

COMSTOCK INDUSTRIAL PARK

PLAT 36/4, LOT 46 COMSTOCK PARKWAY
CRANSTON, RHODE ISLAND

ISSUED FOR PRELIMINARY PLAN APPROVAL

NOVEMBER 9, 2022

OWNER

Prepared For:

COMSTOCK INDUSTRIAL, LLC
21 Locust Avenue, Suite 1D-5
New Canaan, CT 06840
203-292-1850

CONSULTANTS

Prepared By:

Civil Engineer



Architect



Landscape Architect

John C. Carter Company
960 Boston Neck Road
Narragansett, RI 02882
(401) 783-3500

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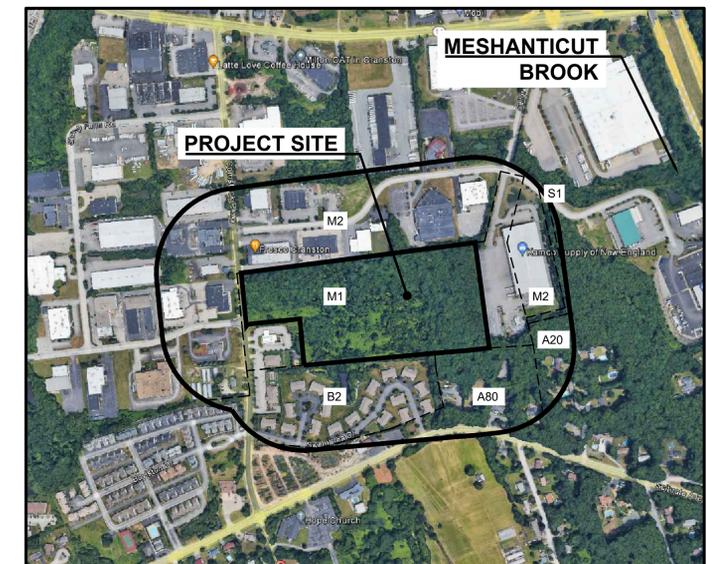
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LOCATION MAP



GENERAL NOTES

- THE PARCEL IS FOUND ON ASSESSOR'S PLAT 36, LOT 46 IN THE CITY OF CRANSTON, PROVIDENCE COUNTY, RHODE ISLAND.
- THE OWNER PER:
 - DEED BOOK 5536, PAGE 85 IS RAL REALTY LIMITED PARTNERSHIP AND ANDREA FINKEL, 75% INTEREST.
 - DEED BOOK 1693, PAGE 90 IS RONALD R.S. PICERNE AND ROBERT E. DEBLOIS, SR., 25% INTEREST.
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE X. REFERENCE FEMA FLOOD INSURANCE RATE MAP 44007C029H, MAP REVISED OCTOBER 2, 2015. THIS DESIGNATION MAY CHANGE BASED UPON REVIEW BY A FLOOD ZONE SPECIALIST OR BY THE RESULTS OF A COMPREHENSIVE FLOOD STUDY.
- THE PARCEL IS ZONED M1 BASED ON THE CITY OF CRANSTON ONLINE GIS. ANY OVERLAY DISTRICTS, SPECIAL PERMITS OR VARIANCES SPECIFIC TO THIS SITE ARE NOT TAKEN INTO CONSIDERATION. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.
- THERE WERE NO CEMETERIES, GRAVE SITES AND/OR BURIAL GROUNDS OBSERVED WITHIN THE LIMITS OF THE SURVEY.
- BOUNDARY SURVEY PERFORMED BY DIPRETE ENGINEERING IN 2007. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THAT DATE.

PLAN REFERENCES

- MINOR SUBDIVISION, COMSTOCK PARKWAY, ASSESSOR'S PLAT 36/4 LOT 46, CRANSTON, RHODE ISLAND, SCALE 1"=80', DATED NOVEMBER 21, 2007, PLAN BY DIPRETE ENGINEERING ASSOCIATES, INC., RECORDED AS PLAT NO. 771.

ALTA/NSPS LAND TITLE SURVEY NOTES

- THE ADDRESS OF PARCEL IS 0 COMSTOCK PARKWAY.
- THERE WERE 0 REGULAR PARKING SPACES AND 0 HANDICAPPED PARKING SPACES, FOR A TOTAL OF 0 SPACES OBSERVED AT THE TIME OF THE FIELD SURVEY.
- THE PARCEL HAS DIRECT ACCESS TO COMSTOCK PARKWAY, A PUBLIC RIGHT OF WAY.
- THERE WAS NO OBSERVED EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION AT THE TIME OF THE FIELD SURVEY.
- RIGHT OF WAY LINES ADJACENT TO SUBJECT PARCEL ARE AS SHOWN.
- THERE WAS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED AT THE TIME OF THE FIELD SURVEY.
- SURVEY BASED ON TITLE COMMITMENT #20R00365 (8867652), EFFECTIVE DATE APRIL 15, 2021 AT 8:00 AM BY CHICAGO TITLE INSURANCE COMPANY.

SCHEDULE A DESCRIPTION

THAT CERTAIN PARCEL OF LAND, WITH ALL BUILDINGS AND IMPROVEMENTS, SITUATED ON THE EASTERLY SIDE OF COMSTOCK PARKWAY IN THE CITY OF CRANSTON, IN PROVIDENCE COUNTY, IN THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS AND SHOWN AS "LOT 1" ON THAT PLAN ENTITLED: "MINOR SUBDIVISION, COMSTOCK PARKWAY, ASSESSOR'S PLAT 36/4 LOT 46 CRANSTON, RHODE ISLAND, PREPARED BY: DIPRETE ENGINEERING ASSOCIATES, INC. ENGINEERING, SURVEYING AND PLANNING CONSULTANTS, TWO STAFFORD COURT, CRANSTON, R.I. 02920 (401) 943-1000 FAX: (401) 464-6006 PREPARED FOR: A & R REALTY ASSOCIATES & RONALD R. S. PICERNE & ROBERT E. DEBLOIS SR. TRUSTEES C/O RICHARD LIGHT 10 WEBBOSSET STREET, PROVIDENCE, RI 02903, SEPTEMBER 2007 SHEET 1 OF 1, REVISED 11/21/07 SCALE: 1"=80', WHICH SAID PLAT IS RECORDED IN THE LAND EVIDENCE RECORDS OF THE CITY OF CRANSTON AS PLAT NO. 771.

SCHEDULE B EXCEPTIONS:

- DECISIONS RECORDED IN BOOK 3096 AT PAGE 118, BOOK 3105 AT PAGE 169, BOOK 3328 AT PAGE 253, BOOK 3791 AT PAGE 149, BOOK 3793 AT PAGE 146, BOOK 3851 AT PAGE 23 AND BOOK 4099 AT PAGE 111, RESPONSE: AFFECTS SUBJECT PARCEL, NOT PLOTTABLE.
- TERMS, CONDITIONS AND OBLIGATIONS AS SET FORTH IN EASEMENT RECORDED IN BOOK 3328, PAGE 257, RESPONSE: AFFECTS SUBJECT PARCEL, SHOWN ON SURVEY.
- TERMS, CONDITIONS, AGREEMENTS AND OBLIGATIONS AS SET FORTH IN EASEMENT RECORDED IN BOOK 3802, PAGE 143, RESPONSE: AFFECTS SUBJECT PARCEL, SHOWN ON SURVEY.
- RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT INSIGNIFICANT ALTERATION PERMIT RECORDED IN BOOK 4019 AT PAGE 93, RESPONSE: AFFECTS SUBJECT PARCEL, NOT PLOTTABLE.
- ANY AND ALL MATTERS AND CONDITIONS SHOWN OR SET FORTH ON THE FACE OF RECORDED PLAT 771, RESPONSE: ALL MATTERS AND CONDITIONS SHOWN ON SURVEY.

SURVEYOR'S CERTIFICATE

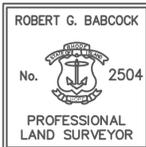
TO: COMSTOCK INDUSTRIAL LLC, CHICAGO TITLE INSURANCE COMPANY, AND WICKFORD AVENUE LLC.
 THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(A), 7(A), 7(B)(1), 7(C), 8, 9, 13, 14, 16, & 17 OF TABLE A THEREOF. THE BOUNDARY WORK WAS COMPLETED IN 2007, DATE OF PLAT OR MAP: MAY 25, 2021
 THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

- LIMITED CONTENT BOUNDARY SURVEY (PERIMETER) CLASS I
- N/F NOW OR FORMERLY

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: ALTA SURVEY.

Robert G. Babcock
 5/25/21

ROBERT G. BABCOCK, RIFLS #2504, COA #LS.000A160

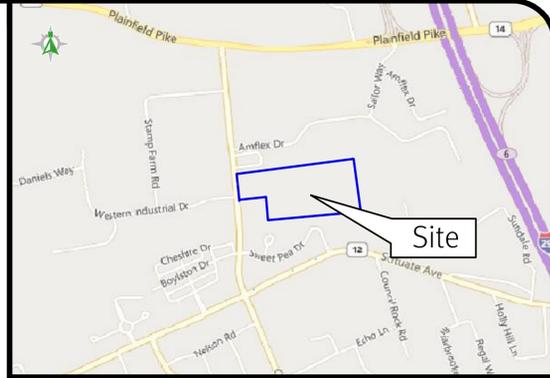


THIS PLAN SHOULD BE INDEXED BY THE FOLLOWING STREETS:

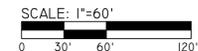
- COMSTOCK PARKWAY

LEGEND

- PROPERTY LINE
- ASSESSORS LINE
- TREELINE
- FENCE
- STONE WALL
- DEED BOOK/PAGE
- ASSESSOR'S PLAT
- NAIL/SPIKE
- DRILL HOLE
- IRON ROD/PIPE
- BOUND
- SEWER MANHOLE
- HYDRANT
- WATER VALVE
- UTILITY/POWER POLE
- TREE



LOCUS MAP Not To Scale



Diprete Engineering
 Two Stafford Court Cranston, RI 02920
 Tel: 401-943-1000 Fax: 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport

NO.	DATE	DESCRIPTION	A.T.F.
2	5/25/21	ALTA/NSPS LAND TITLE SURVEY	A.T.F.
1	4/30/21	ALTA/NSPS LAND TITLE SURVEY	A.T.F.
1	7/28/20	ALTA/NSPS LAND TITLE SURVEY	A.T.F.

ALTA/NSPS LAND TITLE SURVEY
COMSTOCK PARKWAY DEVELOPMENT
 ASSESSOR'S PLAT 36 LOT 46
 CRANSTON, RHODE ISLAND

PREPARED FOR:
WEST PASSAGE CAPITAL, LLC
 36 SHERWOOD PLACE, GREENWICH, CONNECTICUT 06830
 TEL: (203) 292-1850

DEED BOOK FOR: WEST PASSAGE CAPITAL, LLC
 DEED BOOK FOR: WEST PASSAGE CAPITAL, LLC
 DEED BOOK FOR: WEST PASSAGE CAPITAL, LLC

SCALE: 1"=60'

SHEET 1 OF 1

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**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46



SITE PREPARATION NOTES:

- CONTRACTOR SHALL NOTIFY "DIGSAFE" (811) AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION, AND INVERTS AS REQUIRED.
- PROTECT ALL IMPROVEMENTS NOT INCLUDED WITHIN THE LIMITS OF WORK. ANY IMPROVEMENT WHICH IS DAMAGED SHALL BE REPAIRED OR REPLACED IN-KIND TO THE OWNER'S SATISFACTION.
- DURING DEMOLITION, PROTECT ALL ADJACENT CURBING, SIDEWALKS, RAMPS, ABOVE-GRADE AND BELOW-GRADE UTILITIES, DRAINAGE STRUCTURES, LIGHT BASES, AND OTHER IMPROVEMENTS POTENTIALLY AFFECTED BY THE WORK. CLEARLY DELINEATE THE LIMITS OF WORK AND MARK, BARRICADE, OR OTHERWISE IDENTIFY THOSE IMPROVEMENTS THAT ARE TO BE PROTECTED AND/OR AVOIDED. ANY IMPROVEMENT WHICH IS DAMAGED SHALL BE REPAIRED OR REPLACED IN-KIND TO THE OWNER'S SATISFACTION.
- THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
- THE DIMENSIONS SHOWN ON THE PLANS, INCLUDING THE INTENDED DIMENSIONS OF THE WORK, MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS AS WELL AS OTHER DIMENSIONS HE MAY DEEM APPROPRIATE TO FACILITATE THE COMPLETION OF THE WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
- IMPLEMENTING WORKER SAFETY AND/OR HEALTH PROTOCOLS THAT ADDRESS COMPLIANCE WITH RULES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY AND/OR THE POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC PHYSICAL OR CHEMICAL HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- PRIOR TO THE TERMINATION, ABANDONMENT, OR REMOVAL OF ANY UTILITY, VERIFY THAT APPLICABLE NOTIFICATIONS HAVE BEEN MADE TO THE UTILITY OWNER/OPERATOR AND THAT THE UTILITY HAS BEEN PROPERLY TERMINATED, CAPPED, OR PLUGGED AS REQUIRED.
- PROVIDE PAVEMENT SAWCUT AT THE EDGE OF EACH PAVEMENT REMOVAL AREA TO ESTABLISH A CLEAN EDGE WHERE NEW WORK WILL MEET EXISTING PAVEMENT. SAWCUT SHALL BE A MINIMUM OF 12 INCHES FROM EDGE OF PAVEMENT REMOVAL.
- UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEED, FERTILIZED, AND MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.

EROSION AND SEDIMENT CONTROL NOTES:

- THIS PLAN IS FOR EROSION AND SEDIMENTATION (E&S) CONTROL AND DEMOLITION ONLY. SEE OTHER PLANS FOR THE SCOPE OF CONSTRUCTION WORK.
- THE MEASURES SPECIFIED HEREON ARE THE MINIMUM REQUIREMENTS FOR E&S CONTROL AND ARE SHOWN IN GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL E&S CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO ANY RESOURCE AREAS. ALL EROSION CONTROLS SHALL BE INSTALLED PRIOR TO ANY SITE WORK. CONTROLS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL. EXCAVATED MATERIAL SHOULD NOT BE DISPOSED OF IN THE WETLAND AREA. PROVIDE ADDITIONAL E&S MEASURES AS REQUIRED TO CONTROL EROSION AND SILTATION THROUGHOUT THE DURATION OF THE CONSTRUCTION AS CONDITIONS DICTATE AND/OR AS DIRECTED BY THE OWNER OR THE ENGINEER.
- MONITOR AND INSPECT ALL E&S MEASURES IN AN ONGOING MANNER THROUGHOUT THE WORK AND TAKE CORRECTIVE MEASURES, AS REQUIRED, TO MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO ANY RESOURCE AREAS.
- ANY EROSION AND SEDIMENTATION MEASURE IMPLEMENTED BEYOND THAT SHOWN HEREON SHALL CONFORM TO APPLICABLE SECTIONS OF THE STATE OF RHODE ISLAND'S 1989 (REV. 2014) "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK."
- ANY STOCKPILED MATERIAL SHALL BE SUBJECT TO EROSION CONTROL MEASURES THAT INCLUDE A MINIMUM OF SILT FENCE OR HAY BALE BARRIER. COVER STOCKPILES IF SIGNIFICANT RAINFALL IS PREDICTED.
- PROVIDE TEMPORARY SEEDING WITH MULCH ON ALL EXPOSED SOIL AREAS WHERE WORK WILL BE SUSPENDED FOR LONGER THAN 30 DAYS. APPLY SEED AND MULCH WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK. WHEN SEEDING IS NOT POSSIBLE DUE TO SEASONAL WEATHER CONDITIONS OR OTHER FACTORS, PROVIDE TEMPORARY STRUCTURAL SOIL PROTECTION SUCH AS MULCH, WOODCHIPS, EROSION CONTROL MATTING, OR COMPOST.
- ALL TEMPORARY SLOPES IN EXCESS OF 3 (HORIZONTAL) TO 1 (VERTICAL) SHALL BE STABILIZED WITH EROSION CONTROL MATTING OR APPROVED EQUIVALENT.
- NO RUNOFF SHALL BE ALLOWED TO ENTER ANY WETLANDS SYSTEM OR EXIT THE SITE PRIOR TO TREATMENT FOR SEDIMENT REMOVAL.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS. ALL TRASH SHALL BE CLEANED ON A DAILY BASIS AND THE SITE SHALL BE LEFT IN A NEAT CONDITION AT THE END OF EACH WORK DAY.
- TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS AND ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION, CONTROL, AND RESPONSE.
- FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER AND MAINTAIN ADEQUATE MOISTURE LEVELS.
- SWEEP ADJACENT ROADWAYS IF MUD OR SOIL IS TRACKED ON TO THEM, OR AS DIRECTED BY THE ENGINEER.
- AN ANTI-TRACKING APRON SHALL BE INSTALLED AT THE SITE ACCESS AS SHOWN ON THE PLAN AND SHALL BE MAINTAINED AT ALL TIMES.
- ANY FUELING OR WASHING OF CONSTRUCTION VEHICLES SHALL OCCUR AT LEAST 150 FEET FROM THE WETLANDS AND WASHING ONLY INVOLVE WATER AND NOT DETERGENTS.

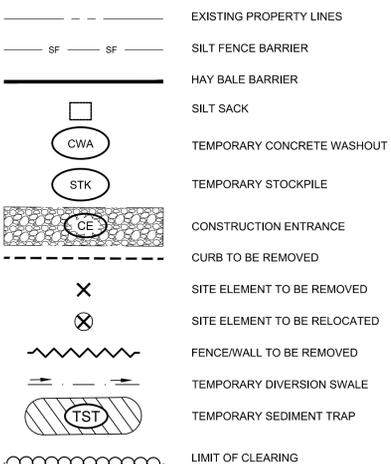
SUGGESTED CONSTRUCTION SEQUENCE:

- CONDUCT A PRE-CONSTRUCTION MEETING WITH THE OWNER AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY.
- INSTALL CONSTRUCTION ENTRANCE(S) AND PLACE CATCH BASIN FILTER INSERTS IN EXISTING CATCH BASINS.
- INSTALL PERIMETER E&S CONTROLS AND REQUEST PRE-CONSTRUCTION INSPECTION FROM THE ENGINEER.
- CLEAR AND GRUB AS NECESSARY
- STRIP TOPSOIL AND IMPERVIOUS SURFACES AND PLACE EROSION CONTROLS AS NECESSARY.
- PERFORM DEMOLITION AND BULK EARTHWORK OPERATIONS.
- BEGIN CONSTRUCTION OF FOUNDATIONS.
- CONSTRUCT UTILITIES AND UNDERGROUND DETENTION.
- BOX OUT PARKING LOT WITH IMPORTED BASE MATERIALS.
- CONSTRUCT BOTTOM COURSE OF BITUMINOUS PAVEMENT.
- CONSTRUCT LANDSCAPING AND OTHER SITE AMENITIES.
- CONSTRUCT CURBING AND TOP COURSE OF BITUMINOUS PAVEMENT.
- AT THE CONCLUSION OF CONSTRUCTION, COMPLETE THE INSTALLATION OF POST-CONSTRUCTION STIE STABILIZATION MEASURES AS SHOWN ON THE DRAWINGS.

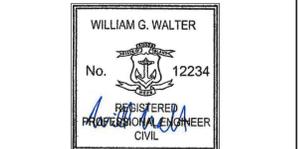
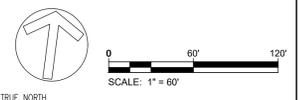
TEMPORARY E&S MEASURES MAINTENANCE SCHEDULE

E&S MEASURE	MAINTENANCE MEASURES	SCHEDULE
FILTER INSERTS IN DRAINAGE SYSTEM	CLEAN CATCH BASIN GRATE, REMOVE SEDIMENT/DEBRIS FROM FILTER INSERTS	WEEKLY & WITHIN 24 HOURS AFTER STORM GENERATING A DISCHARGE
HAY BALES/ SILT FENCE BARRIER	REPAIR/REPLACE WHEN FAILURE OBSERVED, REMOVE SILT WHEN ACCUMULATION REACHES APPROX. HALF HEIGHT OF BARRIER	WEEKLY & WITHIN 24 HOURS AFTER STORM GENERATING A DISCHARGE
TARP TEMPORARY STOCKPILES	ENSURE TARP IS SECURED OVER STOCKPILE AT THE END OF EACH DAY	DAILY
CONSTRUCTION ENTRANCE	SWEEP PAVED ROADWAY ADJACENT TO SITE ENTRANCE AS NECESSARY, REFRESH STONE AS NECESSARY, REMOVE SILTED GRAVEL	WEEKLY
MOISTEN EXPOSED SOILS	PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS AND KEEP TRAVELWAYS DAMP	DAILY
TEMPORARY SEDIMENT TRAPS	CHECK AND REPAIR STONE OUTLET, CLEAN WHEN HALF FULL OF SEDIMENT (DEWATER IF NECESSARY), RESTORE TRAP TO ORIGINAL DIMENSIONS	WEEKLY & WITHIN 24 HOURS AFTER STORM GENERATING A DISCHARGE

SEDIMENTATION AND EROSION CONTROL LEGEND

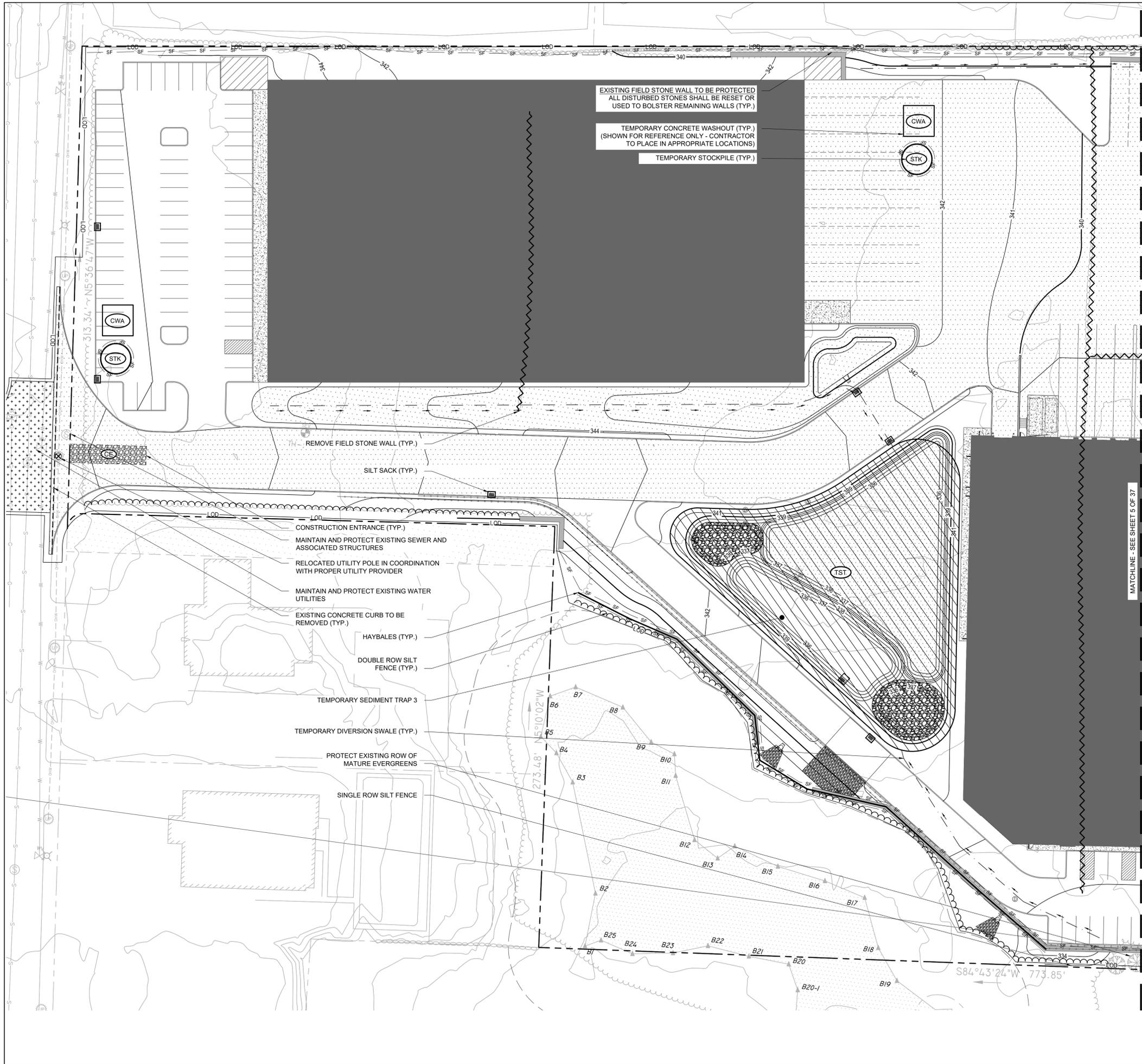


DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



PROJECT NO.: 70753.00
 SCALE: AS NOTED
 DATE: 11/09/2022
 DRAWN BY: JCO
 CHECKED BY: WGW

**OVERALL DEMOLITION &
 SITE PREPARATION
 PLAN**



SEDIMENTATION AND EROSION CONTROL LEGEND

- EXISTING PROPERTY LINES
- SF - SF - SILT FENCE BARRIER
- HAY BALE BARRIER
- SILT SACK
- CWA
- STK
- CE
- CONSTRUCTION ENTRANCE
- CURB TO BE REMOVED
- ⊗ SITE ELEMENT TO BE REMOVED
- ⊗ SITE ELEMENT TO BE RELOCATED
- FENCE/WALL TO BE REMOVED
- TEMPORARY DIVERSION SWALE
- TST
- LIMIT OF CLEARING

Prepared by:

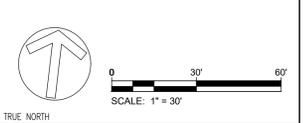
 Alfred Benesch & Company
 120 Hebron Avenue, 2nd Floor
 Glastonbury, Connecticut 06033
 860-633-8341

Prepared for:
 Comstock Industrial, LLC
 36 Sherwood Place
 Greenwich, Connecticut 06830
 203-292-1850

**COMSTOCK
 INDUSTRIAL PARK
 PRELIMINARY PLAN**

CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION

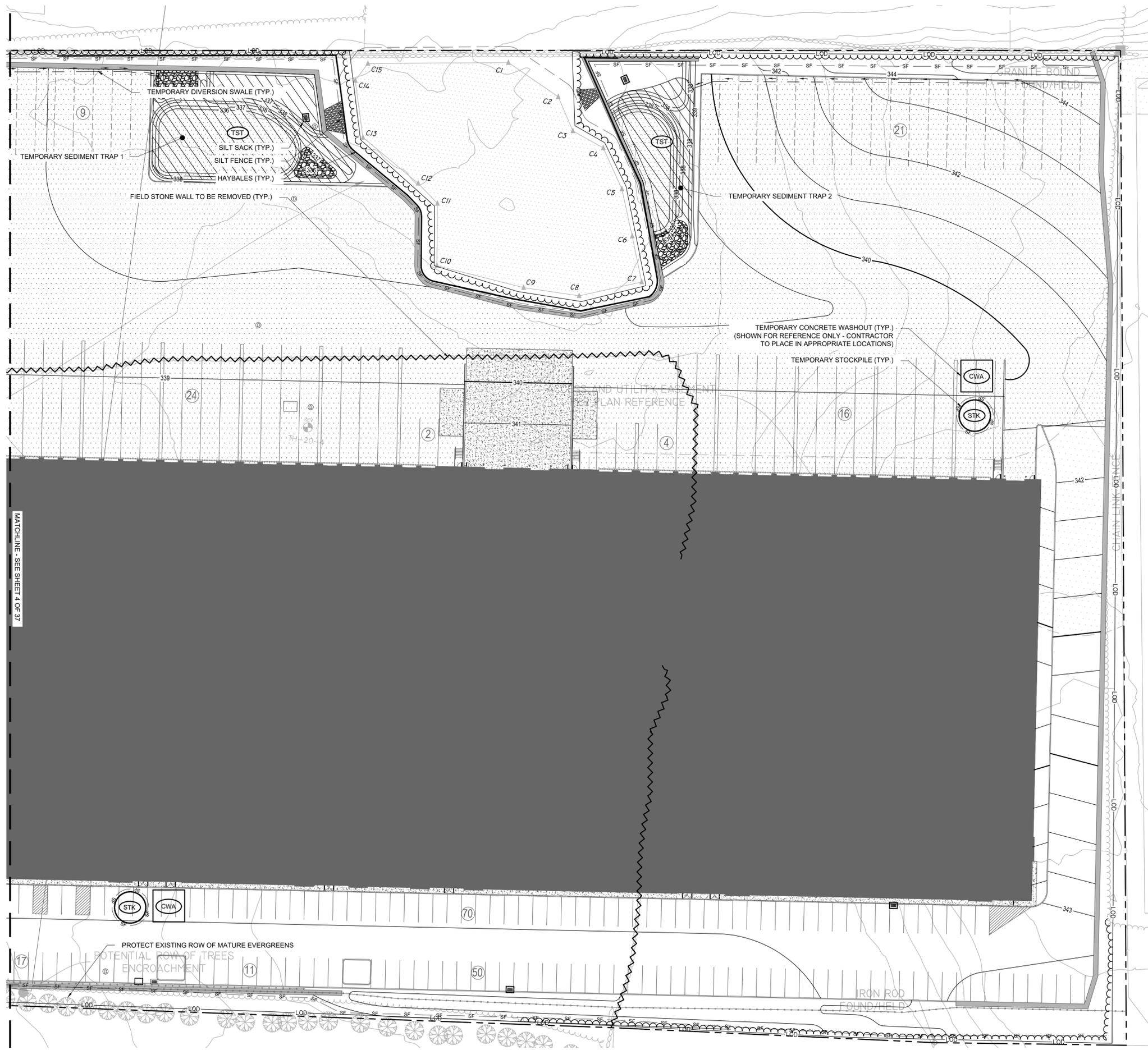


WILLIAM G. WALTER
 No. 12234
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00 DRAWN BY: JCO
 SCALE: AS NOTED CHECKED BY: GWG
 DATE: 11/09/2022

**DEMOLITION &
 SITE PREPARATION
 PLAN**

DRAWING NO.:
4 OF 39



SEDIMENTATION AND EROSION CONTROL LEGEND

	EXISTING PROPERTY LINES
	SILT FENCE BARRIER
	HAY BALE BARRIER
	SILT SACK
	TEMPORARY CONCRETE WASHOUT
	TEMPORARY STOCKPILE
	CONSTRUCTION ENTRANCE
	CURB TO BE REMOVED
	SITE ELEMENT TO BE REMOVED
	SITE ELEMENT TO BE RELOCATED
	FENCE/WALL TO BE REMOVED
	TEMPORARY DIVERSION SWALE
	TEMPORARY SEDIMENT TRAP
	LIMIT OF CLEARING

Prepared by:

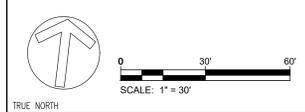
 Alfred Benesch & Company
 120 Hebron Avenue, 2nd Floor
 Glastonbury, Connecticut 06033
 860-633-8341

Prepared for:
 Comstock Industrial, LLC
 36 Sherwood Place
 Greenwich, Connecticut 06830
 203-292-1850

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN

CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



WILLIAM G. WALTER
 No. 12234
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

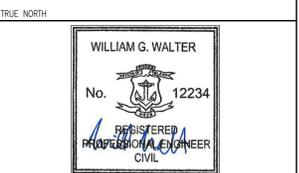
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 DATE: 11/09/2022

DEMOLITION & SITE PREPARATION PLAN

DRAWING NO.:
5 OF 39

MATCHLINE - SEE SHEET 4 OF 37

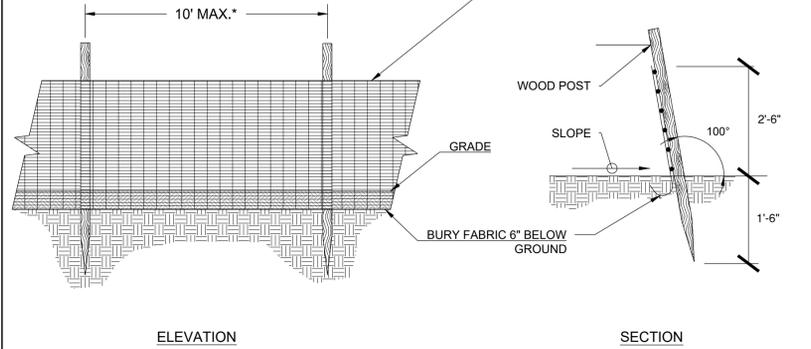
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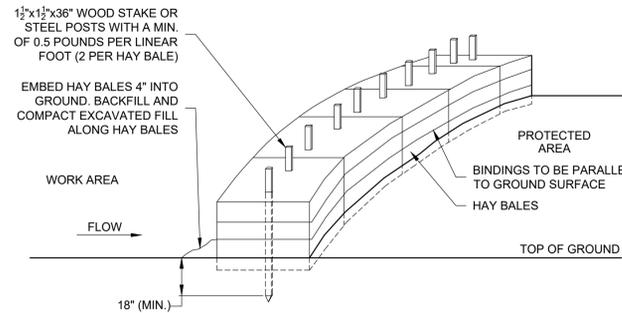
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EROSION & SEDIMENT CONTROL NOTES AND DETAILS

***NOTE:** POST SPACING AND EMBEDMENT VARIES BASED ON THE FABRIC MANUFACTURER'S REQUIREMENTS.

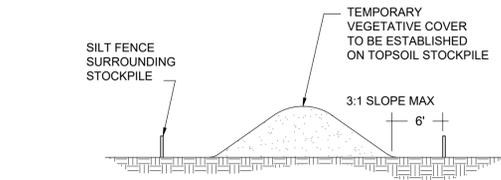


SILT FENCE BARRIER (SF)
 N.T.S.

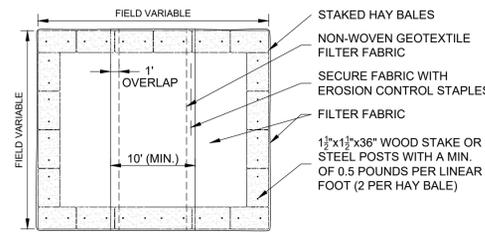


- NOTES:**
- HAY BALES SHALL BE MADE OF HAY OR STRAW WITH 40 POUND MIN. WEIGHT AND 120 POUND MAX. WEIGHT HELD TOGETHER BY TWINE OR WIRE.
 - PLACE HAY BALES ON CONTOUR AND WING THE LAST HAY BALES UP SLOPE SO THAT THE TOP OF THE LAST SEVERAL HAY BALES ARE HIGHER THAN THE LINE OF HAY BALES.
 - DRIVE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THEM TOGETHER.
 - PUT ONE HAY BALE PERPENDICULAR ALONG HAY BALE BARRIER EACH 100 FEET.

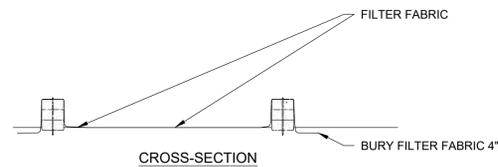
HAY BALE BARRIER (HB)
 N.T.S.



TEMPORARY STOCKPILE (STK)
 N.T.S.



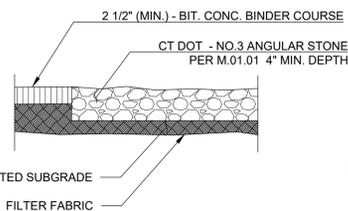
PLAN VIEW



CROSS-SECTION

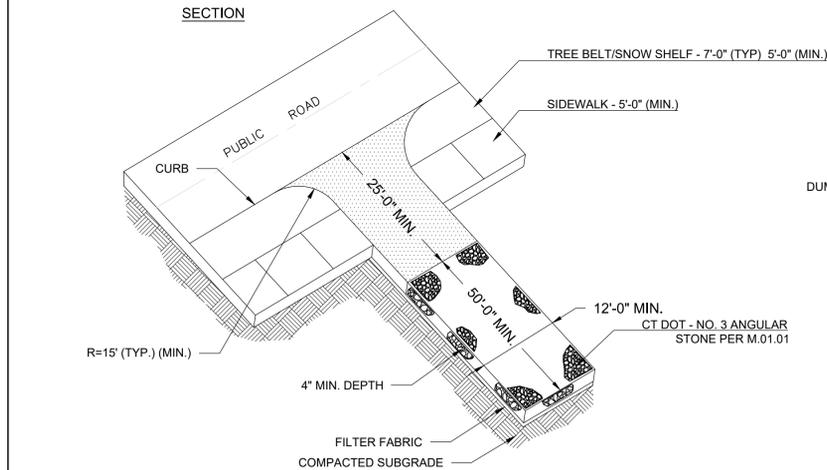
- NOTES:**
- CONSTRUCT WASHOUT AREA LARGE ENOUGH TO ENSURE MATERIALS WILL BE CONTAINED WHERE WASTE CONCRETE CAN SOLIDIFY IN PLACE AND EXCESS WATER CAN SAFELY EVAPORATE.
 - WASHOUT AREA SHALL BE LARGE ENOUGH TO RETAIN ALL LIQUID AND WASTE CONCRETE MATERIALS FROM WASHOUT OPERATION.
 - WEEKLY INSPECTIONS OF WASHOUT AREAS SHALL BE CONDUCTED TO ASSESS THE HOLDING CAPACITY AND FUNCTIONALITY OF THE WASHOUT AREA.
- SCALE: NONE

TEMPORARY CONCRETE WASHOUT AREA (CWA)

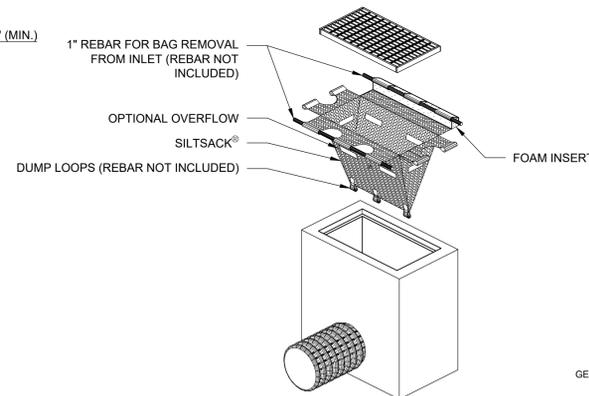


NOTE: LOCATION TO BE DETERMINED IN THE FIELD BY THE CONSTRUCTION ADMINISTRATOR

SECTION

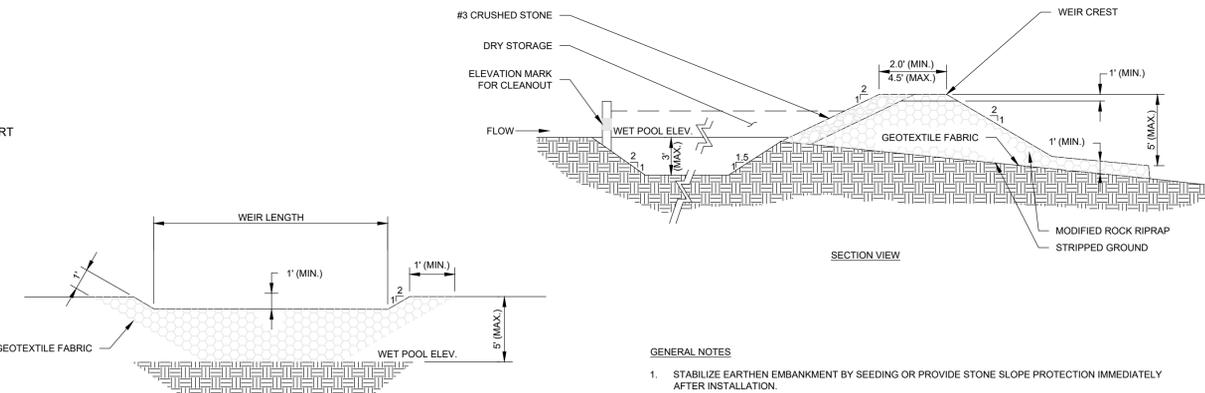


CONSTRUCTION ENTRANCE (CE)
 N.T.S.



"SILTSACK" SEDIMENT CONTROL DEVICE, TERRAFIX GEOSYNTHETICS INC. TORONTO, ONTARIO, CA WWW.TERRAFIXGEO.COM

SILT SACK DETAIL (SS)
 N.T.S.



OUTLET SECTION

TEMPORARY SEDIMENT TRAP
 SCALE: NONE

- GENERAL NOTES:**
- STABILIZE EARTHEN EMBANKMENT BY SEEDING OR PROVIDE STONE SLOPE PROTECTION IMMEDIATELY AFTER INSTALLATION.
 - NON-OVERFLOW PORTIONS AND ABUTMENTS OF TEMPORARY SEDIMENT TRAPS MAY BE CONSTRUCTED OF COMPACTED EARTH/FILL.

EROSION AND SEDIMENTATION CONTROL NARRATIVE:

DESCRIPTION

THE PROJECT CONSISTS OF REDEVELOPING THE EXISTING PROPERTY LOCATED AT PLAT 46/LOT 36 IN CRANSTON, RHODE ISLAND. THE PROPOSED WORK INCLUDES TWO LARGE INDUSTRIAL BUILDINGS FOR THE PURPOSE OF WAREHOUSING, LOADING AND UNLOADING OF VARIOUS PRODUCTS. THE PROJECT ALSO INCLUDES A 6,000 SF OFFICE SPACE AT ONE OF THE WAREHOUSES. THIS PROJECT WILL ALSO INCLUDE A DEVELOPMENT OF PAVED PARKING, LANDSCAPE AND STORM WATER ENHANCEMENTS, AND UTILITY UPGRADES.

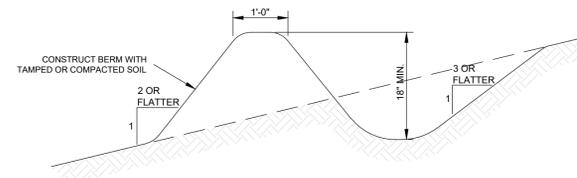
DESIGN AND CRITERIA - PER STATE OF RHODE ISLAND
 ALL WORK ASSOCIATED WITH EROSION CONTROL SHALL BE PERFORMED PER THE 2016 RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

- GEOTEXTILE SILT FENCE (SF)** - SHALL BE NON-WOVEN MATERIAL, MINIMUM 36" HIGH AND FASTENED TO WOOD STAKES. SILT FENCE SHALL BE INSTALLED WITH END RUNS TURNED UP GRADE AT 45 DEGREES FOR A DISTANCE OF 10 FEET (SEE DETAIL THIS SHEET).
- TEMPORARY SEEDING (TS)**
 - CONTRACTOR SHALL SCARIFY THE SOIL TO A DEPTH OF 2" BEFORE APPLYING FERTILIZER, LIMESTONE AND SEED.
 - SEED MAY BE APPLIED BY HAND OR MECHANICALLY. SEED APPLICATION SHALL BE UNIFORM. SEED RATE SHALL BE IN ACCORDANCE WITH THE 2016 RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (INCREASE SEEDING RATES BY 10% WHEN HYDROSEEDING, LIMESTONE, FERTILIZER AND SEED MAY BE APPLIED IN SLURRY.)
 - CONTRACTOR SHALL MULCH AREA (MS) IMMEDIATELY FOLLOWING SEEDING. (NOTE: IN THE EVENT SEEDING OPERATIONS ARE NOT FEASIBLE DUE TO SEASONAL RESTRICTIONS OR EXTENDED INCLEMENT WEATHER PATTERNS, THE CONTRACTOR SHALL INSTALL AN EROSION CONTROL BLANKET OVER EXPOSED SOILS.)
- PERMANENT SEEDING (PS)**
 - CONTRACTOR SHALL APPLY TOPSOIL AND FINE GRADE ALL AREAS BEFORE THE APPLICATION OF PERMANENT SEED. APPLY LIMESTONE AND FERTILIZER AS NEEDED, IN ACCORDANCE WITH SOIL TESTS.
 - REMOVE ALL SURFACE STONES 1/2 INCH AND LARGER. REMOVE ALL OTHER DEBRIS AND RAKE SEED BED.
 - APPLY SEED WITHIN 7 DAYS AFTER ESTABLISHING FINAL GRADES. SEE PLANTING PLAN.
- STRAW BALE BARRIER (HB)** - SHALL BE MADE OF STRAW WITH 40 POUNDS MINIMUM WEIGHT AND 120 POUNDS MAXIMUM WEIGHT, HELD TOGETHER BY TWINE OR WIRE. (SEE DETAIL THIS SHEET.)
- CONSTRUCTION ENTRANCE (CE)** - SHALL BE AN ANGULAR STONE PAD, A MINIMUM OF 12' WIDE AND 50' LONG. (SEE DETAIL THIS SHEET.)

APPLICATION/GENERAL PROCEDURES

SOIL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO ANY SITE DISTURBANCE, AND DEVELOPMENT WILL PROCEED ACCORDING TO A SPECIFIC CONSTRUCTION SEQUENCE. THE OBJECTIVE IS TO MAXIMIZE THE REDUCTION OF SEDIMENT-LADEN RUNOFF THROUGH IMPLEMENTATION OF CONVENTIONAL SOIL SEDIMENTATION AND EROSION CONTROL PRACTICES CURRENTLY RECOMMENDED BY THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

- EARTHWORK WILL BE SCHEDULED FOR PERIODS WHEN SOIL SATURATION IS LOW AND SOIL LOSS HAZARD IS AT A MINIMUM.
- SUSPEND EARTHWORK FOR MAJOR STORM EVENTS AND IMPLEMENT ADDITIONAL SEDIMENTATION AND EROSION CONTROL MEASURES AS NECESSARY.
- THERE SHALL BE NO CUTS OR FILL LEFT EXPOSED FOR LONGER THAN 30 DAYS. THE ESTABLISHED PROCEDURE OF TEMPORARILY SEEDING AND/OR COVER WITH EROSION PROTECTION (MAT OR STRAW) SHALL BE FOLLOWED TO INSURE MINIMAL SOIL LOSS.
- THE DISCHARGE OF UNTREATED STORMWATER TO ANY ADJACENT ROADWAYS, WETLANDS, OR PROPERTIES IS NOT ALLOWED.

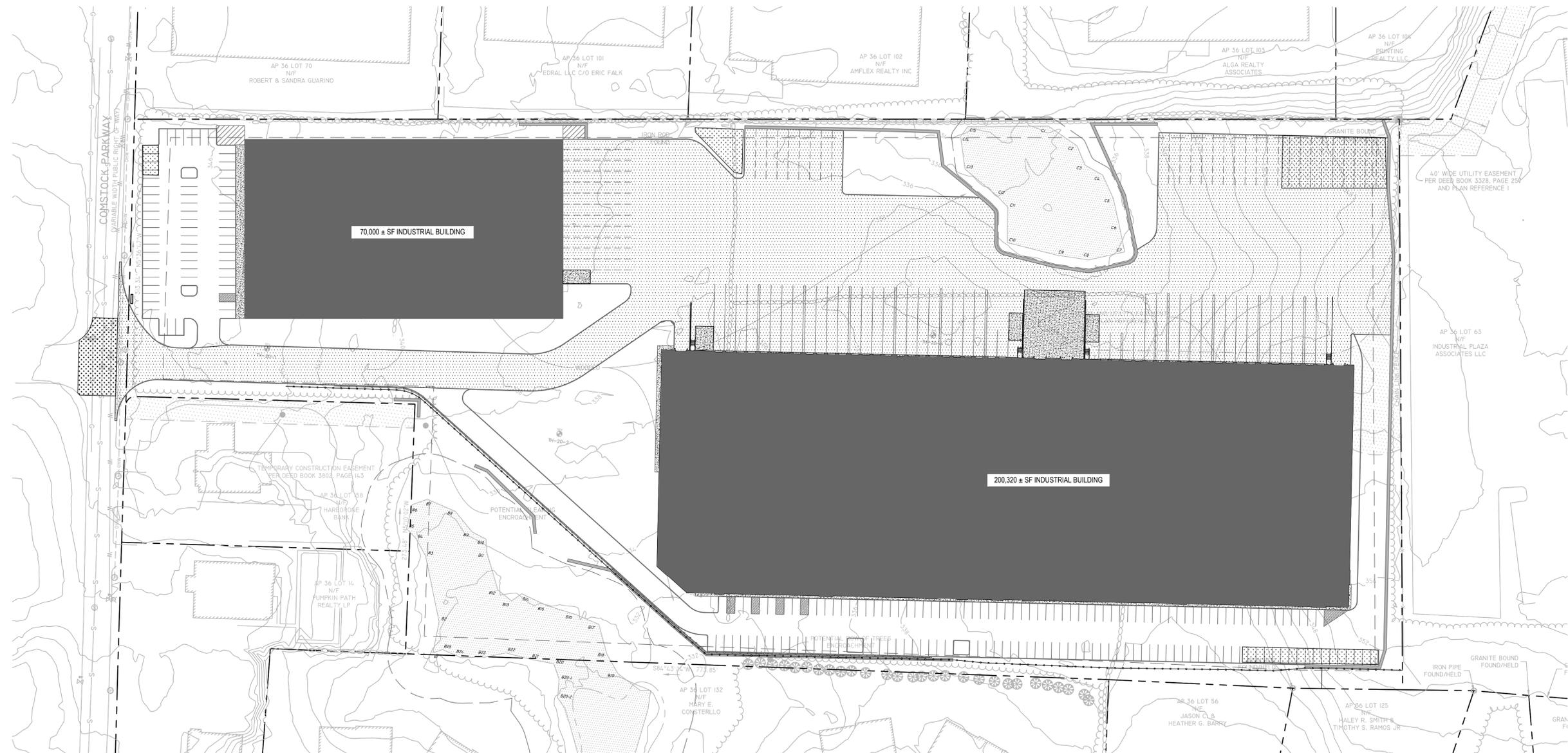


GENERAL NOTES

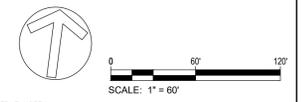
- INSTALL TEMPORARY DIVERSION SWALES TO CHANNEL WATER FROM DISTURBED AREAS TO THE TEMPORARY SEDIMENT BASIN. ADJUST SWALE LOCATIONS AS NECESSARY PER CHANGING SITE CONDITIONS.
- CONTRIBUTING DRAINAGE AREA MUST NOT EXCEED ONE ACRE.

TEMPORARY DIVERSION SWALE
 SCALE: NONE

**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46



DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



WILLIAM G. WALTER
 No. 12234

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00
 SCALE: AS NOTED
 DATE: 11/09/2022
 DRAWN BY: JCO
 CHECKED BY: WGW

**OVERALL
 LAYOUT & MATERIALS
 PLAN**

LAYOUT & MATERIALS LEGEND

-  PROPERTY LINE
-  CURBING
-  FENCE
-  GUARD RAIL
-  CONCRETE PAVEMENT
-  BUILDING
-  SNOW STORAGE AREA
-  HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT
-  LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT

LAYOUT AND MATERIALS NOTES:

1. CONTRACTOR SHALL NOTIFY "DIG SAFE" AT 811 AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION, AND INVERTS AS REQUIRED.
3. THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
4. THIS DRAWING IS INTENDED TO DEPICT THE LOCATION, LAYOUT, AND MATERIALS OF CONSTRUCTION AND IS INTENDED TO BE USED IN CONJUNCTION WITH APPLICABLE SPECIFICATION SECTIONS.
5. IMPLEMENTING WORKER SAFETY AND/OR HEALTH PROTOCOLS THAT ADDRESS COMPLIANCE WITH RULES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY AND/OR THE POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC PHYSICAL OR CHEMICAL HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL CURBING IS BITUMINOUS CONCRETE CURB UNLESS OTHERWISE INDICATED. WHERE CURBING ABUTS A CONCRETE RAMP, IT SHALL BE CONCRETE MONOLITHIC PER APPLICABLE DETAILS.
7. CONSTRUCTION AND CONTROL JOINTS: SIDEWALK RAMP REINFORCEMENT SHALL NOT CONTINUE THROUGH CONSTRUCTION JOINTS. AT CONTROL JOINTS CUT REINFORCEMENT WIRES.
8. ALL NON-ACCESSIBLE PARKING SPACES ARE 9' X 18'. VERIFY OVERALL LAYOUT DIMENSIONS BASED ON THESE DIMENSIONS AND THE NUMBER OF SPACES INDICATED. FIELD-ADJUST OVERALL LAYOUT DIMENSION IN CONCERT WITH THE ENGINEER IF REQUIRED.
9. ALL SIDEWALK THAT IS INTERIOR TO THE SITE SHALL BE BITUMINOUS CONCRETE UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION, AND INVERTS AS REQUIRED.
11. IMPLEMENTING WORKER SAFETY AND/OR HEALTH PROTOCOLS THAT ADDRESS COMPLIANCE WITH RULES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY AND/OR THE POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC PHYSICAL OR CHEMICAL HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
12. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.
14. RADII AT PARKING STALLS SHALL BE 2' UNLESS NOTED OTHERWISE.

ZONING TABLE

ZONE:	M1	
SURROUNDING ZONES:	M2 TO THE NORTH AND WEST B2 TO THE SOUTH A80 AND A8 TO EAST AND SOUTH	
USE:	EXISTING:	VACANT LOT
	PROPOSED:	INDUSTRIAL COMPLEX
ITEM	REQUIREMENTS	PROPOSED
MINIMUM LOT AREA	30,000 S.F.	754,967 SF (17.33 ACRES)
MINIMUM LOT WIDTH AND FRONTAGE	150 FT	313.33 FT
MAXIMUM BUILDING HEIGHT	35 FT	2 STORIES <35 FT
FRONT SETBACK	40 FT MIN.	121.7 FT
REAR SETBACK	30 FT MIN.	51.7 FT
SIDE SETBACKS (ONLY COMMERCIAL AND INDUSTRIAL USES APPLY)	20 FT MIN.	22 FT
MAX. TOTAL LOT IMPERV. COVERAGE	60%	563,380 SF = 74.6%
PARKING COUNT REQUIREMENT	*204 TOTAL SPACES	205 - TOTAL PARKING SPACES (INCLUDING 10 HANDICAP), 51 - WB-67 LOADING SPACES 6 - SU-30 LOADING SPACES 30 - WB-67 STORAGE SPACES

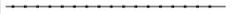
* PARKING CALCULATIONS:

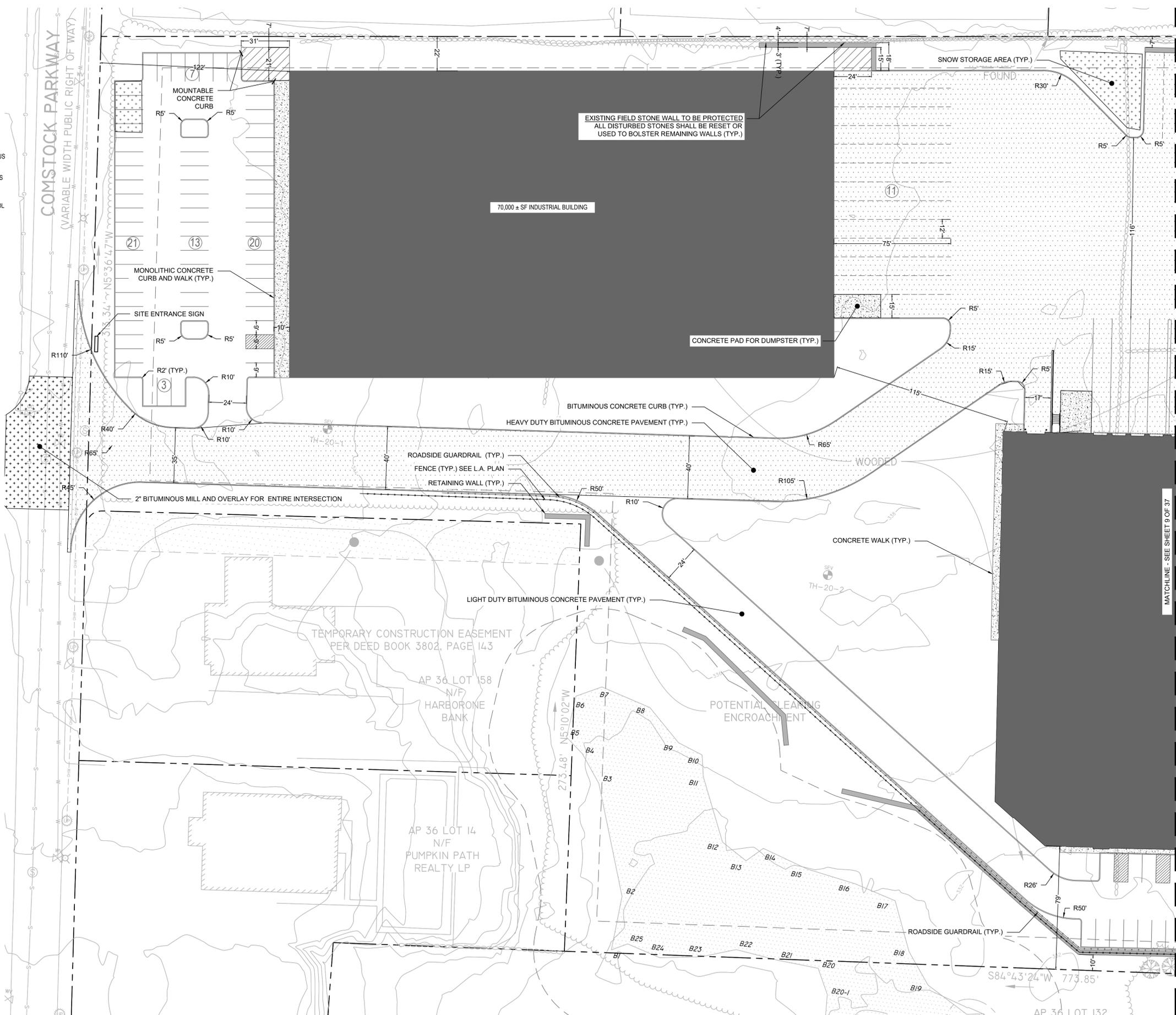
REQUIREMENTS:

- 200,320 SF INDUSTRIAL BUILDING:
- 100 SPACES (MAX. 400 WORKERS) + 25 CUSTOMER SPACES + 25 COMPANY VEHICLE SPACES
 - TOTAL REQUIRED = 150 SPACES
- 70,000 SF INDUSTRIAL BUILDING W/ OFFICE:
- OFFICE 6,000 SF: 4 SPACES PER 1000 SF = (6000 SF/1000 SF) * 4 SPACES = 24 SPACES
 - INDUSTRIAL 64,000 SF: 25 SPACES (MAX. 100 WORKERS) + 5 CUSTOMER SPACES = 30 SPACES
 - TOTAL REQUIRED = 54 SPACES

TOTAL ON SITE PARKING REQUIRED = 204 SPACES

LAYOUT & MATERIALS LEGEND

-  PROPERTY LINE
-  CURBING
-  FENCE
-  GUARD RAIL
-  CONCRETE PAVEMENT
-  BUILDING
-  SNOW STORAGE AREA
-  HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT
-  LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT
-  PARKING COUNT SYMBOL



Prepared by:

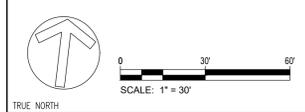
 Alfred Benesch & Company
 120 Hebron Avenue, 2nd Floor
 Glastonbury, Connecticut 06033
 860-633-8341

Prepared for:
 Comstock Industrial, LLC
 36 Sherwood Place
 Greenwich, Connecticut 06830
 203-292-1850

**COMSTOCK
 INDUSTRIAL PARK
 PRELIMINARY PLAN**

CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
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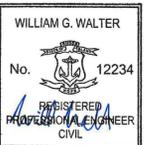
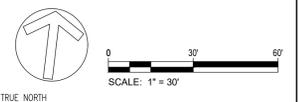
WILLIAM G. WALTER

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 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00 DRAWN BY: JCO
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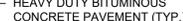
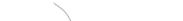
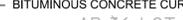
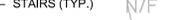
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 CHECKED BY: GWG

LAYOUT & MATERIALS PLAN



LAYOUT & MATERIALS LEGEND

-  PROPERTY LINE
-  CURBING
-  FENCE
-  GUARD RAIL
-  CONCRETE PAVEMENT
-  BUILDING
-  SNOW STORAGE AREA
-  HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT
-  LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT
-  PARKING COUNT SYMBOL

-  HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT (TYP.)
-  CONCRETE LOADING RAMP
-  CONCRETE PAD FOR DUMPSTER (T)
-  6" STEEL BOLLARD (TYP. OF 4)
-  BITUMINOUS CONCRETE CURB (TYP. AP 36 LOT 63
-  STAIRS (TYP.) N/F
-  INDUSTRIAL PLAZA ASSOCIATES LLC

MATCHLINE - SEE SHEET 8 OF 37

200,320 ± SF INDUSTRIAL BUILDING

POTENTIAL ROW OF TREES ENCROACHMENT

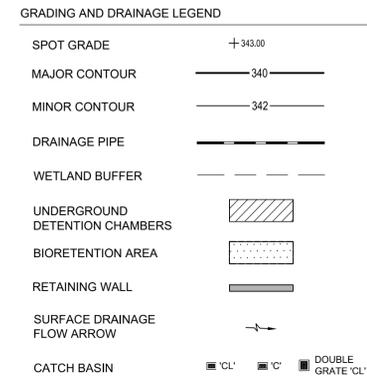
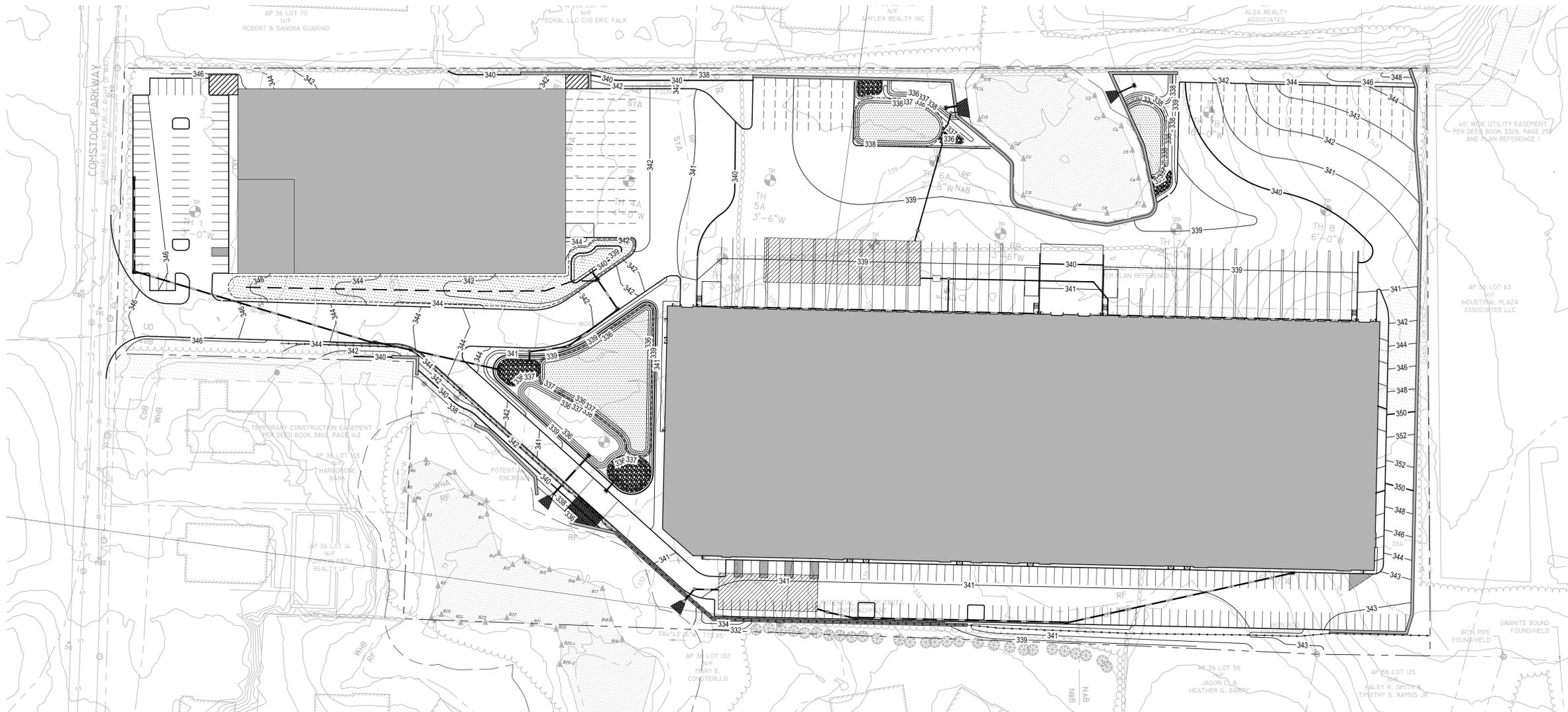
FENCE (TYP.) SEE L.A. PLAN

LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT (TYP.)

IRON PIPE FOUND/HELD

IRON ROD FOUND/HELD

**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 PLAT 36/4 LOT 46
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- GRADING NOTES:**
- PROPOSED GRADES INDICATE DESIGN INTENT. VERIFY ELEVATIONS AND MAKE ADJUSTMENTS TO MEET FIELD CONDITIONS. DO NOT PROCEED WITH ANY ADJUSTMENT OR FIELD MODIFICATION UNTIL APPROVED BY THE ENGINEER.
 - GRADE TRANSITION BETWEEN TOPOGRAPHIC LINES AND SPOT GRADES SHALL BE UNIFORM UNLESS OTHERWISE INDICATED.
 - MAXIMUM LANDSCAPE SLOPES SHALL BE 2(H):1(V) UNLESS OTHERWISE INDICATED.
 - ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.

- DRAINAGE NOTES:**
- CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PROPER STORM DRAINAGE IS MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL MAINTAIN ALL EXISTING AND NEW UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM AT ALL TIMES UNTIL THE WORK IS COMPLETED AND ACCEPTED.
 - FUNCTIONAL COMPLETION OF STORM WATER DETENTION SYSTEMS AND STRUCTURES SHALL PRECEDE SITE DEVELOPMENT OF AREAS, ROADS, OR LOTS CONTRIBUTING TO THESE SYSTEMS.

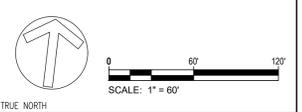
- STORM SEWER**
- EACH BUILDING TO RECEIVE 8" HDPE ROOF LEADER COLLECTION PIPE WITH A MINIMUM 0.5% SLOPE AND 2 FT OF COVER UNLESS OTHERWISE NOTED.
 - CONTRACTOR IS RESPONSIBLE TO ENSURE ADEQUATE SIZING OF MANHOLES TO ACCEPT PROPOSED PIPES.
 - ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARDS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING DURING THE EXECUTION OF HIS WORK.
 - THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS DEVELOPED FROM THE BEST AVAILABLE INFORMATION. THE ACTUAL LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF EXCAVATION ACTIVITIES.
 - AT THE CONCLUSION OF THE WORK, CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT MATERIAL FROM ALL PORTIONS OF THE STORM DRAINAGE SYSTEM.
 - ALL STORM DRAINAGE COMPONENTS (STORMWATER DETENTION SYSTEMS AND PROPRIETARY UNITS) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.

- UNDERGROUND DETENTION**
- ALL LAYERS OF LOAM SHALL BE REMOVED BENEATH THE UNDERGROUND DETENTION SYSTEMS AND REPLACED WITH ASTM C-33 CONCRETE SAND.

- ACCESSIBILITY NOTES:**
- SLOPES ALONG THE ACCESSIBLE ROUTE SHALL BE LESS THAN 1:20 (5%) AND THE CROSS SLOPES SHALL NOT EXCEED 1:50 (2%). CHANGES IN LEVELS SHALL NOT BE GREATER THAN 1/4 INCH.
 - SLOPES ALONG THE HANDICAP ACCESSIBLE RAMP SHALL NOT EXCEED 1:12 (8.3%) AND THE CROSS SLOPE SHALL NOT EXCEED 1:50 (2%). CHANGES IN LEVEL SHALL NOT BE GREATER THAN 1/4 INCH.
 - LANDINGS SHALL NOT HAVE A SLOPE GREATER THAN 1:50 (2%) IN ANY DIRECTION.
 - SLOPES WITHIN THE HANDICAP PARKING SPACE SHALL NOT EXCEED 1:50 (2%) IN ANY DIRECTION.

	MAINTENANCE MEASURE	ACTIVITY	SCHEDULE
BIORETENTION AREAS, SEDIMENT FOREBAYS AND DRY SWALE	1	<ul style="list-style-type: none"> INSPECT FOR DAMAGE NOTE SIGNS OF HYDROCARBON BUILDUP, AND REMOVE IF DETECTED MONITOR FOR SEDIMENT ACCUMULATION EXAMINE TO ENSURE THAT INLET AND OUTLET DEVICES ARE FREE OF DEBRIS 	ANNUALLY
	2	<ul style="list-style-type: none"> REPAIR UNDERCUT OR ERODED AREAS 	AS-NEEDED MAINTENANCE
	3	<ul style="list-style-type: none"> CLEAN AND REMOVE DEBRIS FROM INLET AND OUTLET STRUCTURES MOW SIDES AND BOTTOM SEEDMIX 	SPRING AND FALL
CATCH BASIN	4	<ul style="list-style-type: none"> REMOVE SEDIMENT WHEN THE VOLUME HAS BEEN SIGNIFICANTLY REDUCED OR WHEN SIGNIFICANT ALGAL GROWTH IS OBSERVED 	10-YEAR MAINTENANCE
	5	<ul style="list-style-type: none"> INSPECT AND CLEAN WHEN THE SUMP IS HALF FULL OF SILT AND/OR DEBRIS 	SEMI-ANNUALLY
OUTLET PROTECTION BASIN	6	<ul style="list-style-type: none"> INSPECT FOR SEDIMENT AND DEBRIS BUILDUP AND REMOVE AS NECESSARY ENSURE STRUCTURAL INTEGRITY OF RIPRAP HAS NOT BEEN COMPROMISED BY DISCHARGE REPAIR OR REPLACE RIPRAP AS NECESSARY 	SEMI-ANNUALLY
UNDERGROUND DETENTION	7	<ul style="list-style-type: none"> USING THE INSPECTION PORTS, INSPECT FOR SEDIMENT ACCUMULATION AND REMOVE VIA HYDROVAC IF NECESSARY 	ANNUALLY
HYDRODYNAMIC SEPARATOR	8	<ul style="list-style-type: none"> INSPECT AND MAINTAIN PER MANUFACTURER'S RECOMMENDATIONS 	ANNUALLY

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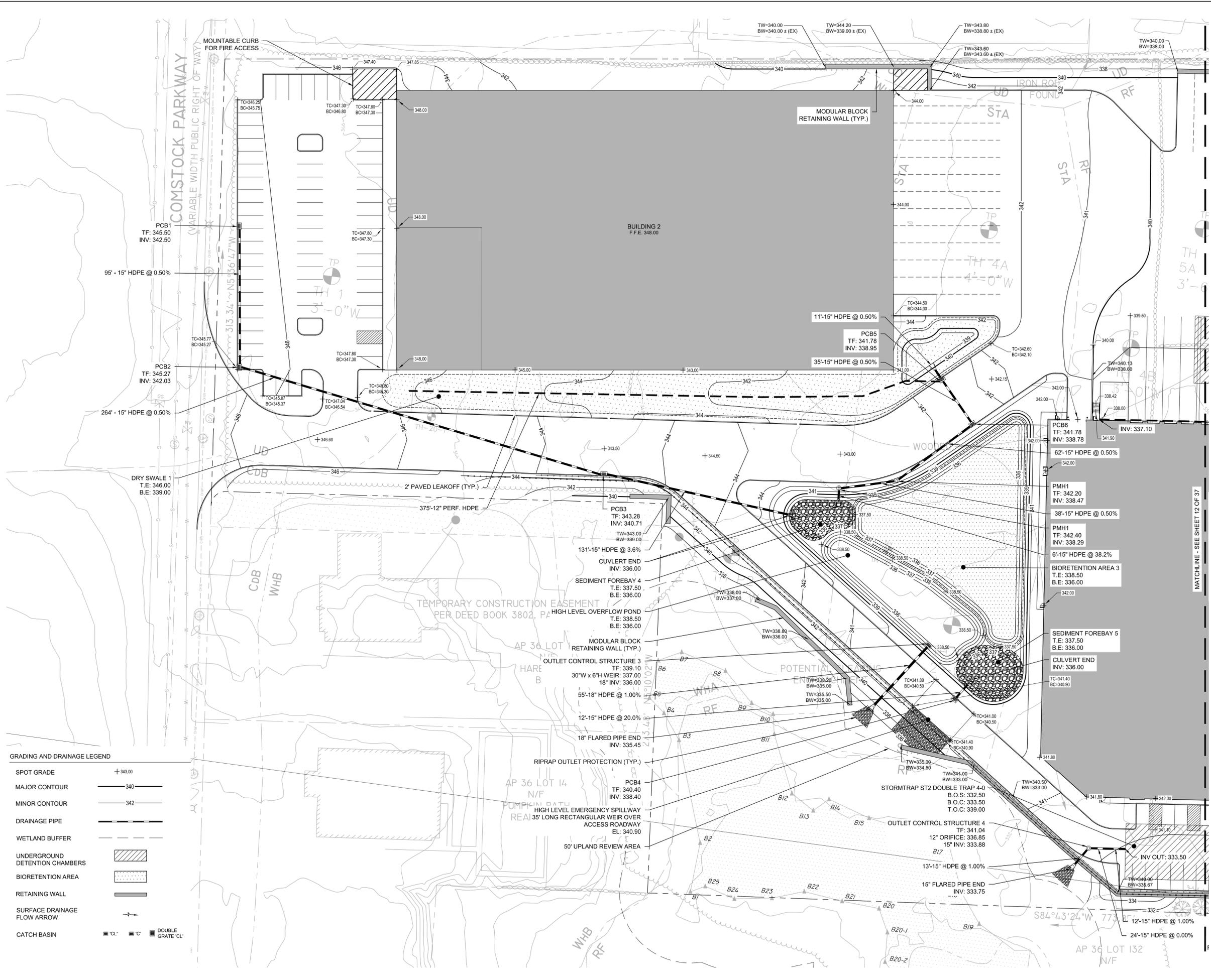
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 DATE: 11/09/2022

GRADING & DRAINAGE PLAN
 DRAWING NO.:
11 OF 39



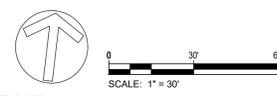
GRADING AND DRAINAGE LEGEND

SPOT GRADE	+ 343.00
MAJOR CONTOUR	340
MINOR CONTOUR	342
DRAINAGE PIPE	(Symbol)
WETLAND BUFFER	(Symbol)
UNDERGROUND DETENTION CHAMBERS	(Symbol)
BIORETENTION AREA	(Symbol)
RETAINING WALL	(Symbol)
SURFACE DRAINAGE FLOW ARROW	(Symbol)
CATCH BASIN	CL' (Symbol) C' (Symbol) DOUBLE GRATE 'CL' (Symbol)

MATCHLINE - SEE SHEET 12 OF 37

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 CRANSTON, RI
 PLAT 36/4 LOT 46

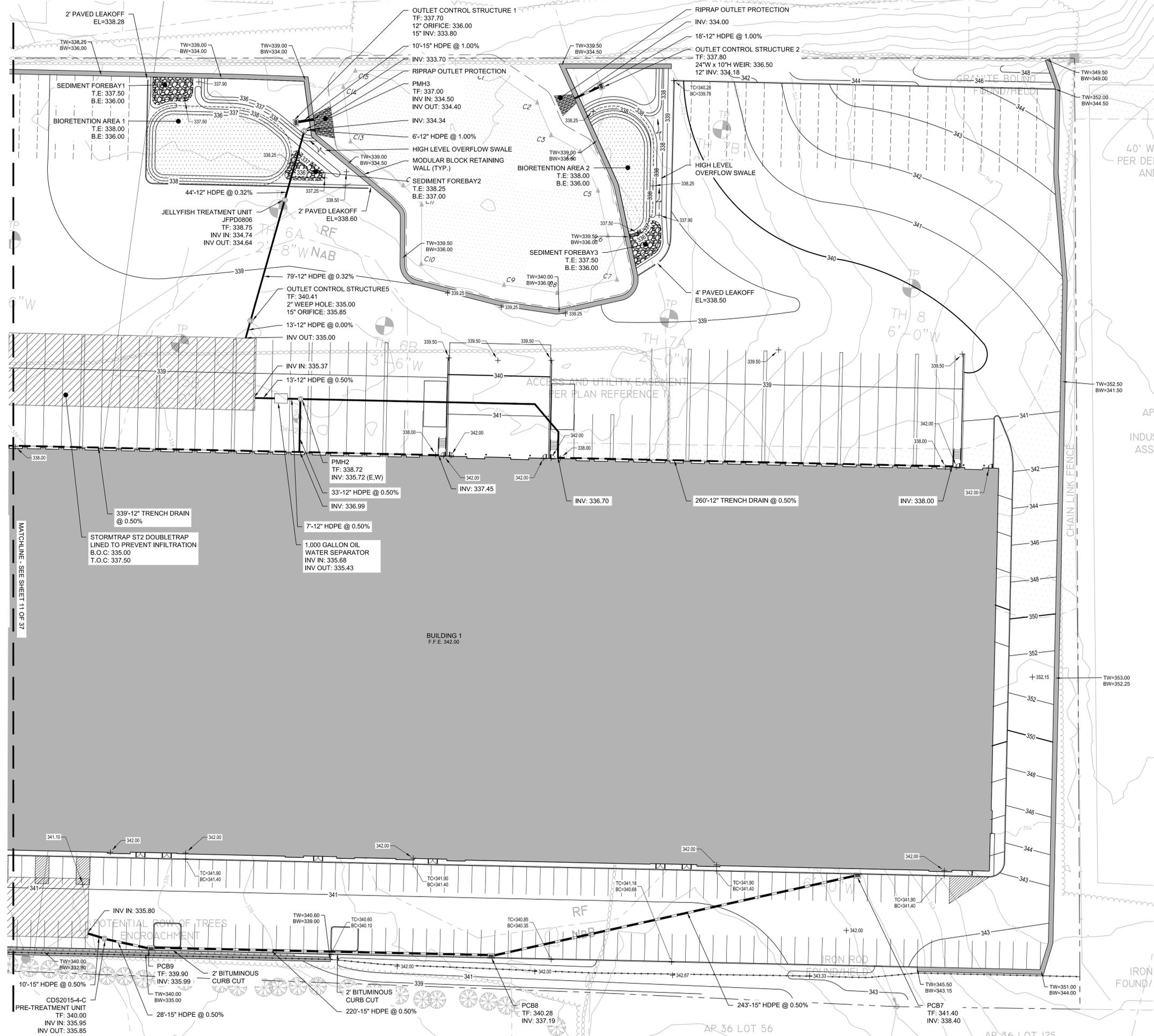
DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



WILLIAM G. WALTER
 No. 12234
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

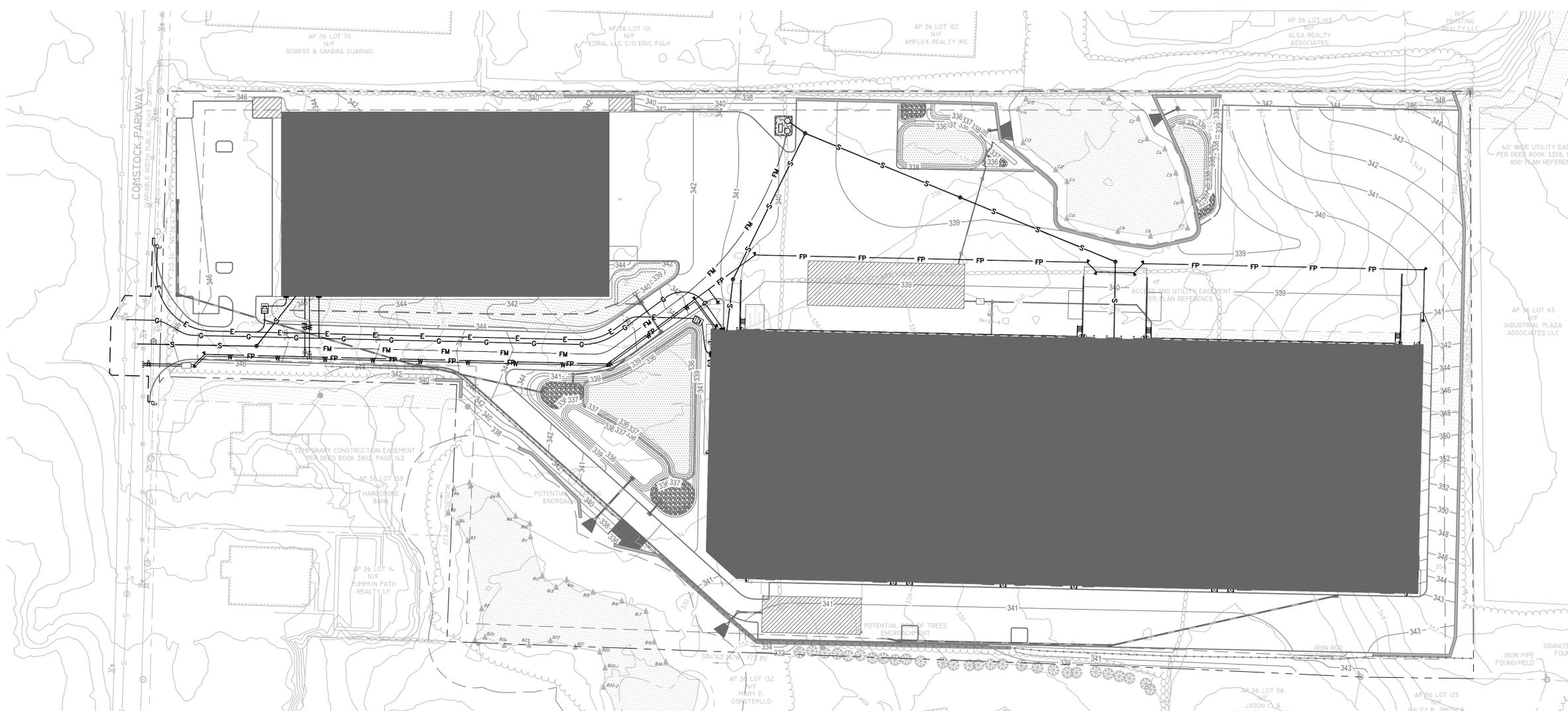
PROJECT NO.: 70753.00 DRAWN BY: JCO
 SCALE: AS NOTED CHECKED BY: WGW
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GRADING & DRAINAGE PLAN
 12 OF 39



GRADING AND DRAINAGE LEGEND

SPOT GRADE	+343.00
MAJOR CONTOUR	340
MINOR CONTOUR	342
DRAINAGE PIPE	(Symbol)
WETLAND BUFFER	(Symbol)
UNDERGROUND DETENTION CHAMBERS	(Symbol)
BIORETENTION AREA	(Symbol)
RETAINING WALL	(Symbol)
SURFACE DRAINAGE FLOW ARROW	(Symbol)
CATCH BASIN	(Symbol)



SEWER MAIN CONSTRUCTION NOTES:

- FOR GENERAL SPECIFICATIONS REGARDING ALL CONSTRUCTION AS WELL AS SANITARY SEWER THE CONTRACTOR SHALL REFERENCE THE CITY OF CRANSTON CITY CODE, CHAPTER 26, SEWERS, SPECIFICATIONS FOR HIGHWAYS COVERING RESIDENTIAL AND INDUSTRIAL PLAT DEVELOPMENTS, AND OTHER CITY OF CRANSTON DEPARTMENT OF PUBLIC WORKS GUIDELINES, RULES, REGULATIONS AND OTHER APPLICABLE LAWS, INCLUDING ANNEX A-DESIGN OF SEWERS (PROMULGATED 8/15/02), REGARDING SANITARY SEWER CONSTRUCTION, THE CONTRACTOR SHALL SPECIFICALLY REFERENCE THE TECHNICAL RELEASE #16 GUIDE FOR THE DESIGN OF WASTEWATER TREATMENT WORKS (PUBLISHED BY THE N.E. INTERSTATE WATER POLLUTION CONTROL COMMISSION).
- PRIVATE SEWERS AND SEWER EXTENSION INTO ADJACENT COMMUNITIES WHICH CONNECT TO THE CITY SEWER SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH THE CITY SEWER USE ORDINANCE AND THESE REGULATIONS UNLESS OTHERWISE APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE INSPECTED BY THE VEOLIA WATER NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT. (VEOLIA-CRANSTON WPCF).
- NO PERSON SHALL MAKE A CONNECTION OF ROOF DOWNSPOUTS, FLOOR DRAINS, SUMP PUMPS, EXTERIOR FOUNDATION DRAINS, AREAWAY DRAINS, OR OTHER SOURCES OF SURFACE RUNOFF OR GROUNDWATER TO ANY COMPONENT OF THE SANITARY SEWER SYSTEM.
- NO GRAVITY SEWER PIPE SHALL BE LESS THAN EIGHT (8) INCHES (20.3 CM) DIAMETER.
- GRAVITY SEWER PIPE SHALL BE ASTM RIGID SCHEDULE 35 OR HEAVIER PVC PIPE FOR SEWER USE CONFORMING TO ASTM SPECIFICATION D-3034; OR CEMENT LINED DUCTILE IRON MANUFACTURED IN ACCORDANCE WITH ANSI / AWWA C151 / A21.51, C111 / A21.11, AND C150 / A21.50, OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR. ALL PIPES SHALL HAVE COMPRESSION JOINTS WITH AN ELASTOMERIC GASKET TYPE CONFORMING TO ASTM D - 3212; OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- MAIN GRAVITY SEWER PIPE SHALL BE INSTALLED BY USING A LASER INVERT MACHINE THAT SETS UP IN AN INVERT IN THE DOWNSTREAM MANHOLE. A TARGET WILL BE PLACED AT THE END OF EACH PIPE THAT INSTALLED TO ENSURE PROPER ALIGNMENT AND SLOPE.
- ALL SANITARY SEWER CONNECTIONS SHALL BE MADE GAS TIGHT.
- THE MINIMUM COVER SHALL BE FOUR (4) FEET OVER THE CROWN OF THE PIPE FOR ALL MAINS AND LATERALS EXCEPT THAT INSULATION MAY BE PROVIDED FOR SEWERS THAT CANNOT BE PLACED AT A DEPTH SUFFICIENT TO PREVENT FREEZING UPON THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.
- SEWER LATERALS SHALL BE 6" PVC SCHEDULE E 35 AND BE INSTALLED AT THE MINIMUM SLOPE OF AT LEAST ONE - QUARTER INCH PER FOOT (2.1 CMM). ALL PIPES SHALL HAVE COMPRESSION JOINTS.
- WHERE PRACTICAL, SEWER LATERALS SHALL BE TIED INTO A MANHOLE. A BORING MACHINE SHALL BE USED TO MAKE A HOLE THROUGH ANY MANHOLE STRUCTURE. A FLEXIBLE WATERTIGHT GASKET SHALL BE USED TO CONNECT THE STRUCTURE TO THE PIPE OR AN APPROVED WATERTIGHT FLEXIBLE SLEEVE. THE PIPE SHALL BE CEMENTED ON THE INSIDE OF THE MANHOLE TO MAKE THE INVERT CLEAN.
- WHERE SEWER LATERALS CONNECT TO SEWER MAIN A WYE SHALL BE INSTALLED IN THE MAIN TO MAKE THE CONNECTION. A 6" SDR-35 ANGLE, NOT GREATER THAN 45°, IS TO BE USED TO PROVIDE THE PROPER FLOW ALIGNMENT.
- NO LATERAL MAY SERVICE MORE THAN ONE BUILDING OR PRIVATELY OWNED BUILDING UNITS.
- MINIMUM BEDDING MATERIAL REQUIREMENTS FOR SEWER PIPE INSTALLATION SHALL BE CLASS "B" AS DESCRIBED IN ASTM C-12. WITH A MINIMUM DEPTH OF SIX (6) INCHES.
- BEDDING MATERIAL SHALL BE COMPACTED EVENLY UNDER AND ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED AND TRUE.
- BACKFILL SHALL BE INSTALLED IN LAYERS NO MORE THAN 8" THICK AFTER COMPACTION AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY ACCORDING TO AASHTO T180.
- BACKFILL MATERIAL SHALL NOT CONTAIN FRAZEN MATERIAL, LARGE DIRT CLODS, STONES, ORGANIC MATTER, OR UNSUITABLE MATERIALS. ADDITIONAL BACKFILL DETAILS, FOR CITY STANDARDS CR-10/S-1, WHICH ARE AVAILABLE IN THE DIVISION OF ENGINEERING.
- MANHOLES SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, ASTM DESIGNATION: C-478, LATEST EDITION, OR AS APPROVED BY THE DIRECTOR, AND SHALL HAVE O-RINGS OR BITUMINOUS BASED GASKETED JOINTS. A TWELVE-INCH (12") BEDDING OF COMPACTED 3/4" WASHED STONE SHALL BE PLACED UNDERNEATH ALL MANHOLE STRUCTURES. THE MINIMUM INTERNAL DIAMETER SHALL BE FORTY-EIGHT INCHES (48") (1.2M). ALL MANHOLE JOINTS AND PINHOLES SHALL BE PARGED FROM THE OUTSIDE AND INSIDE TO PREVENT INFILTRATION. FOLLOWING WHICH A BITUMINOUS COATING SHALL BE INSTALLED ON THE ENTIRE EXTERIOR. INLETS AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED, FLEXIBLE WATERTIGHT CONNECTION OR WITH ANOTHER WATERTIGHT CONNECTION ARRANGEMENT THAT ALLOWS FOR DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE. ALL INVERTS AND TABLES SHALL BE CONSTRUCTED WITH SMOOTH RED SEWER BRICKS. AT LEAST ONE ROW OF RED SEWER BRICKS SHALL BE INSTALLED BETWEEN THE MANHOLE STRUCTURE AND THE SEWER COVERS FRAME, BUT NOT TO EXCEED A (AX OF 12" HIGH) THE BRICKS SHALL BE WELL CEMENTED BUT NO CEMENT IS ALLOWED ON THE FACE OF THE BRICKS.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. DEVIATIONS OR CHANGES WILL NOT BE ALLOWED UNLESS ALLOWED BY THE CITY PUBLIC WORKS DIRECTOR.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

SEWER MAIN ORDER OF PROCEDURE:

- THE OWNER OR THE DEVELOPER SHALL SUBMIT TO THE CITY OF CRANSTON'S DIRECTOR OF PUBLIC WORKS THE NAME OF THE QUALIFIED SEWER CONTRACTOR THAT WILL BE RESPONSIBLE FOR INSTALLATION OF THE SANITARY SEWER SYSTEM, TOGETHER WITH A BREAKDOWN OF ITEMS, QUANTITIES AND UNIT PRICES FOR THE PROJECT.
- NO WORK CAN COMMENCE OF ANY SEWER INSTALLATION WITHOUT THE DIRECTOR'S APPROVAL OF THE PLANS AND CONTRACTOR.
- THE CONTRACTOR THAT WAS APPROVED SHALL NOTIFY VEOLIA WATER OF NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT AND THE DIRECTOR OF PUBLIC WORKS FIVE (5) WORKING DAYS PRIOR TO COMMENCING ANY SEWER RELATED EXCAVATION. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION: COMPANY NAME, PHONE NUMBER AND ADDRESS OF BOTH THE DEVELOPER AND CONTRACTOR ALONG WITH THE NAME AND PHONE NUMBER OF THE SEWER CONTRACTOR'S FOREMAN.
- VEOLIA WATER SHALL INSPECT THE NEW PLAT CONSTRUCTION CONSISTING OF EXCAVATION, LYING OF SEWER MAINS AND STREET LATERALS, INSTALLATION OF MANHOLES, AND BACKFILLING TO THE ELEVATION OF THE EXISTING GROUND, CAMERA INSPECTION, AND PRESSURE TESTING; AND SHALL PERFORM THE FLOW TEST. THE CONTRACTOR AT THIS CHOICE AND EXPENSE HAS THE OPTION OF USING A PRIVATE CONTRACTOR OR HIRING VEOLIA WATER TO CAMERA AND VIDEOTAPE THE SEWER SYSTEM. IF THE CONTRACTOR CHOOSES TO USE A PRIVATE CAMERA CONTRACTOR TO VIDEOTAPE THE SEWER SYSTEM AN INSPECTOR FROM VEOLIA WATER SHALL BE PRESENT FOR THE VIDEOTAPEING.
- AFTER THE SEWER SYSTEM HAS BEEN INSTALLED THE CONTRACTOR SHALL HAVE THE ENTIRE MANHOLES VACUUM TESTED: TEN (10) INCHES OF VACUUM FOR SIXTY (60) SECONDS. AND THEN THE GRAVITY SEWER PIPES SHALL BE TESTED FOR: FIVE (5) LBS OF PRESSURE FOR TEN (10) MINUTES. VEOLIA'S INSPECTOR SHALL BE PRESENT FOR ALL TESTING OF MANHOLES AND PIPES.
- AFTER THE TESTING OF THE MANHOLES AND PIPES THE CONTRACTOR SHALL HAVE THE ENTIRE SEWER SYSTEM FLUSHED AND CLEANED.
- NEXT THE SYSTEM SHALL BE CAMERA INSPECTED AND VIDEOTAPE.
- VEOLIA WATER SHALL REVIEW THE VIDEOTAPES AND WHITE A PUNCH LIST OF ALL OR ANY ITEMS THAT REQUIRE ATTENTION.
- AS A CONDITION OF THE FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM, THE CONTRACTOR SHALL FORMALLY REQUEST, THROUGH THE CITY ENGINEERING DIVISION, A FINAL INSPECTION BY VEOLIA.
- BEFORE FINAL APPROVAL THE SEWER SYSTEM CAN BE GRANTED AND CERTIFICATED OF OCCUPANCY ARE ISSUED, THE CONTRACTOR SHALL SUBMIT TO VEOLIA TWO (2) SETS OF SEWER AS-BUILT PLANS WITH GIS COORDINATED FOR EACH MANHOLE. THE AS-BUILTS SHALL BE ON "COPY-TUFF" MEDIA AND IN COMPUTED .dxf OR AUTOCAD R14 OR AUTOCAD LT 2022 VERSION FILE FORMAT AND MEET THE FOLLOWING CRITERIA.
 - ALL RECORD PLANS ARE REQUIRED TO BE THE UNIFORM SIZE OF 20"x40".
 - SCALE FOR THE PLANS: HORIZONTAL 1"=40' AND VERTICAL 1"=10'.
 - STATION FIGURES ARE TO BE SHOWN ON ALL MANHOLES.
 - DISTANCES OF LATERALS ARE TO BE SHOWN WITH DEPTHS OF THE END OF THE PIPE AT THE STREET LINE.
 - TIES TO THE "WYES", MANHOLES, AND ENDS OF LATERALS ARE TO BE SHOWN FROM PERMANENT STRUCTURES.
 - LEDGE AND SELECT MATERIALS ARE TO BE SHOWN ON THE PROFILE.
 - SLOPE, SIZE, LENGTH, AND TYPE OF PIPE ARE TO BE SHOWN ON THE PROFILE.
 - ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO BE SHOWN ON THE PROFILE.
 - SEWER RECORD AND STORM DRAIN PLANS ARE TO BE DRAIN SEPARATELY.
 - THE RECORD PLAN SHALL BE DRAWN SO THAT THE NORTH DESIGNATION IS POINTING IN THE UPPER QUADRANT. AN ID TABLE NEEDS TO BE PROVIDED ON THE PLANS.
 - THE X AND Y COORDINATE SHALL BE THE NAD 83 RI STATE PLANE FEET COORDINATES.
 - ELEVATIONS SHALL BE BASED ON THE CITY OF CRANSTON'S MEAN HIGH WATER (MHW) DATA FOR THE VERTICAL COORDINATES.
- FINAL APPROVAL AND ISSUANCE OF THE CERTIFICATES OF OCCUPANCY ARE CONTINGENT UPON THE OWNER/DEVELOPER'S SUBMISSION OF AN ACCEPTABLE, PERPETUAL OPERATION AND MAINTENANCE PLAN TO THE CITY AND VEOLIA FOR THE PRIVATE SEWAGE SYSTEM.

UTILITY NOTES:

- GENERAL**
- THIS SITE PLAN IS NOT A SUBSTITUTE FOR A UTILITY PERMIT APPLICATION AND AS SUCH THE APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF ANY UTILITY WORK
 - ALL WORK TO BE DONE SHALL CONFORM TO THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AMENDED AUGUST 2013 WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS S FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION WITH ALL REVISIONS.
 - ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.
- SANITARY SEWER (VEOLIA WATER NORTH AMERICA)**
- ALL SANITARY SEWER WORK TO COMPLY WITH LOCAL STANDARDS AND SPECIFICATIONS.
 - ALL SANITARY MAINS ARE TO BE 8" C900 WITH A MIN. PITCH OF 0.60% AND 4 FT OF COVER UNLESS OTHERWISE NOTED.
 - ALL SANITARY LATERALS ARE TO HAVE INTERNAL CLEANOUTS OR A CLEANOUT WITHIN 10 FT OF BUILDING FOOTPRINT.
 - LOCATION OF SANITARY LATERALS AT BUILDING TO BE COORDINATED WITH MECHANICAL DRAWINGS.
- WATER SERVICE (PROVIDENCE WATER)**
- ALL WATER SERVICE WORK TO COMPLY WITH PROVIDENCE WATER STANDARDS AND SPECIFICATIONS.
 - ALL WATER MAINS ARE TO BE 8" D.I. WITH 5 FT OF COVER UNLESS OTHERWISE NOTED.
 - ALL WATER MAINS AND SERVICES ARE TO BE A MIN. 10 FT FROM ANY SANITARY SERVICE (UNLESS SHELVED IN THE SAME TRENCH) AND A MINIMUM OF 24" OF VERTICAL CLEARANCE FROM ANY OTHER UTILITY LINE. ALL WATER LINES ARE TO BE CONSTRUCTED ABOVE SANITARY SERVICES, WHERE 24" VERTICAL SEPARATION IS NOT AVAILABLE, SLEEVES SHALL BE USED AT THE CROSSING.
 - LOCATION OF WATER SERVICES AT BUILDINGS TO BE COORDINATED WITH MECHANICAL DRAWINGS.
- GAS SERVICE (NATIONAL GRID)**
- ALL GAS SERVICES ARE TO CONFORM TO THE MOST CURRENT NATIONAL GRID STANDARDS AND REGULATIONS.
 - FINAL DESIGN TO BE COORDINATED WITH NATIONAL GRID
 - METER LOCATIONS TO BE COORDINATED WITH MECHANICAL DRAWINGS.
- ELECTRICAL SERVICES (NATIONAL GRID)**
- ALL ELECTRICAL SERVICES ARE TO CONFORM TO CURRENT NATIONAL GRID STANDARDS AND REGULATIONS.
 - FINAL DESIGN TO BE COORDINATED WITH NATIONAL GRID.
 - METER LOCATIONS TO BE COORDINATED WITH MECHANICAL DRAWINGS.
- COMMUNICATION SERVICES**
- ALL TELEPHONE SERVICES ARE TO CONFORM TO LOCAL AUTHORITIES MOST CURRENT STANDARDS AND REGULATIONS.
 - FINAL DESIGN TO BE COORDINATED WITH LOCAL AUTHORITIES.
 - SERVICE LOCATIONS TO BE COORDINATED WITH MECHANICAL DRAWINGS.

UTILITY COMPANY CONTACTS

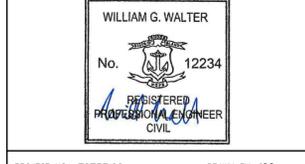
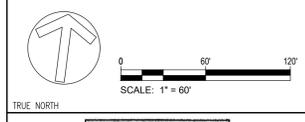
WATER:	PROVIDENCE WATER MICHAEL DINOBILE (401) 521-6300 x7213
SANITARY SEWER:	VEOLIA WATER NORTH AMERICA JOHN AYOTTE (401) 942-2121
ELECTRIC:	NATIONAL GRID MICHAEL O'MALLEY (781) 907-3514
GAS:	NATIONAL GRID TOM DION (401) 784-7153
COMMUNICATIONS:	COX COMMUNICATIONS JENNA O'DONAL (401) 641-0555

UTILITY LEGEND

NATURAL GAS PIPE	G
UG ELECTRICAL CONDUIT	E
WATER LINE	W
FIRE PROTECTION LINE	FP
SEWER LINE	S
SEWER MANHOLE	⊗
GATE VALVE	⊕
THRUST BLOCK	▼

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 PLAT 36/4 LOT 46
 CRANSTON, RI

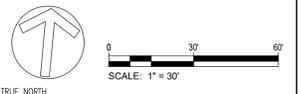
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**COMSTOCK INDUSTRIAL PARK
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 PLAT 36/4 LOT 46
 CRANSTON, RI

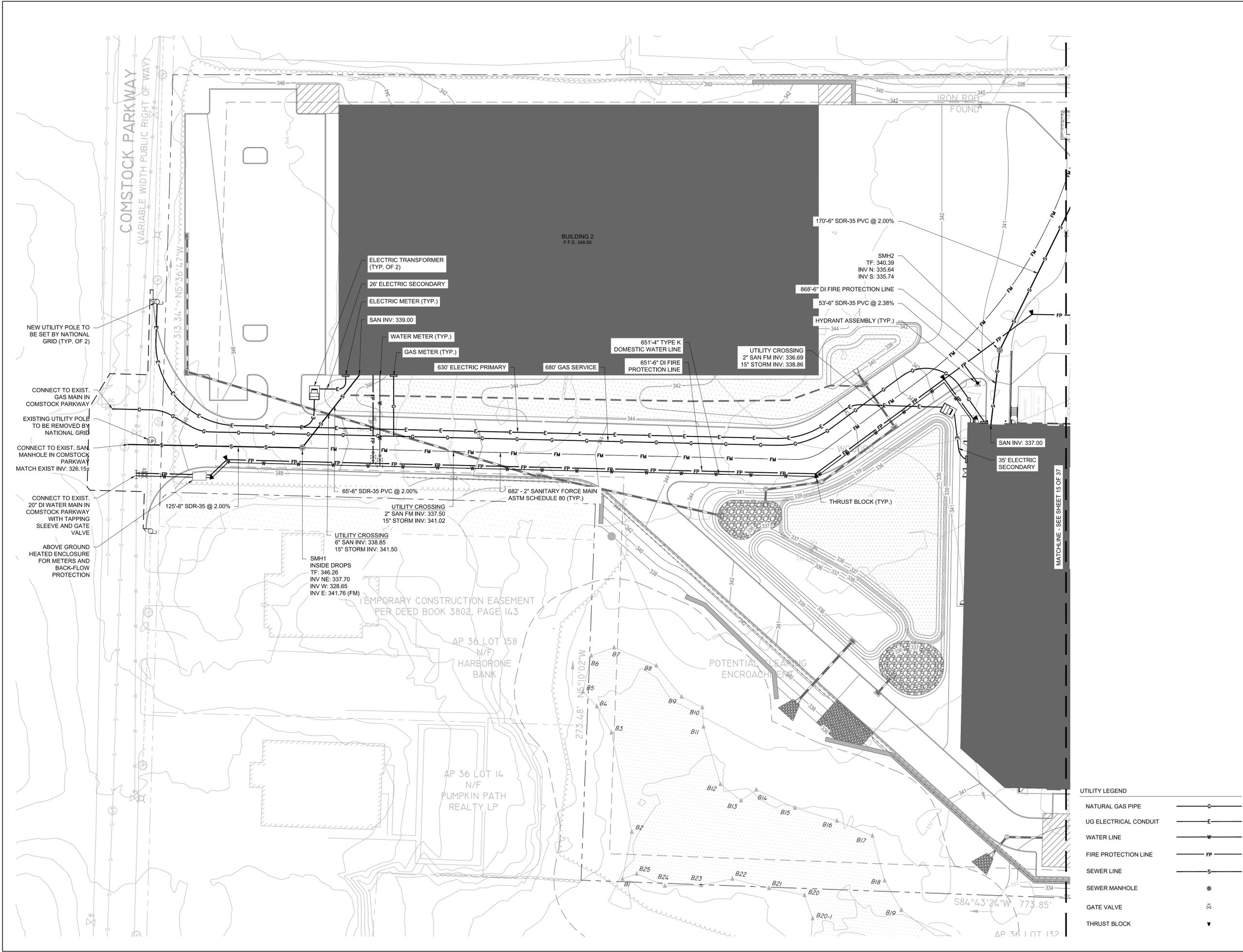
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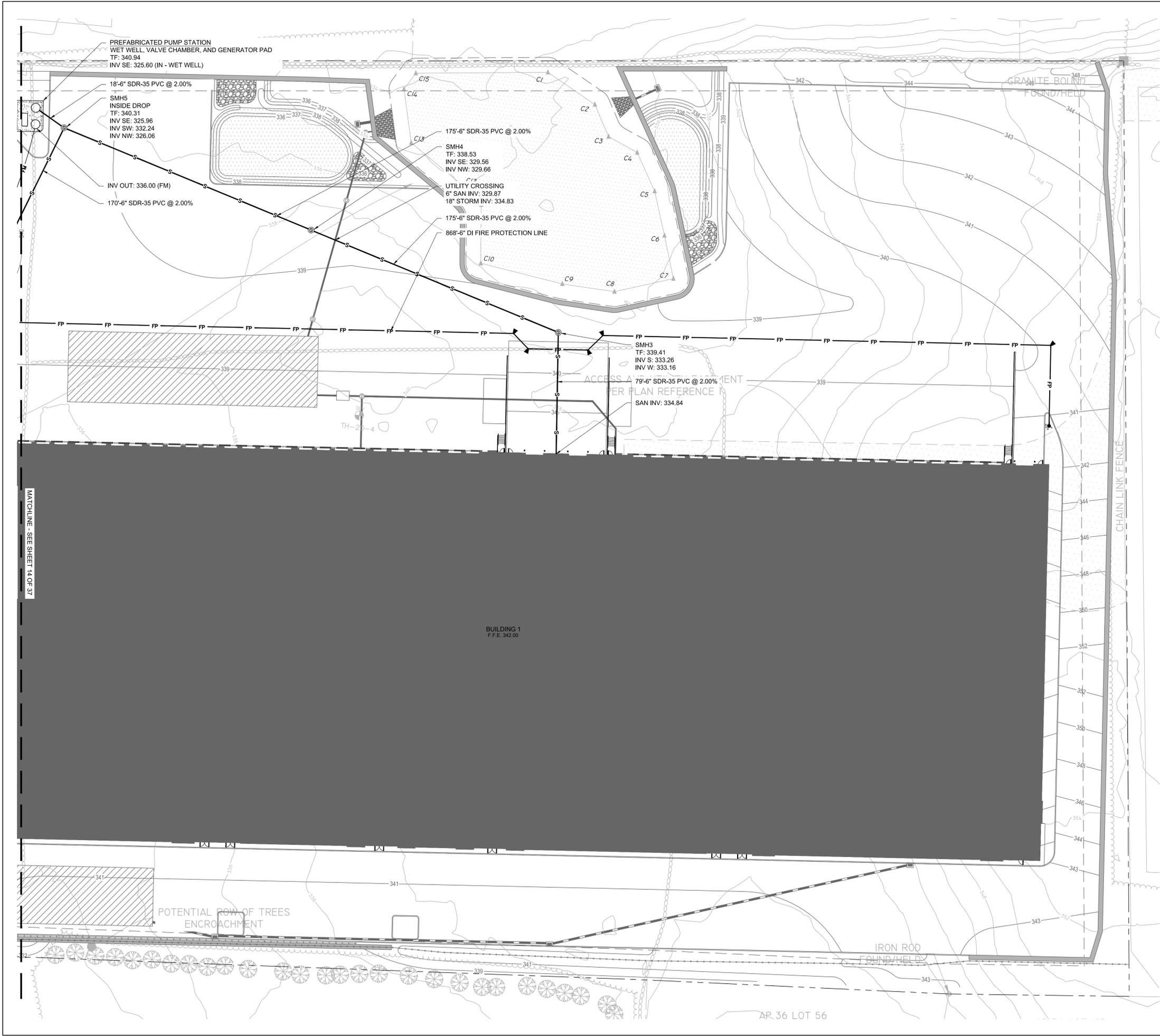
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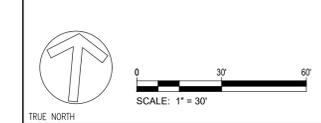
NATURAL GAS PIPE	—G—
UG ELECTRICAL CONDUIT	—E—
WATER LINE	—W—
FIRE PROTECTION LINE	—FP—
SEWER LINE	—S—
SEWER MANHOLE	⊙
GATE VALVE	⊕
THRUST BLOCK	▼



MATCHLINE - SEE SHEET 14 OF 37

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 PLAT 36/4 LOT 46
 CRANSTON, RI

DATE:	REVISION:
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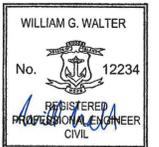
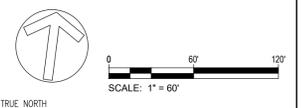
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UTILITY LEGEND

NATURAL GAS PIPE	— G —
UG ELECTRICAL CONDUIT	— E —
WATER LINE	— W —
FIRE PROTECTION LINE	— FP —
SEWER LINE	— S —
SEWER MANHOLE	⊙
GATE VALVE	⊕
THRUST BLOCK	▼

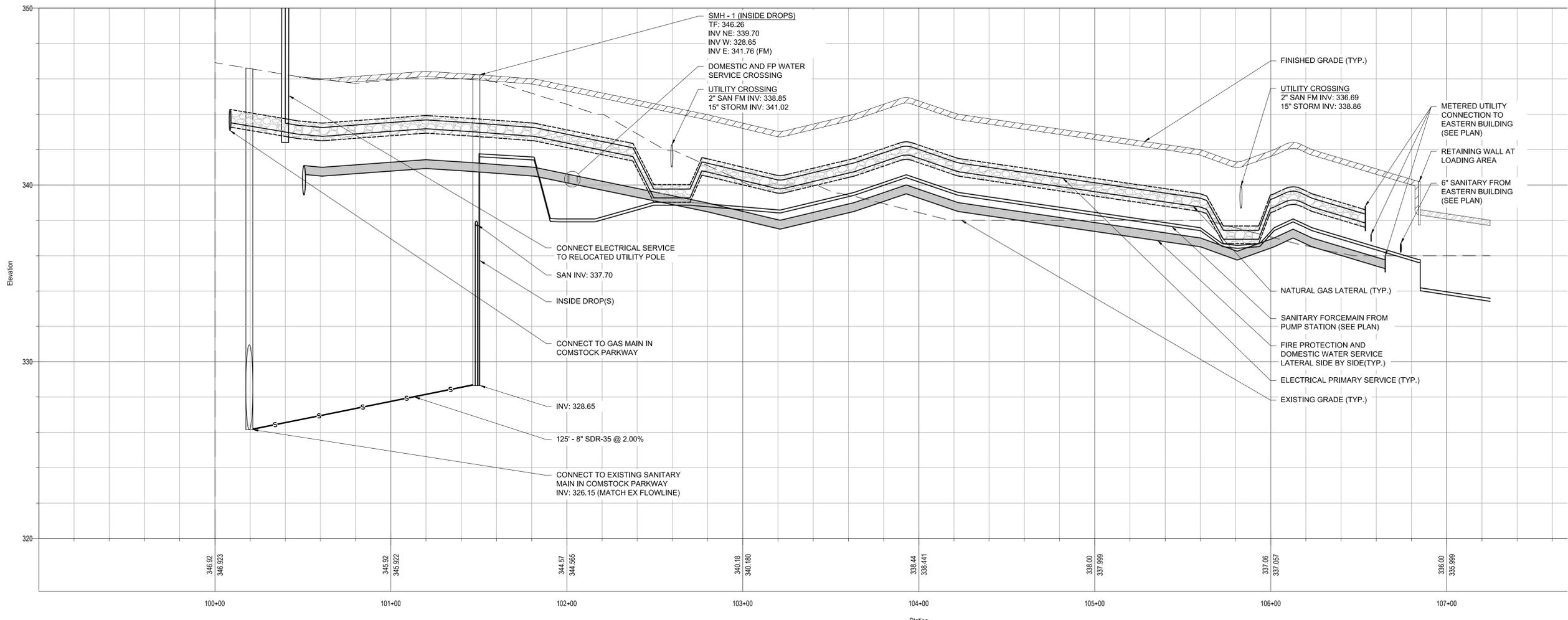
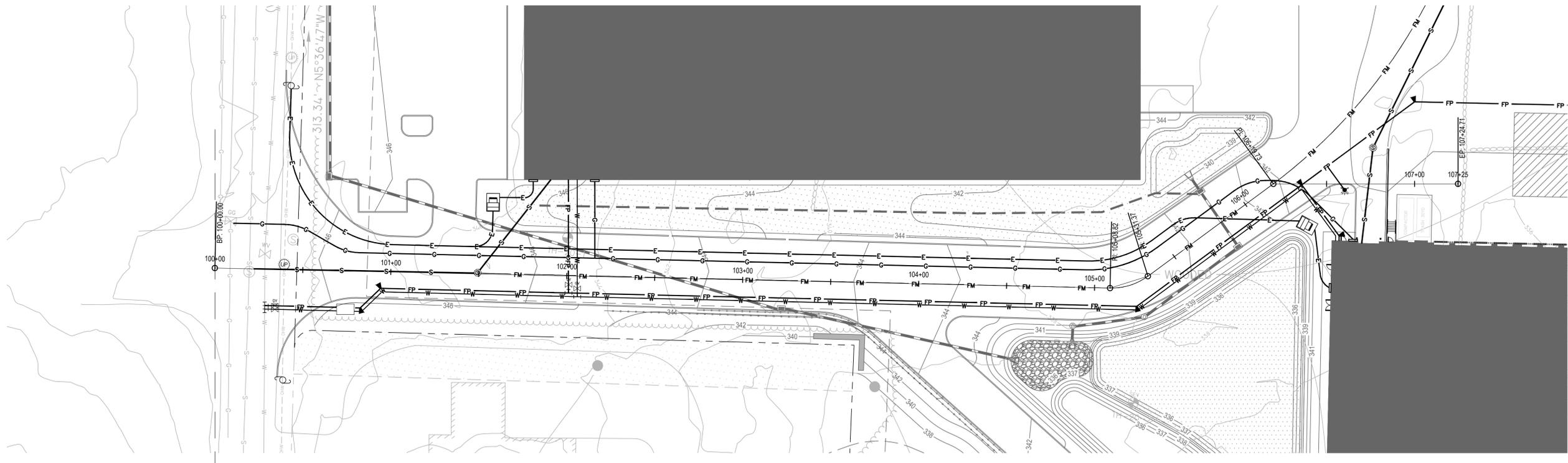
**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46

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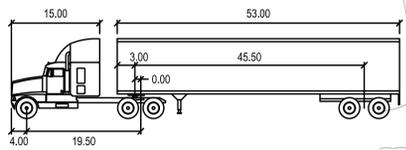
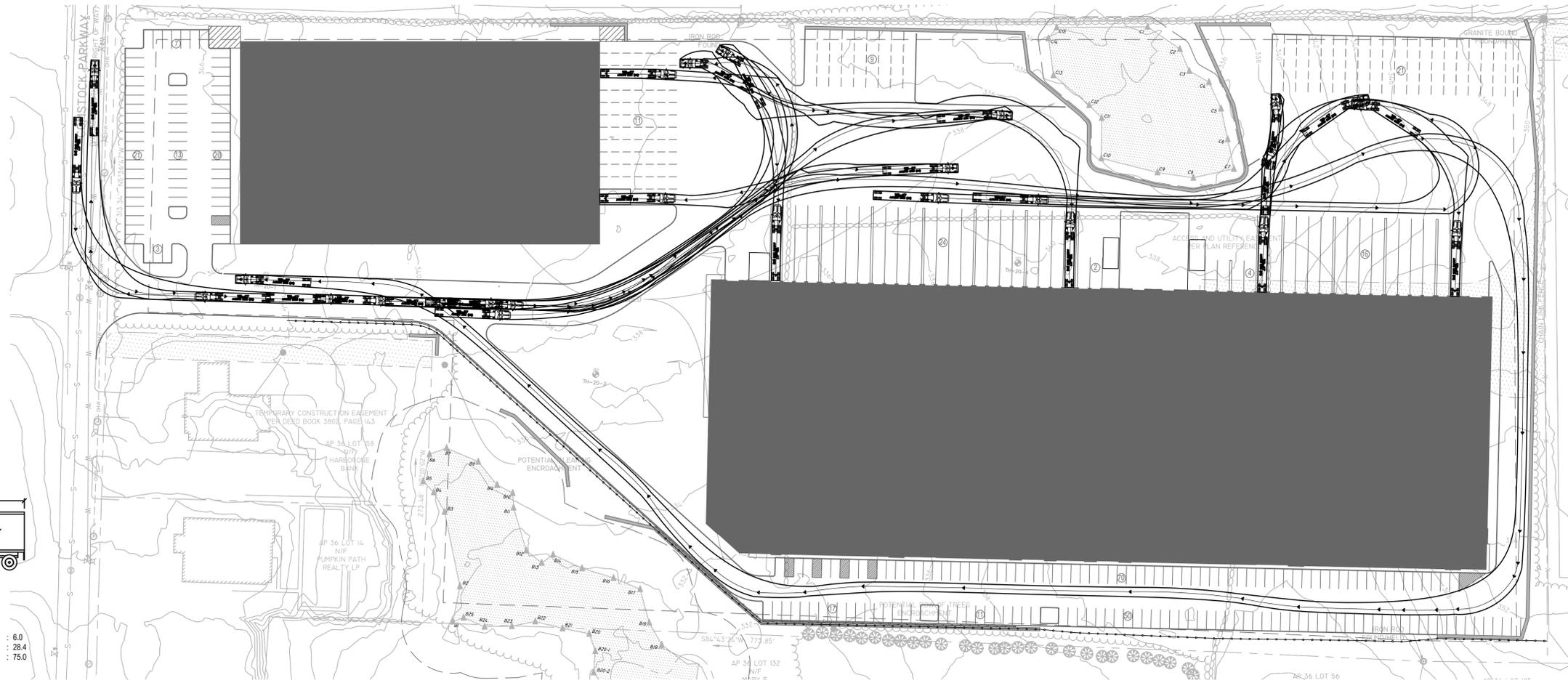


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**UTILITY
 PLAN AND
 PROFILE**

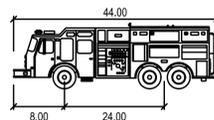
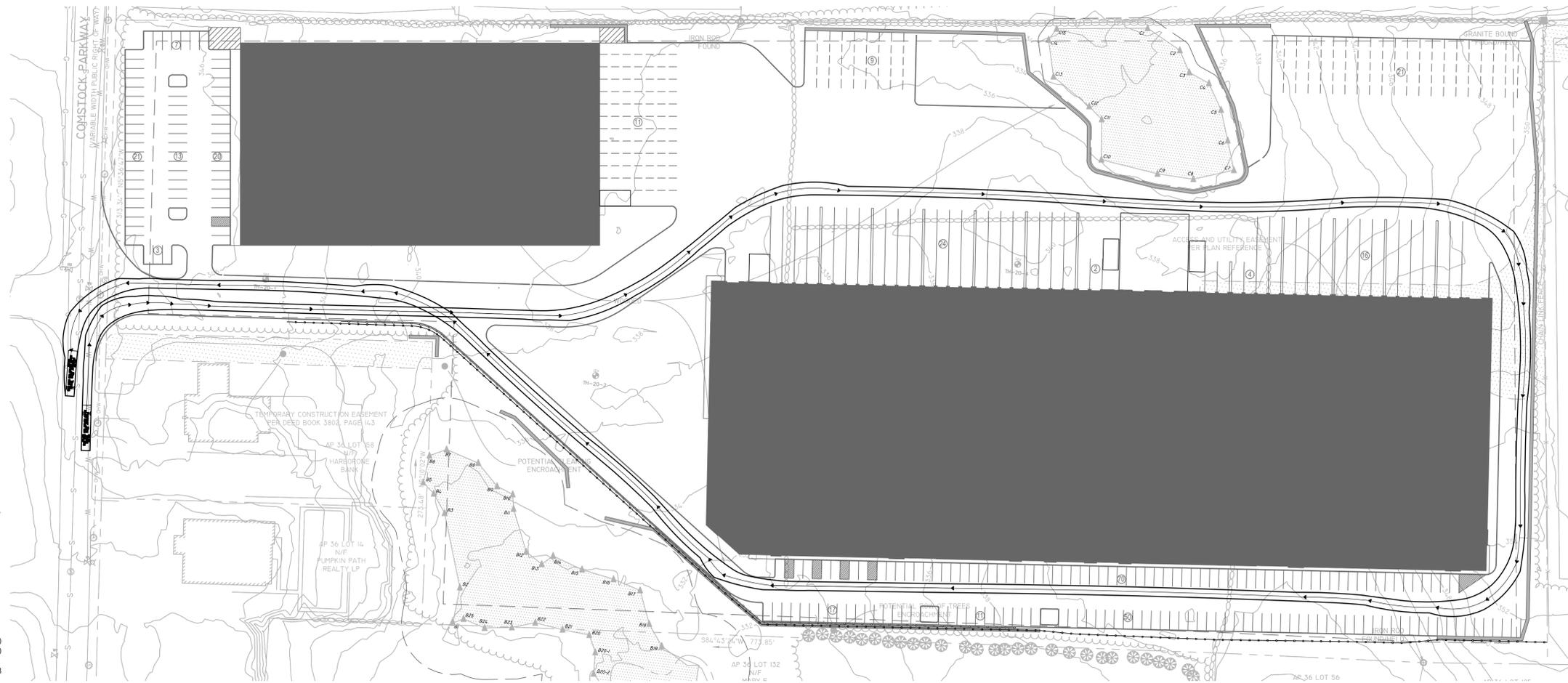


COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 PLAT 36/4 LOT 46
 CRANSTON, RI



WB-67

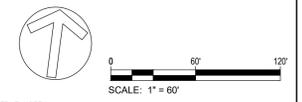
	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		



Pumper Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

DATE	REVISION
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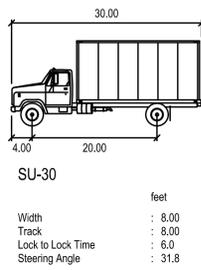
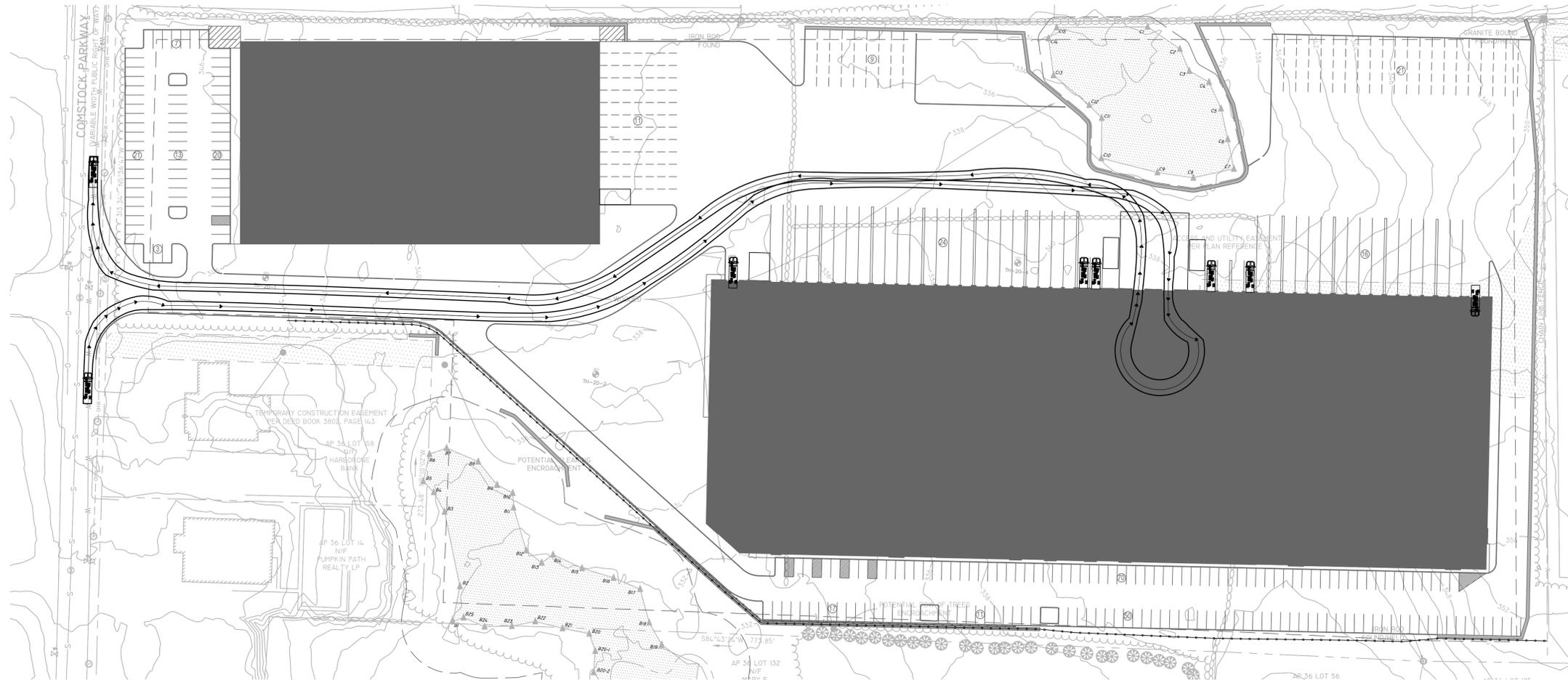


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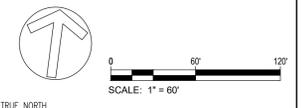
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**COMSTOCK
 INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46



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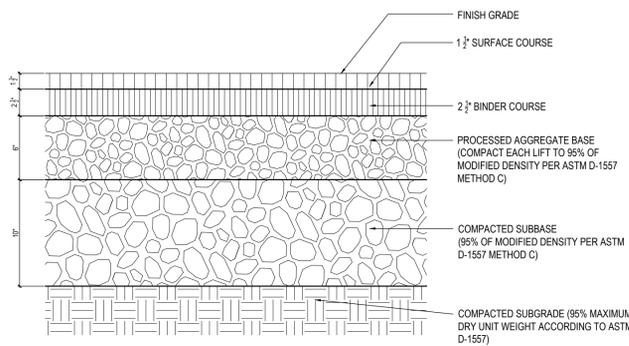


TRUE NORTH

WILLIAM G. WALTER
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 CIVIL

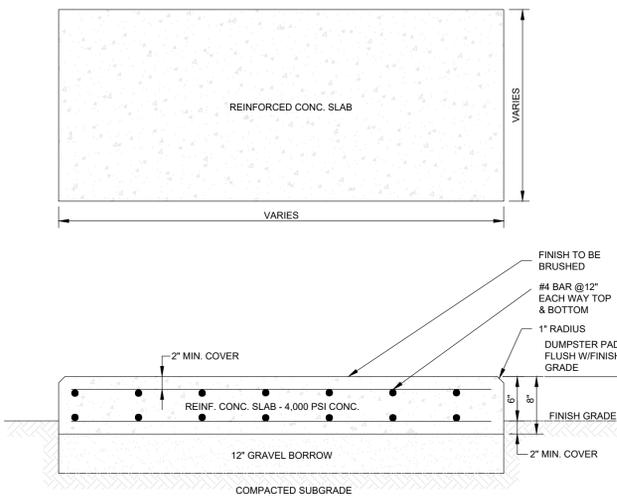
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SITE DETAILS



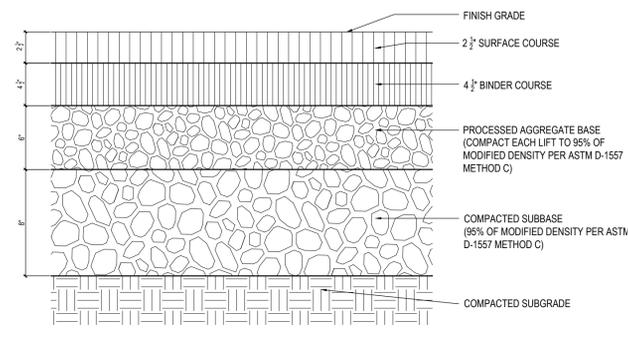
LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT

SCALE: 3/8" = 1'-0"



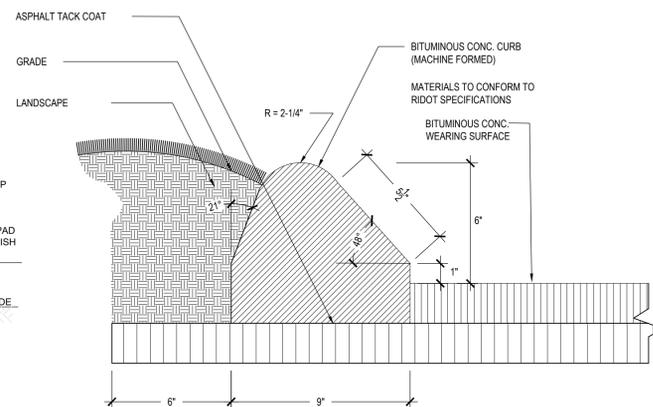
REINFORCED CONCRETE PAD

SCALE: NONE



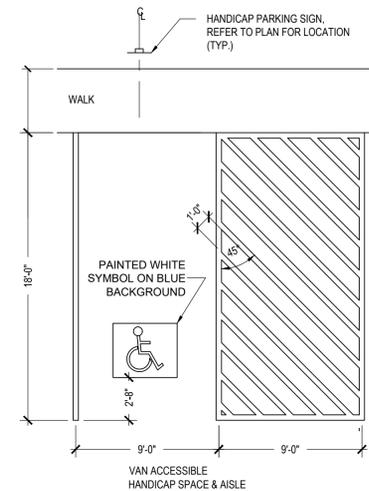
HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

SCALE: 3/8" = 1'-0"



BITUMINOUS LIP CURBING

SCALE: 1 1/2" = 1'-0"



HC PARKING SIZES

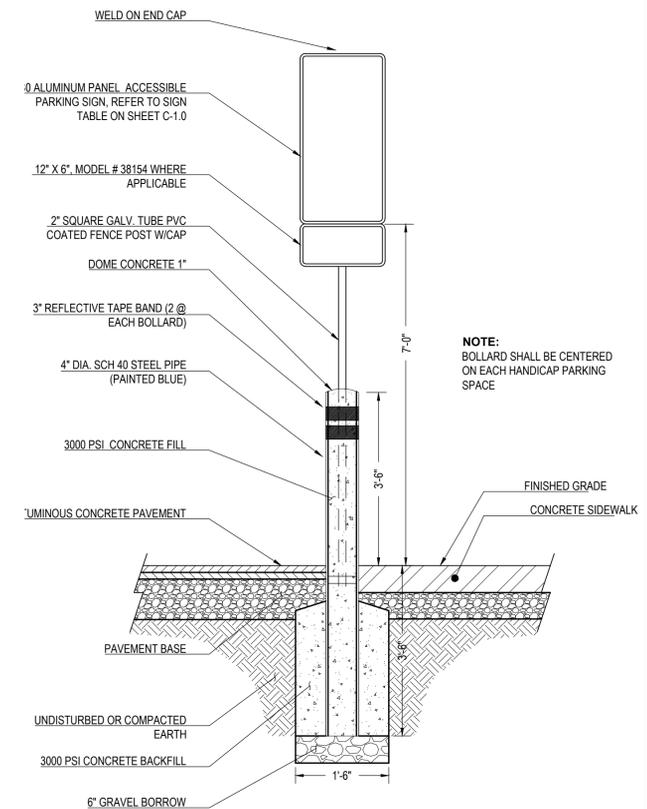
SCALE: 3/8" = 1'-0"

NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE SIDEWALK RAMP OR ACCESSIBLE ROUTE SHOULD NOT EXCEED 20:1.
2. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND ABRUPT GRADE CHANGES.
3. ALL RAMPS SHALL BE CONSTRUCTED OF CONCRETE.
4. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP. THE SURFACE ALONG ACCESSIBLE ROUTES SHALL BE STABLE, FIRM AND SLIP RESISTANT IN COMPLIANCE WITH ADA ACCESSIBILITY GUIDELINES SECTION 4.5.
5. EXPANSION JOINTS IN CONCRETE SHALL MATCH THOSE IN ADJACENT SIDEWALKS BUT IN NO CASE SHALL THE SPACING BETWEEN EXPANSION JOINTS EXCEED 12' UNLESS OTHERWISE NOTED.
6. TRANSITION TO FULL HEIGHT CURB. INSTALL STONE CURBING IF ADJACENT CURBING IS STONE. INSTALL CONCRETE CURBING IF ADJACENT CURBING IS CONCRETE OR BITUMINOUS.
7. INSTALL THE EDGE OF THE DETECTABLE WARNING STRIP 6 INCHES FROM THE EDGE OF ROAD.
8. TO PERMIT WHEELCHAIR WHEELS TO ROLL BETWEEN DOMES OF THE DETECTABLE WARNING STRIPS, ALIGN DOMES ON A SQUARE GRID. IN THE DIRECTION OF PEDESTRIAN TRAVEL.
9. FOR PARALLEL CURB RAMPS, A MIN. 4' X 4' LEVEL LANDING SHALL BE PROVIDED AT THE TOP OF CURB RAMP. WHERE THE LEVEL LANDING IS RESTRICTED AT THE BACK OF SIDEWALK THE LEVEL LANDING SHALL BE 4' X 5' WITH THE 5' DIMENSION PROVIDED IN THE DIRECTION OF THE RAMP RUN.

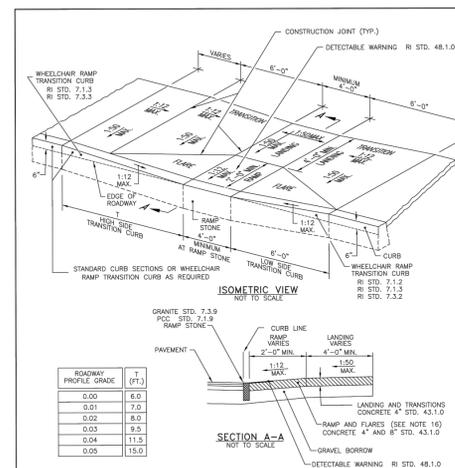
SIDEWALK RAMP NOTES

SCALE: NONE



BOLLARD MOUNTED SIGNAGE POST

SCALE: NONE

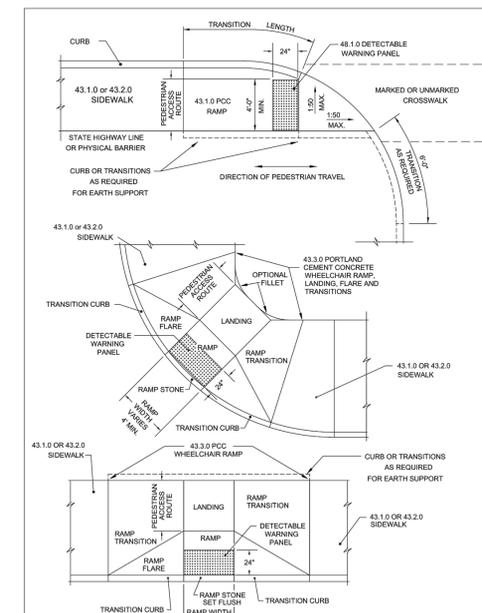


- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
 2. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP SHALL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
 3. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
 4. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
 5. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONSTRUCTION DRAWINGS.
 6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
 7. AN UNRESTRICTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
 8. THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT BE STEEPER THAN 1:12; HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN MARKED BY SUBSEQUENT CONSTRUCTION.
 9. WHEN THE SIDE SLOPE IS STEEPER THAN 1:12, THE WHEELCHAIR RAMP SHALL BE CENTERED WITHIN THE STOP LINE.
 10. IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
 11. THE TRANSITION OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
 12. THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
 13. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
 14. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
 15. DETECTABLE WARNING TO BE PAID FOR UNDER SECTION 902 OF THE R.I. STANDARD SPECIFICATIONS.
 16. 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (W/O-BLOCK) LOCATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
WHEELCHAIR RAMP

NO.	BY	DATE
1	MLP	05/10/05
2	MLP	06/01/10
3	MLP	06/01/10

R.I. STANDARD
43.3.0

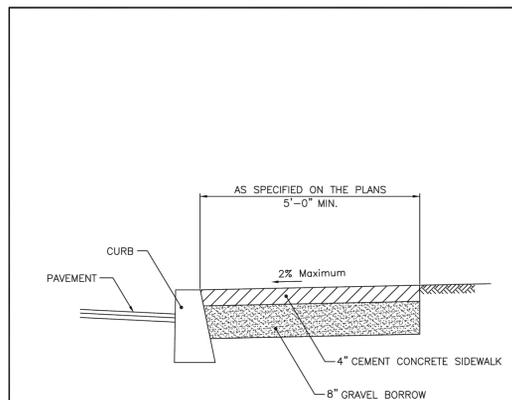


- NOTES:**
1. DETECTABLE WARNING PANEL SHALL BE IN ACCORDANCE WITH SECTION 902 OF THE RHODE ISLAND STANDARD SPECIFICATIONS; PANEL TO MATCH RAMP WIDTH.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
DETECTABLE WARNING PANEL PLACEMENT

NO.	BY	DATE
1	MLP	05/10/05
2	MLP	06/01/10
3	MLP	06/01/10

R.I. STANDARD
43.1.0

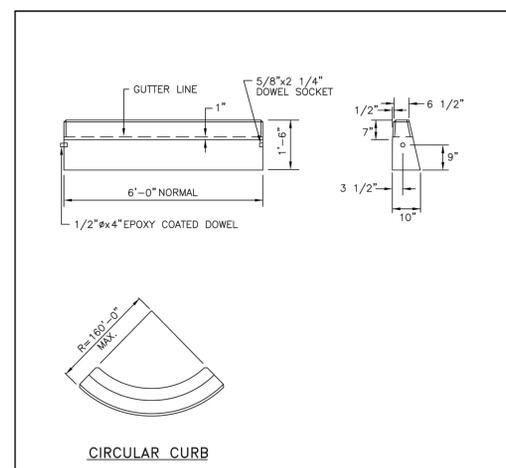


- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
 2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CEMENT CONCRETE SIDEWALK

NO.	BY	DATE
1	MLP	07/17/05
2	MLP	06/01/10

R.I. STANDARD
43.1.0



- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
 2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
 3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
 4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
 5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE CURB

NO.	BY	DATE
1	MLP	03/05

R.I. STANDARD
7.1.0

**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



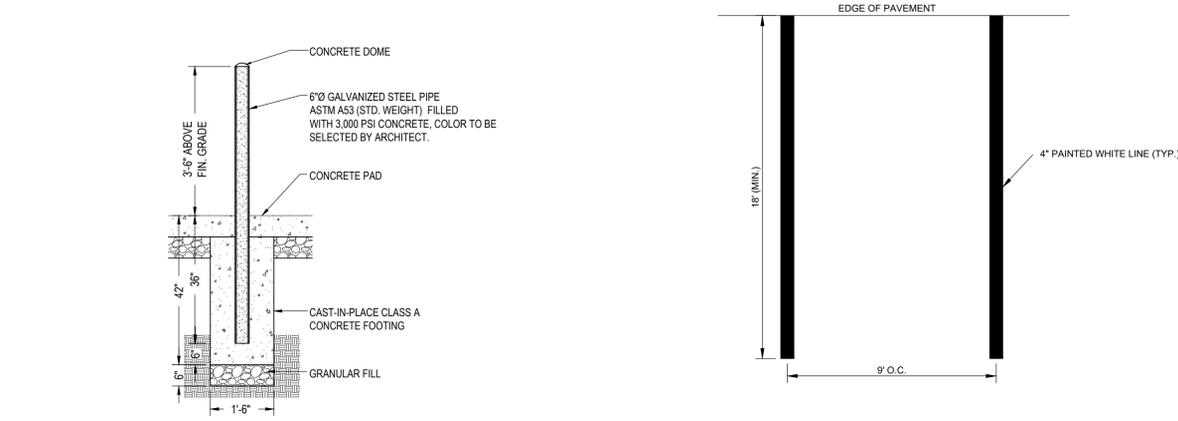
TRUE NORTH

WILLIAM G. WALTER
 No. 12234
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022

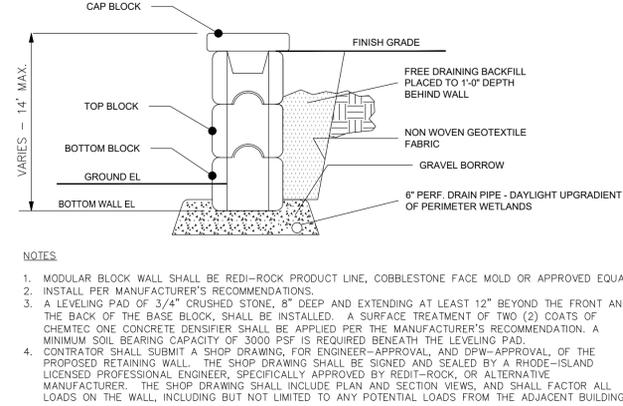
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 CHECKED BY: WGW

**SITE
 DETAILS**

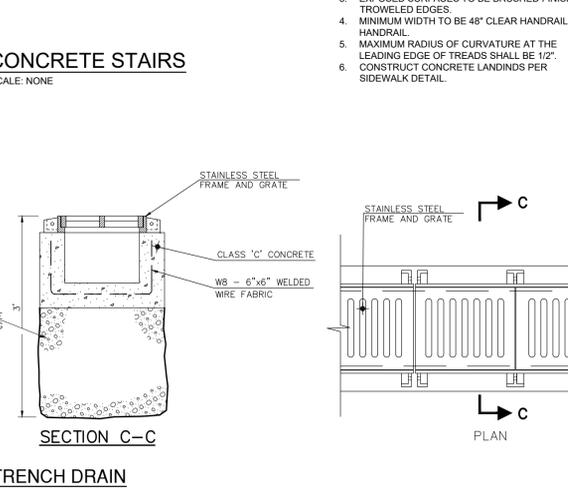
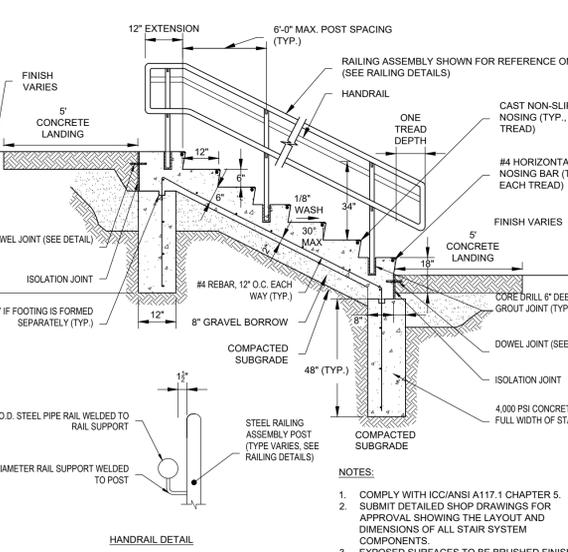
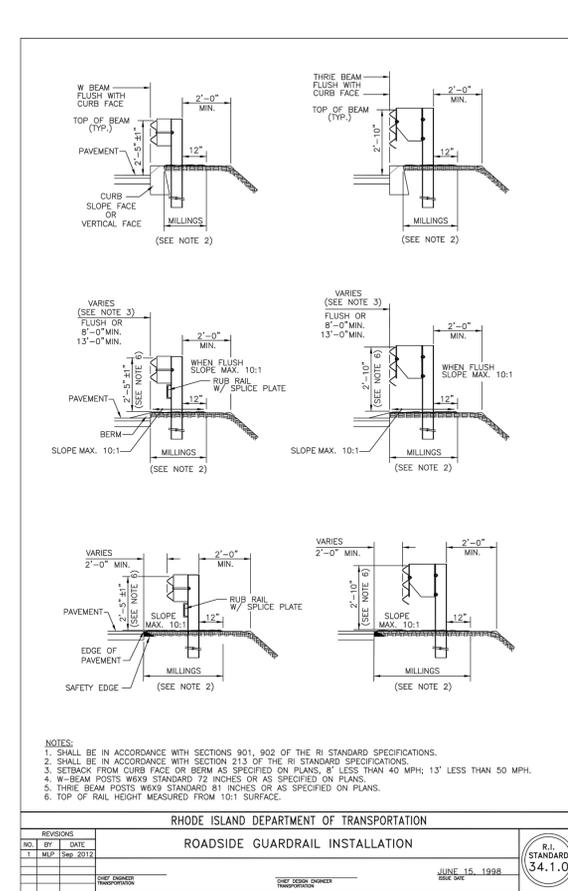


6" STEEL BOLLARD
 SCALE: 1/2" = 1'-0"

STANDARD PAINTED PARKING MARKINGS
 SCALE: NONE

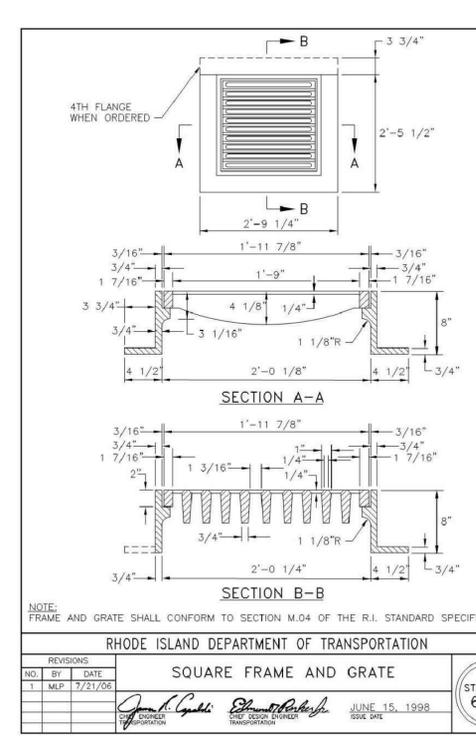
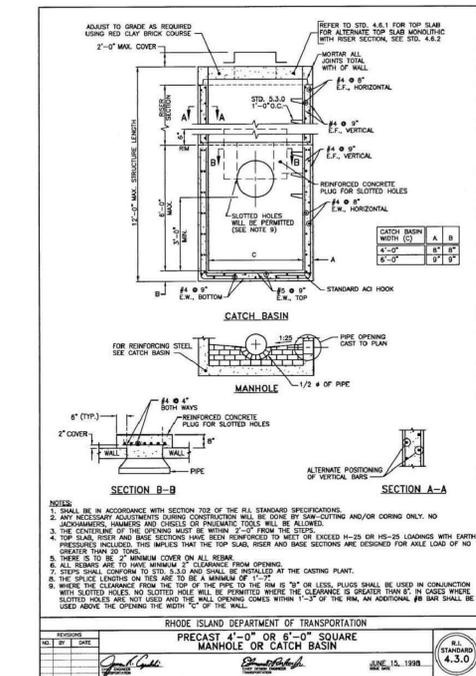


MODULAR BLOCK RETAINING WALL
 SCALE: NONE

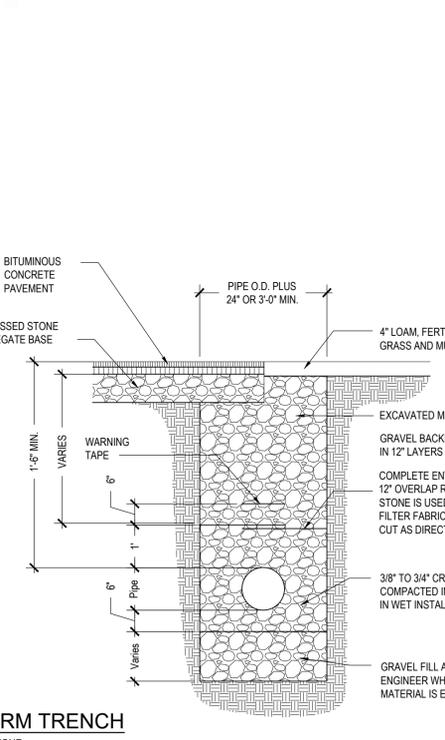
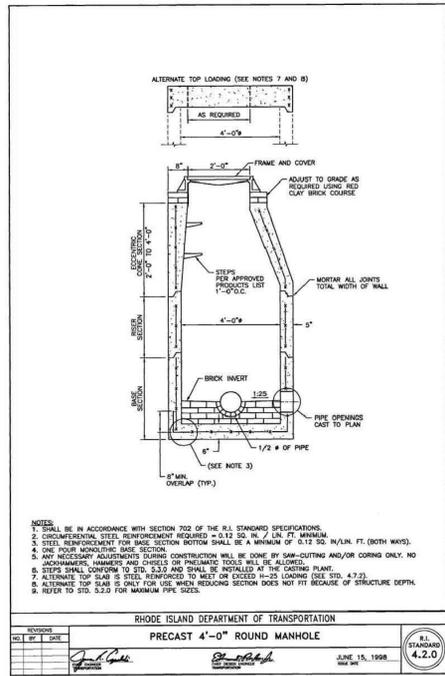


CONCRETE STAIRS
 SCALE: NONE

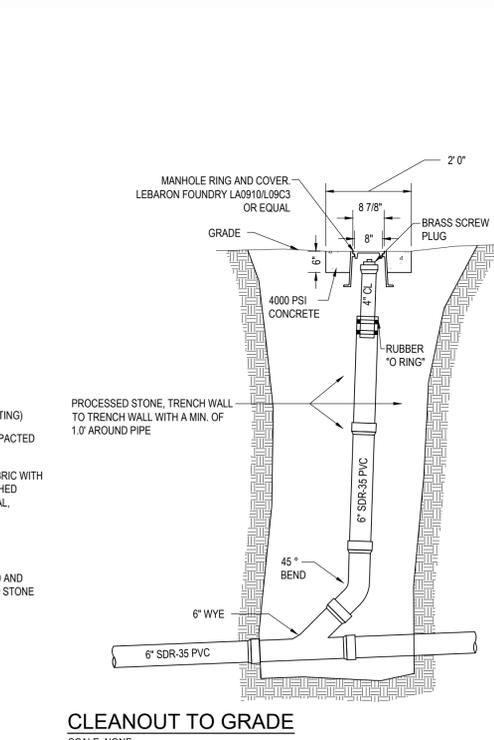
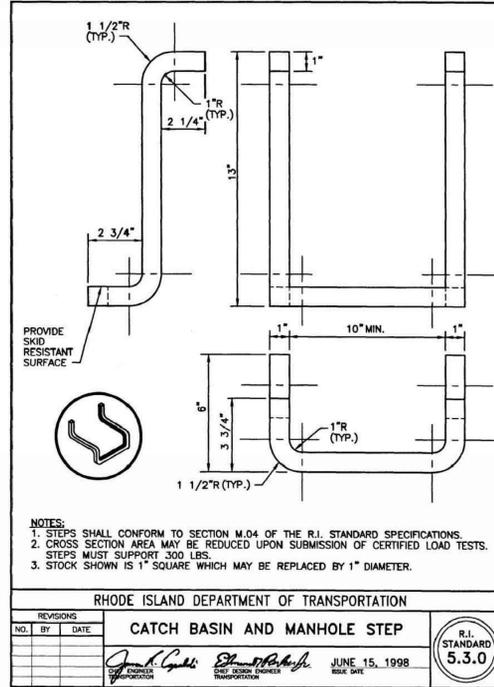
TRENCH DRAIN



SQUARE FRAME AND GRATE
 SCALE: NONE



STORM TRENCH
 SCALE: NONE



CLEANOUT TO GRADE
 SCALE: NONE

DATE: 11/09/2022

REVISION: PRELIMINARY PLAN SUBMISSION

KEY PLAN

TRUE NORTH

WILLIAM G. WALTER
 No. 12234
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022

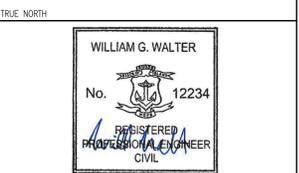
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 CHECKED BY: WGW

**SITE
 DETAILS**

DRAWING NO.:
20 OF 39

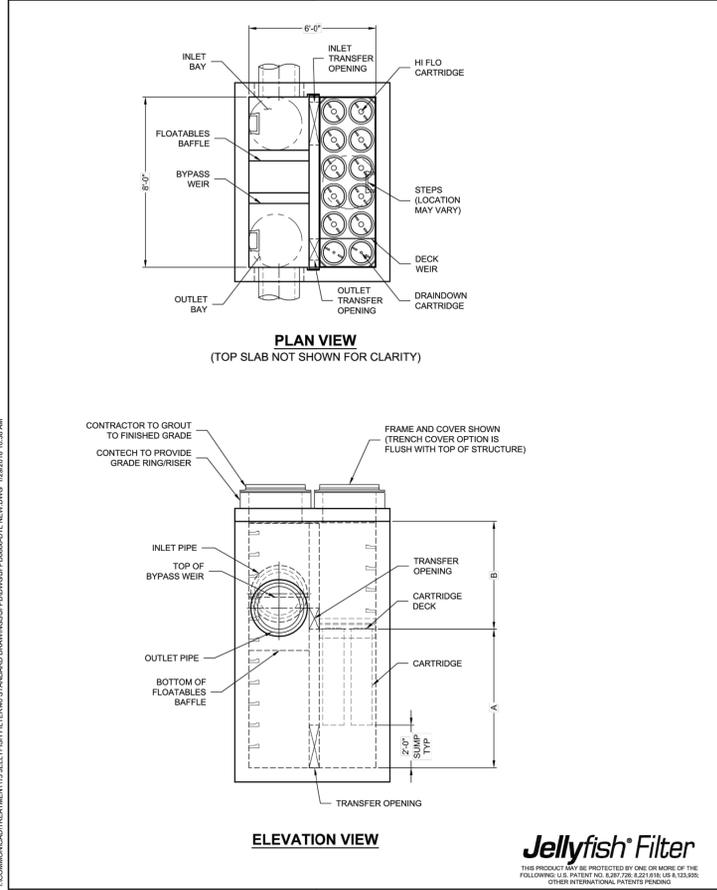
COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 PLAT 36/4 LOT 46
 CRANSTON, RI

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022
 DRAWN BY: GSL
 CHECKED BY: WGW

SITE DETAILS
 21 OF 39



JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OF FINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

CARTRIDGE SELECTION	54"	40"	27"	15"
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-4"	6'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

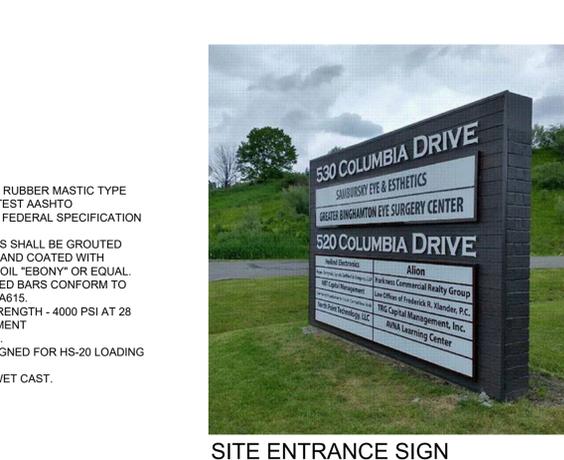
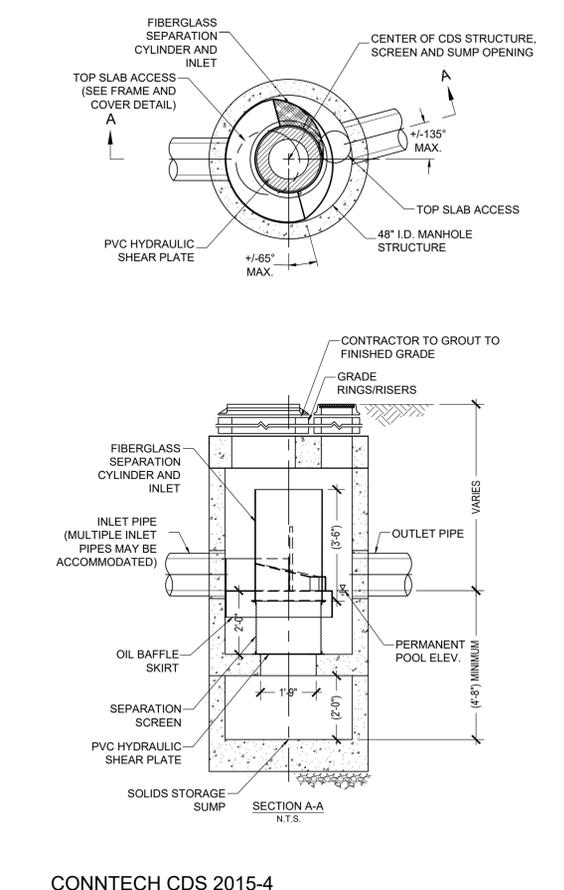
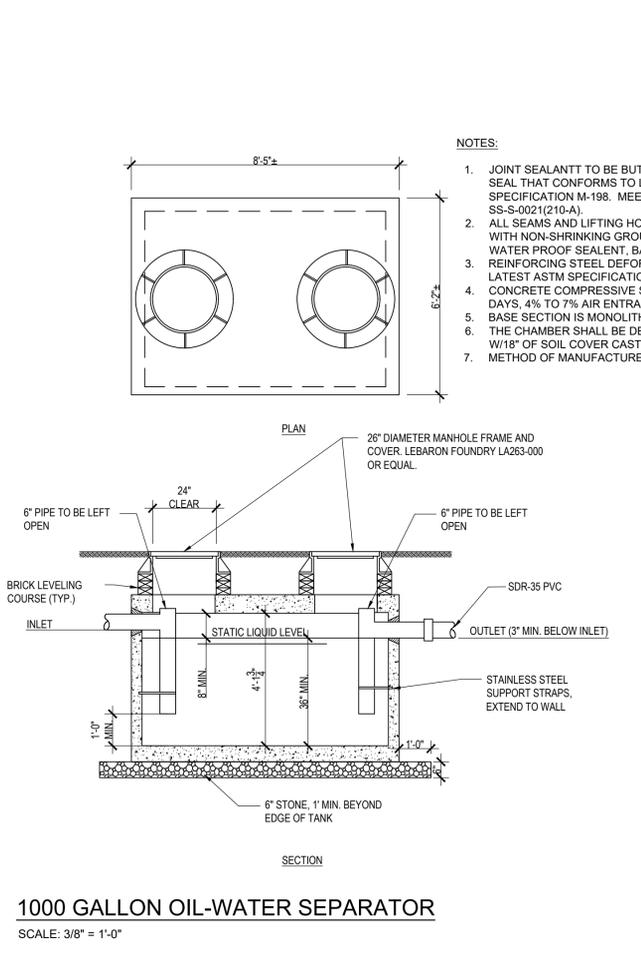
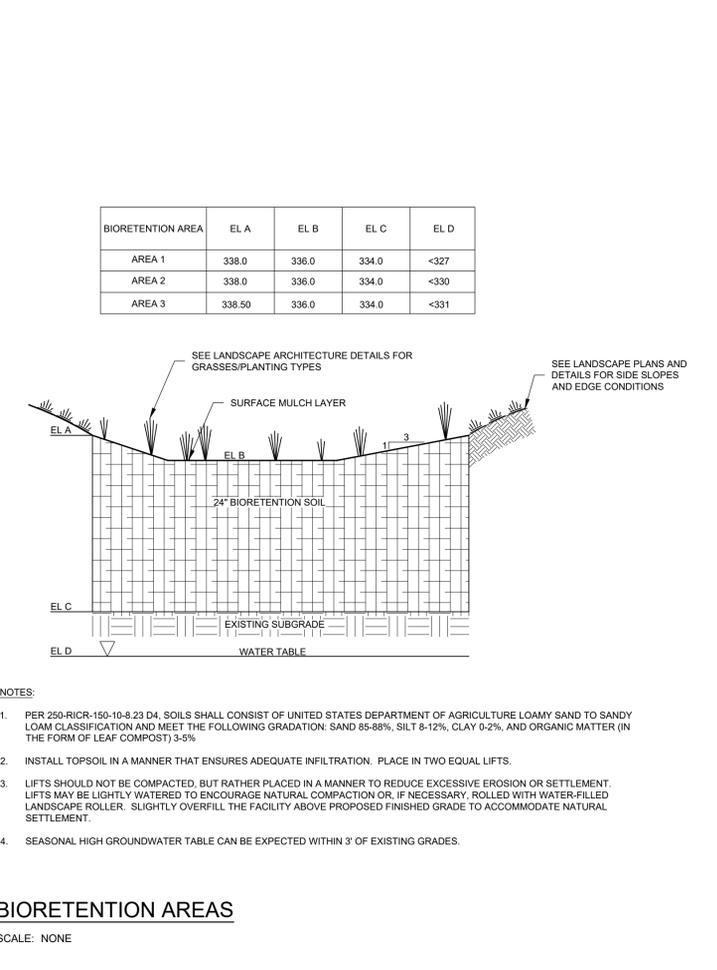
SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*
PIPE DATA	I.E. MATL. DIA. SLOPE % HGL
INLET #1	* * * * *
INLET #2	* * * * *
OUTLET	* * * * *
SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.	
RIM ELEVATION	*
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0'-10' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO MINOR LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
- OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
- THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.



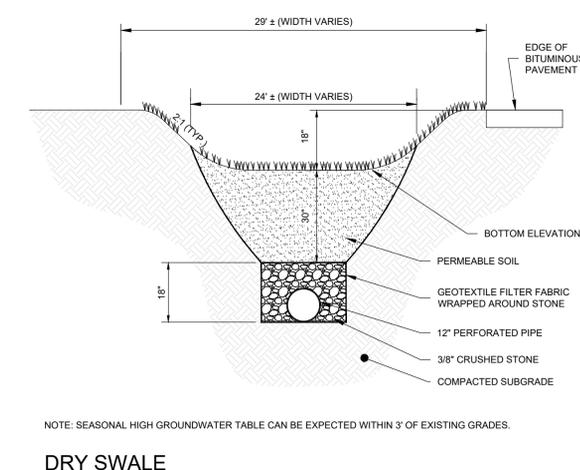
RIDOT HMA Matrix

Old Designation	New Designation	Typical Lift Thickness ¹		Typical Use	Differences/Similarities		
		Inches	Millimeters				
Marshall	Class NMA5	Min. 2.25	Max. 4	57	102	Base or other underlying layers. Preferred mix for lifts greater than or equal to 2.25"	Asphalt contents and gradation are similar. Allowable RAP contents are same. Asphalt grades are similar (non-polymer modified)
Dense Base Courses	Class 19	2	3	51	76	Surface, Base or other underlying layers.	Asphalt contents and gradation are nearly the same. Asphalt grades are similar (non-polymer modified)
Dense Surface Courses	Class 1-1	1.5	2.25	38	57	Surface, Base or other underlying layers. Base for Bikepaths, Patching, Utilities, Waterways, Waterways, Misc.	Polymer/rubber modified binder may be used for surface courses.
	Class 1-2	0.75	1.25	19	32	Surface, Surface for Bikepaths, Leveling, Patching, Utilities, Waterways, Misc.	Asphalt contents and gradation are similar. Polymer/rubber modified binder may be used for surface courses and should always be used for bridge decks.
Special Courses & Others	Modified Friction ² Ramp Friction	1.25		32		Primary/Interstate Surface	Currently a Marshall Design, will change to a hybrid design
	PPEST	1		25		Pavement Preservation Overlay	Hybrid design with similar results to Marshall.
	SMA	Varies with NMA5				Base and/or Surface	

HMA = Hot Mix Asphalt, NMA5 = Nominal Maximum Aggregate Size, FC = Friction Course, PPEST = Paver Placed Elastomeric Surface Treatment, SMA = Stone Matrix Asphalt

NOTES:

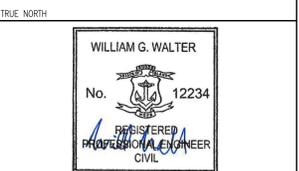
- New designations shall be used.
- The term "binder" should only be used to mean liquid asphalt. The term "modified" will refer to the polymer/rubber modification of binder. Other additives for binder will be referred to in the specification (i.e. WMA, anti-stripping, etc.). Polymer/rubber modified binders will require more effort for compaction in the field, especially when the temperature differential between mixing and ambient temperatures is greatest.
- Minimum lift thickness may be calculated as 3 times the NMA5, but 4 times the NMA5 is recommended. For example: Superpave 12.5mm, 4 x 12.5mm = 50 mm or 2 inches as a lift thickness (this rule excludes special courses). In general, using more lifts will provide for a smoother pavement and the largest NMA5 should be used for each lift.
- "Class" will refer to dense HMA courses. "Class" is followed by a number representing the NMA5 of the mix in millimeters.



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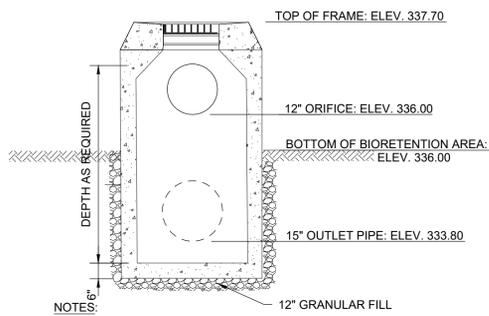
COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



PROJECT NO.: 70753.00 DRAWN BY: GSL
 SCALE: AS SHOWN CHECKED BY: WGW
 DATE: 11/09/2022

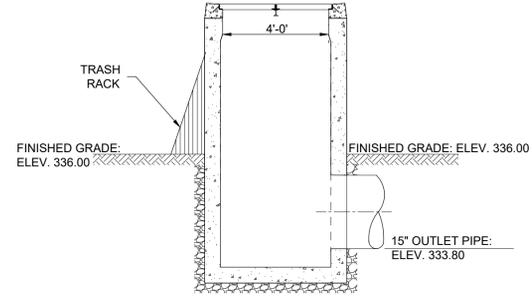
SITE DETAILS



- NOTES:
- STANDARD RIDOT SQUARE CATCH BASIN COMPONENTS ARE TO BE USED AS THE BASIS FOR THE OUTLET CONTROL STRUCTURE.
 - CONTRACTOR TO ANCHOR GRATE TO STRUCTURE TOP USING AT LEAST (4) STAINLESS STEEL BRACKETS BOLTED TO STRUCTURE AND THAT CAN BE REMOVED FOR REMOVAL OF GRATE AND CLEANING. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF STRUCTURE AND PROPOSED ANCHORING METHOD TO ENGINEER FOR APPROVAL.
 - RIDOT SQUARE FRAME AND GRATE ARE TO BE GALVANIZED WITH GALVANIZED LOCKING HARDWARE.

OUTLET CONTROL STRUCTURE 1

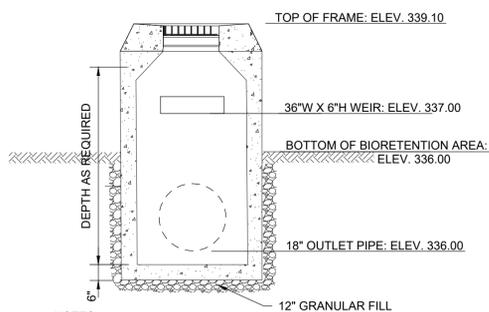
SCALE: NONE



- NOTES:
- STANDARD RIDOT SQUARE CATCH BASIN COMPONENTS ARE TO BE USED AS THE BASIS FOR THE OUTLET CONTROL STRUCTURE.
 - CONTRACTOR TO ANCHOR GRATE TO STRUCTURE TOP USING AT LEAST (4) STAINLESS STEEL BRACKETS BOLTED TO STRUCTURE AND THAT CAN BE REMOVED FOR REMOVAL OF GRATE AND CLEANING. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF STRUCTURE AND PROPOSED ANCHORING METHOD TO ENGINEER FOR APPROVAL.
 - RIDOT SQUARE FRAME AND GRATE ARE TO BE GALVANIZED WITH GALVANIZED LOCKING HARDWARE.

OUTLET CONTROL STRUCTURE 2

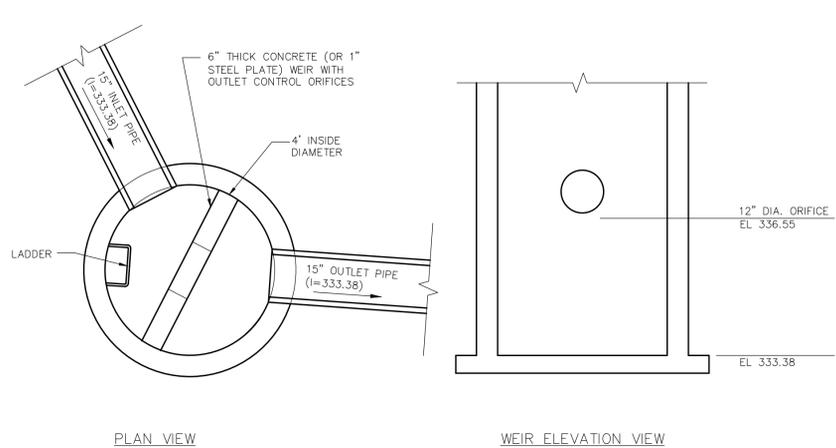
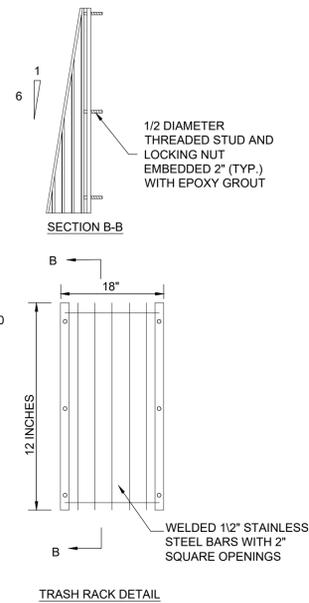
SCALE: NONE



- NOTES:
- STANDARD RIDOT SQUARE CATCH BASIN COMPONENTS ARE TO BE USED AS THE BASIS FOR THE OUTLET CONTROL STRUCTURE.
 - CONTRACTOR TO ANCHOR GRATE TO STRUCTURE TOP USING AT LEAST (4) STAINLESS STEEL BRACKETS BOLTED TO STRUCTURE AND THAT CAN BE REMOVED FOR REMOVAL OF GRATE AND CLEANING. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF STRUCTURE AND PROPOSED ANCHORING METHOD TO ENGINEER FOR APPROVAL.
 - RIDOT SQUARE FRAME AND GRATE ARE TO BE GALVANIZED WITH GALVANIZED LOCKING HARDWARE.

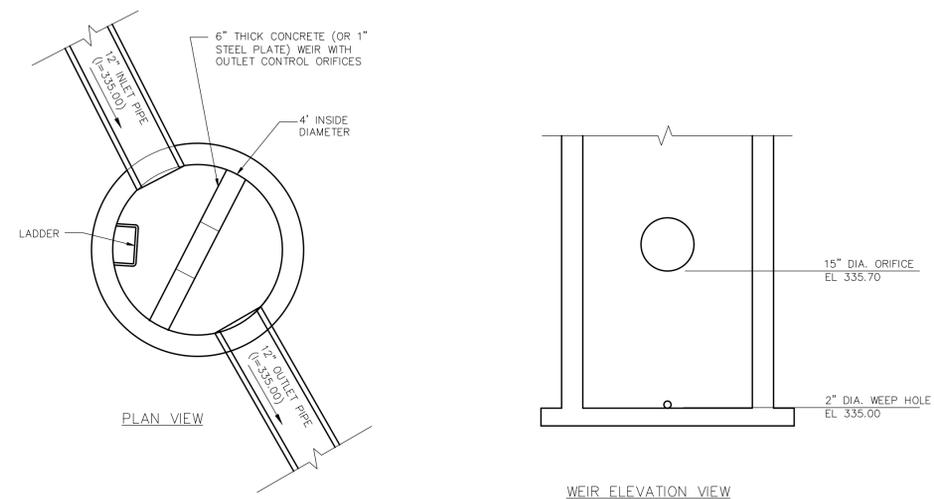
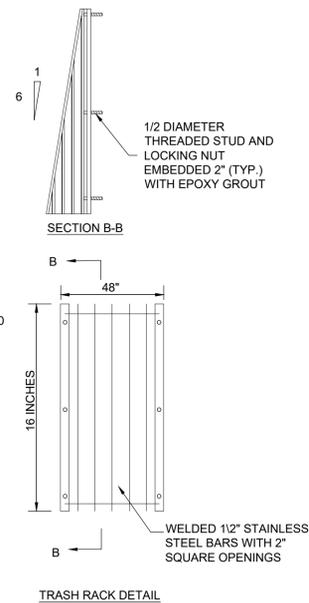
OUTLET CONTROL STRUCTURE 3

SCALE: NONE



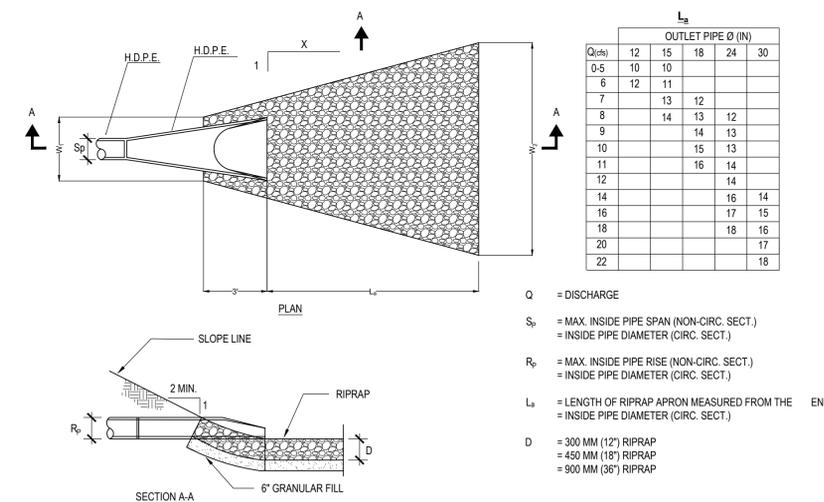
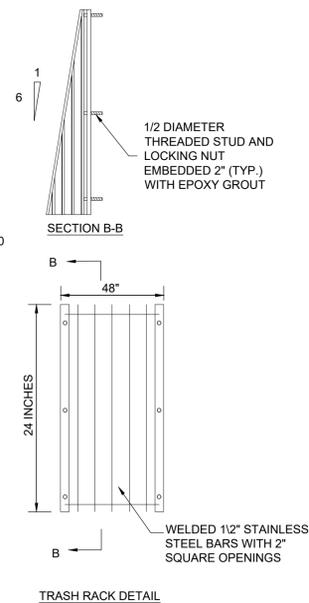
OUTLET CONTROL STRUCTURE 4

SCALE: NONE



OUTLET CONTROL STRUCTURE 5

SCALE: NONE



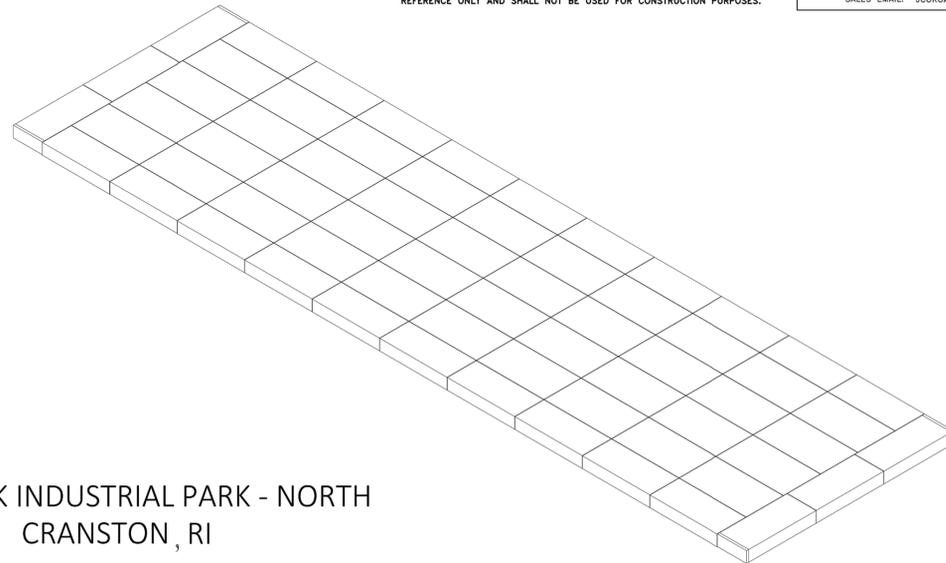
RIP RAP APRON

SCALE: NONE

- Q = DISCHARGE
 S_p = MAX. INSIDE PIPE SPAN (NON-CIRC. SECT.)
 = INSIDE PIPE DIAMETER (CIRC. SECT.)
 R_b = MAX. INSIDE PIPE RISE (NON-CIRC. SECT.)
 = INSIDE PIPE DIAMETER (CIRC. SECT.)
 L_a = LENGTH OF RIPRAP APRON MEASURED FROM THE END
 = INSIDE PIPE DIAMETER (CIRC. SECT.)
 D = 300 MM (12") RIPRAP
 = 450 MM (18") RIPRAP
 = 900 MM (36") RIPRAP



THE STORMTRAP DRAWINGS SHALL NOT BE ALTERED OR MANIPULATED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF STORMTRAP. USE OF THESE DRAWINGS IS STRICTLY GRANTED TO YOU, OUR CLIENT, FOR THE SPECIFIED AND NAMED PROJECT ONLY. THESE DRAWINGS ARE FOR YOUR REFERENCE ONLY AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.



COMSTOCK INDUSTRIAL PARK - NORTH
CRANSTON, RI

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3.0	SINGLETRAP INSTALLATION SPECIFICATIONS
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5.0	RECOMMENDED PIPE/ACCESS OPENING SPECIFICATIONS
6.0	SPLASH PAD & GROWER DETAILS
7.0	SINGLETRAP MODULE TYPES

STORMTRAP CONTACT INFORMATION
STORMTRAP SUPPLIER: STORMTRAP
CONTACT NAME: JOSH CORIO
CELL PHONE: 401-429-3491
SALES EMAIL: JCORIO@STORMTRAP.COM



ENGINEER INFORMATION:
BENESCH
120 HEBRON AVENUE
2ND FLOOR
GLASTONBURY, CT
860-633-8341

PROJECT INFORMATION:
COMSTOCK
INDUSTRIAL PARK
NORTH
CRANSTON, RI

CURRENT ISSUE DATE:
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COVER SHEET

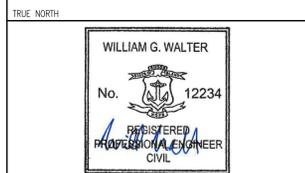
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Prepared for:
Comstock Industrial, LLC
36 Sherwood Place
Greenwich, Connecticut 06830
203-292-1850

COMSTOCK
INDUSTRIAL PARK
PRELIMINARY PLAN
PLAT 36/4 LOT 46
CRANSTON, RI

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



PROJECT NO.: 70753.00
SCALE: AS SHOWN
DATE: 11/09/2022
DRAWN BY: GSL
CHECKED BY: WGW

SITE
DETAILS

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 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

WATER STORAGE PROV: 13,852.20 CUBIC FEET

UNIT HEADROOM: 2'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

- 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.
- COVER RANGE: MIN. 2.50' MAX. 4.50' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
- 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.
- FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.

ENGINEER INFORMATION:
BENESCH
120 HEBRON AVENUE
2ND FLOOR
GLASTONBURY, CT
860-633-8341

PROJECT INFORMATION:
COMSTOCK
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NORTH
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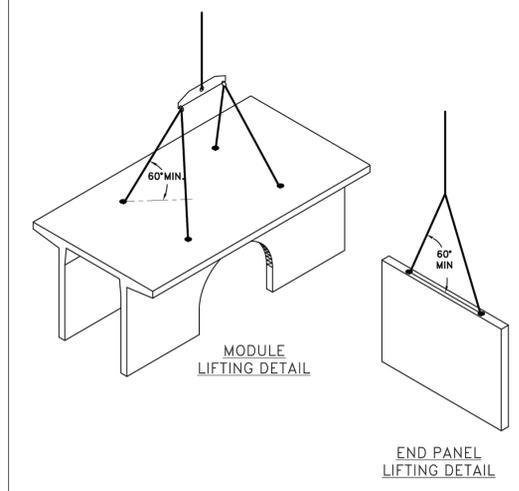
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SHEET TITLE:
SINGLETRAP
DESIGN
CRITERIA

SHEET NUMBER:
1.0

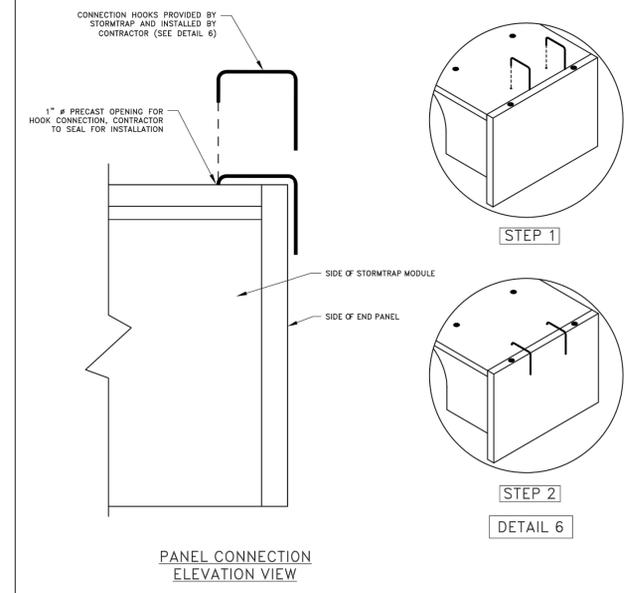
STORMTRAP MODULE LIFTING INSTALLATION NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE (SEE RECOMMENDATIONS 2 & 3).
- MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
- CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
- IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.



END PANEL ERECTION/INSTALLATION NOTES

- END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
- PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
- CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
- ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
- JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



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 1287 WILKINHAM PARKWAY
 ROMEOVILLE, IL 60446
 P815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:
 COMSTOCK
 INDUSTRIAL PARK
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 CRANSTON, RI

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SHEET TITLE:
 SINGLETRAP
 INSTALLATION
 SPECIFICATIONS

SHEET NUMBER:
 3.1

DATE:	REVISION:
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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 (OH, UP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PSF

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.

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES

- THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE 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 REQUIRED (PROVIDED BY OTHERS).
- 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.
- 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.
- FREE DRAINING AGGREGATE - 80% AGGREGATE RETAINED ON 3" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN 1" AND 1" ONLY 5% OF MATERIAL PASSING #6 SIEVE.
- FREE DRAINING, NO FINES, 3" AGGREGATE - MAJORITY OF STONE SIZE IN BETWEEN 1 1/2" AND 3" - VERY SIMILAR TO AASHTO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.

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 ROMEOVILLE, IL 60446
 P815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:
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 INDUSTRIAL PARK
 NORTH
 CRANSTON, RI

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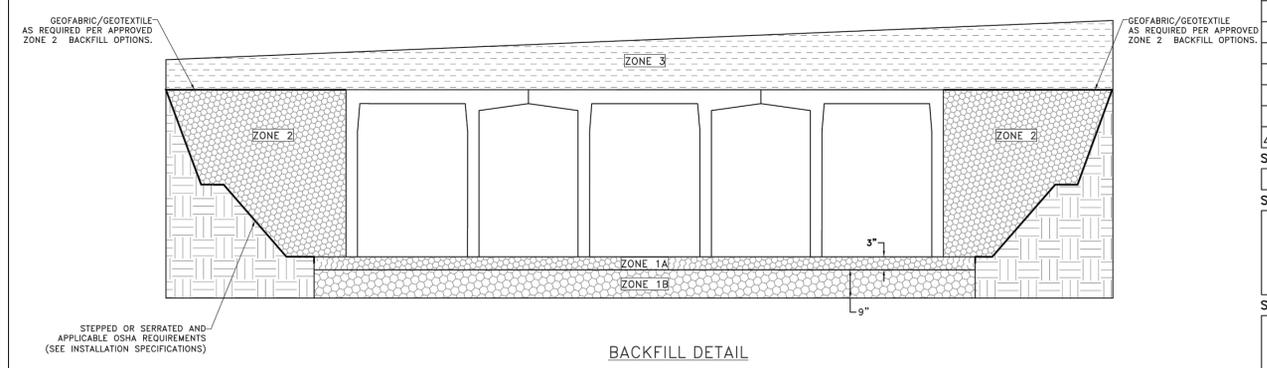
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SHEET TITLE:
 SINGLETRAP
 BACKFILL
 SPECIFICATIONS

SHEET NUMBER:
 4.0

OPTION	REMARKS
3" 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 GEOTEXTILE 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 GEOTEXTILE 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 GEOTEXTILE 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 #497). GEOTEXTILE AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.



TRUE NORTH

PROJECT NO.: 70753.00
 SCALE: AS SHOWN
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 CHECKED BY: WGW

SITE DETAILS



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PAGE	DESCRIPTION
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1.0	SINGLETRAP DESIGN CRITERIA
2.0	SINGLETRAP SYSTEM LAYOUT
3.0	SINGLETRAP INSTALLATION SPECIFICATIONS
3.1	SINGLETRAP INSTALLATION SPECIFICATIONS
4.0	SINGLETRAP BACKFILL SPECIFICATIONS
5.0	RECOMMENDED PIPE/ACCESS OPENING SPECIFICATIONS
6.0	SPLASH PAD & GEOWEB DETAILS
7.0	SINGLETRAP MODULE TYPES

STORMTRAP CONTACT INFORMATION
 STORMTRAP SUPPLIER: STORMTRAP
 CONTACT NAME: JOSH CORDA
 CELL PHONE: 401-429-3491
 SALES EMAIL: JCORDA@STORMTRAP.COM

StormTrap
FILES LISTED AS: DFP/STORMTRAP.COM/FILES/
 1287 WINDHAM PARKWAY
 ROCKFORD, IL 60446
 P.815-941-4549 / F.331-318-5347

ENGINEER INFORMATION:
 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:
 COMSTOCK
 INDUSTRIAL PARK
 SOUTH
 CRANSTON, RI

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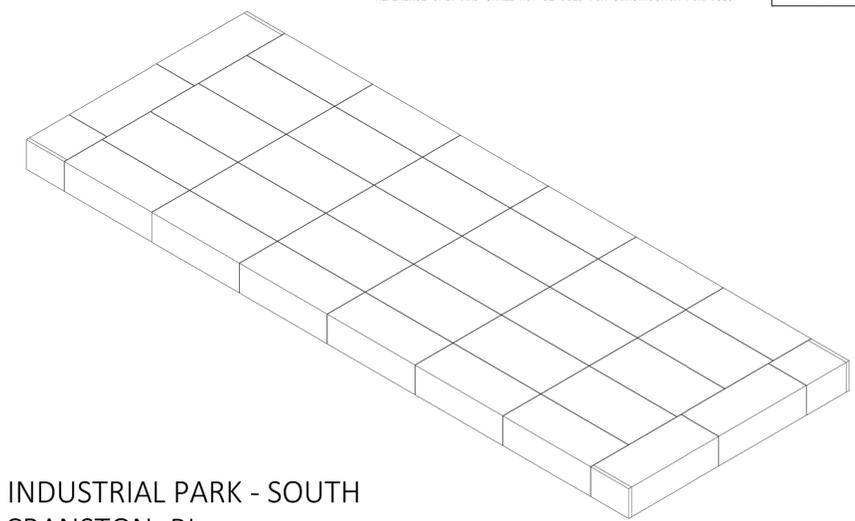
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 COVER SHEET

SHEET NUMBER:
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COMSTOCK INDUSTRIAL PARK - SOUTH
 CRANSTON, RI

Prepared by:

 Alfred Benesch & Company
 120 Hebron Avenue, 2nd Floor
 Glastonbury, Connecticut 06033
 860-633-8341

Prepared for:
 Comstock Industrial, LLC
 36 Sherwood Place
 Greenwich, Connecticut 06030
 203-292-1850

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 CRANSTON, RI
 PLAT 36/4 LOT 46

DATE	REVISION
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TRUE NORTH

WILLIAM G. WALTER

PROJECT NO.: 70753.00 DRAWN BY: GSL
 SCALE: AS SHOWN CHECKED BY: WGW
 DATE: 11/09/2022

SITE DETAILS
 DRAWING NO.:
28 OF 39

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 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

WATER STORAGE PROV: 14,459.26 CUBIC FEET
 WATER STORAGE PROV (IN 18" STONE BASE): 2,813.48 CUBIC FEET
 TOTAL WATER STORAGE PROV: 17,272.74 CUBIC FEET
 UNIT HEADROOM: 4'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

- 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.
- COVER RANGE: MIN. 4.00' MAX. 5.10' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
- 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.
- FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.

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 120 HEBRON AVENUE
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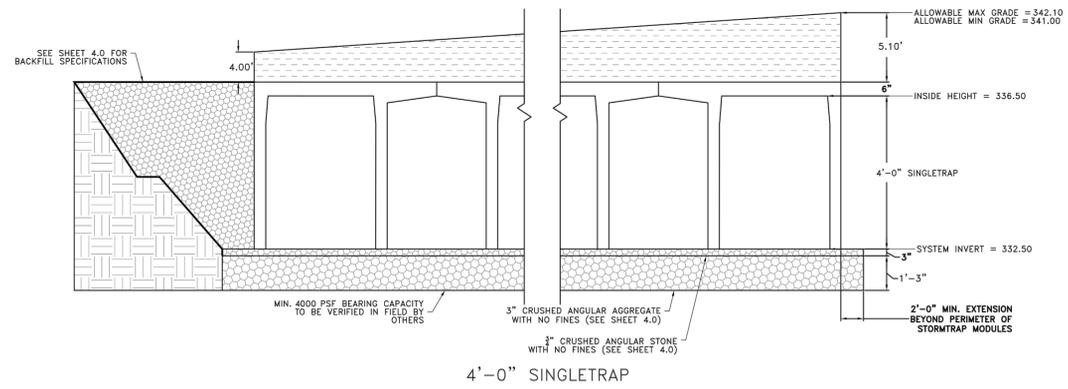
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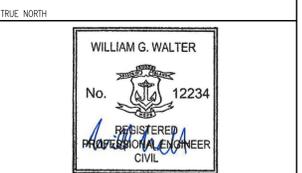
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 SINGLETRAP DESIGN CRITERIA

SHEET NUMBER:
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PROJECT NO.: 70753.00
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DRAWN BY: GSL
 CHECKED BY: WGW

SITE DETAILS

BILL OF MATERIALS			
QTY.	UNIT TYPE	DESCRIPTION	WEIGHT
0	I	4'-0" SINGLETRAP	-
18	II	4'-0" SINGLETRAP	16802
0	III	4'-0" SINGLETRAP	-
16	IV	4'-0" SINGLETRAP	15104
0	VII	4'-0" SINGLETRAP	-
2	SPIV	4'-0" SINGLETRAP	VARIES
0	T2 PANEL	6" THICK PANEL	-
4	T4 PANEL	6" THICK PANEL	2236
0	T7 PANEL	6" THICK PANEL	-
7	JOINTWRAP	150' PER ROLL	-
0	JOINTTAPE	14.5' PER ROLL	-
TOTAL PIECES = 36			
TOTAL PANELS = 4			
HEAVIEST PICK WEIGHT = 16,802			

LOADING DISCLAIMER:
 STORMTRAP IS NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADINGS FROM NEARBY STRUCTURES NEXT TO OR OVER THE TOP OF STORMTRAP. IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY.

TREE LOADING DISCLAIMER:
 THE STORMTRAP SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT THE ADDITIONAL WEIGHT OF ANY TREES. FURTHERMORE, THE ROOTS OF THE TREES MUST BE CONTAINED TO PREVENT FUTURE DAMAGE TO THE STORMTRAP SYSTEM. STORMTRAP ACCEPTS NO LIABILITY FOR DAMAGES CAUSED BY TREES OR OTHER VEGETATION PLACED AROUND OR ON TOP OF THE SYSTEM.

DESIGN CRITERIA
 ALLOWABLE MAX GRADE = 342.10
 ALLOWABLE MIN GRADE = 341.00
 INSIDE HEIGHT ELEVATION = 336.00
 SYSTEM INVERT = 332.50

NOTES:
 1. DIMENSIONING OF STORMTRAP SYSTEM SHOWN BELOW ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
 2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
 3. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.
 4. SEE SHEETS 6.0 & 6.1 FOR SPLASH PAD DETAILS AND LAYOUT.
 5. SP - INDICATES A MODULE WITH MODIFICATIONS.
 6. P - INDICATES A MODULE WITH A PANEL ATTACHMENT.
 7. CONTRACTORS RESPONSIBILITY TO ENSURE CONSISTENCY/ACCURACY TO FINAL ENGINEER OF RECORD PLAN SET.



ENGINEER INFORMATION:
 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:
 COMSTOCK INDUSTRIAL PARK SOUTH
 CRANSTON, RI

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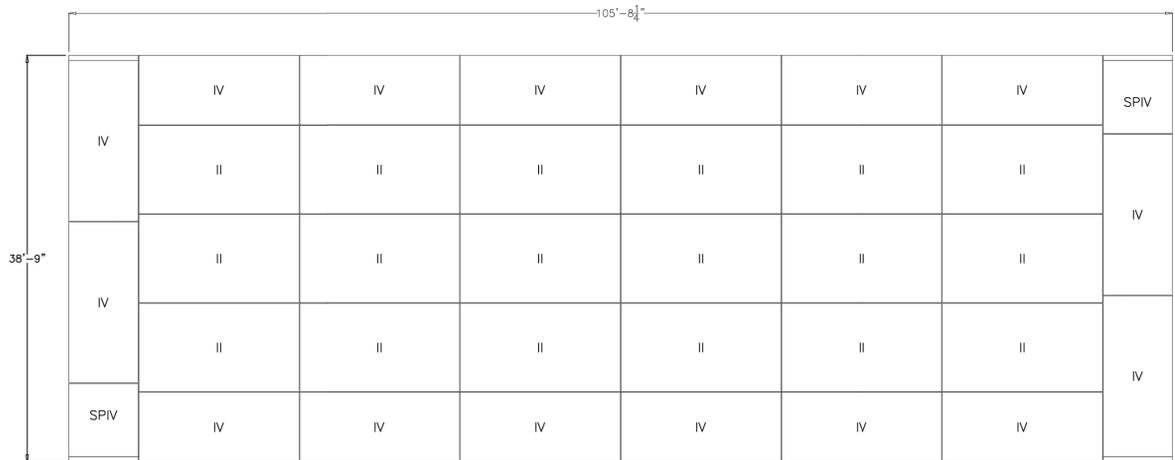
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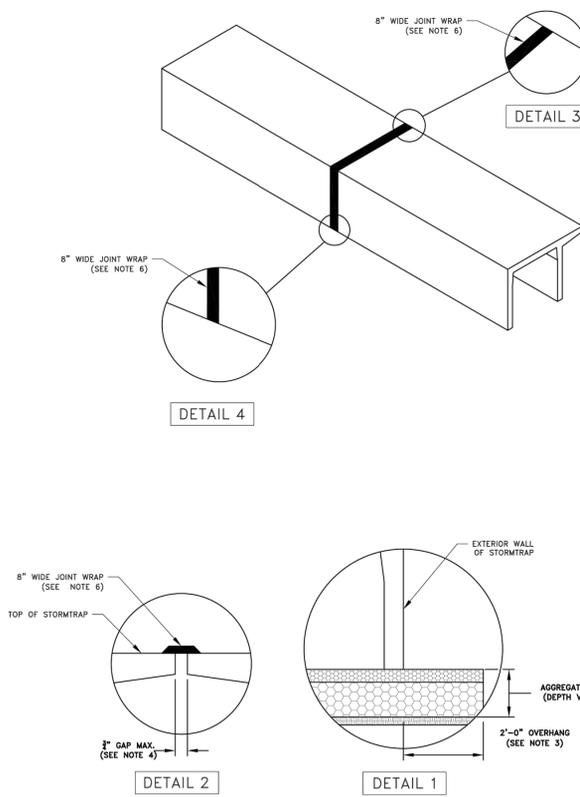
SHEET TITLE:
 SINGLETRAP LAYOUT DETAILS

SHEET NUMBER:
 2.0



STORMTRAP INSTALLATION SPECIFICATIONS

- STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891 STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
- IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
- THE AGGREGATE FOUNDATION HAS BEEN DESIGNED BASED ON THE FOLLOWING ASSUMPTIONS. THESE ASSUMPTIONS WILL NEED TO BE VERIFIED BY A GEOTECHNICAL ENGINEER WHICH WILL NEED TO BE EMPLOYED BY THE OWNER.
 - A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS BELOW THE PROPOSED ENGINEERED STONE FOUNDATION. IF A STONE FOUNDATION DESIGN IS TO BE USED, THE BEARING PRESSURE OF THE SOILS BELOW THE STONE WILL NEED TO MEET OR EXCEED ALLOWABLE CAPACITY. IF THIS IS NOT POSSIBLE, THE STONE FOUNDATION MAY NOT BE AN OPTION FOR THIS LOCATION.
 - A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO EVALUATE A SOURCE OF STONE AGGREGATES THAT WILL BE PLACED ON PROPERLY COMPACTED SOILS (SEE SHEET 1.0 FOR SOIL BEARING CAPACITY REQUIREMENTS). THE AGGREGATE BASE COURSE FOR WHICH THE STORMTRAP SYSTEM WILL BEAR DIRECTLY ON SHALL CONSIST OF A 3" THICK BED OF 3/4" DIAMETER ANGULAR STONE, WELL COMPACTED AND SEALED, WITH NO FINES, AND A 1'-3" THICK BED OF 3" ANGULAR AGGREGATE (SEE SHEET 4.0 FOR FURTHER DESCRIPTION/EXPLANATION). PLEASE NOTE THAT THESE ARE ONLY MINIMUM RECOMMENDATIONS AND A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE USED TO DETERMINE THE EXACT REQUIREMENTS FOR THE LOCATIONS THAT THE STORMTRAP SYSTEM IS TO BE LOCATED.
 - THE CONTRACTOR SHALL REMOVE ANY AND ALL EXPANDABLE OR COLLAPSIBLE SOILS AT THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER.
 - THE AGGREGATE FOUNDATION SHALL BE INSTALLED SUCH THAT THE AGGREGATE EXTENDS A MINIMUM OF 2'-0" PAST THE OUTSIDE OF THE SYSTEM (SEE DETAIL 1).
 - THE 3" AGGREGATE SHALL BE COMPACTED USING A VIBRATING ROLLER WITH ITS' FULL DYNAMIC FORCE APPLIED TO ACHIEVE A FLAT SURFACE.
 - DISK, DRY AND COMPACT THE TOP 8" OF THE SUBGRADE SOILS TO 95% OF THE STANDARD DRY DENSITY AND 110% OPTIMUM MOISTURE CONTENT.
 - AGGREGATE SHALL BE GRADED WITHIN +/- 1/4" OF THE GRADE SHOWN ON THE PLANS.
 - MINIMUM SOIL BEARING CAPACITY LISTED ON SHEET 1.0 SHALL BE VERIFIED IN FIELD BY OTHERS.
- THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/8" (SEE DETAIL 2). IF THE SPACE EXCEEDS 3/8", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
- STORMTRAP MODULES ARE NOT WATERTIGHT. IF A WATERTIGHT SOLUTION IS REQUIRED, CONTACT STORMTRAP FOR RECOMMENDATIONS. THE WATERTIGHT APPLICATION IS TO BE PROVIDED AND IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SELECTED WATERTIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
- ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN, HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 3, & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
 - USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
 - A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
 - IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
 - IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND TO DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP, IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
 - STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.



StormTrap logo and contact information: 1287 WINDHAM PARWAY, ROCKFORD, IL 60446, P815-941-4549 / F.331-318-5347

ENGINEER INFORMATION:
 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:
 COMSTOCK INDUSTRIAL PARK SOUTH
 CRANSTON, RI

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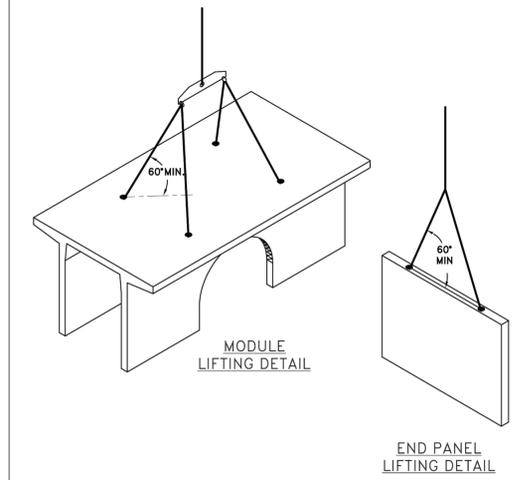
SCALE: NTS

SHEET TITLE:
 SINGLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER:
 3.0

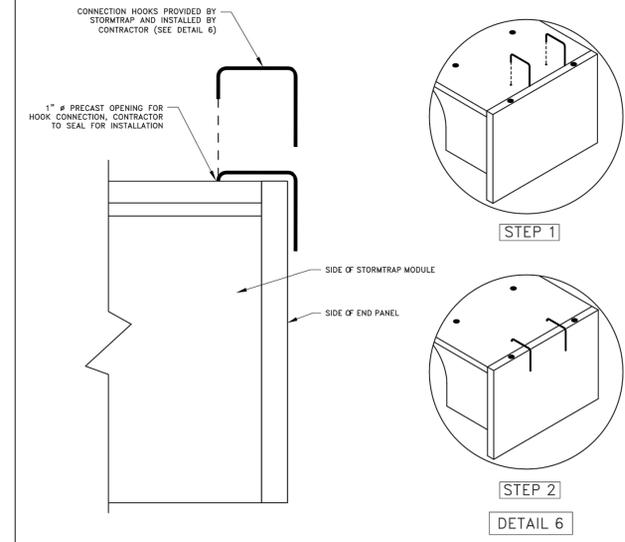
STORMTRAP MODULE LIFTING INSTALLATION NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE (SEE RECOMMENDATIONS 2 & 3).
- MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
- CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
- IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.



END PANEL ERECTION/INSTALLATION NOTES

- END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
- PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
- CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
- ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
- JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



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 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

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 SINGLETRAP
 INSTALLATION
 SPECIFICATIONS

SHEET NUMBER:
 3.1

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION

ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1 A	FOUNDATION AGGREGATE (#5 (3") STONE AGGREGATE (SEE NOTE 4 FOR DESCRIPTION))	3" RECYCLED CRUSHED CONCRETE (SEE NOTE 5 FOR DESCRIPTION)
ZONE 1 B	FOUNDATION AGGREGATE (INFILTRATION NOT ALLOWED)	3" STONE AGGREGATE (INFILTRATION ALLOWED) (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.

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES

- THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE 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 REQUIRED (PROVIDED BY OTHERS).
- 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.
- 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.
- FREE DRAINING AGGREGATE - 80% AGGREGATE RETAINED ON 3" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN 1/2" AND 1" ONLY 5% OF MATERIAL PASSING #8 SIEVE.
- FREE DRAINING, NO FINES, 3" AGGREGATE - MAJORITY OF STONE SIZE IN BETWEEN 1 1/2" AND 3" - VERY SIMILAR TO AASHITO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.



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 BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

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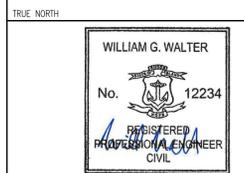
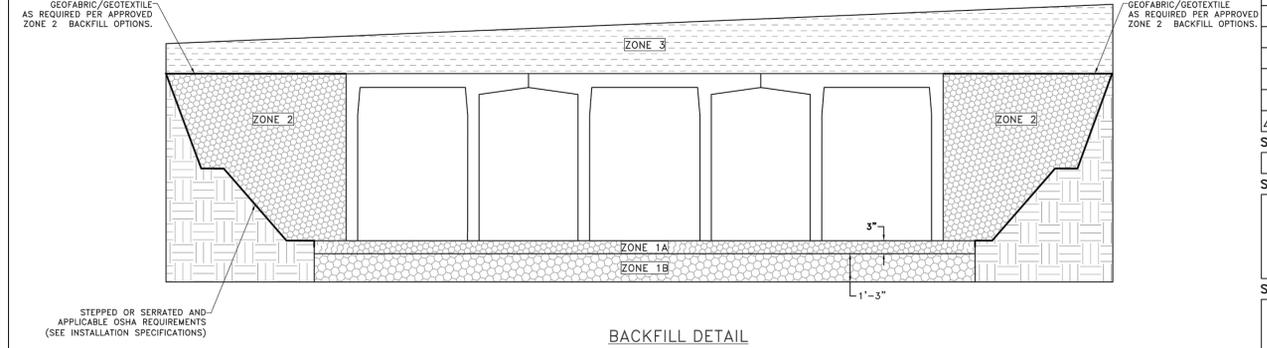
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SHEET TITLE:
 SINGLETRAP
 BACKFILL
 SPECIFICATIONS

SHEET NUMBER:
 4.0

APPROVED ZONE 2 BACKFILL OPTIONS	
OPTION	REMARKS
3" 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 GEOTEXTILE AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #27) 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 GEOTEXTILE 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 GEOTEXTILE 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). GEOTEXTILE AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

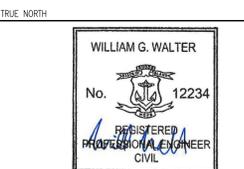


PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022

DRAWN BY: GSL
 CHECKED BY: WGW

SITE DETAILS

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022

DRAWN BY: GSL
 CHECKED BY: WGW

SITE DETAILS

StormTrap®
PRECAST CONCRETE ADJUSTING RINGS, BARREL OR CONE SECTIONS AS NEEDED. SEE RECOMMENDED ACCESS OPENING SPECIFICATION NOTE 6. (SUPPLIED BY OTHERS)

1287 WINDHAM PARKWAY
 REMEDVILLE, IL 60446
 P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:

BENESCH
 120 HEBRON AVENUE
 2ND FLOOR
 GLASTONBURY, CT
 860-633-8341

PROJECT INFORMATION:

COMSTOCK INDUSTRIAL PARK SOUTH
 CRANSTON, RI

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SHEET TITLE:

RECOMMENDED PIPE / ACCESS OPENING SPECIFICATIONS

SHEET NUMBER:

5.0

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PRECAST CONCRETE ADJUSTING RINGS, BARREL OR CONE SECTIONS AS NEEDED. SEE RECOMMENDED ACCESS OPENING SPECIFICATION NOTE 6. (SUPPLIED BY OTHERS)

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 120 HEBRON AVENUE
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SHEET TITLE:

SPLASH PAD & GEOWEB DETAILS

SHEET NUMBER:

6.0

RECOMMENDED ACCESS OPENING SPECIFICATION

- 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.
- PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #P53-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.
- STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
- STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
- 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.
- 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)

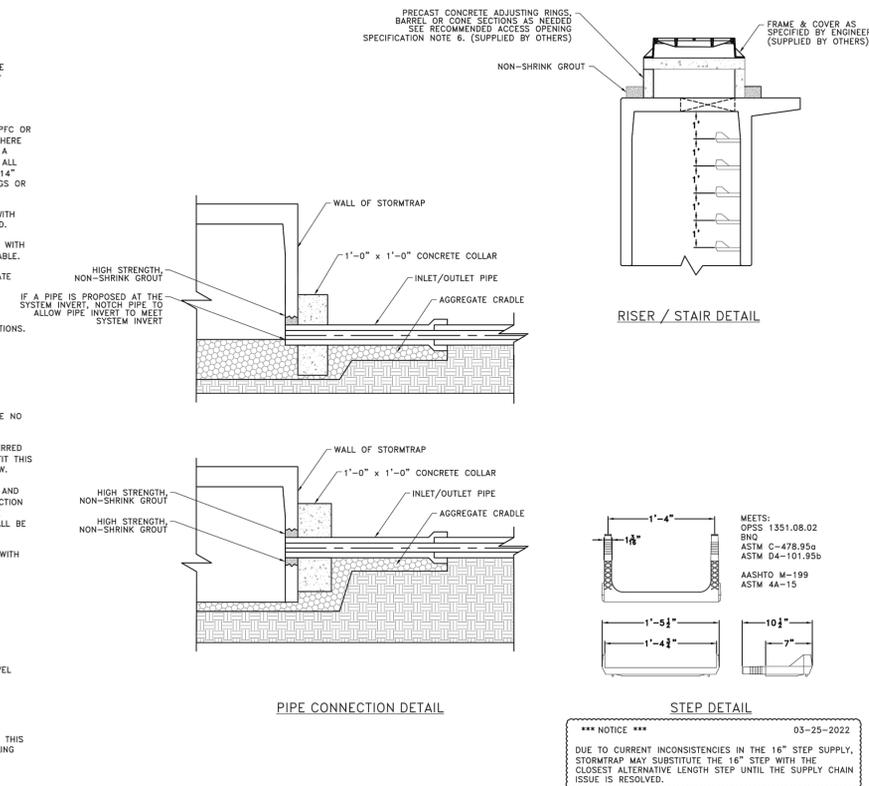
RECOMMENDED PIPE OPENING SPECIFICATION

- MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
- MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE IS # 36" OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
- 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.
- THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

RECOMMENDED PIPE INSTALLATION INSTRUCTIONS

- CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
- IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
- ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.

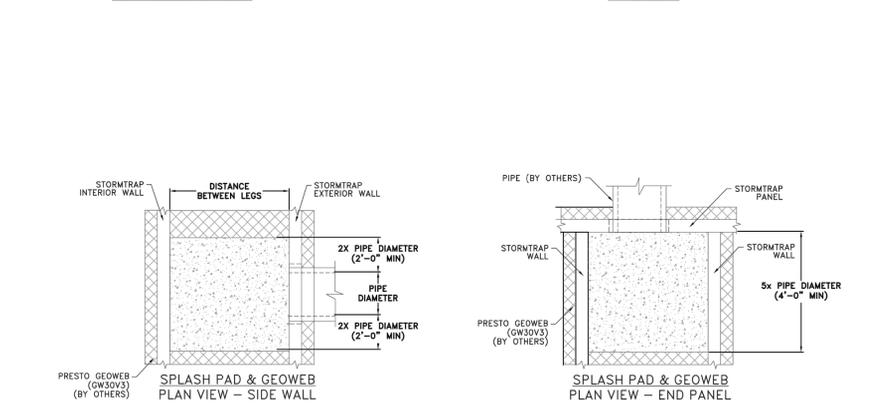
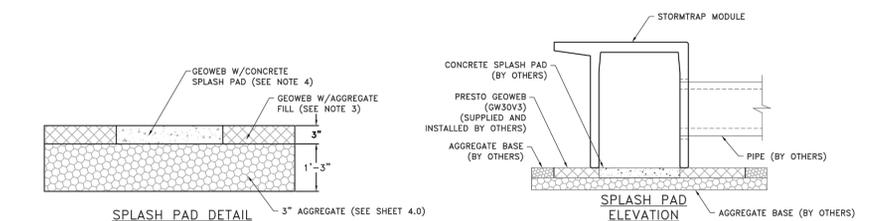
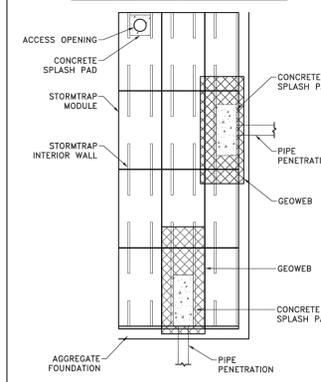


STEP DETAIL
 03-25-2022
 *** NOTICE ***
 DUE TO CURRENT INCONSISTENCIES IN THE 16" STEP SUPPLY, STORMTRAP MAY SUBSTITUTE THE 16" STEP WITH THE CLOSEST ALTERNATIVE LENGTH STEP UNTIL THE SUPPLY CHAIN ISSUE IS RESOLVED.

NOTES:

- THE APPROVED GEOWEB SHALL BE PRESTO GEOWEB (GW30V3). THE GEOWEB NOMINAL DIMENSIONS SHALL BE 9'-FT x 25'-FT.
- THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE STORMTRAP MODULES.
- THE GEOWEB INFILL MATERIAL SHALL BE #5 AGGREGATE.
- THE CONCRETE SPLASH PAD SHALL BE INSTALLED WITHIN THE GEOWEB AND IS REQUIRED AT ALL PIPE ENTRY LOCATIONS.
- THE GEOWEB EDGE SHALL BE INSTALLED 1'-FT BEYOND THE OUTER PERIMETER OF THE STORMTRAP SYSTEM.
- THE GEOWEB LONGITUDINAL DIMENSION (25'-FT) SHALL BE INSTALLED PARALLEL TO THE STORMTRAP LEGS.
- THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE CENTERED AT THE PIPE PENETRATION.
- REFER TO SPLASH PAD LAYOUT FOR CONCRETE SPLASH PAD DIMENSIONS.
- 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.
- ALL GEOWEB AND SPLASH PADS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
- 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



DIA.	DIMENSIONS							REINFORCEMENT
	A	B	C	D	E	R	T	ONE LAYER REINFORCEMENT IN CENTER OF WALL (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	9"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-11"	2'-6"	11"	2 1/2"	0.054
1'-6"	9"	2'-3"	3'-10"	6'-11"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	1'-2"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	1'-6"	4"	0.096
3'-6"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	1'-10"	5"	0.120
4'-6"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	2'-0"	5 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"	2'-0"	6"	0.144

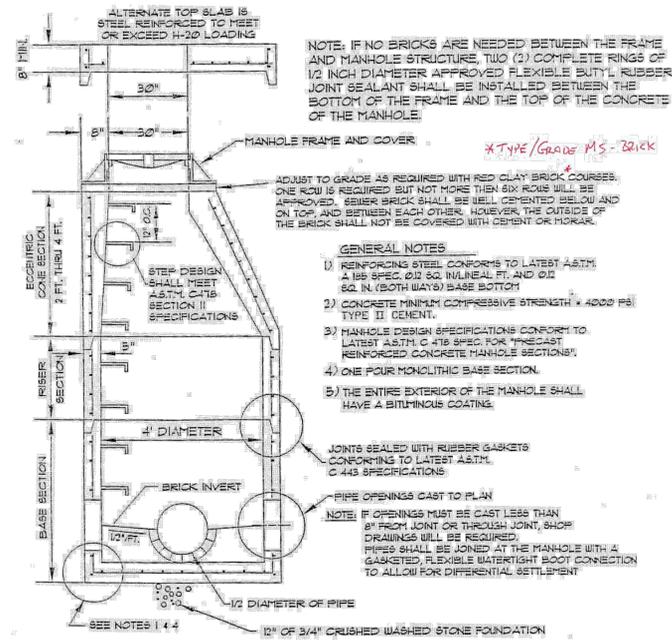
NOTE: SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
 PRECAST CONCRETE FLARED END SECTION

REVISIONS
 NO. BY DATE

JUNE 15, 1998
 R.I. STANDARD 2.3.0

2006ZPT 2006APT Assembly

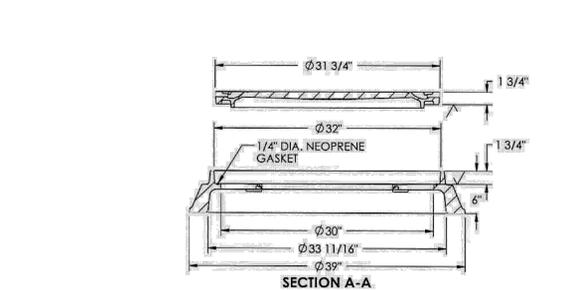
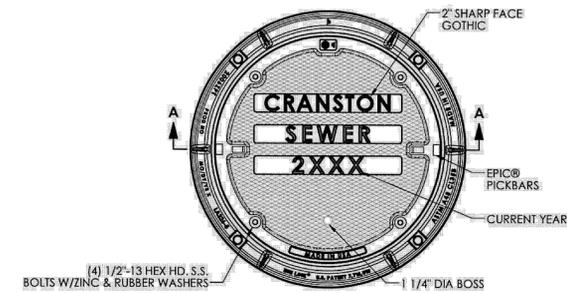


PRECAST MANHOLE - 4 FT. DIAMETER
 SCALE: N.T.S.

THE MANHOLE STRUCTURE SECTIONS SHALL BE PROPERLY ALIGNED TO ONE ANOTHER. SECTIONS SHALL BE MADE FROM THE SAME MANUFACTURER FOR PROPER FITTING OF SECTIONS BOTTOM SECTION, BARRELS, AND CONES. MANHOLE STRUCTURE WILL NOT BE APPROVED UNLESS THEY ARE PROPERLY ALIGNED WITH EACH SECTION.

SANITARY PRECAST MAMHOLE

SCALE: NONE



SEWER MANHOLE FRAME AND COVER

SCALE: NONE

Product Number: 00200602W01
 Design Features:
 Materials:
 Frame: Gray Iron (CL35B)
 Cover: Gray Iron (CL35B)
 Design Load: Heavy Duty
 Open Area: n/a
 Coating: Uncoated
 Unspecified: n/a
 Designates Machined Surface

Certification:
 -ASTM A48
 -
 Country of Origin: USA
 Major Components:
 0200611
 00200602

Drawing Revision:
 4/30/2014 Designer: MAH
 6/20/2017 Revised By: CSF

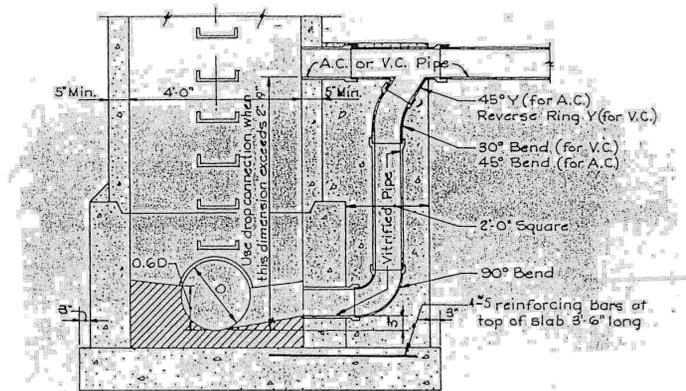
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 We warrant that the dimensions (production) and materials provided for your business. We reserve the right to modify specifications without prior notice.
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 ejco.com

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 PLAT 36/4 LOT 46
 CRANSTON, RI

DATE:	REVISION:
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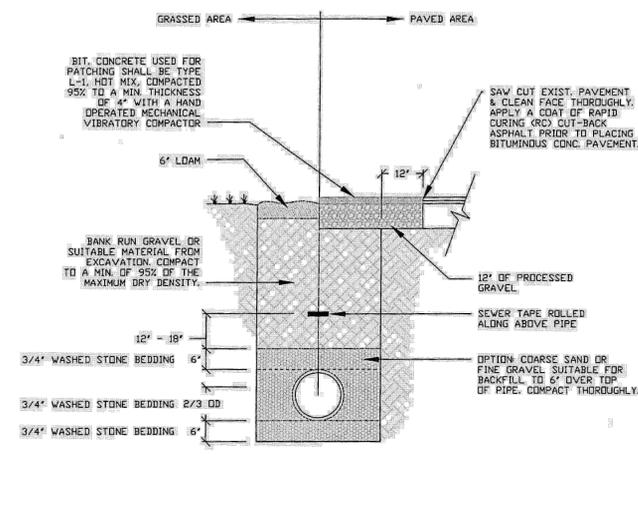


DETAIL OF ANGLE MANHOLE
 SCALE: 1/2" = 1'-0"



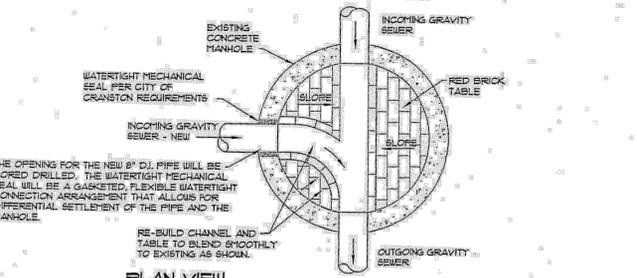
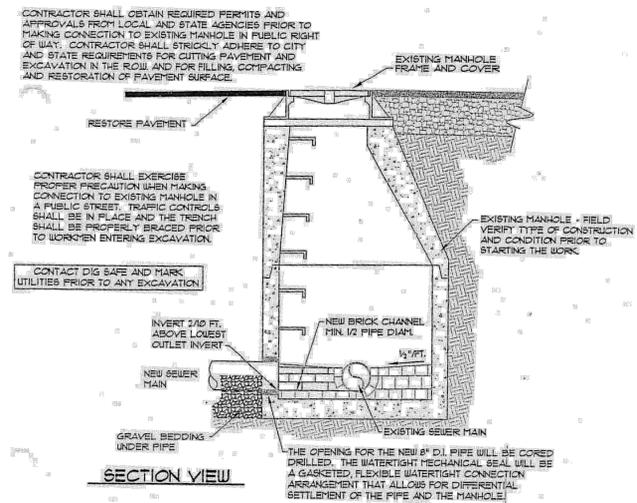
CROSS SECTION DROP MANHOLE

SEWER EXTERIOR DROP MANHOLE CONNECTION
 SCALE: NONE



- NOTES:
- 1) WIDTH (W) OF TRENCH IS EQUAL TO THE INSIDE DIAMETER OF THE PIPE PLUS 12" ON EITHER SIDE.
 - 2) SOIL UNDER CRUSHED STONE FOUNDATION SHALL BE UNDISTURBED AND COMPACTED MATERIAL WITH SEVERAL PASSES OF A VIBRATORY PLATE COMPACTOR.
 - 3) CRUSHED STONE FOUNDATION 3/4" MAXIMUM SIZE, SHALL BE PLACED 6" UNDER THE PIPE AND UP TO THE PIPE LAID THEREON, CRUSHED STONE PULLED AGAINST THE PIPE SIDES TO FIRMLY HOLD THE PIPE IN PLACE.
 - 4) CRUSHED STONE HAUNCHING 3/4" MAXIMUM SIZE SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE.
 - 5) SEWER TAPE IS TO BE ROLLED 12" - 18" ABOVE THE PIPE INSTALLATION, WHICH IS THE FIRST LAYER TO BE COMPACTED.

SEWER TRENCH
 SCALE: NONE



SEWER CONNECTION TO EXISTING MANHOLE
 NOT TO SCALE

SEWER CONNECTION TO EXISTING MANHOLE
 SCALE: NONE

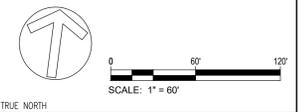
TRUE NORTH



PROJECT NO.: 70753.00
 SCALE: AS SHOWN
 DATE: 11/09/2022
 DRAWN BY: GSL
 CHECKED BY: WGW

**COMSTOCK INDUSTRIAL PARK
 PRELIMINARY PLAN**
 CRANSTON, RI
 PLAT 36/4 LOT 46

DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



WILLIAM G. WALTER
 No. 12234

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00 DRAWN BY: JCO
 SCALE: AS NOTED CHECKED BY: GWG
 DATE: 11/09/2022

**OVERALL
 SITE LIGHTING
 PLAN**
 DRAWING NO.:
33 OF 39



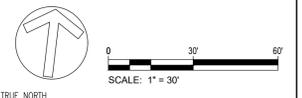
JOB NAME: COMSTOCK INDUSTRIAL PARK - CRANSTON, RI
 APEX LIGHTING SOLUTIONS
 WORKPLANE/CALC PLANE: AT FINISH GRADE
 MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
 APPS: LED
 SALES: SP
 SPECIFIER: BENESCH

Luminaire Schedule							
Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
3	SA2	Single	13199	105.1	0.850	B2-U0-G2	USA RZRM-PLED-II-48LED-700mA-30K-VOLT-1-FINISH / MOUNTED TO SNTS 154-11-1-FINISH
12	SA4	Single	9533	105.1	0.850	B1-U0-G3	USA RZRM-PLED-IV-FT-48LED-700mA-30K-VOLT-1-FINISH-HS-PLED / MOUNTED TO SNTS 204-11-1-FINISH
7	SA4N	Single	10087	105.1	0.850	B1-U0-G2	USA RZRM-PLED-IV-48LED-700mA-30K-VOLT-1-FINISH-HS-PLED / MOUNTED TO SNTS 154-11-1-FINISH
21	WM1	Single	10595	86.8	0.850	B2-U0-G3	USA RZR-WM2-PLED-IV-FT-40LED-700mA-30K-VOLT-FINISH / WALL MOUNTED
6	WM3	Single	4459	32.4	0.850	B1-U0-G1	USA RZR-WM1-PLED-III-M-20LED-525mA-30K-VOLT-FINISH / WALL MOUNTED
16	WM5	Single	5778	42.7	0.850	B1-U0-G2	USA RZR-WM2-PLED-IV-FT-40LED-350mA-30K-VOLT-FINISH / WALL MOUNTED

Calculation Summary						
Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min
PL	N.A.	0.02	0.4	0.0	N.A.	N.A.
Site	0	1.24	9.2	0.0	N.A.	N.A.
Entrance Drive		2.48	6.3	0.3	8.27	21.00
Front Parking Lot		1.58	4.3	0.3	5.27	14.33
Loading Docks		3.28	9.2	1.2	2.73	7.67

COMSTOCK INDUSTRIAL PARK PRELIMINARY PLAN
 CRANSTON, RI
 PLAT 36/4 LOT 46

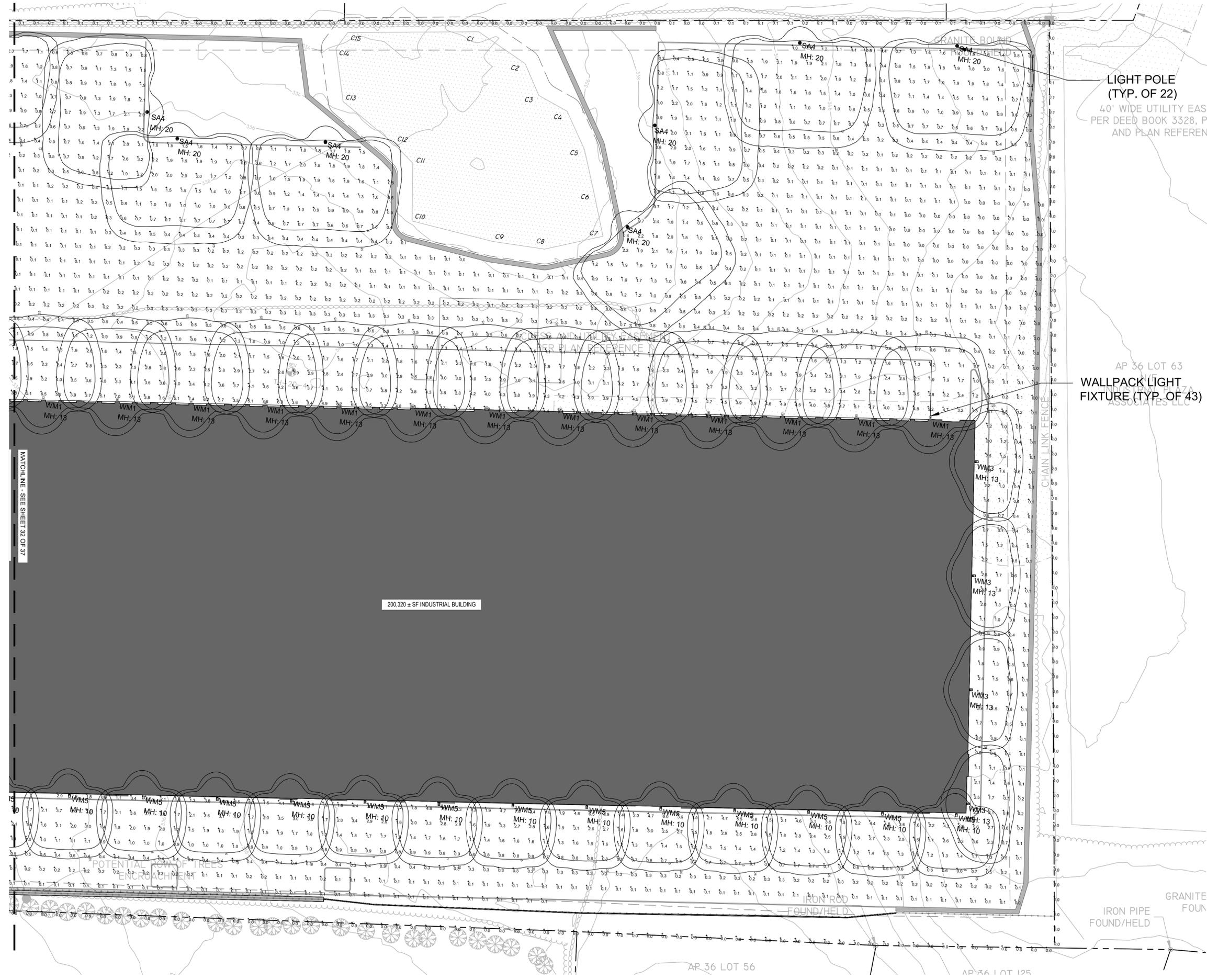
DATE:	REVISION:
11/09/2022	PRELIMINARY PLAN SUBMISSION



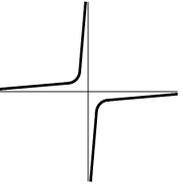
WILLIAM G. WALTER
 No. 12234

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

PROJECT NO.: 70753.00
 SCALE: AS NOTED
 DATE: 11/09/2022
 DRAWN BY: JCO
 CHECKED BY: GWG



MATCHLINE - SEE SHEET 32 OF 37



JOHN C. CARTER & CO., INC.
LANDSCAPE ARCHITECTURE
960 BOSTON NECK RD., NARRAGANSETT, RI
(401) 783-3500

OVERALL SITE & KEY PLAN

Comstock Industrial

LOCATED AT:
A.P. 36, Lot 46
Comstock Parkway
Cranston, Rhode Island

PREPARED FOR:
Comstock Industrial, LLC
36 Sherwood Place
Greenwich, CT 06830

REVISIONS
11-3-22 Updated base plan, sheet number
9-14-22 Sheet labels

SCALE 1" = 50'
DATE July 7, 2022



ISSUED FOR PERMITTING

SHEET NUMBER

36 OF 39

COMSTOCK PARKWAY
(VARIABLE WIDTH PUBLIC RIGHT-OF-WAY)

BUILDING 2

MATCH LINE

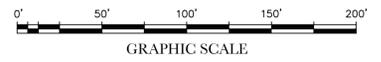
BUILDING 1

SHEET 37
Landscape Plan #1

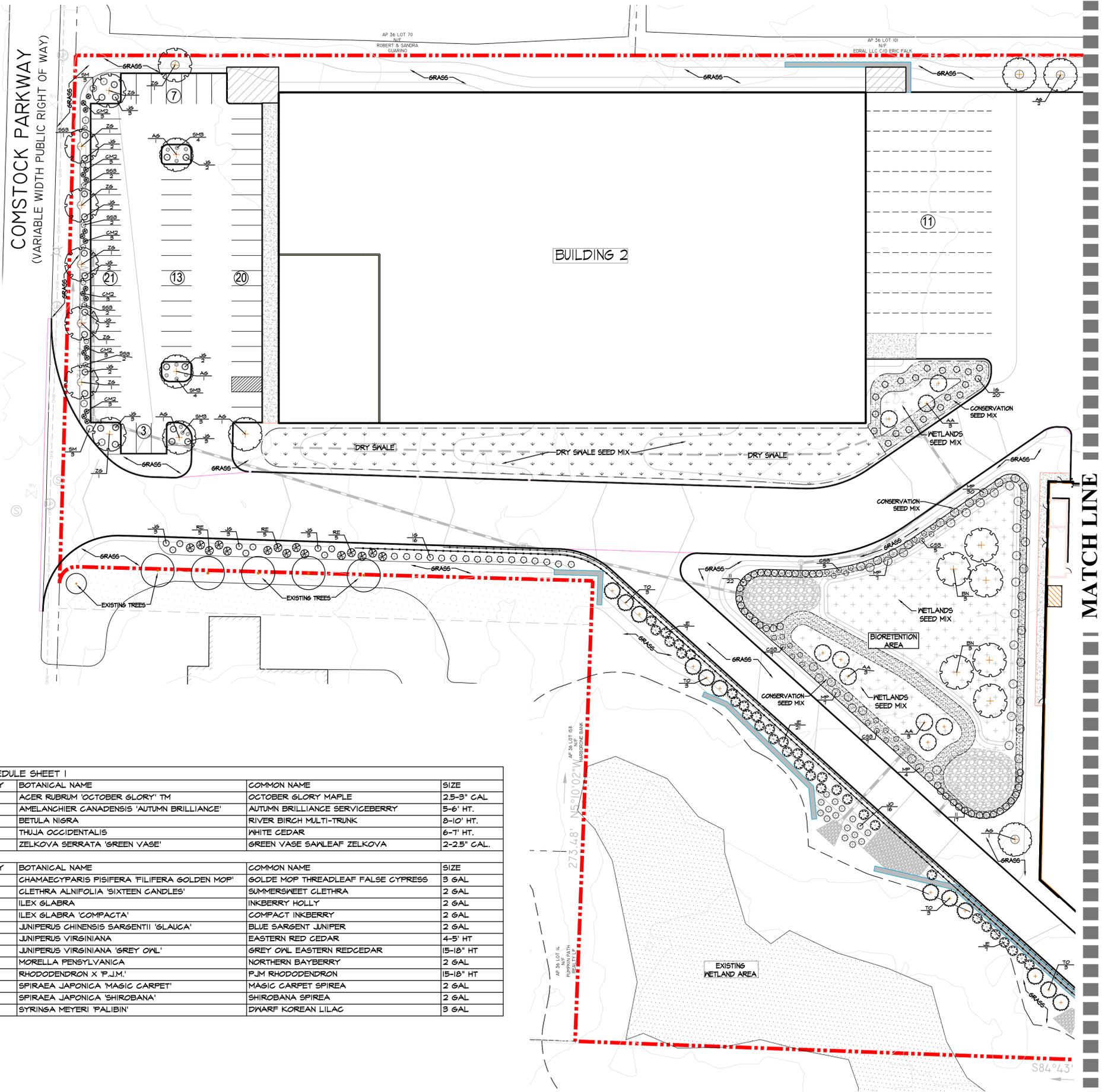
SHEET 38
Landscape Plan #2

SWEET CORN DRIVE

SWEET PEA DRIVE



COMSTOCK PARKWAY
(VARIABLE WIDTH PUBLIC RIGHT OF WAY)



- NOTES:**
- GENERAL:**
1. THE EXISTING SITE INFORMATION WAS TAKEN FROM A PLAN PREPARED BY ALFRED BENESECH & COMPANY, CIVIL ENGINEERS, DATED JUNE 29, 2022, LAST UPDATED 11-1-22.
 2. ANY PROPERTY LINES DEPICTED ON THIS PLAN ARE PICTORIAL ONLY. THIS PLAN IS TO BE USED FOR THE SELECTION, LOCATION AND INSTALLATION OF LANDSCAPE MATERIALS ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. ALL FOUNDATIONS, RETAINING WALLS AND DRAINAGE COMPONENTS SHALL BE STAKED OUT BY THE ENGINEER OR SURVEYOR.
 3. WRITTEN DIMENSIONS AND SPECIFICATIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
 4. THE LOCATION OF UTILITIES IF SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES BEFORE ANY EXCAVATION. DIG-SAFE SHALL BE CONTACTED AT LEAST 72 HOURS BEFORE EXCAVATION. DIG-SAFE CAN BE REACHED AT 1-888-344-7233.

- KEY**
- BIORETENTION/WETLANDS SEED MIX (SEE SHEET 4)
 - DRY SWALE SEED MIX (SEE SHEET 4)
 - CONSERVATION SEED MIX
 - EXISTING WETLAND AREA

JOHN C. CARTER & CO., INC.
LANDSCAPE ARCHITECTURE
960 BOSTON NECK RD., NARRAGANSETT, RI
(401) 783-3500

LANDSCAPE PLAN - 1

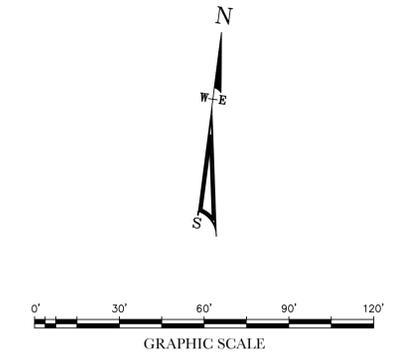
Comstock Industrial

LOCATED AT:
A.P. 36, Lot 46
Comstock Parkway
Comstock, Rhode Island
PREPARED FOR:
Comstock Industrial, LLC
36 Sherwood Place
Greenwich, CT 06830

PLANT SCHEDULE SHEET 1

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AG	7	ACER RUBRUM 'OCTOBER GLORY' TM	OCTOBER GLORY MAPLE	2.5-3" CAL
AA	4	AMELANCHIER CANADENSIS 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	5-6' HT.
BN	6	BETULA NIGRA	RIVER BIRCH MULTI-TRUNK	8-10' HT.
TO	12	THUJA OCCIDENTALIS	WHITE CEDAR	6-7' HT.
ZG	8	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE SAWLEAF ZELKOVA	2-2.5" CAL.

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
GM2	18	CHAMAECYPARIS PISIFERA 'FILIFERA GOLDEN MOP'	GOLDE MOP THREADLEAF FALSE CYPRESS	3 GAL
CSB	24	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES'	SUMMERSWEET CLETHRA	2 GAL
IG	36	ILEX GLABRA	INKBERRY HOLLY	2 GAL
II	34	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	2 GAL
JG	32	JUNIPERUS CHINENSIS SARGENTII 'GLAUC'	BLUE SARGENT JUNIPER	2 GAL
JE	35	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	4-5' HT
JO	16	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL EASTERN REDCEDAR	15-18" HT
MP	48	MORELLA PENNSYLVANICA	NORTHERN BAYBERRY	2 GAL
RE	15	RHODODENDRON X 'P.J.M.'	P.J.M. RHODODENDRON	15-18" HT
SMB	11	SPIRAEA JAPONICA 'MAGIC CARPET'	MAGIC CARPET SPIREA	2 GAL
SSS	4	SPIRAEA JAPONICA 'SHIROBANA'	SHIROBANA SPIREA	2 GAL
SM	6	SYRINGA MEYERI 'PALIBIN'	DWARF KOREAN LILAC	3 GAL



REVISIONS

11/3/22 Sheet number. Base plan. Redistributed plants due to base plan updates.
9/14/22 Increased plant sizes.

SCALE 1" = 30'
DATE July 7, 2022



ISSUED FOR PERMITTING

SHEET NUMBER

MATCH LINE

PLANT SCHEDULE SHEET 2				
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
ACB	9	ABIES CONCOLOR	WHITE FIR	6'-7' HT.
AS	1	ACER RUBRUM 'OCTOBER GLORY' TM	OCTOBER GLORY MAPLE	2.5-3" CAL
AA	9	AMELANCHIER CANADENSIS 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	5-6' HT.
BN	2	BETULA NIGRA	RIVER BIRCH MULTI-TRUNK	6-10' HT.
OB	5	QUERCUS BOREALIS	NORTHERN RED OAK	2.5-3" CAL
TP	24	THALIA PLICATA 'GREEN GIANT'	GIANT ARBORVITAE	7-8' HT.
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
IS	99	ILEX GLABRA	INKBERRY HOLLY	2 GAL
JE	12	JANIPERUS VIRGINIANA	EASTERN RED CEDAR	4-5' HT
MP	50	MORELLA PENNSYLVANICA	NORTHERN BAYBERRY	2 GAL
TN	44	THALIA OCCIDENTALIS 'NIGRA'	AMERICAN ARBORVITAE	5-6' HT
VD	10	VIBURNUM DENTATUM 'ARROWWOOD'	ARROWWOOD VIBURNUM	2 GAL

BUILDING 1

NOTES:

GENERAL:

1. THE EXISTING SITE INFORMATION WAS TAKEN FROM A PLAN PREPARED BY ALFRED BENECH & COMPANY, CIVIL ENGINEERS, DATED JUNE 24, 2022, LAST REVISED 11-1-22.
2. ANY PROPERTY LINES DEPICTED ON THIS PLAN ARE PICTORIAL ONLY. THIS PLAN IS TO BE USED FOR THE SELECTION, LOCATION AND INSTALLATION OF LANDSCAPE MATERIALS ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. ALL FOUNDATIONS, RETAINING WALLS AND DRAINAGE COMPONENTS SHALL BE STAKED OUT BY THE ENGINEER OR SURVEYOR.
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KEY:

-  BIORETENTION/METLANDS SEED MIX (SEE SHEET 4)
-  DRY SWALE SEED MIX (SEE SHEET 4)
-  CONSERVATION SEED MIX
-  EXISTING WETLAND AREA

LANDSCAPE PLAN - 2

Comstock Industrial

LOCATED AT:
A.P. 36, Lot 46
Comstock Parkway
Cranston, Rhode Island
PREPARED FOR:
Comstock Industrial, LLC
36 Sherwood Place
Greenwich, CT 06830

REVISIONS

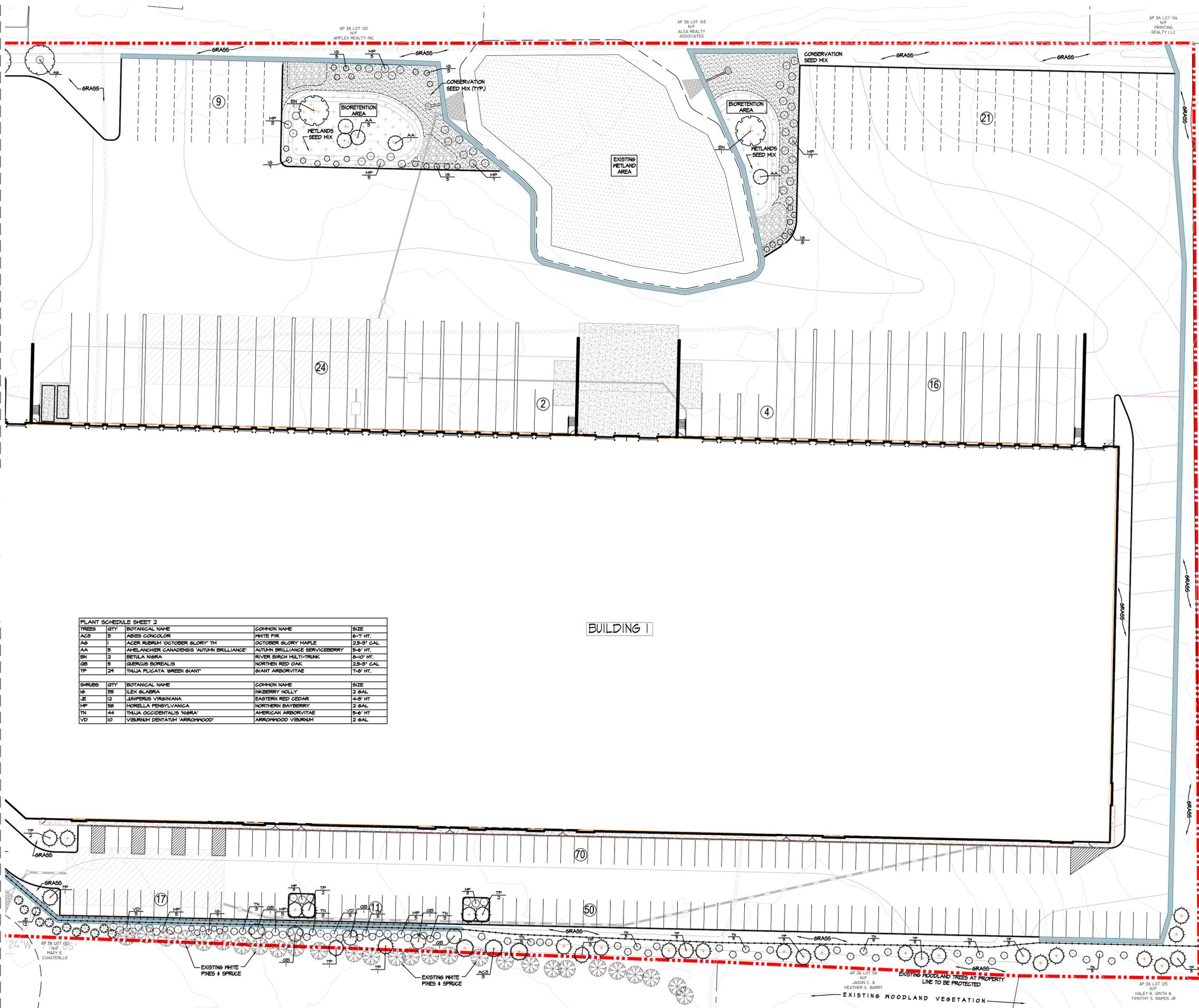
11-3-22 Sheet number. Base plan. Redistributed plants due to base plan updates. Increased size of two parking lot planting islands. Increased number of large evergreen trees at south border and spaced evenly. Fence extended.
9/14/22 Added plantings, planting islands and increased plant sizes for better screening.

SCALE 1"=30'
DATE July 7, 2022



ISSUED FOR PERMITTING

SHEET NUMBER



NOTES:

GENERAL:

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PLANTING BED PREPARATION:

ALL PLANTING BEDS ARE TO BE TREATED AS FOLLOWS:

1. ALL PLANTING BEDS ARE TO BE EXCAVATED TO A DEPTH OF 8" BELOW FINISHED GRADE.
2. THE BOTTOM OF THE PLANTING BEDS ARE TO BE SCARIFIED TO ENCOURAGE DRAINAGE AND PREVENT COMPACTION.
3. ALL PLANTING BEDS ARE TO BE BACKFILLED WITH 8" OF LOOSE, FRIABLE, ORGANIC LOAM OR COMPOST.

PLANTING:

1. PROVIDE QUALITY PLANTS IN THE GENUS, SPECIES AND VARIETY INDICATED IN THE PLANT SCHEDULE, COMPLYING WITH APPLICABLE REQUIREMENTS OF "ANSI Z601 AMERICAN STANDARD FOR NURSERY STOCK."
2. PROVIDE PLANTS IN THE SIZE AND NUMBER INDICATED IN THE PLANT SCHEDULE. PLANTS SHALL BE GROWN IN NURSERIES LOCATED IN THE NORTHEASTERN U.S.
3. DELIVER FRESH DUG TREES WHICH ARE BALLED AND BURLAPPED, AND SHRUBS WHICH ARE BALLED AND BURLAPPED OR IN NURSERY CONTAINERS. ALL PLANTS ARE TO BE HEALTHY, VIGOROUS AND FREE OF INSECTS AND DISEASE.
4. PLANTS ARE TO BE INSTALLED AS SPECIFIED IN THE PLANTING DETAILS WITH ADEQUATE WATER PROVIDED DURING PLANTING TO ALLOW COMPACTION OF THE PLANTING SOIL TO PREVENT ANY AIR POCKETS OR SETTLEMENT AFTER PLANTING.
5. ALL PLANTING BEDS ARE TO BE COVERED WITH 2" SHREDDED PINE BARK MULCH.
6. AFTER THE TREES AND SHRUBS ARE PLANTED, THE DISTURBED AREAS BETWEEN THE PLANTING BEDS SHALL BE LOAMED AND SEEDED WITH A SEED MIX AS SPECIFIED IN THE LOAMING AND SEEDING NOTES.
7. ALL DECIDUOUS AND EVERGREEN TREES OVER 5' TALL ARE TO BE STAKED AS SHOWN IN THE PLANTING DETAILS. TREES ARE TO REMAIN PLUMB AND SHALL BE ADJUSTED AS NEEDED. ALL STAKES AND ARBOR TIES ARE TO BE MAINTAINED AND ADJUSTED TO PREVENT GIRDLING OF THE TRUNK AND REMOVED WHEN NO LONGER NEEDED.
8. PLANT SUBSTITUTIONS SHALL BE ALLOWED BASED ON AVAILABILITY AND SITE CONDITIONS. SUBSTITUTIONS MAY BE MADE ONLY WITH DIRECT APPROVAL FROM THE LANDSCAPE ARCHITECT OR OWNER.

LAYOUT:

1. AFTER THE PLANTING BEDS ARE PREPARED, THE PLANTS SHALL BE PLACED ON THE GROUND WHERE SHOWN ON THE PLAN.
2. THE PLANTS SHALL BE ORIENTED IN SUCH A MANNER TO RESULT IN THE MOST UNIFORM AND VIGOROUS SIDE OF THE PLANT FACING THE FRONT.
3. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED AND MAY INSPECT AND APPROVE THE LOCATIONS BEFORE THEY ARE PLANTED.

MAINTENANCE & WARRANTY:

1. THE CONTRACTOR SHALL WARRANTY ALL PLANTS FOR A PERIOD OF ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH.
2. AFTER PLANTING IS COMPLETED, THE OWNER SHALL BE RESPONSIBLE TO PROVIDE ADEQUATE WATER TO ENSURE HEALTHY AND VIGOROUS GROWTH.
3. ANY PLANT WHICH IS NOT HEALTHY AND GROWING VIGOROUSLY AFTER ONE YEAR SHALL BE REPLACED BY THE CONTRACTOR IN CONFORMANCE WITH THE PLANTING SPECIFICATIONS.
4. IF NECESSARY, THE CONTRACTOR SHALL OVERSEED OR SOD ANY AREAS WHICH ARE NOT SUBSTANTIALLY COVERED BY ADEQUATE GRASS GROWTH FOR ONE YEAR AFTER THE INITIAL SEED APPLICATION.

LOAMING & SEEDING:

1. AREAS LABELED AS 'GRASS' ARE TO BE SEEDED WITH ALLEN'S CONSERVATION SEED MIX OR APPROVED EQUAL.
2. AFTER ROUGH GRADING IS COMPLETED, ALL DISTURBED AREAS WHICH ARE LABELED AS 'GRASS', ARE TO BE BROUGHT TO AN ELEVATION OF 6" BELOW THE PROPOSED FINISHED GRADE. IF COMPACTED, THE SUBGRADE IS TO BE SCARIFIED TO A DEPTH OF 12" WITH THE TEETH OF A BACKHOE TO RESULT IN AN UNCOMPACTED SUBSOIL. THEN 6" OF GOOD QUALITY TOPSOIL IS TO BE APPLIED AND RAKED TO FINISHED GRADE.
3. THE TOPSOIL IS TO BE GOOD QUALITY LOAM, FERTILE AND FREE OF WEEDS, STICKS AND STONES OVER 3/4" IN SIZE AND OTHERWISE COMPLYING WITH SECTION M.10.01 OF THE RI DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. LIME IS TO BE APPLIED AT A RATE OF ONE TON PER ACRE AND UNIFORMLY INCORPORATED INTO THE TOP 1-2" OF TOPSOIL.
5. AFTER THE SEED BED IS PREPARED, THE AREA IS TO BE HYDRO-SEEDED. THE HYDRO-SEED SHALL BE APPLIED EVENLY OVER THE SURFACE WITH A BONDED 100% WOOD FIBER MATRIX USING ACCEPTED HORTICULTURAL PRACTICES. THE SLURRY SHALL INCLUDE WATER, SEED, WOOD FIBER AND A HIGH PHOSPHORUS STARTER FERTILIZER.
6. RATHER THAN HYDRO-SEEDED AS DESCRIBED ABOVE, WITH PERMISSION FROM THE OWNER, THE CONTRACTOR MAY BROADCAST SEED. PRIOR TO SEEDING, FERTILIZE WITH A HIGH PHOSPHORUS STARTER FERTILIZER APPLIED AT THE MANUFACTURER'S RECOMMENDED RATES. SEED SHALL BE BROADCAST EVENLY OVER THE PREPARED SURFACE AND WORKED INTO THE TOP 1" OF SOIL.

SEED MIXES:

- PROVIDE QUALITY SEED DERIVED FROM THE VARIETY INDICATED UNDER 'SEEDING'.
- ALL SEED IS TO BE VIABLE, HEALTHY AND FREE OF INSECTS AND DISEASE.
- SEED IS TO BE INSTALLED AS SPECIFIED IN THE SEEDING NOTES WITH ADEQUATE WATER PROVIDED TO ESTABLISH A HEALTHY GRASS CATCH.
- RECOMMENDED SEEDING DATES ARE APRIL 1 TO JUNE 30 AND AUGUST 15 TO NOVEMBER 15. LATE FALL AND WINTER DORMANT SEEDING REQUIRE AN INCREASE IN THE SEEDING RATE.
- SEED SUBSTITUTIONS SHALL BE ALLOWED BASED ON AVAILABILITY ONLY WITH DIRECT APPROVAL FROM THE LANDSCAPE ARCHITECT OR OWNER.

AREAS LABELED 'GRASS' SHALL BE SEEDED WITH CONSERVATION SEED MIX

CONSERVATION SEED MIX

25%	PERENNIAL RYE GRASS	LOLIUM
25%	CREEPING RED FESCUE	FESTUCA RUERA
25%	ANNUAL RYE	LOLIUM MULTIFLORUM
17%	TALL FESCUE	FESTUCA ARUNDINACEA
5%	KENTUCKY BLUEGRASS	POA PRATENSIS
1%	COLONIAL BENTGRASS	AGROSTIS CAPILLARIS



BIORETENTION / WETLANDS SEED MIX

23%	FOX SEDGE	CAREX VULPINOIDEA
20%	VIRGINIA MILDRYE	ELYMUS VIRGINICUS
14%	LURID (SHALLOW) SEDGE	CAREX LURIDA
10%	FOWL BLUEGRASS	POA PALUSTRIS
6%	FRINGED SEDGE	CAREX CRINITA
5%	SOFT RUSH	JUNCUS EFFUSUS
5%	COSMOS BRISTLY SEDGE	CAREX COSMOSA
5%	SWAMP MILKWEED	ASCLEPIAS INCARNATA
3%	GREEN BURLUSH	SCIRPUS ATROVIRENS
2%	WOOLGRASS	SCIRPUS CYPERINUM
2%	NEW YORK IRONWEED	VERNOICA NOVEBORACENSIS
2%	MUD PLANTAIN	ALISMA SUBCARDATUM
1%	SOFT STEMMED BULRUSH	SCIRPUS VALIDUS
1%	SQUARE STEMMED MONKEY FLOWER	MINILUS RINGENS
1%	PURPLE NODE JOE PYE WEE	EUTROCHUM PURPUREUM



DRY SHALE SEED MIX

35%	TALL FESCUE	FESTUCA ARUNDINACEA
25%	HARD FESCUE	FESTUCA OVINA
15%	KENTUCKY BLUEGRASS	POA PRATENSIS
10%	RYE GRASS (PERENNIAL OR ANNUAL)	LOLIUM
8%	VA MILDRYE	ELYMUS VIRGINICUS
5%	RED TOP	AGROSTIS GIGANTEA
2%	CREEPING BENTGRASS	AGROSTIS STOLONIFERA



ALL SEED MIXES ARE AVAILABLE AT ALLEN'S SEED, 643 SOUTH COUNTY TRAIL, EXETER, RHODE ISLAND 02822 TEL: 401-244-2122.

CITY OF GRANSTON - CODE OF ORDINANCES

TITLE 17 - ZONING / CHAPTER 17.84 - DEVELOPMENT PLAN REVIEW
17.84.140 DEVELOPMENT AND LANDSCAPING DESIGN STANDARDS

C. LANDSCAPE STANDARDS

1. GENERAL REQUIREMENTS

b. A MINIMUM OF FIFTEEN (15) PERCENT OF A DEVELOPMENT'S PARCEL SHALL BE LANDSCAPED.

TWENTY-FIVE (25) PERCENT OF THE SITE IS PROPOSED TO BE LANDSCAPED

4. TREES

b. ONE STREET TREE SHALL BE PLANTED FOR EVERY THIRTY-FIVE (35) FEET OF FRONTAGE. GENERALLY, STREET TREES SHALL BE OF THE SAME SPECIES EXCEPT TO ACHIEVE SPECIAL EFFECTS. TREES MAY BE SPACED ALONG THE STREET AT EVERY THIRTY-FIVE (35) FEET AT THE REAR OF SIDEWALK OR MAY BE GROUPED IN ACCORDANCE WITH A LANDSCAPE PLAN.

WITH THE EXCEPTION OF THE CURB CUT, THE SITE HAS APPROXIMATELY 240' OF FRONTAGE ALONG COMSTOCK PARKWAY. ONE TREE IS PROPOSED TO BE PLANTED FOR EVERY THIRTY-FIVE (35) FEET OF THIS LANDSCAPED FRONTAGE.

240 / 35 = 6.85

TREES REQUIRED	TREES PROPOSED
6.85	7

6. BUFFER STRIPS

ALL DEVELOPMENTS SHALL PROVIDE AN APPROVED YEAR-ROUND BUFFER A MINIMUM OF EIGHT FEET IN HEIGHT, CONSISTING OF FENCING, VEGETATION, BERMS, ROCKS, BOLDERS, MOUNDS OR COMBINATION THEREOF, TO:

- I. SHIELD ABUTTING PROPERTIES FROM NEGATIVE IMPACTS FROM A DEVELOPMENT.
- II. SHIELD A DEVELOPMENT FROM NEGATIVE IMPACTS FROM ABUTTING PROPERTIES
- III. MINIMIZE THE IMPACTS FROM STORM WATER RUNOFF AND FLOODING

A YEAR-ROUND BUFFER A MINIMUM OF EIGHT FEET IN HEIGHT (WITHIN THREE GROWING SEASONS), CONSISTING OF FENCING AND/OR VEGETATION IS PROPOSED WHERE NEEDED TO SHIELD ABUTTING PROPERTIES FROM NEGATIVE IMPACTS FROM THE DEVELOPMENT.

a. BUFFER AREA DIMENSIONS

I. A MINIMUM TEN (10) FEET WIDE LANDSCAPED STRIP SHALL BE PROVIDED ALONG PROPERTY LINES PARALLEL TO A STREET WHERE PARKING OR CIRCULATION AREAS ABUTS SAID STREET.

A LANDSCAPE STRIP AT LEAST TEN (10) FEET WIDE IS PROPOSED BETWEEN COMSTOCK PARKWAY AND AN AREA OF PARKING THAT ABUTS SAID STREET.

II. A MINIMUM FIVE FEET LANDSCAPE STRIP SHALL BE PROVIDED ALONG SIDE AND REAR PROPERTY LINES WHERE PARKING AND CIRCULATION AREAS ARE ADJACENT TO ABUTTING PROPERTIES.

A LANDSCAPE STRIP AT LEAST FIVE FEET WIDE IS PROPOSED AROUND THE ENTIRE SITE, EXCEPT AT THE CURB CUT AT COMSTOCK PARKWAY.

III. WHERE A MORE INTENSIVE USE ABUTS A LESS INTENSIVE USE, A 25-FOOT WIDE BUFFER STRIP MAY BE REQUIRED. THE WIDTH OF SAID STRIP TO BE DETERMINED BY THE DESIGN AND DENSITY OF THE BUFFER PROPOSED.

EXISTING VEGETATION WILL REMAIN THAT WILL CREATE A DENSE YEAR-ROUND BUFFER BETWEEN THE SITE AND RESIDENTIAL PROPERTIES TO THE SOUTH. THIS VEGETATION INCLUDES EXISTING DECIDUOUS FOREST WITH UNDERSTORY, AN EXISTING ROW OF MATURE EVERGREEN TREES, AND WETLAND BUFFER VEGETATION. IN ADDITION, EVERGREEN PLANTINGS, AN EARTHEN BERM, AND A SOLID FENCE ARE PROPOSED WHERE SHOWN ON THE PLAN.

c. PLANTINGS SHALL PROVIDE MAXIMUM PROTECTION TO ABUTTING PROPERTIES AND AVOID DAMAGE TO EXISTING PLANT MATERIALS. EARTHEN BERMS MAY BE USED IN THE BUFFER DESIGN, PROVIDED SIDE SLOPES ARE ADEQUATELY STABILIZED. SAID BERMS MAY BE USED TO CALCULATE EFFECTIVE BUFFER HEIGHT.

AN EARTHEN BERM, RETAINING WALL, SOLID WOOD FENCE, AND ADDITIONAL EVERGREEN PLANTINGS WILL SUPPLEMENT THE EXISTING VEGETATION TO BUFFER THE ADJACENT PROPERTIES.

d. PLANT MATERIALS SHALL BE SIZED AND PLANTED SO AS TO ACHIEVE A YEAR-ROUND EFFECTIVE BUFFER HEIGHT OF AT LEAST EIGHT FEET WITHIN THREE GROWING SEASONS.

THE EXISTING AND PROPOSED PLANTINGS WILL ACHIEVE A YEAR-ROUND EFFECTIVE BUFFER HEIGHT OF AT LEAST EIGHT FEET WITHIN THREE GROWING SEASONS.

7. PARKING AREA LANDSCAPING REQUIREMENTS.

a. IN ADDITION TO ANY REQUIRED BUFFER STRIP, A MINIMUM OF TEN (10) SQUARE FEET OF LANDSCAPED AREA SHALL BE PROVIDED WITHIN A PARKING AREA FOR EACH PARKING SPACE IN SAID AREA.

THERE ARE 64 PARKING SPACES PROPOSED IN THE PARKING LOT ABUTTING COMSTOCK PARKWAY.

LANDSCAPE REQUIRED	LANDSCAPE PROPOSED
640 SQ. FT.	1,800+ SQ. FT.

b. A MINIMUM OF TWENTY (20) PERCENT OF A PARKING AREA SHALL BE SHADED BY DECIDUOUS TREES THAT SHALL HAVE A CROWN (CANOPY) OF THIRTY (30) FEET AT MATURITY. SAID TREES SHALL BE SURROUNDED BY AT LEAST ONE HUNDRED (100) SQUARE FEET OF UNPAVED AREA TO PROVIDE FOR GROWTH AND PROTECTION FROM VEHICLES.

THE AUTOMOBILE PARKING AREA ABUTTING COMSTOCK PARKWAY IS 21,375 SQ. FT.

21,375 X 20% = 4,275 SQ. FT. REQUIRED CANOPY SHADE.

TREES AT MATURITY WILL PROVIDE A 30' CANOPY = 101 SQ. FT. OF SHADE
4,275 SQ. FT. / 101 SQ. FT. = 6.04

TREES REQUIRED	SHADE TREES PROVIDED
6	7

SHADE TREES ARE PROPOSED TO BE SURROUNDED BY GREATER THAN 100 SQ. FT. OF UNPAVED AREA.

c. EACH ROW OF PARKING SPACES SHALL BE TERMINATED BY A LANDSCAPED ISLAND NOT LESS THAN SIX FEET WIDE AND TWELVE (12) FEET LONG.

A LANDSCAPED ISLAND GREATER THAN SIX FEET IN WIDTH BY TWELVE FEET IN LENGTH IS PROVIDED AT THE END OF EACH ROW OF PROPOSED PARKING IN THE AUTOMOBILE PARKING AREA ABUTTING COMSTOCK PARKWAY.

d. A CONTINUOUS LANDSCAPED ISLAND NOT LESS THAN EIGHT FEET WIDE SHALL BE PROVIDED BETWEEN EVERY FOUR ROWS OF PARKING SPACES.

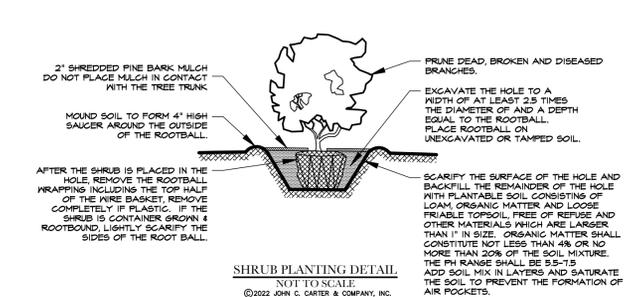
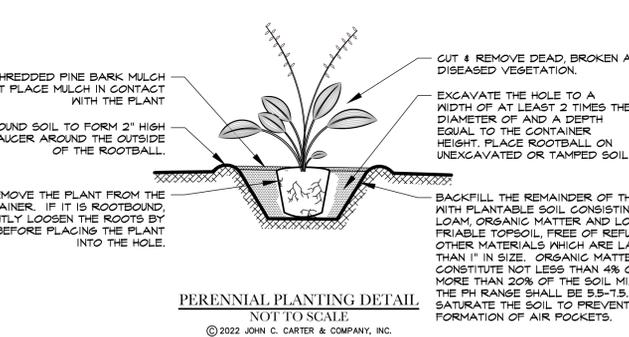
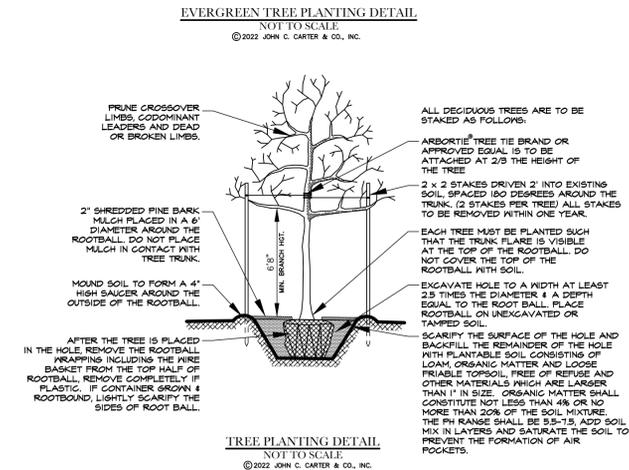
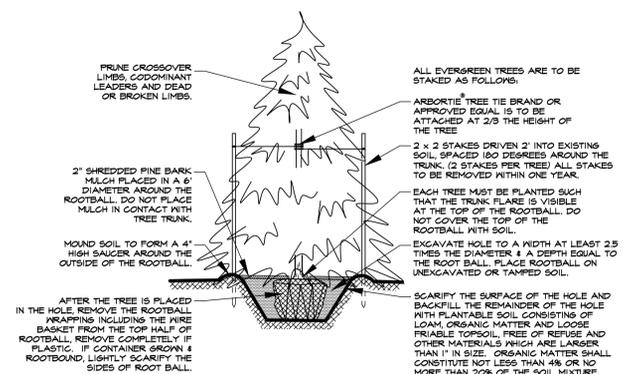
N/A

e. LANDSCAPED AREAS SHALL BE PROVIDED AT APPROPRIATE LOCATIONS IN ORDER TO PREVENT LONG, UNINTERRUPTED ROWS OF PARKING.

N/A

f. LANDSCAPED ISLANDS SHALL BE PROTECTED FROM ENCROACHMENT BY MOTOR VEHICLES BY A CONTINUOUS RAISED CURB. (VEHICLES SHALL BE PRESUMED TO HAVE AN OVERHANG OF THREE AND ONE-HALF FEET) PEDESTRIAN PATHS MAY BE INCORPORATED WITHIN THE LANDSCAPED ISLANDS PROVIDED A MINIMUM DIMENSION OF FOUR FEET, EXCLUSIVE OF PAVED AREAS, IS MAINTAINED.

CONTINUOUS RAISED CURBS ARE PROPOSED AROUND ALL LANDSCAPED ISLANDS.



PLANTING NOTES & DETAILS
Comstock Industrial
LOCATED AT:
A.P. 36, Lot 46
Comstock Parkway
Comstock, Rhode Island
PREPARED FOR:
Comstock Industrial, LLC
36 Sherwood Place
Greenwich, CT 06830

REVISIONS
11-3-22 Sheet number
SCALE 1"=30'
DATE July 7, 2022
ISSUED FOR PERMITTING
SHEET NUMBER
39 OF 39