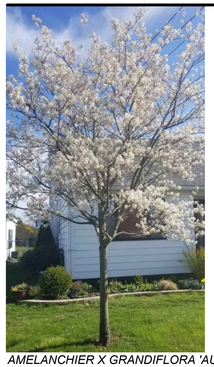


QUERCUS BICOLOR
SWAMP WHITE OAK

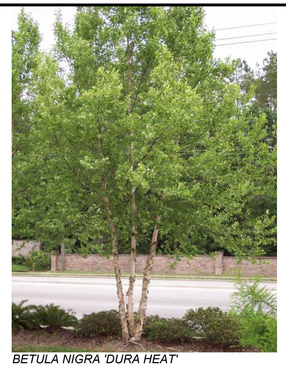


TILIA X AMERICANA 'REDMOND'
REDMOND LINDEN

ORNAMENTAL TREE



AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'
AUTUMN BRILLIANCE SERVICEBERRY



BETULA NIGRA 'DURA HEAT'
DURA HEAT RIVER BIRCH

EVERGREEN TREE



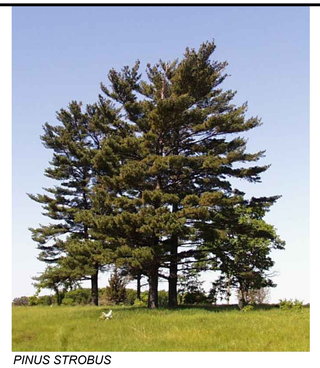
X CUPRESSOCYPARIS LEYLANDII
LEYLAND CYPRESS



JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'
EMERALD SENTINEL REDCEDAR



PICEA ABIES
NORWAY SPRUCE



PINUS STROBUS
EASTERN WHITE PINE

SHRUB



ILEX CRENATA 'COMPACTA'
JAPANESE HOLLY

GROUNDCOVER



JUNCUS EFFUSUS
SOFT RUSH

FOR PERMITTING ONLY, NOT FOR CONSTRUCTION

Date	Description	No.
04/27/23	TOWN REVIEW COMMENTS	1

Revisions

LANGAN
Langan Engineering and Environmental Services, Inc.
100 Cambridge Street, Suite 1310
Boston, MA 02114
T: 617.824.9100 F: 617.824.9101 www.langan.com

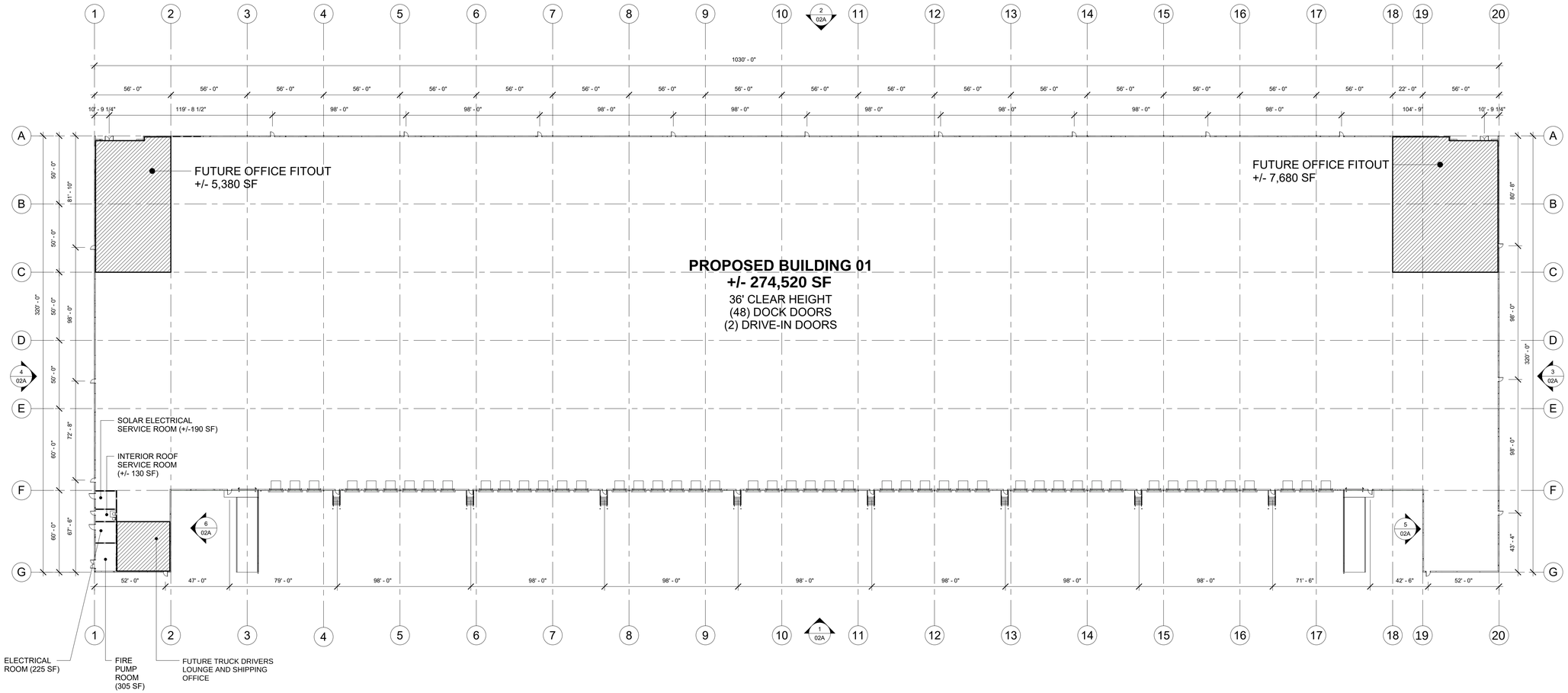
Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
PLANT IMAGES

Project No.	Drawing No.
151022801	LP502
Date: 08/05/2022	
Drawn By: IW	
Checked By: MH	

LANGAN
Project No. 151022801

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OVERALL FLOOR PLAN 1

SCALE: 1/32" = 1'-0"

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SCALE 1/32" = 1'-0"

0 16 32 64 128

ADB | DESIGN SERVICES

REGISTERED ARCHITECT – JOSEPH V. DI GIORGIO – No. 953526 – WHITE PLAINS – NEW YORK – COMMONWEALTH OF MASSACHUSETTS

8.3.2022

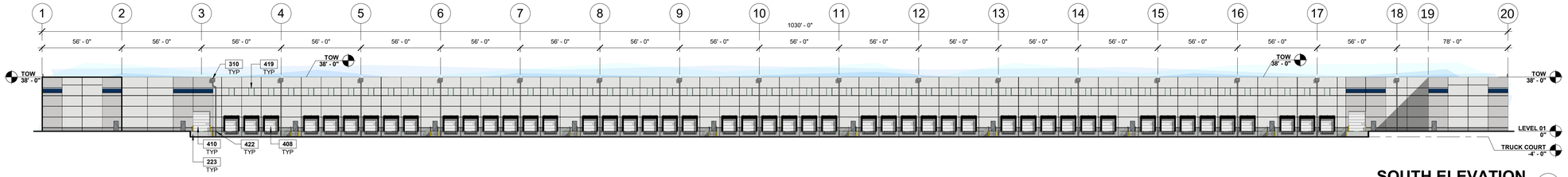
JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield Properties

CONCEPTUAL FLOOR PLAN

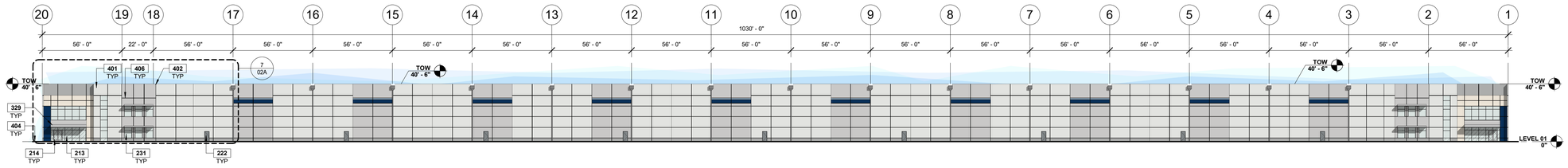
BROOKFIELD MAPLE ST - BLDG 1
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD



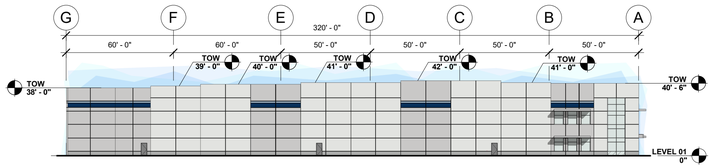
SOUTH ELEVATION 1

SCALE: 1/32" = 1'-0"



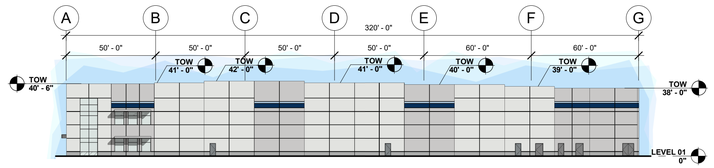
NORTH ELEVATION 2

SCALE: 1/32" = 1'-0"



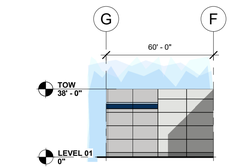
EAST ELEVATION 3

SCALE: 1/32" = 1'-0"



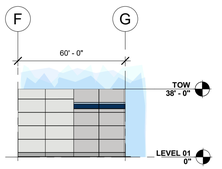
WEST ELEVATION 4

SCALE: 1/32" = 1'-0"



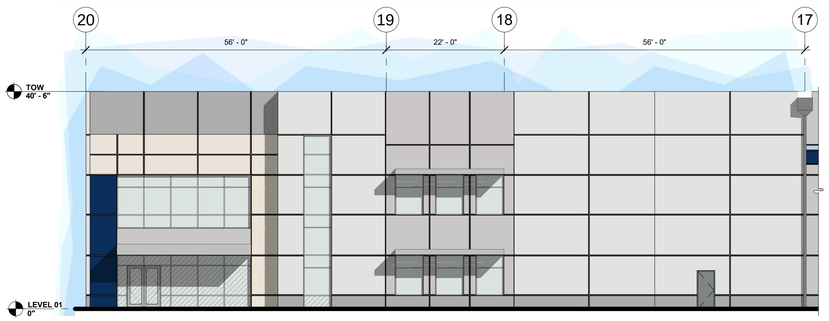
SW ELEVATION 6

SCALE: 1/32" = 1'-0"



SE ELEVATION 5

SCALE: 1/32" = 1'-0"



3/32"=1'-0"

0 4' 8' 16' 24' 48'

ENLARGED NORTH ELEVATION 7

SCALE: 3/32" = 1'-0"

KEYNOTE LEGEND

213	ALUMINUM STOREFRONT SYSTEM.
214	ALUMINUM STOREFRONT DOOR.
222	HOLLOW METAL DOOR AND FRAME, PAINTED.
223	CONCRETE EXTERIOR DRIVE-IN RAMP.
231	ALL GLASS USED ON THE ENVELOPE OF THE BUILDING TO BE INSULATED. IN MANUFACTURER'S STANDARD COLOR RANGE.
310	EXTERIOR ROOF DRAIN. SCUPPER AND DOWNSPOUT.
329	METAL CANOPY.
401	CONCRETE PANEL, PAINTED MEDIUM TEXTURE.
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406	PANEL REVEAL.
408	SECTIONAL OVERHEAD DOOR.
410	DRIVE-IN DOOR.
419	CLERESTORY WINDOW.
422	DOWNSPOUT GUARD.

GLAZING LEGEND

GLASS:

- GL-01 INSULATED GLAZING UNIT
- GL-02 TEMPERED SAFETY GLASS
- GL-03 SPANDREL GLASS

NOTE: UPON CONFIRMATION OF FUTURE TENANT(S), CLEAR VISION GLAZING LOCATED IN RACK STORAGE AREAS TO BE MADE SPANDREL GLASS.

PAINT SCHEME COLORS:

- P-4: LIGHT GREY
- P-5: FOGGY GREY
- P-6: WINTER WHITE
- P-9: EFFERVESCENT BLUE
- P-12 - ACCENT COLOR: PALE BLUE
- WS: MAKAI - WILD COLLECTION

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SCALE 1/32" = 1'-0"

0 16 32 64 128

ADB | DESIGN SERVICES

REGISTERED ARCHITECT – JOSEPH V. DI GIORGIO – No. 953526 – WHITE PLAINS NEW YORK – COMMONWEALTH OF MASSACHUSETTS

8.3.2022

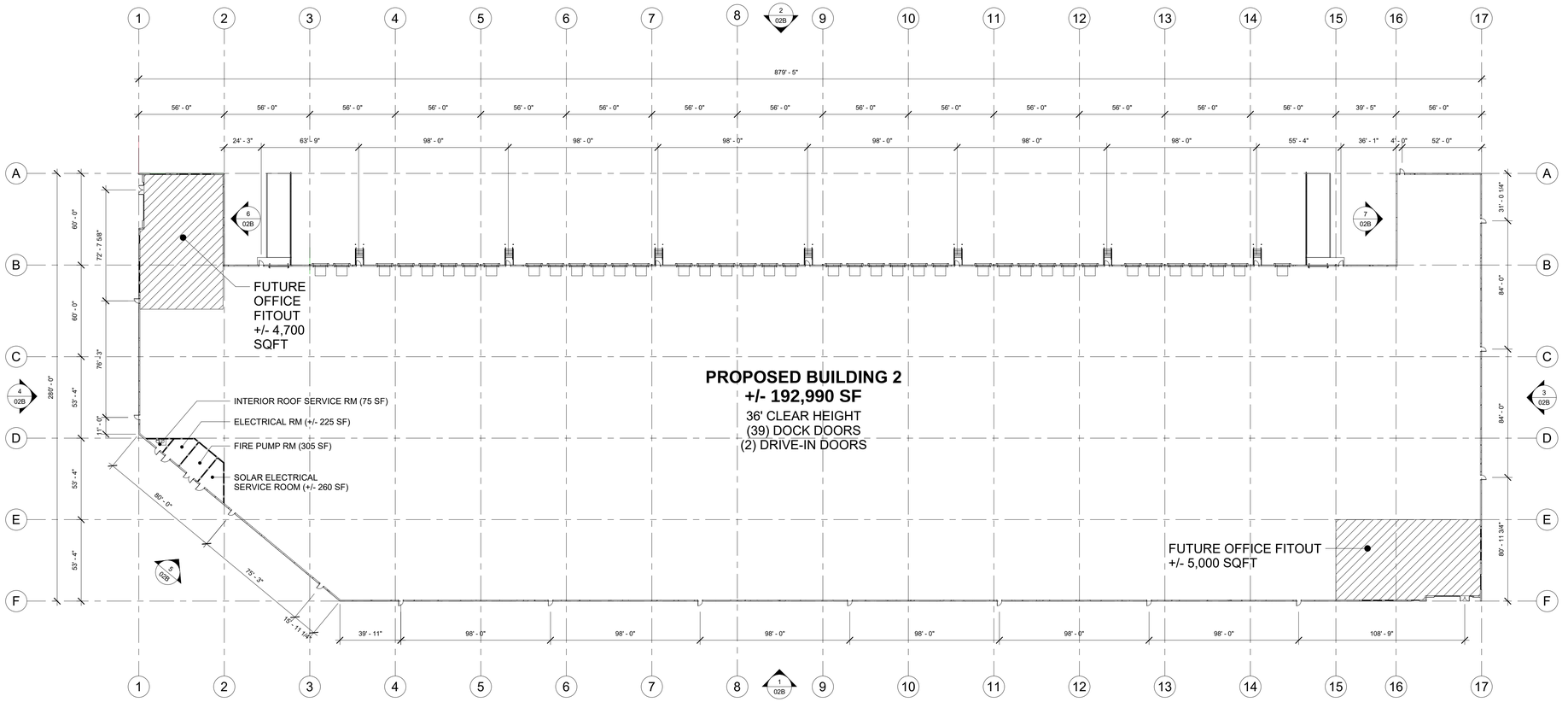
JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield Properties

CONCEPTUAL ELEVATIONS

BROOKFIELD MAPLE ST - BLDG 1
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD



OVERALL FLOOR PLAN 1

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ADB | DESIGN SERVICES

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8.3.2022

JOSEPH V. DI GIORGIO | MA: 953526-AR-R

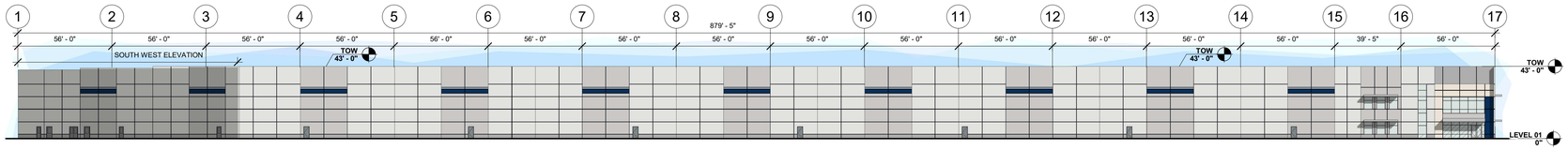
Brookfield Properties

CONCEPTUAL FLOOR PLAN

BROOKFIELD MAPLE ST - BLDG 2
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

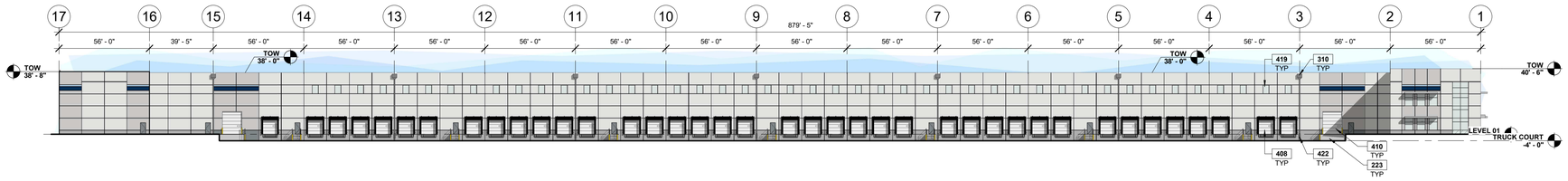
ARCO DESIGN/BUILD

01B



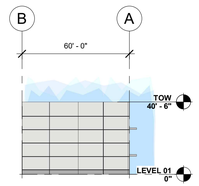
SOUTH ELEVATION 1

SCALE: 1/32" = 1'-0"



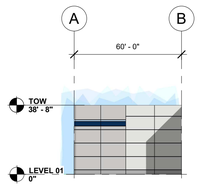
NORTH ELEVATION 2

SCALE: 1/32" = 1'-0"



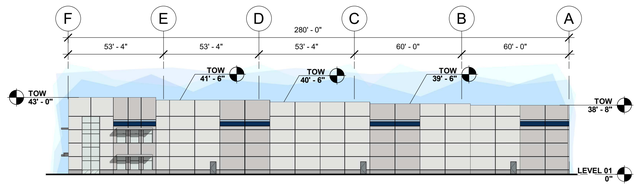
NW ELEVATION 6

SCALE: 1/32" = 1'-0"



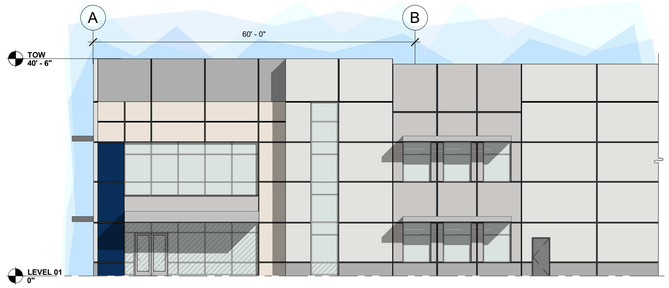
NE ELEVATION 7

SCALE: 1/32" = 1'-0"



EAST ELEVATION 3

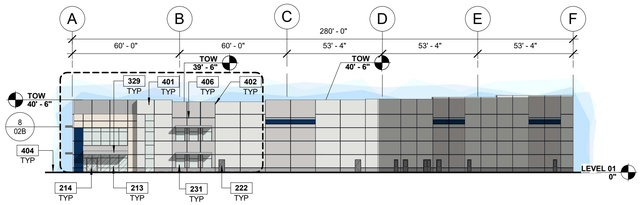
SCALE: 1/32" = 1'-0"



3/32"=1'-0"
0 4' 8' 16' 24' 48'

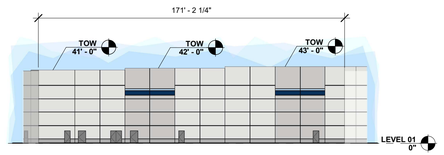
ENLARGED WEST ELEVATION 8

SCALE: 3/32" = 1'-0"



WEST ELEVATION 4

SCALE: 1/32" = 1'-0"



SOUTH WEST ELEVATION 5

SCALE: 1/32" = 1'-0"

KEYNOTE LEGEND

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0 16 32 64 128

ADB | DESIGN SERVICES

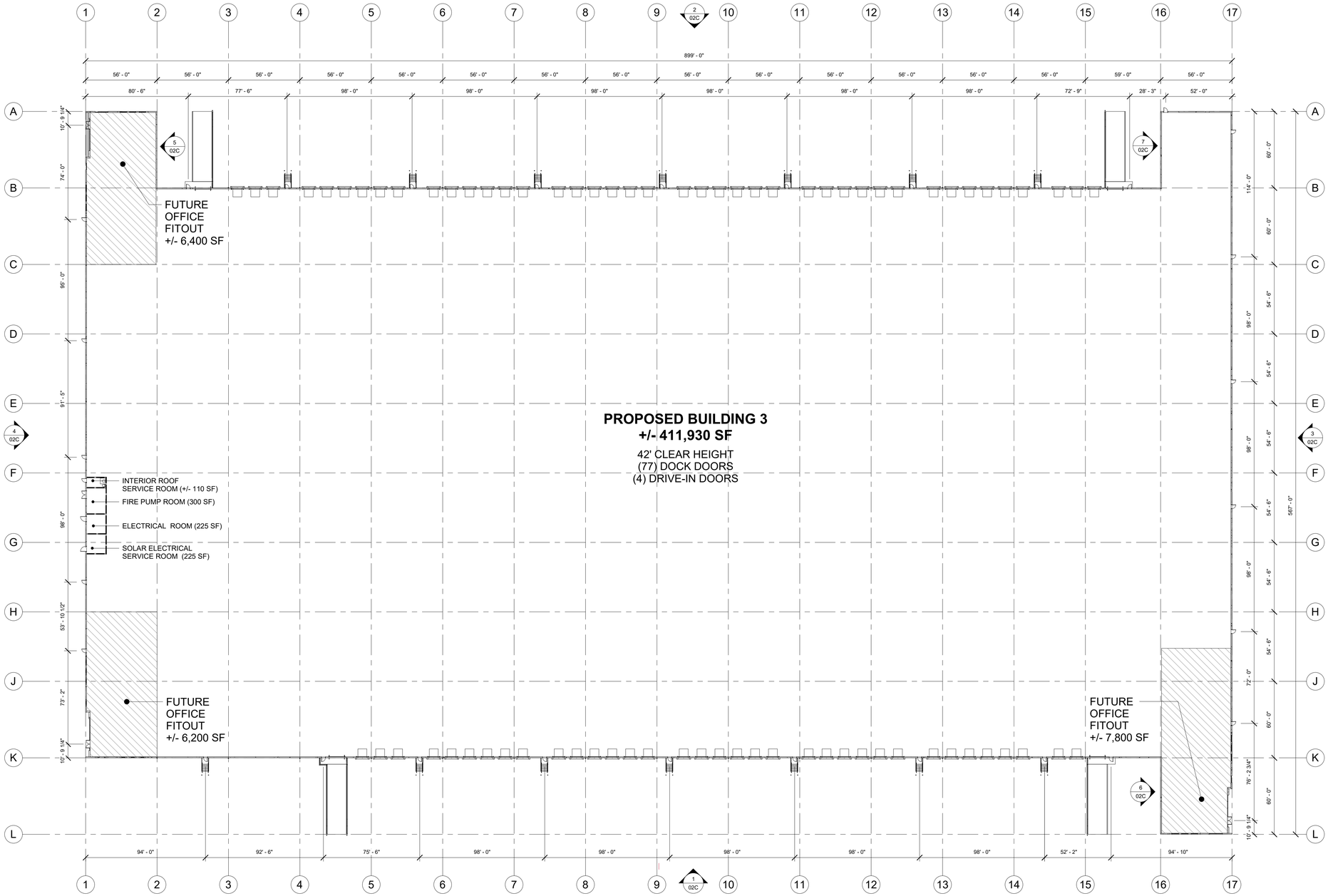
REGISTERED ARCHITECT - JOSEPH V. DI GIORGIO - COMMONWEALTH OF MASSACHUSETTS - No. 953526 WHITE PLAINS NEW YORK
8.3.2022
JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield Properties

CONCEPTUAL ELEVATIONS

BROOKFIELD MAPLE ST - BLDG 2
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD



OVERALL FLOOR PLAN 1

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ADB | DESIGN SERVICES

REGISTERED ARCHITECT · JOSEPH V. DI GIORGIO · No. 953526 · WHITE PLAINS · NEW YORK · COMMONWEALTH OF MASSACHUSETTS

8.3.2022

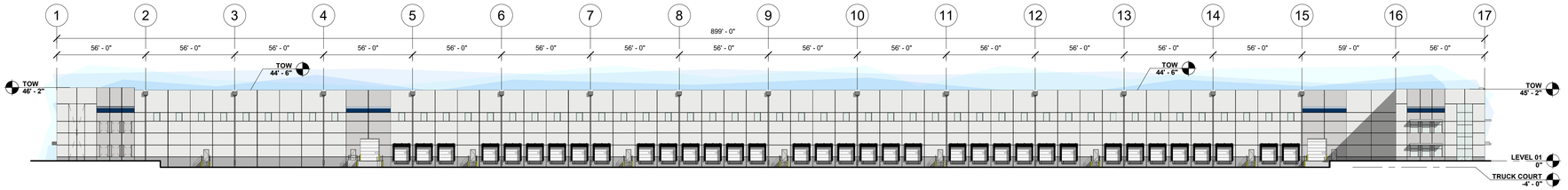
JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield Properties

CONCEPTUAL FLOOR PLAN - BUILDING 3

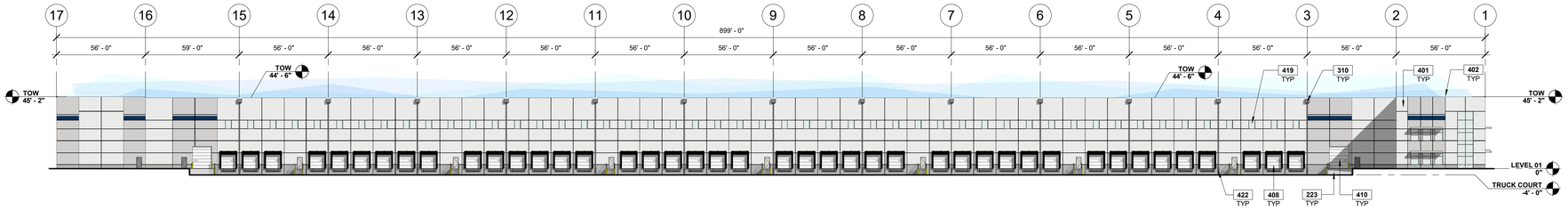
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1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD



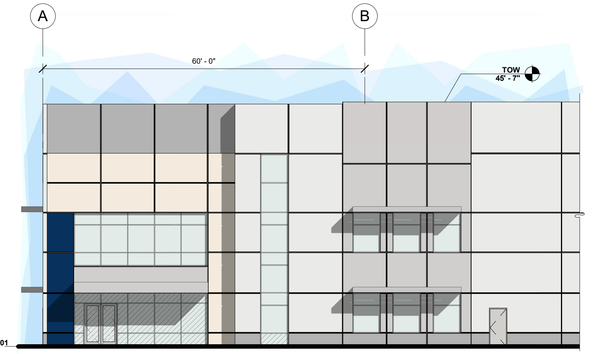
SOUTH ELEVATION

SCALE: 1/32" = 1'-0" — 1



NORTH ELEVATION

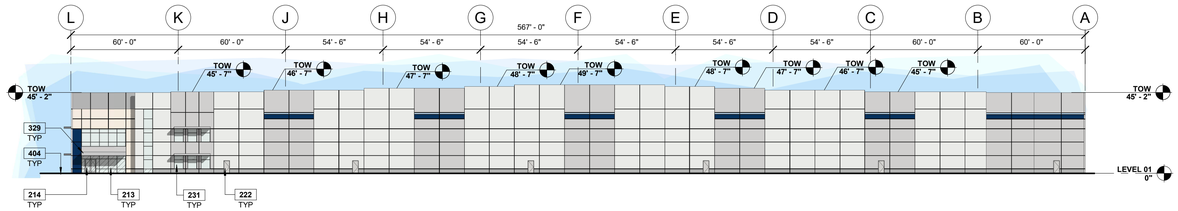
SCALE: 1/32" = 1'-0" — 2



3/32"=1'-0"
0 4' 8' 16' 24' 48'

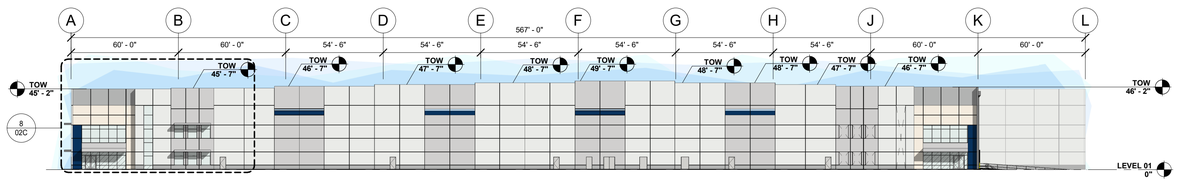
ENLARGED SOUTH ELEVATION

SCALE: 3/32" = 1'-0" — 8



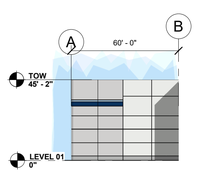
EAST ELEVATION

SCALE: 1/32" = 1'-0" — 3



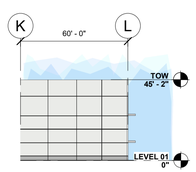
WEST ELEVATION

SCALE: 1/32" = 1'-0" — 4



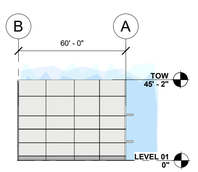
NE ELEVATION

SCALE: 1/32" = 1'-0" — 7



SE ELEVATION

SCALE: 1/32" = 1'-0" — 6



NW ELEVATION

SCALE: 1/32" = 1'-0" — 5

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INSULATED GLAZING UNIT

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SPANDREL GLASS

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ADB | DESIGN SERVICES

COMMONWEALTH OF MASSACHUSETTS — REGISTERED ARCHITECT — JOSEPH V. DI GIORGIO — No. 953526 — WHITE PLAINS NEW YORK
8.3.2022
JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield Properties

CONCEPTUAL ELEVATIONS - BUILDING 3

BROOKFIELD MAPLE ST - BLDG 3
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD



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ADB | DESIGN SERVICES

COMMONWEALTH OF MASSACHUSETTS
JOSEPH V. DI GIORGIO
REGISTERED ARCHITECT
No. 953526
WHITE PLAINS
NEW YORK
8.3.2022

JOSEPH V. DI GIORGIO | MA: 953526-AR-R

Brookfield
Properties

CONCEPTUAL RENDERING

BROOKFIELD STOUGHTON
1185 TURNPIKE ST, STOUGHTON, MA
AS427-22 | **08/03/22**

ARCO DESIGN/BUILD

Bk 41282 Pg344 #41408
06-30-2023 @ 11:00a
STOUGHTON MASS.
2023 JUN -9 A 9:38

TOWN OF STOUGHTON

Massachusetts
MA 02072

PLANNING BOARD

Site Plan and Special Permit Approval for Stoughton Logistics Park
Turnpike Street, Maple Street, Page Street, Old Page Street
for
Case # SP22-006

RECEIVED AND RECORDED
NORFOLK COUNTY
REGISTRY OF DEEDS
DEDHAM, MA
CERTIFY
WILLIAM P. O'DONNELL, REGISTER

I hereby certify that no appeal has been filed with my Office of the Stoughton Town Clerk during the twenty days following the date of the decision.
Stoughton Town Clerk
Date: June 26, 2023

Date: June 8, 2023

Applicant: IV3 Stoughton Logistics Park LLC
(c/o Tyler Mordas of Brookfield Properties)
1 Meadowlands Plaza, Suite 301
East Rutherford, New Jersey 07073

Owner: T.L. Edwards, Inc. and Edwards Acquisition LLC
100 Wales Ave
Avon, MA 02322

J.F. White Contracting Co.
56 Old Page Street
Stoughton, Ma 02072

Representative: Langan Engineering & Environmental Services, Inc.
100 Cambridge St. Suite 1310
Boston, MA 02114

Property: 0 Maple Street (Assessors Map 093 Lot 011)
45 Maple Street (Assessors Map 093 Lot 012)
0 Turnpike Street (Assessors Map 093 Lot 014)
1157-1185 Turnpike Street (Assessors Map 093 Lot 016)
0 Page Street (Assessors Map 093 Lot 017),
162 Page Street (Assessors Map 094 Lot 050)
56 Old Page Street (Assessors Map 093 Lot 007)

I) Introduction

On August 11, 2022, applicant, IV3 Stoughton Logistics Park LLC (the "Applicant"), filed an application for Site Plan Approval under Section 10.6 of the Town of Stoughton's Zoning Bylaws (the "Zoning Bylaws"). The following Special

Bk 41196 - Pg 186, 190

Permit waiver requests Zoning By-Law sections 6.1.6.8-Parking, 6.4.4.1-Vegetation Standards, 6.4.5.5 & 6.4.7.2-Site Landscaping Parking Lots, 10.6.10.C.4-Earthwork. The application concerns the proposed construction of three Industrial Warehouse buildings totaling approximately 880,000 SF, with associated improvements and site modifications (the "Project").

II) Project Summary

As described in the application materials and the below referenced Site Plan, the Property is a combination of (8) eight lots totaling +/- 61.09-acres. The project area is currently being used as a quarry, office building, and repair/service garage, tow lot, and trailer parking lot. The Project comprises the proposed construction of three Industrial Warehouse buildings totaling approximately 880,000 SF, with associated improvements and site modifications.

The Property is located within an I (Industrial) Zoning District. The Project requires Site Plan Review and the applicant is requesting Special Permit Waivers as listed below.

III) Procedural History

(1) A pre Application meeting was held between the Town and the Applicant's consultants on June 8, 2022.

(2) The Applicant submitted an NOI on August 1, 2022 to the Conservation Commission.

(3) Zoning Board of Appeals – Decision – Case File 4280 – Special Permit to allow more than one principal building on a lot – recorded with Town clerk on October 21, 2022.

(4) Zoning Board of Appeals – Decision – Case File 4281 – Variance to height requirement to allow 50-foot building height– recorded with Town clerk on October 21, 2022.

(5) Application for Site Plan Approval and Special Permit waivers was made by the above referenced applicant and owner and filed with the Planning Board on August 11, 2022.

(6) An application for a Special Permit for Zoning By-Law section 6.4.5.5-Site Landscaping was made by the above referenced applicant and owner and filed with the Planning Board on April 11, 2023.

(7) Public hearings on the Site Plan Application and Special Permit Request were held on September 22, 2022, November 10, 2022, January 26, 2023, March 9, 2023 and May 11, 2023. The hearing was advertised on September 7, 2022 and September 14, 2022 in the Patriot- Ledger.

(8) On May 11, 2023, the public hearing was closed and on May 11, 2023, the Planning Board voted to approve the Special Permit request for Zoning By-

Law section 6.4.5.5-Site Landscaping, based on the plans dated August 5, 2022 revised through April 27, 2023.

(9) On May 25, 2023, the Planning Board voted to approve the Site Plan Approval and Special Permit waivers, based on the plans dated August 5, 2022 revised through April 27, 2023,

IV) Application Submittals

1. Application for Site Plan Approval was made by the above referenced applicant/owner and filed with the Planning Board on August 11, 2022. Application submittal included plans dated August 5, 2022.
2. Application for Grant of Special Permit waiver requests (Zoning By-Law sections 6.1.6.8-Parking, 6.4.4.1-Vegetation Standards, 6.4.5.5 & 6.4.7.2-Site Landscaping Parking Lots, 10.6.10.C.4-Earthwork was made by the above referenced applicant/owner and filed with the Planning Board on August 11, 2022.
3. Site Plan entitled "Stoughton Logistics Park Site Plan Review Submission" prepared by Langan Engineering & Environmental Services, Inc. dated August 5, 2022 and revised through April 27, 2023.
4. Traffic Impact Assessment prepared by Langan Engineering & Environmental Services, Inc. dated August 2022 and revised through January 2023.
5. Development Impact Report prepared by Langan Engineering & Environmental Services, Inc. dated August 2022.
6. Stormwater Management Plan prepared by Langan Engineering & Environmental Services, Inc. dated August 5, 2022 and revised through February 2023.

V) Related Documents

1. Copy of the Legal Public Hearing notice from the edition of the Patriot-Ledger dated September 7, 2022 and September 14, 2022.
2. Technical Engineering Review Letters dated September 15, 2022 and November 3, 2022 submitted by Craig Horsfall, Assistant Town Engineer.
3. Langan - Technical Engineering Review (First Review) Responses dated October 21, 2022.
4. Langan - Technical Engineering Review (First Review) 2nd Responses dated December 30, 2022.
5. Langan – Stormwater peer review responses dated December 30, 2022 and February 2, 2023.
6. Environmental Partners – Engineering peer review letters dated October 12, 2022, January 11, 2023 and February 14, 2023
7. GPI – Traffic peer review letters dated: October 21, 2022, January 17, 2023, February 21, 2023 and March 16, 2023.

8. Langan: Traffic peer review responses dated December 19, 2022 and January 20, 2023.
9. Ostergaard Acoustical Associates, Acoustical Analyses-Short Form Sound Study, dated May 22, 2023.

VI) Findings and Determinations

1. After carefully weighing the testimony and evidence at the public hearings and upon careful consideration of the public comments and professional opinions given by the Applicant's representative(s) and the Board's consultants, the Board finds that the Project meets Section 10.6.1 as well as 10.6.9 through 10.6.12. Specifically, the Board has examined each of the criteria set forth in Section 10.6.1 and finds as follows:
2. The location of the buildings, uses and other site development(s) are properly and legally located on the Property as prescribed by the Zoning Bylaw. As noted above, the Project use of more than one building on a lot was approved by the Board of Appeals with a Special Permit. The Board of Appeals also granted a variance to allow for a building height of 50 feet in the (I) Industrial Zoning district.
3. Adjacent properties are sufficiently protected from nuisance(s) caused by noise, traffic, odors, noxious or harmful fumes, stormwater runoff and glare of lights.
4. Adequate facilities for off street parking and loading, drainage, snow storage and/or removal, fire protection and methods of solid waste disposal are provided. As demonstrated by the Site Plan and accompanying submissions, the Project amply satisfies these interests.
5. Pedestrian ways, access/egress driveways, internal circulation, loading areas and parking facilities are properly designed and operated for public convenience, universal accessibility and public safety. As demonstrated by the Site Plan and accompanying submissions, the Project amply satisfies these interests.
6. Economic development is promoted by "smart" land use decisions. The proposal is a reuse of a quarry, tractor trailer storage yard, repair/service garage, tow lot, and a contractor's storage yard. Reusing existing developed land for a more intensive and formal use is a "smart" land use decision versus developing previously undeveloped land. The proposed development will reuse a site that has been developed intermittently over the years and formalize the site, provide stormwater improvements that treatment and control runoff, add landscaping and off site traffic improvements, which currently do not exist.
7. Additionally, the Board finds that the Applicant has submitted the required information for determination of approval of the Site Plan.

8. After careful review of this project by the Board of Health, Building Department, Fire Department, Police Department, Department of Public Works, Engineering Department and the Planning Department, the Planning Board analyzed all the comments and reports received. There were meetings with the Applicant in conjunction with extensive professional technical reviews completed by the Engineering Department, Planning Department and peer engineering reviews throughout this process and provided due diligence on all aspects with a comprehensive approach to the impact of the development on the community.
9. The Planning Board, in granting the Applicant's request for a Site Plan Approval pursuant to the provisions of Section 10.6 "Site Plan Approval" and found that the Project will not result in any substantial detriment to the district for all of the reasons stated above.

VI) Waivers – Special Permit

1. The Applicant requested Special Permit Waivers pursuant to the provisions of Sections 6.1.6.8-Parking, 6.4.4.1-Vegetation Standards, 6.4.5.5 & 6.4.7.2-Site Landscaping Parking Lots, 10.6.10.C.4-Earthwork.

   Section 6.1.6.8 Parking Reduction request: The applicant has provided for possible future expansion of the parking area if needed. Therefore, the Board finds that there will be no detriment will result in granting the Special Permit.

   Section 6.4.4.1 Vegetative Standards. The applicant has provided a replacement plan and is replacing the total of all of the trees larger than six inches in diameter proposed to be removed. The replacement plan proposes new landscape trees throughout the site, restoration and wetland enhancement trees. Therefore, the Board finds that there will be no detriment will result in granting the Special Permit.

   Section 6.4.5.5 & 6.4.7.2 Site Landscaping Parking Lots. The applicant has proposed that the vehicular parking areas meet this standard. The employee parking areas have visual screening and landscape islands. However, the applicant has requested a waiver to this requirement for the truck loading areas. The reason for this request is that adding landscaped islands in the truck loading areas would cause obstructions for the tractor trailers and limit maneuvering and turning movements. In addition, the loading areas are mainly internal to the sight and between the buildings; therefore, not visible to adjacent properties or the public. Due to the way trucks move onsite and their size the Board finds that maintain this amount of landscaping would not be possible. Therefore, the Board finds that there will be no detriment will result in granting the Special Permit.

Section 10.6.10.C.4 Earthwork. The applicant has proposed grading of more than 4-feet over the site. The site is an existing quarry and extensive excavation has occurred as well as mounding of excess material; therefore, in order to make the site useable excavation and filling in excess of 4-feet will need to occur. In this particular instance, the Board finds that the previous use of the site as a quarry necessitates such grading and earthwork so as to make the site useable for the proposed project. Therefore, the Boards finds that there will be no detriment will result in granting the Special Permit.

The Board finds that the Project is in harmony with the general purpose and intent of the Zoning By-law and will not result in any substantial detriment to the district for all of the reasons stated above and grants all of the Special Permit requests subject to the conditions of approval identified at the end of this report.

VII) Conditions

A) General Conditions

1. This decision for Site Plan Approval shall expire in two (2) years from the filing date of this decision unless substantial construction has commenced. The expiration of this decision may be extended, for good cause, upon timely written request by the applicant.
2. Any modification(s) affecting the approved site plan, this decision or any other action or condition approved under this decision shall be subject to the review and approval of the Planning Board prior to implementing said modification(s) on the ground. Minor modifications may not require an additional public hearing, which is at the discretion of the Planning Board.
3. The Applicant is responsible for the filing of this decision with the Registry of Deeds and shall provide proof of recording to the Planning Board.
4. The Applicant shall hold a pre-construction meeting with the Engineering Department to coordinate the necessary inspections.
5. All applicable Zoning Bylaw requirements of the Town of Stoughton shall be satisfied.
6. The project shall be constructed in accordance with any approvals issued relative to this project from all applicable town boards, departments and commissions, who shall retain their respective authorities and oversight of such permits, approval and decisions.
7. No site activity shall take place at the property under the Site Plan without proper authorization and permitting from all local and state agencies, as required.

Date	Description	No.
10/19/22	FINAL APPROVED PLAN SUBMISSION	1

Revisions

LANGAN
Langan Engineering and Environmental Services, Inc.
100 Cambridge Street, Suite 1310
Boston, MA 02114
T: 617.824.9100 F: 617.824.9101 www.langan.com

Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SIGNED PLANNING BOARD DECISION I

Project No.	Drawing No.
151022801	GI101
Date: 08/05/2022	
Drawn By: JSP	
Checked By: HAH	

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Project No. 151022801

8. Construction shall be performed by contractors licensed to perform such work in the Town of Stoughton.
9. All required inspection fees shall be paid through the Engineering Department prior to the issuance of a demolition permit, the issuance of a building permit or the initiation of site work, whichever of these occurs first in accordance with the fee schedule dated March 23, 2017.
10. The cost of any necessary outside testing, inspectional or other services required by any town department as part of the development process for the project shall be borne by the applicant and the timing of payment thereof shall be determined by the requesting source.
11. Any required easements, licenses, permits or grants of usage required as part of the development process for the project shall be obtained by the applicant prior to the issuance of a demolition permit, the issuance of a building permit or the initiation of site work, whichever of these occurs first.
12. Electronic copies of the approved site plans in PDF and AutoCAD format shall be submitted to the Engineering Department prior to the issuance of a Building Permit.
13. A blank sheet shall be incorporated into the plan set for future inclusion of the Planning Board Decision. The Planning Board Decision shall be scanned onto that sheet prior to issuance of a Building Permit.
14. All construction shall be in strict conformance with the approved Site Plans dated August 5, 2022 revised through April 27, 2023.

B) Special Conditions

1) The Planning Board Decision for the Project shall be recorded at the Norfolk County Registry of Deeds. Proof of recording shall be submitted to the Engineering Department prior to the issuance of a Building Permit.
2) The Planning Board decision shall be scanned onto a sheet in the plan set.
3) The applicant shall record the Operation & Maintenance Plans. Proof of recording shall be submitted to Board and the Engineering Department prior to the issuance of a Building Permit.
4) The applicant shall submit a set of the construction plans to the Engineering Department.
5) The applicant shall submit plans for review and approval to the Select Board and the Town's Legal Counsel for the Right of Way alterations and/or abandonment to reconfigure existing ways (Old Maple Street, Page Street), if necessary, prior to the issuance of a Building Permit.
6) An Approval Not Required Plan (ANR) that combines the project parcels and establishes the property boundary shall be submitted to the Planning Board prior to the issuance of a Building Permit.
7) Detailed Plans for the roadway widenings and re-striping shall be submitted to the Engineering for approval prior to the issuance of a Building Permit.

8) Solar photovoltaic panels shall be installed on the roofs indicated on the submitted plans as promptly as reasonably feasible after any and all necessary and useful permits and approvals, including any consents or certifications, for financing, installing, and operating the panels and related equipment, have been obtained from the electric distribution company and government regulators and taxing authorities (including for interconnection, net metering, investment or production tax credits, incentive program, or otherwise). The developer shall have two and a half years after construction completion to receive approvals and fully install the community solar system. If the developer is unsuccessful in obtaining the approvals and installing a community solar or front of the meter (FTM) solar system, the developer shall install a behind the meter electrical system to offset a minimum of 50% of the tenants' electrical load based on estimated warehouse usage and to be installed on the roofs as promptly as reasonably feasible provided the developer receives any and all required utility approvals, investment tax credit, and other required third-party approvals, permits, licenses and authorizations. The developer shall have three and a half years after construction completion to receive approvals and install the solar system.
9) GPI shall oversee implementation of all traffic mitigation measures outlined in their letter dated March 16, 2023, which the conditions are made apart of this decision and are attached. All costs associated with their third-party oversight shall be paid for by the project proponent. An escrow account to cover the initial oversight shall be established prior to the issuance of a Building Permit. The account shall be replenished as needed by the applicant.
10) A Soil Management Plan shall be submitted to the Engineering Department for review and approval prior to the issuance of a Building Permit.
11) Plans for retaining walls over four feet in height shall be designed and stamped by a Structural Engineer licensed in the State of Massachusetts. The Structural Retaining Wall Plans shall be submitted to the Engineering Department and Building Department for review and approval prior to the issuance of a Building Permit.
12) Due to the size of the project, construction inspection fees shall be caiculated at the time of filing for a Building Permit and shall consider the project schedule/duration submitted by the contractor.
13) The entire drainage system shall be cleaned after the site is stabilized.
14) A Final As-built Plan shall be submitted for review by the Engineering Department prior to the issuance of a Certificate of Occupancy.
15) Electronic copies of the approved site plans and as-built plans (PDF and AutoCAD formats) shall be submitted.

16) All work described within this decision and shown on the plans must be completed and approved by the proper Town Departments prior to the issuance of an Occupancy Permit.

VIII) Record of Vote

The following members of the Planning Board constituting a majority, hereby vote to approve the Site Plan based on the above stated facts, findings and conditions. The Board further voted to allow the Chair to endorse the decision on their behalf.

On this day of June 8, 2023.

Daniel Kelly, Chairman

Paul Demusz, Vice Chairman

Paul Belliveau

Richard Terry

Dennis Walsh

Cc: Town Clerk
Applicant
Interested Parties

CERTIFICATION:

The Planning Board certifies that a copy of this decision has been filed with the Town Clerk of the Town of Stoughton on June 9, 2023.

FOR THE PLANNING BOARD

Daniel Kelly, Chairman

Date	Description	No.
Revisions		

LANGAN
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Boston, MA 02114
T: 617.824.9100 F: 617.824.9101 www.langan.com

Project
STOUGHTON LOGISTICS PARK
STOUGHTON
NORFOLK COUNTY MASSACHUSETTS

Drawing Title
SIGNED PLANNING BOARD DECISION II

Project No.	Drawing No.
151022801	GI102
Date: 07/10/2023	
Drawn By: MPG	
Checked By: HAH	

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Project No. 151022801
Date: 7/10/2023 Time: 14:54 User: mgallucci Style Table: Langan.stb Layout: GI102 Document Code: 151022801-0501-GI101-0102