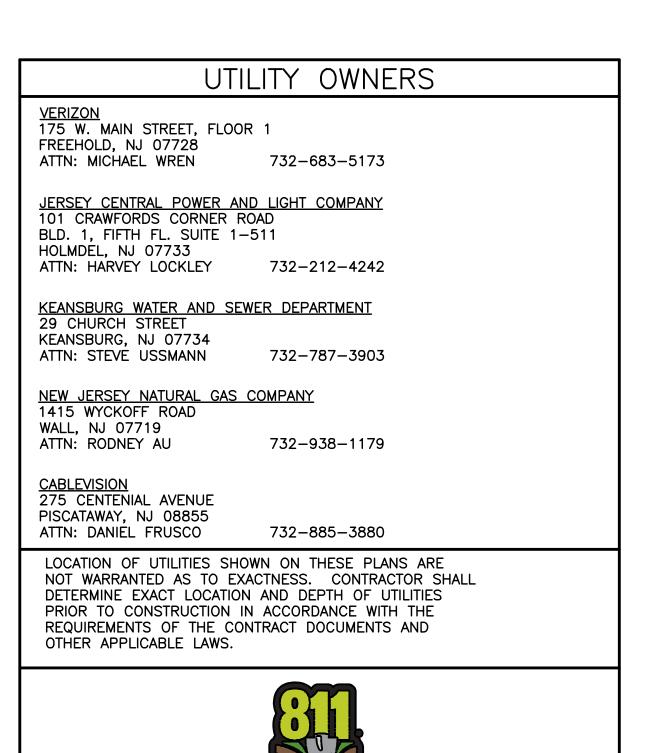
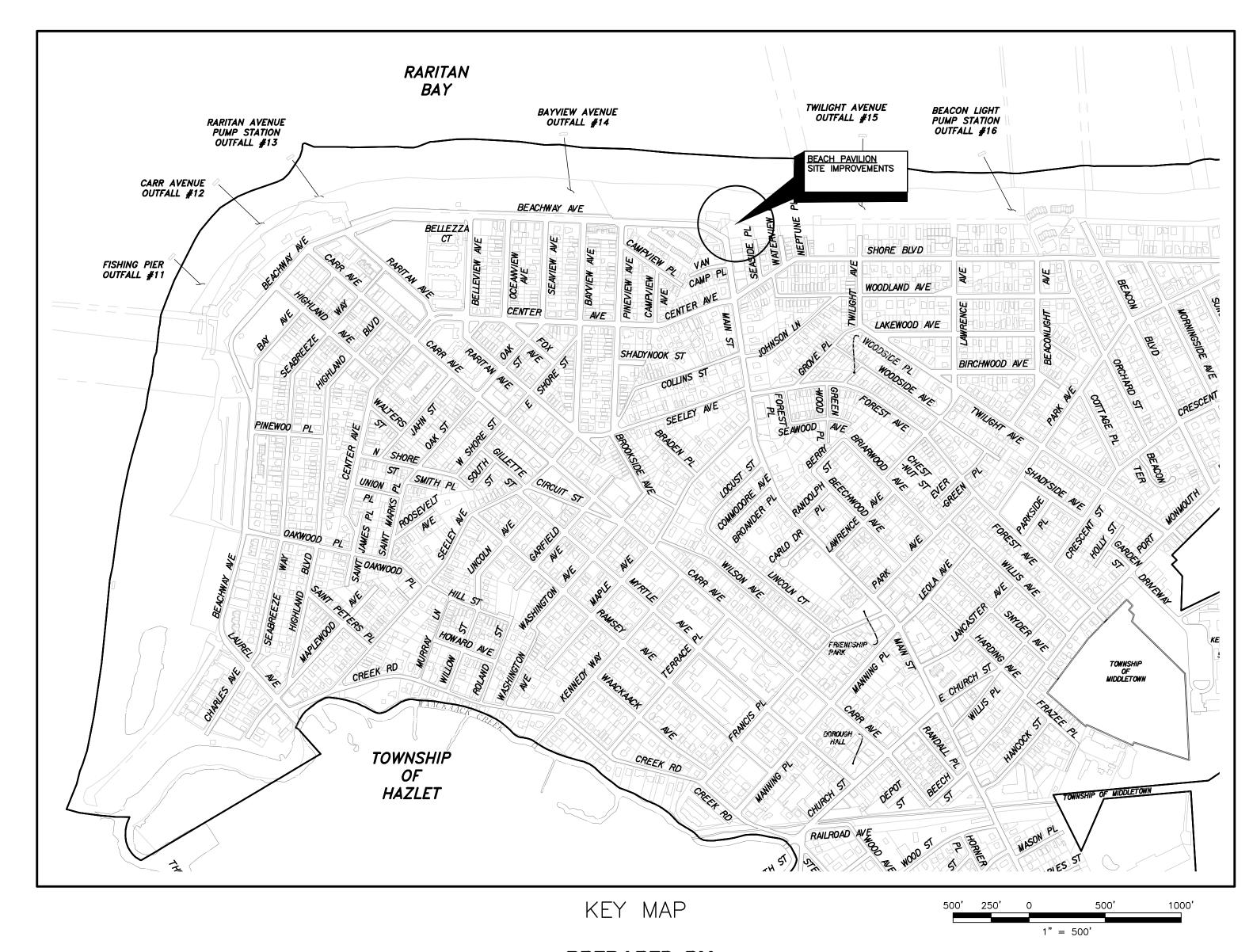
# PROPOSED BEACH PAVILION

# BOROUGH OF KEANSBURG MONMOUTH COUNTY, NEW JERSEY



Call before you dig.



Sheet List Table

SHEET NO. DWG. DESCRIPTION

1 CVR-1 COVER SHEET

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3 EXC-1 EXISTING CONDITIONS & DEMOLITION PLAN

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8 SEP-2 SOIL EROSION & SEDIMENT CONTROL DETAILS

9 SED-1 SOIL EROSION & SEDIMENT CONTROL NOTES

FRANCIS W. MULLAN, P.E., C.M.E.
BOROUGH ENGINEER



Traffic Control Box

Or C.M Headwall

Bush or Brush

Deciduous Trees

(size, kind)

Exist R.C. End Section

**EXISTING** 

(Show Size and Type)

STANDARD LEGEND

**PROPOSED** 

(Show Size and Type)

FLOW —

BITUMINOUS

APRON

(T.B.R.)

PROPOSED HEADWALL

TREE TO BE REMOVED

PROPOSED UTILITY POLE

BORING TEST LOCATION

## GENERAL CONSTRUCTION NOTES

NORTH ARROW

CABLE TELEVISION

TELEPHONE CONDUIT

**ELECTRIC CONDUIT** 

ELECTRIC CONDUIT, HIGHWAY

EXISTING STORM DRAINS

CASES DRAW TO SIZE)

**SHOULDERS** 

LABEL LINE: 促, 程,

RIGHT OF WAY LINES

TOWNSHIP, CITY, COUNTY LINE

ACCESS PERMITTED

PROPERTY LINES

WETLANDS LINE

RESET BEAM GUIDE RAIL

BEAM GUIDE RAIL

REPRESENTS BOTTOM

OF DITCH OR CREEK

INLETS (TYPE AS INDICATED)

RAILROAD

NO ACCESS

EXISTING SANITARY SEWERS

PROPOSED SANITARY SEWERS AND

EDGE OF PAVEMENT (BITUMINOUS, CONCRETE)

CENTERLINE, BASELINE AND TRAVERSE LINE

STORM DRAINS (ONLY IN SPECIAL

TELECOMMUNICATION CONDUIT

- 1. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM SEVERAL SOURCES. INFORMATION REGARDING EXISTING UTILITIES SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL CONTACT THE DIG SAFE HOTLINE AND VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO ANY EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS ARE TO BE DUG BY THE CONTRACTOR TO ASCERTAIN EXISTING INVERTS, MATERIALS AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS MAY BE REQUIRED TO AVOID UTILITY CONFLICTS. COST OF TEST PITS TO BE INCLUDED IN THE SITE WORK ITEM.
- 2. WHERE UTILITY MARK OUTS ARE NOT AVAILABLE THROUGH PUBLIC UTILITIES. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PRIVATE UTILITY LOCATION SERVICE TO ASCERTAIN THE EXISTING UTILITY INFORMATION PRIOR TO EXCAVATION. NO SEPARATE PAYMENT WILL BE PROVIDED FOR THIS SERVICE.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL UTILITIES AND USE CAUTION WHEN DIGGING FOR UTILITIES. EXISTING UTILITIES SHALL BE EXPOSED BY HAND DIGGING AND SUPPORTED TO AVOID DAMAGE. SUPPORTS SHALL BE PROVIDED AT ALL UTILITY CROSSINGS. UTILITY SUPPORT DETAILS SHALL BE REVIEWED AND APPROVED BY THE APPROPRIATE UTILITY OWNER PRIOR TO INSTALLATION.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL MATERIAL ACCUMULATED FROM CONSTRUCTION ACTIVITIES ON A DAILY BASIS. NO SEPARATE PAYMENT WILL BE PROVIDED.
- 5. NO EXCAVATION SHALL BE LEFT OPEN OVERNIGHT. TRENCHES SHALL BE BACKFILLED WITH 3/4" STONE AND COMPACTED AT THE END OF THE DAY.
- 6. ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATION OTHER THAN THOSE SCHEDULED IN THE CONTRACT WILL BE PAVED AND/OR TOPSOILED, FERTILIZED, SEEDED AND PROVIDED WITH MULCHING; OR TOPSOIL AND/OR SODDED AS DIRECTED BY THE ENGINEER TO MATCH EXISTING AT THE CONTRACTOR'S EXPENSE. AREAS USED FOR EQUIPMENT STORAGE SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- 7. CONTRACTOR SHALL MAINTAIN ALL DRAINAGE FACILITIES INCLUDING INLETS, PIPES, STREAMS, DITCHES, ETC. WITHIN THE AREA OF CONSTRUCTION OPERATIONAL AT ALL TIMES DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- 8. UPON COMPLETION OF UTILITY INSTALLATION AND SITE CONSTRUCTION, CONTRACTOR SHALL REMOVE ALL TEMPORARY IMPROVEMENTS CONSTRUCTED DURING CONTRACT EXECUTION. IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, STONE PADS, MATS, GEOTEXTILES, AND FENCING. NO SEPARATE PAYMENT WILL BE PROVIDED.
- 9. THE TOPSOIL USED FOR THIS PROJECT SHALL BE IN STRICT CONFORMANCE WITH THE PROJECT SPECIFICATIONS. ANY TOPSOIL NOT MEETING THE ENGINEER'S APPROVAL SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

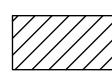
- 10. PROPOSED AND REPLACED OR REPAIRED WALKWAYS ARE TO HAVE A MAXIMUM OF 1.75% CROSS SLOPE AND A MAXIMUM OF 4.9% RUNNING SLOPE. ANY NEW OR REPLACED WALKWAYS CONSTRUCTED THAT DO NOT MEET THESE REQUIREMENTS WILL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. ALL NEW AND OR REPLACED SIDEWALKS SHALL HAVE A 4" DENSE GRADED AGGREGATE SUB BASE THAT IS PROPERLY COMPACTED AND APPROVED BY THE ENGINEER.
- 11. ACTUAL LIMITS OF ALL IMPROVEMENTS TO BE DETERMINED IN FIELD BY THE ENGINEER.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A MUNICIPAL ROAD OPENING PERMIT FOR THE CONNECTION TO EXISTING WATER AND SANITARY SEWER SERVICES.
- 13. ALL EXCESS EXCAVATED SOIL GENERATED BY THE CONTRACTOR SHALL BE STOCKPILED IN THE LOCATION DESIGNATED BY THE ENGINEER. AS SHOWN ON SHEET 7. THE STOCKPILED SOIL SHALL BE PLACED ON 6 MIL. POLY-SHEETING AND COVERED WITH 6 MIL. POLY-SHEETING AND BE STABILIZED IN ACCORDANCE WITH CURRENT SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- 14. THE MUNICIPALITY SHALL HAVE THE ABILITY TO RETAIN ANYTHING ON SITE MARKED FOR REMOVAL.
- 15. ALL EXISTING STRUCTURES SHALL BE REMOVED BY OTHERS, INCLUDING THE ABANDONMENT/REMOVAL OF ALL EXISTING UTILITY SERVICES.
- 16. CONCRETE SIDEWALK AND CURBING SHALL BE REMOVED AT THE NEAREST CONSTRUCTION JOINT.
- 17. BITUMINOUS PAVEMENT SHALL BE SAWCUT AT THE LIMIT OF REMOVAL FOR THE FULL DEPTH OF EXISTING PAVEMENT SECTION.
- 18. THE CONTRACTOR SHALL ASSUME THE EXCESS MATERIALS IDENTIFIED FOR OFFSITE DISPOSAL ARE ENVIRONMENTALLY IMPACTED WHEREIN CONSTITUENT CONCENTRATIONS ARE ASSUMED TO BE ABOVE THE MOST STRINGENT NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) SOIL REMEDIATION STANDARD (SMS) AND/OR THE DEFAULT IMPACT TO GROUND WATER SCREENING LEVELS (DIGWSSL), BUT BELOW APPLICABLE FEDERAL AND/OR STATE HAZARDOUS WASTE CRITERIA.
- 19. THE CONTRACTOR SHALL MANAGE THE DISPOSAL OF EXCESS MATERIALS INCLUDING EXCAVATION, STOCKPILING SAMPLING, PERMITTING AND DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE FEDERAL. STATE AND LOCAL REGULATIONS. NO SEPERATE PAYMENT WILL BE MADE FOR THIS WORK. ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.
- 20. ALL EXCESS OR UNWANTED MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT APPROVED DISPOSAL SITES BY THE CONTRACTOR. THE CONTRACTOR SHALL HAVE THE ENGINEER'S APPROVAL BEFORE REMOVING ANY MATERIAL FROM THE SITE. THE OWNER SHALL HAVE THE RIGHT TO CLAIM ANY MATERIAL BEFORE IT IS REMOVED. ALL COST OF THE ABOVE WORK SHALL BE INCLUDED IN VARIOUS ITEMS IN THE PROPOSAL
- 21. ALL IMPORTED MATERIAL INCLUDING BUT NOT LIMITED TO TOPSOIL, QUARRY FINES, DENSE GRADED AGGREGATE, RECYCLED CONCRETE AGGREGATE, CLEAN STONE AND SAND MUST BE SAMPLED AND ANALYZED IN ACCORDANCE WITH THE FOLLOWING PRIOR TO DELIVERY TO THE SITE.
  - A. THE CONTRACTOR SHALL HAVE AN NJDEP-CERTIFIED LABORATORY PERFORM A FULL SCAN OF TARGET COMPOUND LIST/TARGET ANALYTE LIST METALS (TCL+30/TAL METALS) AND PETROLEUM HYDROCARBONS (EPH METHOD) AT THE

- FREQUENCY OF ONE (1) GRAB SAMPLE FOR EVERY 20 CUBIC YARDS FOR IMPORTED FILL TO 100 CUBIC YARDS PLUS ONE (1) GRAB SAMPLE PER 100 CUBIC YARDS OF IMPORTED FILL THEREAFTER, IN ACCORDANCE WITH THE NJDEP ALTERNATIVE AND CLEAN FILL GUIDANCE AT SRP SITES (DECEMBER 29, 2011), SECTION 6, CLEAN FILL. ALL SAMPLES SHALL BE COLLECTED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH THE NJDEP FIELD SAMPLING PROCEDURES MANUAL (DECEMBER 2005). THE RESULTS OF THE LABORATORY ANALYSIS MUST DEMONSTRATE THAT THE MATERIAL IS IN COMPLIANCE WITH THE MOST STRINGENT OF THE RESIDENTIAL DIRECT CONTACT SOIL REMEDIATION STANDARDS OR DEFAULT IMPACT TO GROUNDWATER SOIL SCREENING LEVELS.
- B. MATERIAL MINED OR EXCAVATED FROM UNDISTURBED GEOLOGIC FORMATIONS FROM A COMMERCIAL SOURCE OR QUARRY THAT HAS NOT BEEN LOCATED ON OR IMPACTED BY OTHER CONTAMINANT SOURCES BASED ON A PRELIMINARY ASSESSMENT OR OTHER SITE REVIEW REQUIRES THE COLLECTION AND ANALYSIS OF ONE SAMPLE PER GEOLOGIC FORMATION PER YEAR. FINES FROM ROCK (E.G. CRUSHED ROCK, DENSE GRADE AGGREGATE OR OTHER SUCH ROCK MATERIAL) MINED OR EXCAVATED FROM UNDISTURBÉD GEOLOGIC FORMATIONS REQUIRES SAMPLING OF FINES FOR ANALYSIS.
- C. THE CONTRACTOR SHALL SUPPLY THE OWNER, CONSULTANT AND THE ENGINEER WITH THE ANALYTICAL RESULTS AND A LETTER WHICH STATES: THE NAME OF THE AFFIANT AND RELATIONSHIP TO THE SOURCE OF THE FILL, THE LOCATION WHERE THE FILL WAS OBTAINED, INCLUDING THE STREET, TOWN, LOT AND BLOCK, COUNTY AND STATE, AND A HISTORY OF THE SITE WHICH IS THE SOURCE OF THE FILL AND A STATEMENT (CERTIFICATION) THAT TO THE BEST OF THE AFFIANT'S KNOWLEDGE AND BELIEF THE FILL BEING PROVIDED IS NOT CONTAMINATED PURSUANT TO ANY APPLICABLE REMEDIATION STANDARDS AND THE STEPS TAKEN TO CONFIRM SUCH. A SAMPLE LOCATION MAP INDICATING THE LOCATION FROM WHICH EACH GRAB SAMPLE WAS COLLECTED AND THE ANALYTICAL DATA MUST BE PROVIDED. ALL OF THE DOCUMENTATION MENTIONED ABOVE MUST BE PROVIDED TO THE OWNER, CONSULTANT AND THE ENGINEER AT LEAST 14 DAYS PRIOR TO IMPORTING THE MATERIAL. THE OWNER CONSULTANT AND THE ENGINEER MUST APPROVE THE MATERIAL FOR IT TO BE CONSIDERED ACCEPTABLE FOR USE ON THE PROJECT SITE. UPON APPROVAL OF THE SOURCE OF THE FILL MATERIAL THE CONTRACTOR SHALL PROVIDE LOAD TICKETS OR BILLS OF LADING IDENTIFYING THE SOURCE OF ALL MATERIAL FURNISHED FOR THE PROJECT.
- 22. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER A CONSTRUCTION STAGING SCHEDULE FOR APPROVAL, INCLUDING THE STAGING LOCATION AND A SCHEDULE FOR START AND COMPLETION OF THE VARIOUS CONTRACT ITEMS PRIOR TO BEGINNING WORK. CONTRACTOR TO PROVIDE SCHEDULE UPDATES AS REQUESTED BY THE ENGINEER.

# HATCH PATTERNS

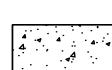


MILLING & OVERLAY





FULL DEPTH PAVEMENT



CONCRETE SIDEWALK - OR -CONCRETE DRIVEWAY

FRANCIS W. MULLAN. P.E., C.M.E.

Francis W Marchen

STATE OF NJ LICENSE No. 24GE03828400

LICENSED PROFESSIONAL ENGINEER

AVILION

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MARCH 28, 2022

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**BOROUGH ENGINEER** 

11 TINDALL ROAD MIDDLETOWN, NJ 07748 TEL 732-671-6400 FAX 732-671-7365

NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500

OFFICES LOCATED IN: CALIFORNIA, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY OHIO AND PENNSYLVANIA

**DESIGNED BY** CHECKED BY DRAWN BY

AS SHOWN

FRANCIS W. MULLAN, P.E., C.M.E. BOROUGH ENGINEER

LICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

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MIDDLETOWN, NJ 07748

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KNBG-01508

1. THIS CONTRACT IS FOR PROCUREMENT AND COORDINATION

5 FEET BEYOND THE LIMITS OF THE PRE—FABRICATED BUILDING ARE TO BE CONSTRUCTED BY OTHERS. SITE

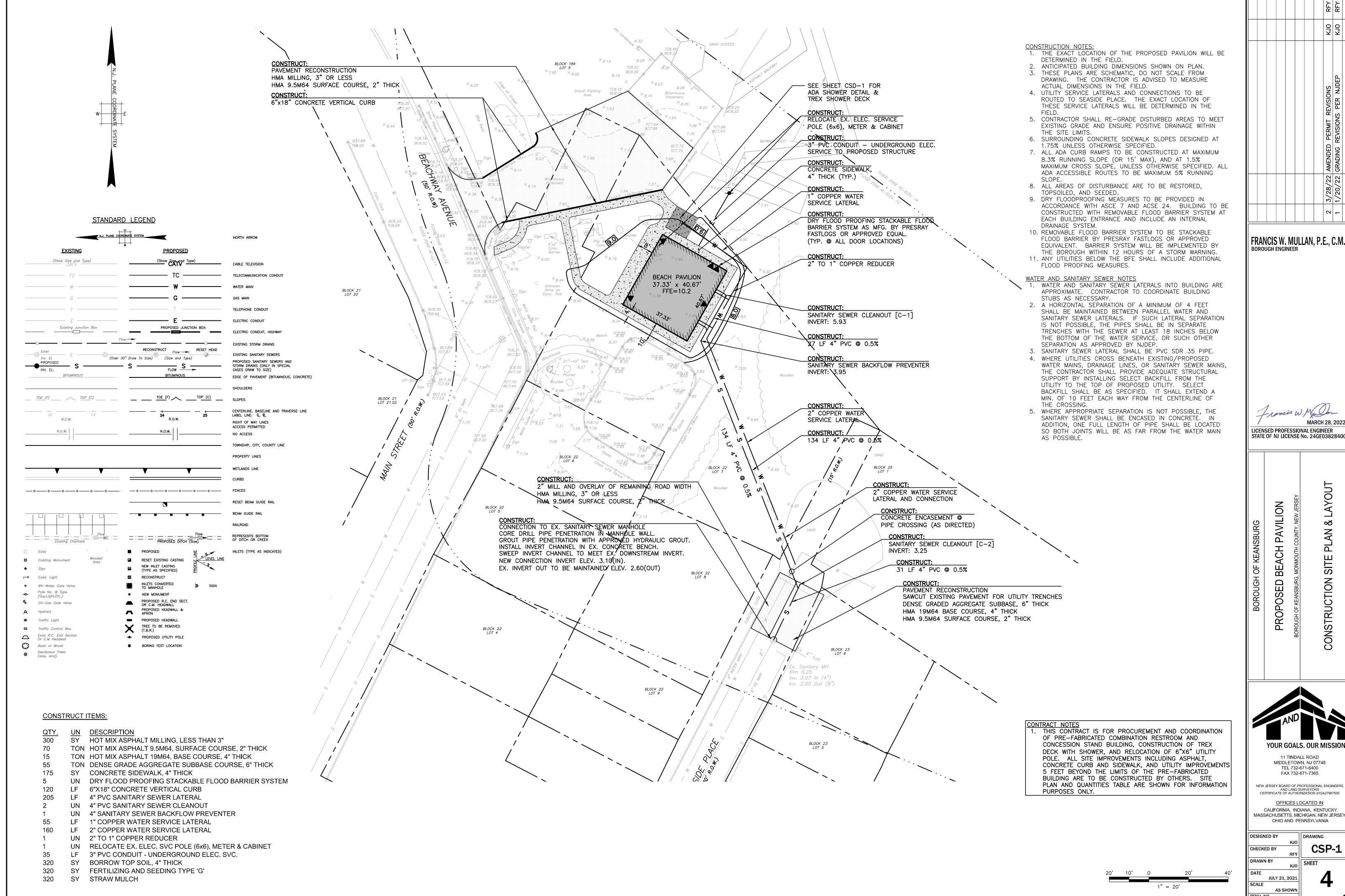
CONCRETE CURB AND SIDEWALK, AND UTILITY IMPROVEMENTS

PLAN AND QUANTITIES TABLE ARE SHOWN FOR INFORMATION

OF PRE-FABRICATED COMBINATION RESTROOM AND CONCESSION STAND BUILDING, CONSTRUCTION OF TREX DECK WITH SHOWER, AND RELOCATION OF 6"X6" UTILITY POLE. ALL SITE IMPROVEMENTS INCLUDING ASPHALT,

PURPOSES ONLY.

3. BENCHMARK IS CENTER OF MANHOLE WITHIN BEACHWAY AVENUE. ELEVATION IS APPROXIMATED AT 8.4'.



FRANCIS W. MULLAN, P.E., C.M.E. **BOROUGH ENGINEER** 

MARCH 28, 2022 LICENSED PROFESSIONAL ENGINEER

STATE OF NJ LICENSE No. 24GE03828400

MIDDLETOWN, NJ 07748

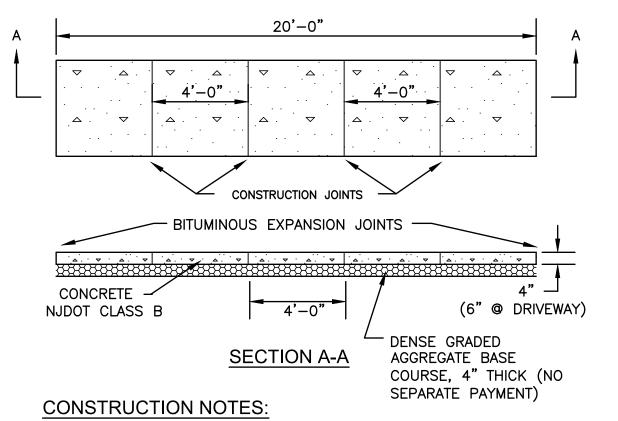
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AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500

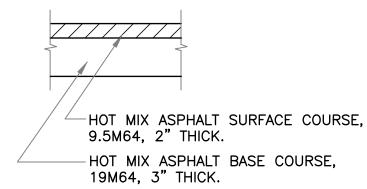
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MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA

**AS SHOWN** 

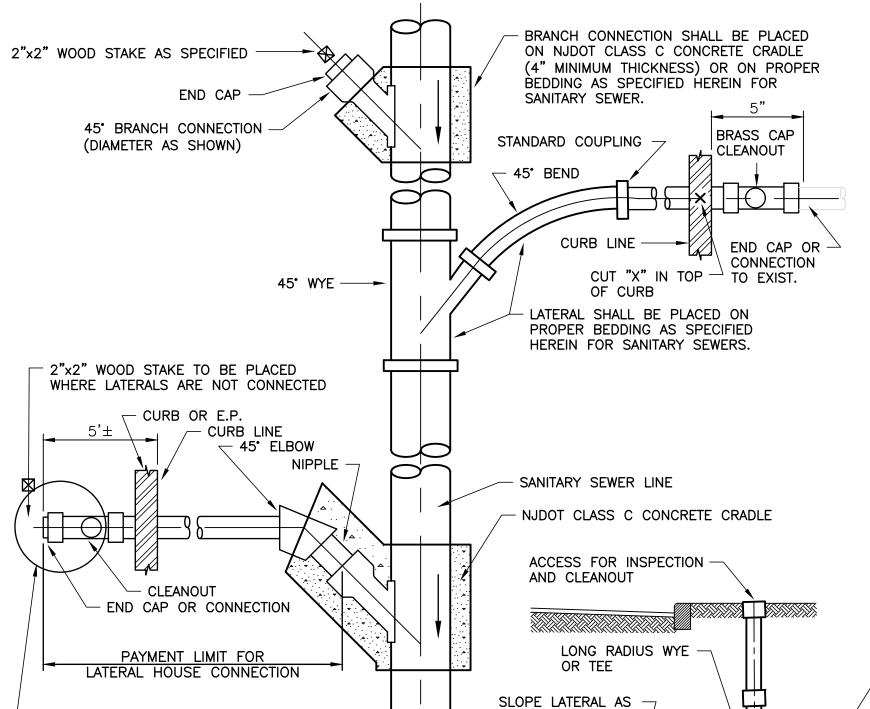


- 1. A PREFORMED, BITUMINOUS EXPANSION JOINT 1/2" THICK, 4" WIDE, AND EXTENDING THE FULL WIDTH OF THE WALK, UNBROKEN, SHALL BE INSTALLED EVERY TWENTY (20) FEET.
- 2. CONTROL JOINTS SHALL BE INSTALLED EVERY FOUR (4) FEET THE
- FULL WALK WIDTH. 3. THERE SHALL BE A FLOAT FINISH WITH TOOLED EDGES.
- 4. IN ORDER TO MINIMIZE DISTURBANCE TO TREE ROOTS, SIDEWALK SHALL BE SHIFTED BACK ONE FOOT WITH AN INSIDE RADIUS OF APPROXIMATELY 12' AROUND ALL TREES.



## HOT MIX ASPHALT DRIVEWAY

NOT TO SCALE



FURNCO

COUPLING

EXISTING LATERAL

-1" x 6" TREX NON-SLIP/NON-SKID 8" Ø PENETRATION FOR PLUMBING-SYNTHETIC DECKING OR APPROVED & SHOWER EQUIPMENT. EQUAL. DECK FASTENERS AND SPACING PER MANUFACTURERS RECOMMENDATION. 1" x 6" SUPPORT BLOCKING.-12'-0"

# 12' X 12' SHOWER DECK DETAIL

## CONSTRUCTION NOTES:

DECK TO BE CONSTRUCTED AND INSTALLED ON EXISTING GRADE. 2. CONTRACTOR TO COORDINATE WITH PLUMBING SUBCONTRACTOR FOR LOCATION AND STUB OF

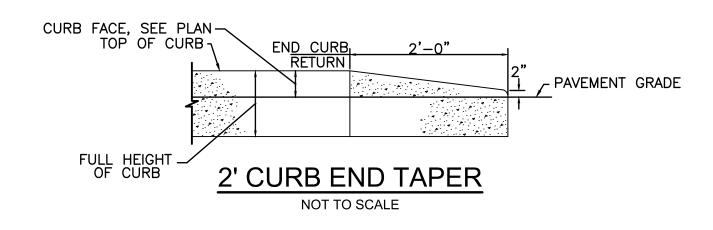
NOT TO SCALE

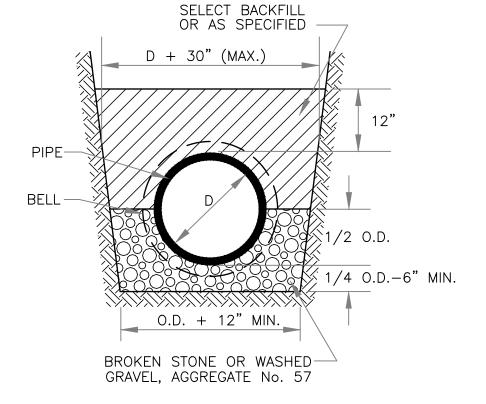
INCOMING WATER SERVICE. 3. CONTRACTOR TO PROVIDE SHOP DRAWINGS AND SAMPLES FOR COLOR SELECTION.

\_\_ 2' (TYP) \_\_\_\_ SAW CUT EDGE \_ 2" THICK HOT MIX ASPHALT SURFACE COURSE **EXISTING** - 4" THICK HOT MIX ASPHALT BASE COURSE 6" THICK DENSE GRADED AGGREGATE COURSE (IF AND WHERE DIRECTED) MATCH EXISTING **PAVEMENT CONSTRUCTION NOTES:** 1. ALL CONCRETE SHALL BE N.J.D.O.T. CLASS "B". 2. THE CONTRACTOR SHALL REMOVE EXISTING CONCRETE CURB AT THE NEAREST PREFORMED BITMINOUS FIBER EXPANSION JOINT THOROUGHLY COMPACTED OR DUMMY JOINTS (FORMED) BETWEEN EXPANSION JOINTS. NO SUBGRADE EXISTING CURB SHALL BE REMOVED UNTIL LIMITS OF REMOVAL

# **CONCRETE CURB REPLACEMENT**

ARE APPROVED BY ENGINEER.





## **BEDDING DETAIL** NOT TO SCALE

-2" x 6" PRESSURE TREATED MARINE GRADE LUMBER FRAMING.

## DRY FLOOD PROOFING STACKABLE FLOOD BARRIER SYSTEM DETAIL

## CONSTRUCTION NOTES:

1. PRESRAY FASTLOGS OR APPROVED EQUAL. BARRIER TO BE INSTALLED AT EACH DOOR LOCATION PER MANUFACTURER'S SPECIFICATIONS.

NOT TO SCALE

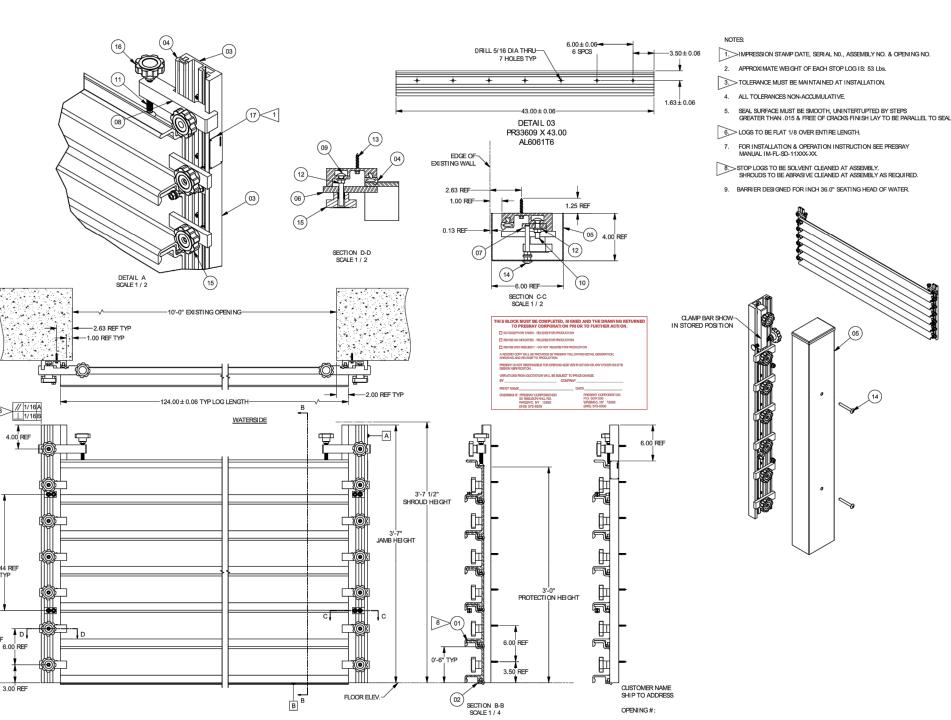
∠ 2" SURFACE COURSE SAWCUT PRIOR TO EXCAVATION -AND IF NECESSARY PRIOR TO - DENSE GRADED AGGREGATE BASE REPAVING TO PROVIDE A NEAT REPLACE EXISTING BASE WITH EDGE. COURSE, 6" THICK 6" BITUMINOUS STABILIZED BASE (4" AFTER MILLING) SHEETING AND BRACING -IN ACCORDANCE WITH ₽AYMENT LIMIT ¬\ SPECIFICATION. FOR BORROW EXCAVATION WHEN H <10' PAYMENT LIMIT FOR BORROW EXCAVATION THOROUGHLY COMPACTED WHEN H >10' BACKFILL IN ACCORDANCE WITH SPECIFICATION 30" + PIPE Q. (MAX.) AT TOP OF PIPE SEE BEDDING DETAIL

## **CONSTRUCTION NOTES:**

- 1. MAXIMUM PAYMENT WIDTH FOR BORROW EXCAVATION SHALL BE 30" + PIPE O.D., WHEN PLACED IN A TRENCH WITH DEPTH OF 10' OR LESS TO THE TOP OF THE PIPE. FOR TRENCHES OF GREATER DEPTH, THE MAXIMUM PAYMENT WIDTH FOR BORROW EXCAVATION SHALL BE 30" + PIPE O.D. + H/2.
- 2. AT MANHOLES, BITUMINOUS STABILIZED BASE IS TO BE PLACED 6" BEYOND THE TRENCH LIMIT OR 6" BEYOND DAMAGED PAVEMENT BASE COURSE WHICHEVER IS GREATER.
- 3. THE NEW TRENCH REPAIR MADE WITH 6" OF STABILIZED BASE COURSE ASPHALT SHALL BE ALLOWED TO SETTLE FOR A PERIOD BETWEEN 3-6 MONTHS BEFORE MILLING AND PAVING WITH 2" OF SURFACE COURSE.
- 4. SERVICE CONNECTION TRENCHES ARE TO BE REPAIRED AS ABOVE EXCEPT MAXIMUM OVERLAY PAY WIDTH SHALL BE 6'. PAYMENT SHALL BE INCLUDED IN LINEAR FOOT MEASUREMENT FOR SEWER MAIN. NO SEPARATE PAYMENT WILL BE MADE FOR SERVICE TRENCHES.
- 5. ANY SUPERFICIAL SURFACE DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE THE LIMIT SHOWN, SHALL BE PAVED WITH SURFACE COURSE. WHEN THE BASE COURSE OF THE EXISTING PAVEMENT IS DAMAGED BEYOND THE LIMIT SHOWN THE CONTRACTOR SHALL EXCAVATE 6" BEYOND THE DAMAGED AREA AND REPLACE IT WITH BITUMINOUS STABILIZED BASE COURSE. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS EXTRA PAVEMENT.

## TYPICAL TRENCH & PAVEMENT REPAIR

N.T.S.



FRANCIS W. MULLAN, P.E., C.M.E.

MARCH 28, 2022

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DET

ONSTRUCTION

LICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

**BOROUGH ENGINEER** 

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KNBG-01508

- SEE CLEANOUT PROFILE

TYPICAL BRANCH & LATERAL HOUSE CONNECTIONS NOT TO SCALE

<u>PLAN</u>

CONNECTION".

**CONSTRUCTION NOTES:** 

SPECIFIED HEREIN

1. DETAIL SHOWS CONSTRUCTION OF A "BRANCH CONNECTION"

3. SIZE OF LATERAL TO BE AS SHOWN ON THE PLANS OR AS

DIRECTED, 4" MINIMUM. CLEAN-OUTS IN DRIVEWAYS OR

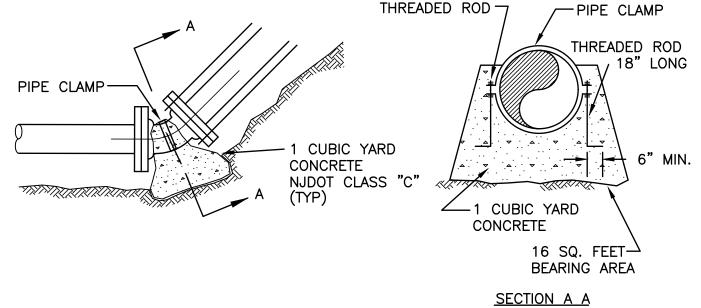
SIDEWALKS SHALL BE COVERED WITH A MONUMENT BOX -

AND OF TWO DIFFERENT TYPES OF "LATERAL HOUSE

2. TYPE CONNECTION IS AT CONTRACTOR'S OPTION.

CAMPBELL PATTERN NO. 4155 OR EQUAL.

**CLEANOUT PROFILE** 

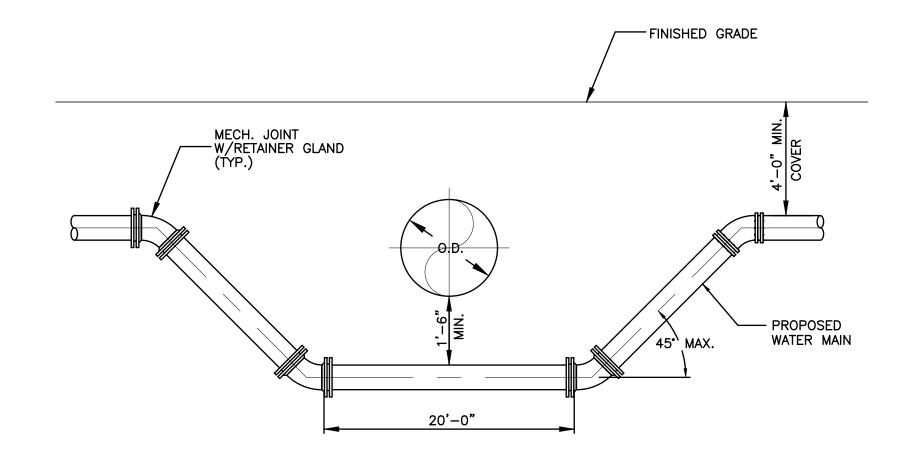


1. ALL BENDS 11 1/4° OR GREATER SHALL BE RESTRAINED WITH A MECHANICAL JOINT RETAINER GLAND OR EQUAL.

**CONSTRUCTION NOTES:** 

- 2. JOINTS SHALL BE RESTRAINED 2 FULL PIPE LENGTHS UP AND DOWN STREAM OF 45° BENDS WITH MECHANICAL JOINT RETAINER GLAND OR EQUAL. JOINT RESTRAINT SYSTEM FOR BENDS GREATER THAN 45° SHALL BE APPROVED BY THE ENGINEER.
- 3. PIPE CLAMP SHALL BE CARBON STEEL. THREADED RODS SHALL BE GRADE A-36, AREA NOT EMBEDDED IN CONCRETE SHALL BE BITUMINOUS COATED.

## PIPE JOINT RESTRAINTS (TYP) NOT TO SCALE



1	NOT	ES:							ELEVATION							
	1.	WATER	MAIN	MAY I	BE LO	OPED	ABOVE	AN	OBSTRUCTIO	N, IF	4'-0"	MINIMUM	COVER	IS	MAINTAII	۱E
		<b>ABOVE</b>	WATER	MAIN	J AND	1'-6	" VERT	<b>ICAL</b>	CLEARANCE	OVER	THE	<b>OBSTRUCT</b>	ION IS	MAI	NTAINED.	

- 2. WATER MAIN SHALL BE CLASS 350 DUCTILE IRON CEMENT LINED PIPE. ALL JOINTS SHALL BE MECHANICAL JOINT OR PUSH-ON AND ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON (RESTRAINED).
- 3. ALL MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS OR APPROVED EQUAL.
- 4. VERTICAL CLEARANCE BETWEEN OBSTRUCTING PIPE SHALL BE 1'-6" MINIMUM.

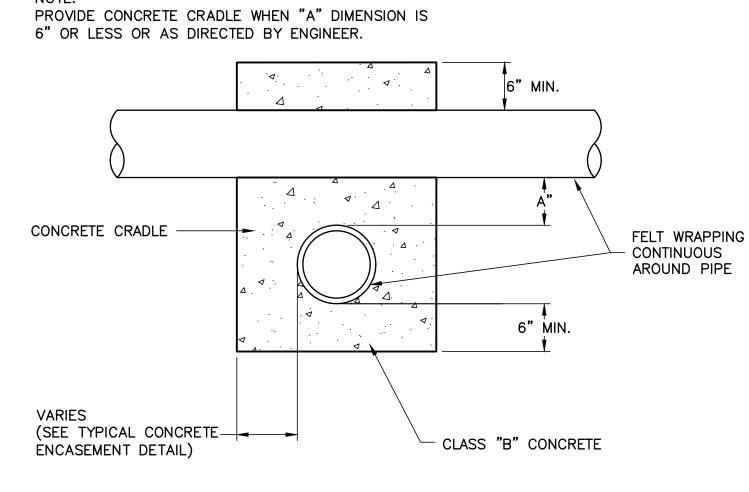
LOOPING CROSSING DETAIL

DIAMETER (d) OF PIPE (INCHES)	d 22-1/2	BEND d	UP TO 90° BEND 90°	TEES AND PLUGS	DEAD END TEE AND 90° BEND B		
CONTAC	CONTACT BEARING AREA OF THRUST BLOCK WITH UNDISTURBED EARTH						
4	0.6	1.2	2.1	1.5	A: 1.5 B: 0.6		
6	1.2	2.4	4.5	3.3	A: 3.3 B: 1.2		
8	2.1	4.2	8.1	5.7	A: 5.7 B: 2.4		
10	3.3	6.9	12.6	8.7	A: 8.7 B: 3.9		
12	5.1	9.9	18.0	12.6	A: 12.6 B: 5.4		
16	8.7	17.4	32.1	22.5	A: 22.5 B: 9.6		
20	13.8	27.0	50.1	35.4	A: 35.4 B: 14.7		
24	19.8	39.0	72.0	51.0	A: 51.0 B: 21.0		

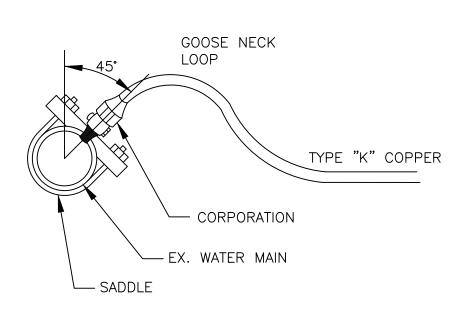
## **CONSTRUCTION NOTES:**

- 1. BEARING AREA FOR THRUST BLOCKS ARE BASED ON THE UNDISTURBED SOIL WITH BEARING CAPACITY OF 1000 LBS. PER SQUARE FOOT. FOR OTHER SOIL OF LESS BEARING CAPACITY, THE AREAS SHALL BE ADJUSTED ACCORDINGLY, (FIGURE 14, ASCE "PIPELINE DESIGN FOR WATER AND WASTEWATER, 1975").
- 2. ALL CONCRETE FOR THRUST BLOCKS SHALL BE NJDOT, CLASS C.
- 4. THE TABULATED CONTACT BEARING AREAS LISTED ARE FOR HORIZONTAL AND DOWNWARD THRUST ONLY, AND <u>ARE</u> NOT APPLICABLE FOR UPWARD THRUST.

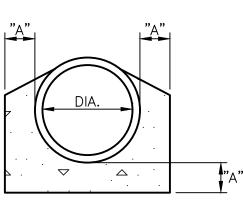
## THRUST BLOCK TABLE NOT TO SCALE



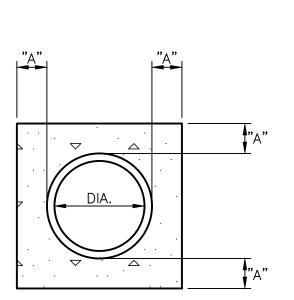




CORPORATION CONNECTION DETAIL



HALF ENCASEMENT



**FULL ENCASEMENT** 

## **CONSTRUCTION NOTES:**

- 1. TO BE CONSTRUCTED WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
- 2. CONCRETE TO BE 300 PSI.
- 3. FULL ENCASEMENT TO BE USED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY ENGINEER.

TYPICAL CONCRETE ENCASEMENT DETAIL NOT TO SCALE

**DIMENSIONS** 

DIA.

6" or less

24" 27**"** 

30"

"A"

5.5"

10"

12"

							3/28/22 AMENDED PERMIT REVISIONS	1/20/22 GRADING REVISIONS PER NJDEP	REVISIONS
							3/28/22	1/20/22	DATE
							2	1	NO.
ANCIS W. MULLAN, P.E., C.M.E. ROUGH ENGINEER									

MARCH 28, 2022 LICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

> ш SERVICE WATER DETAILS CONSTRUCTION



11 TINDALL ROAD MIDDLETOWN, NJ 07748 TEL 732-671-6400 FAX 732-671-7365

NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500

OFFICES LOCATED IN: CALIFORNIA, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA

**DESIGNED BY** CHECKED BY DRAWN BY

**AS SHOWN** 

KNBG-01508

## CONSTRUCTION NOTES:

Ø5/8" MOUNTING HOLES (4-PLCS)

WSF PLACARD-

SECTION A-A

FRONT VIEW

1. ADA OUTDOOR SHOWER UNIT TO BE WILLOUGHBY STAINLESS STEEL FOUNTAIN WODS-ADA OR APPROVED EQUAL. SHOWER TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

PIPE COLUMN NON-ADA ADA GRAB BAR-SHOWERING SHOWERING STATION STATION ACCESS PANEL-79 7/32" (REF.) (METERED UPPER SHOWER HEAD) ACCESS PANEL-(METERED ADA SHOWER HEAD) (NON-METERING FOOT SHOWER)

─Ø10 3/4" BOLT CIRCLE

TOP CAP-

8" SCHEDULE 10

STAINLESS STEEL-

ADA OUTDOOR SHOWER

NOT TO SCALE

SIDE VIEW

(2A) TWO-SIDED APPROACH

SIDE VIEW

(1A) ONE-SIDED APPROACH

1. THE EXACT LOCATION OF THE PROPOSED BEACH PAVILION WILL BE DETERMINED IN THE FIELD.

2. THESE PLANS ARE SCHEMATIC, DO NOT SCALE FROM DRAWING. THE CONTRACTOR IS ADVISED TO MEASURE ACTUAL DIMENSIONS IN THE FIELD.

3. UTILITY SERVICE LATERALS AND CONNECTIONS TO BE ROUTED TO SEASIDE PLACE. THE EXACT LOCATION OF THESE SERVICE LATERALS WILL BE DETERMINED IN THE FIELD.

4. CONTRACTOR SHALL RE-GRADE DISTURBED AREAS TO MEET EXISTING GRADE AND ENSURE POSITIVE DRAINAGE WITHIN THE SITE LIMITS.

5. ALL AREAS OF DISTURBANCE ARE TO BE RESTORED, TOPSOILED, AND SEEDED.

FRANCIS W. MULLAN, P.E., C.M.E. BOROUGH ENGINEER

LICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

CONTROL

SEDIMENT

∞ర

EROSION

SOIL

11 TINDALL ROAD MIDDLETOWN, NJ 07748

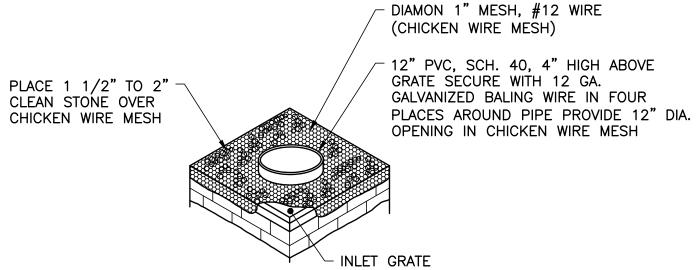
TEL 732-671-6400 FAX 732-671-7365

NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500 OFFICES LOCATED IN:

CALIFORNIA, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA

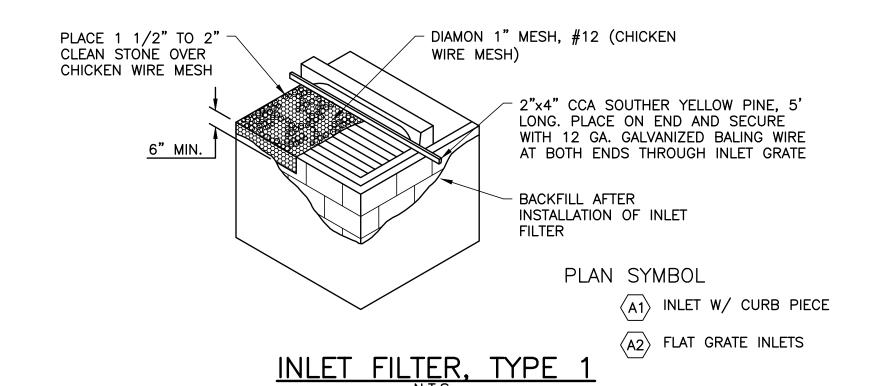
**CHECKED BY** DRAWN BY

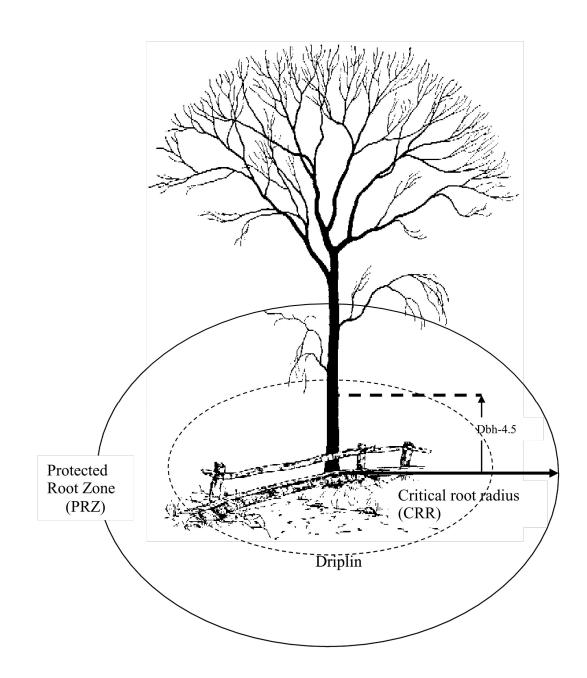
TOTAL PROJECT AREA = 1.21 ACRES NO LAND DISTURBING CONSTRUCTION ACTIVITIES ARE TO OCCUR OUTSIDE THE INDICATED LIMITS OF DISTURBANCE.



1. CONTRACTOR TO CLEAN INLET FILTER AFTER EVERY STORM.

FILTER FABRIC, WOOD PIECE OR PVC PIPE TO BE REMOVED AFTER PAVING OR FINAL GRADING AND ESTABLISHMENT OF

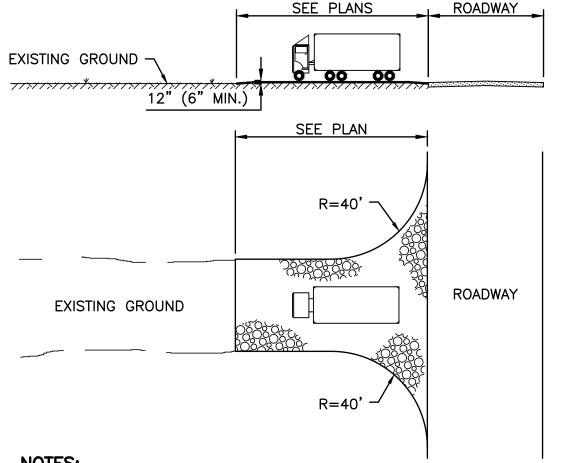




## TREE PROTECTION DURING CONSTRUCTION N.T.S.

## TREE PROTECTION NOTES:

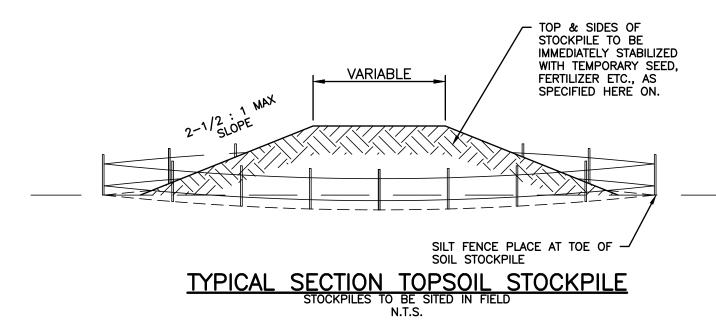
- 1. ALL TREES WITHIN 25' OF THE CONSTRUCTION LIMITS SHALL BE PROTECTED FROM DAMAGE
- 2. NO BOARDS OR OTHER MATERIALS MAY BE NAILED OR OTHERWISE ATTACHED TO ANY TREE DURING CONSTRUCTION
- 3. NO FEEDER ROOTS WITHIN THE PROTECTION ZONE SHALL BE CUT OR DISTURBED
- 4. DAMAGED TRUNKS OR ROOTS SHALL HAVE DAMAGED BARK REMOVED IMMEDIATELY. NO TREE PAINT SHALL BE APPLIED. EXPOSED ROOTS SHALL BE COVERED WITH TOPSOIL. WHERE DAMAGED, CONTRACTOR SHALL CUT THE ROOT CLEANLY. FOR SERIOUS DAMAGE, A PROFESSIONAL ARBORIST SHALL BE CONSULTED
- 5. WHERE NECESSARY, TREE BRANCHES SHALL BE PRUNED TO NATURAL TARGETS.
- 6. TO DETERMINE THE CRITICAL ROOT RADIUS, OR PROTECTION ZONE, THE SUBJECT TREE SHALL BE MEASURED 4.5' ABOVE GRADE ON THE UPHILL SIDE OF THE TREE. FOR YOUNG, HEALTHY, AND TOLERANT SPECIES, 1' PROTECTION RADIUS SHALL BE BE PROVIDED FOR EACH INCH OF TREE TRUNK DIAMETER. FOR OLDER, STRESSED, OR SENSITIVE SPECIES, 1.5' OF PROTECTION RADIUS SHALL BE PROVIDED FOR EACH INCH OF TRUNK DIAMETER.
- 7. TREE PROTECTION FENCING SHALL BE INSTALLED AT THE LIMIT OF THE CRITICAL ROOT RADIUS.

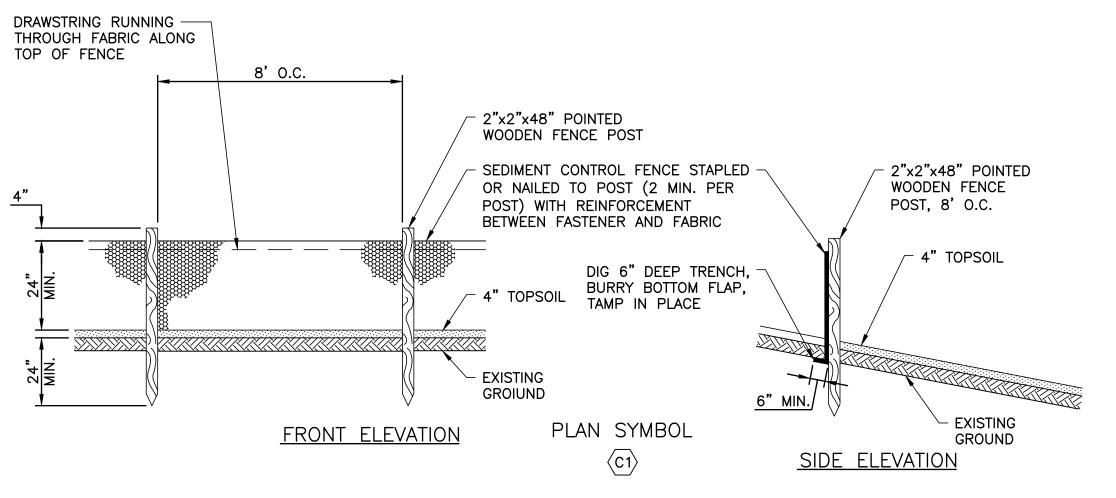


1. ADDITIONAL LENGTH OR TOP DRESSING MAY BE REQUIRED BY THE DISTRICT AS CONDITIONS DEMAND.

- 2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 3. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND ROADWAY.
- 4. STONE SIZE: No. 3 STONE (D = 1" TO 2") PAD THICKNESS: 12" (6" MIN.)

# STABILIZED CONSTRUCTION ACCESS





SEDIMENT CONTROL FENCE

FRANCIS W. MULLAN, P.E., C.M.E. **BOROUGH ENGINEER** 

LICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

> S CONTROL SEDIMENT ∞ర EROSION SOIL

MIDDLETOWN, NJ 07748 TEL 732-671-6400 FAX 732-671-7365 NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500

OFFICES LOCATED IN: CALIFORNIA, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA

DESIGNED BY CHECKED BY DRAWN BY

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Water Quality Enhancement Provides temporary protection against the impacts of wind and rain, slows the overland movement of stormwater runoff, increases infiltratión and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

On exposed soils that have the potential for causing off-site environmental damage.

### Methods and Materials

- I. <u>Site Preparation</u> A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Gradina. p. 19-1, Standards for Soil Erosion and Sediment Control in New Jersey (S.S.E.SC.N.J).
- B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standard 11 through 42 (S.S.E.S.C.N.J.).
- C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil composition. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).
- II. <u>Seedbed Preparation</u>
- A. Soils high on sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1-1 of the Standards for Soil Erosion and Sediment Control in New Jersey.

### III. <u>Seeding</u>

A. Select seed from recommendations in Table.

Table: Temporary Vegetative Stabilization Grasses, Seeding Rates, Dates and Depth

	l .	RATES (1) ounds)	OPTIMUM Based on Pl	OPTIMUM SEED		
SEED TYPES	Per Per 1,000 Acre Sq. Ft.		ZONE 5b & 6s	ZONE 6b	ZONE 7a &7b	DEPTH (4) (Inches)
COOL SEASON GRASSES						
Perennial ryegrass	100	1.0	3/15-6/1 8/9-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	0.5
Spring Oats	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	1.0
Winter Barley	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15	1.0
Winter Cereal Rye	112	2.8	8/1-11/1	8/1-11/15	8/1-12/15	1.0
WARM SEASON GRASSES						
Pearl Millet	20	0.5	6/1-8/1	5/15-8/15	5/1-9/1	1.0
Millet (German or Hungarian)	30	0.7	6/1-8/1	5/15-8/15	5/1-9/1	1.0
Weeping lovegrass	5	5	6/1-8/1	5/15-8/15	5/1-9/1	0.25

- (1) Seeding rate for warm season grass, shall be adjusted to reflect the amount of Pure Line Seed (PLS) as
- etermined by a germination test result. No adjustment is required for cool season grasses. (2) — May be planted throughout summer if soil moisture is adequate or can be irrigated
- (3) Plant Hardiness Zone (see below)
- Zone 5b (-10 to -15) Portions of Sussex and Warren Counties
- Zone 6a (-5 to -10) Portions of Sussex, Warren, Passaic, Morris, Somerset and Hunterdon counties.
- Zone 6b (0 to -5) Portions of Bergen, Camden, Essex and Gloucester, Hunterdon, Mercer, Middlesex, Hudson, Monmouth Ocean, Burington, Morris, Passaic, Somerset, Union, Atlantic, Cumberland, and Cape May counties.
- Zone 7a (5 to 0) Portions of Camden, Gloucester, Salem, Cumberland, Cape May, Atlantic, Burlington, Ocean, and
- Zone 7b (10 to 5) Portions of Cape May, Atlantic, Ocean and Monmouth counties.
- (4) Twice the depth for sandy soils

two or more round turns.

- B. Conventional Seeding Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on course textured soil.
- C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep may used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
- D. After seeding, firming the soil with a corrugated roller will assure good seed—to—soil contact, restore capaillarity, and improve seeding emergence. This is the preferred method. When performing on the contour sheet erosion method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

## IV. <u>Mulching</u>

Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote aster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed in compliance with this mulching requirement.

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopperblowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.

Application. Spread uniformly by hand mechanically so that approximately 85% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section

Anchoring should be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area. steepness of slopes, and costs. 1. Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss—cross and square pattern. Secure twine around each peg with two

- 2. Mulch Nettings Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
- 3. <u>Crimper (mulch anchoring tool)</u> A tractor—drawn implement, somewhat like a disc— harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversed by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or or adhesive agent is

- 4. Liquid Mulch-Binders May be used to anchor salt hay or straw mulches.
- a. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in

### b. Use one of the following:

- (1) Emulsified asphalt (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 0.04 gal./sq. yd. or 194 gal./acre on flat slopes less than 8 feet high. On slopes 8 feet or more high, use 0.075 gal./sq. yd. or 363 gal./acre. These materials may be difficult to apply uniformly and will discolor surfaces.
- (2) Organic and Vegetable Based Binders Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and conditions as recommended as recommended by the manufacturer to anchor materials. Many new products are available, some of which may need further evaluation for use in this state.
- (3) Synthetic binders High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It may be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
- B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with the seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
- C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1.000 sauare feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

#### STANDARD FOR STABILIZATION WITH MULCH ONLY

#### <u>Definition</u>

Stabilizing exposed soils with non-vegetative material.

### <u>Purpose</u>

To protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage.

### Water Quality Enhancement

Provides temporary mechanical protection against wind or rainfall induced soil erosion until permanent vegetative cover may be established.

#### <u>Where Applicable</u>

This practice is applicable to areas subject to erosion, where the season and other conditions may not be suitable for growing an erosion resistant cover or where stabilization is needed for a short period until more suitable protection can be applied.

#### Method and Materials 1. Site Preparation

- A. Grade as needed and feasible to permit the use of conventional equipment and mulch anchoring. All grading should be done. in accordance with Standards for Land Grading, pg. 19-1.
- B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
- 2. Protective Materials
- A. Unrotted small-grain straw, or salt hay 2.0 to 2.5 tons per acre is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conversation
- B. Asphalt emulsions recommended at the rate of 600 to 1,200 gallons per acre. This is suitable for a limited period of time where travel by people, animals, or
- C. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.
- D. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturer's requirements) may be applied by a
- E. Mulch netting, such as paper jute, excelsior, cotton, or plastic, may be used.
- F. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them
- G. Gravel, crush stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (astm c-33) is recommended.
- 3. Mulch anchoring should be accomplished immediately after placement of hay or straw mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area and steepness
- A. Peg and Drive Drive 8 to 10 inch peg to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before of after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris—cross and square pattern. Secure twine around each peg with two
- B. Mulch nettings Staple paper, cotton, mad plastic nettings over mulch. Use a degradable netting in areas to be mowed. Netting is usually available in rolls 4
- C. Crimper Mulch Anchoring Coulter Tool A tractor—drawn implement especially designed to punch and anchor mulch into the soil surface. This practice affords maximum erosion control, but its use is limited to those slopes upon which the tractor can operate safely. Soil penetration should be about 3 to 4 inches. On sloping land, the operation should be on the contour.

## D. Liquid Mulch - Binders

1. Application should be heavier at edge where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.

- 2. Use one of the following:
- a. Emulsified Asphalt (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 0.04 gal/sq/yd or 194 gal/acre on flat areas and on slopes less than 8 ft. of more high, use 0.075 gal/sq/yd or 363 gal/acre. This materials may be difficult to apply uniformly and will discolor surfaces.
- b. Organic and Vegetable Based Binders Naturally occurring, powder based hydrophilic material that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect of impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommend by the manufacturer.
- c. Synthetic Binders High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates and weather conditions recommended by the manufacturer and remain tacky until germination of grass.

<u>Definition</u> Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for long term IV. Mulching

### Purpose

To permanently stabilize the soil, assuring conservation of soil and water, and to enhance the environment.

Slows the overland movement of stormwater runoff, increases infiltration and retains soil and nutrients on site,

## protecting streams or other stormwater conveyances.

Where Applicable

I. Site Preparation

On exposed soils that have a potential for causing off-site environmental damage

## Methods and Materials

- A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be in accordance with
- Standards for Land Grading, p. 19-1, Standards for Soil Erosion and Sediment Control in New Jersey. B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42,
- Standards for Soil Erosion and Sediment Control in New Jersey C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

### III. <u>Seeding</u>

A. Seed mix shall be as follows: Type 'G' Seed Mixture

iind of Seed Arid 3' Tall Fescue	Minimum Purity—% 95	Minimum <u>Germination—%</u> 80	% of Total <u>Weight Mixture</u> 60	Application Rate (Lbs. per Acre) 150	
Brooklawn' Kentucky Bluegrass	95	85	20	50	
Manhattan 4' Perennial Rye	95	85	30	50	

Optimal Seeding Dates — March 1 to May 15 and August 15 to October 15

- B. Conventional Seeding Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil
- C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
- D. After seeding, firming the soil with a corrugated roller will assure good seed—to—soil contact, restore capillarity, and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on the site will be maximized.

Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of liquid mulch (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.

Application. Spread uniformly by hand mechanically so that approximately 85% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.

Anchoring should be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

- 1. Peg and Twine Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and square pattern. Secure twine around each peg with two or more
- 2. Mulch Nettings Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
- . <u>Crimper (mulch anchoring tool)</u> A tractor—drawn implement, somewhat like a <u>disc—harrow</u>, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to greas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
- 4. Liquid Mulch-Binders May be used to anchor salt hay or straw mulches.
- a. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
- b. Use one of the following: (1) Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 0.04 gal./sq. yd. or 194 gal./acre on flat slopes less than 8 feet high. On slopes 8 feet or more high, use 0.075 gal./sq. yd. or 363 gal./acre. These materials may be difficult to apply uniformly and
- (2) Organic and Vegetable Based Binders Naturally occurring, powder based hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfarass. Use at rates and weather conditions as recommended by the the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
- (3) Synthetic binders High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until aermination of grass.
- B. Wood—fiber or paper—fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with the seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall
- C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, from a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs per 1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

## V. <u>Irrigation</u> (where feasible)

If soil moisture is deficient, and mulch is not used, supply new seedings with adequate water (a minimum of 1/4 inch twice a day until vegetation is well established). This is especially true when seedings area made in abnormally dry or hot weather or on droughty sites.

## VI. <u>Topdressing</u>

Since slow release nitrogen fertilizer (water insoluble is prescribed in Section II.A. Seedbed preparation in this standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 400 pounds per 1,000 square feet.

## VII. <u>Establishing Permanent Vegetative Stabilization</u>

The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rate is required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. This rate applies to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once.

# SOIL EROSION AND SEDIMENT CONTROL NOTES

- 1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY. 2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT
- 3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS. 4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
- 5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.

6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY

- SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS. 7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING. 8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE
- CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1"-2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF. 9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY. 10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
- 11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED
- 12. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL. 13. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING. 14. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR
- MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL. 15. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED. 16. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6

17. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF

FREEHOLD SOIL CONSERVATION DISTRICT 4000 KOZLOSKI ROAD - PO BOX 5033 FREEHOLD, NJ 07728-5033 TEL. (732) 683-8500 FAX. (732) 683-9140 INFO@FREEHOLDSCD.ORG

THE PROJECT.

FRANCIS W. MULLAN. P.E., C.M.E **BOROUGH ENGINEER** 

ICENSED PROFESSIONAL ENGINEER STATE OF NJ LICENSE No. 24GE03828400

> S Ö CONTROL SEDIMENT  $\mathbf{\Omega}$

∞ర EROSION



NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500 OFFICES LOCATED IN:

CALIFORNIA, INDIANA, KENTUCKY

MASSACHUSETTS, MICHIGAN, NEW JERSEY

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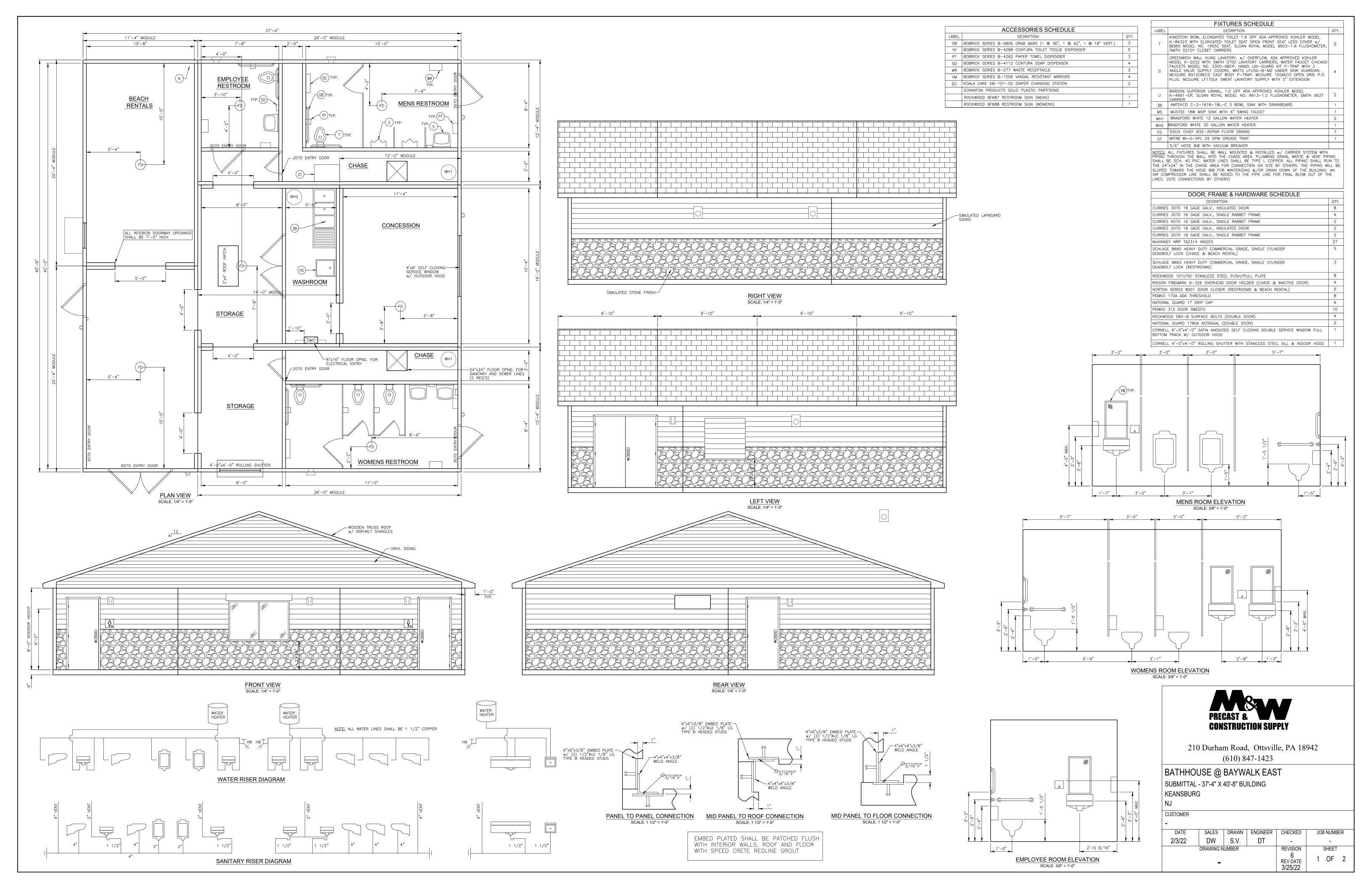
MIDDLETOWN, NJ 07748

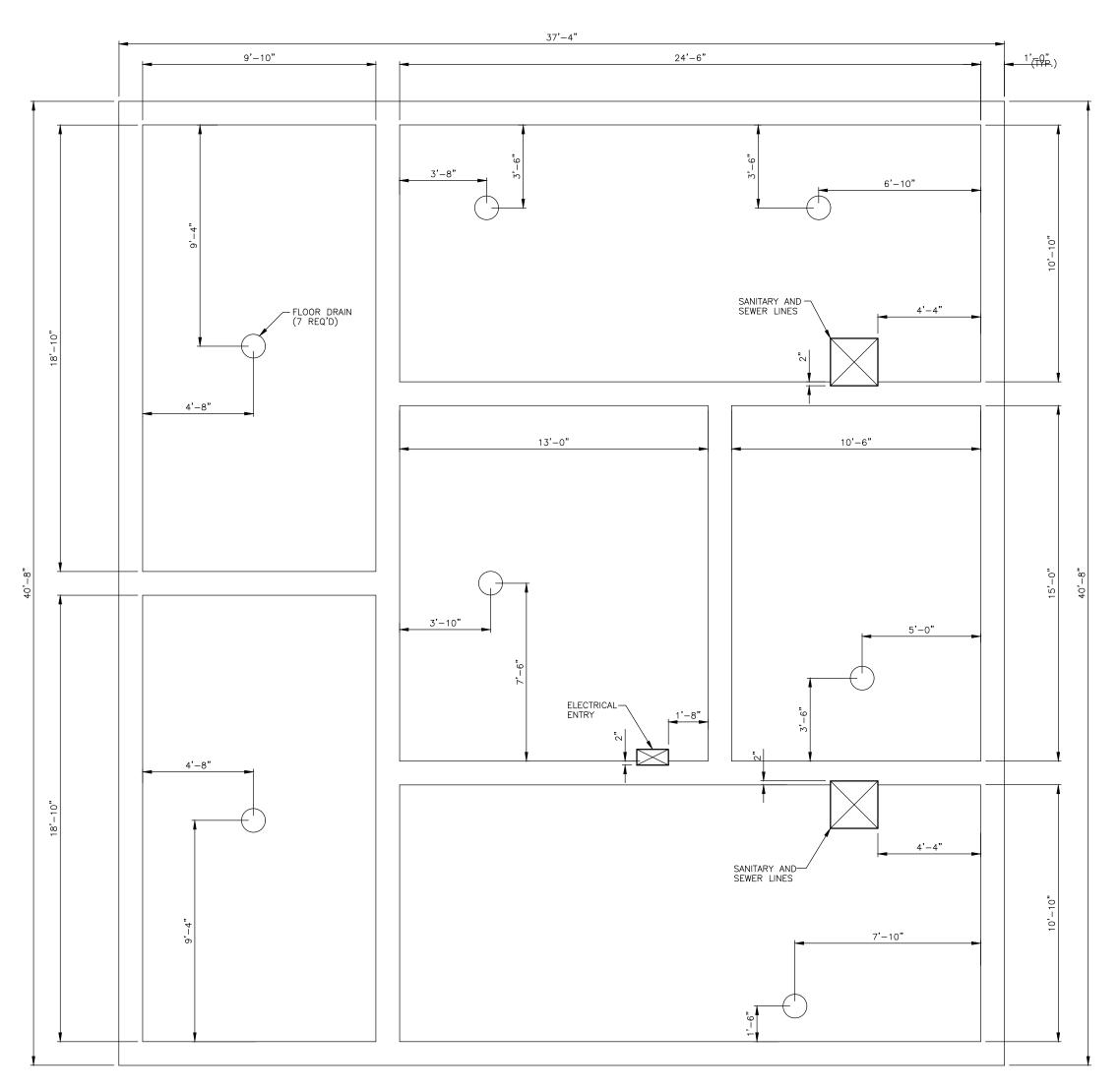
TEL 732-671-6400

FAX 732-671-7365

DESIGNED BY DRAWING CHECKED BY DRAWN BY

SHEET AS SHOWN

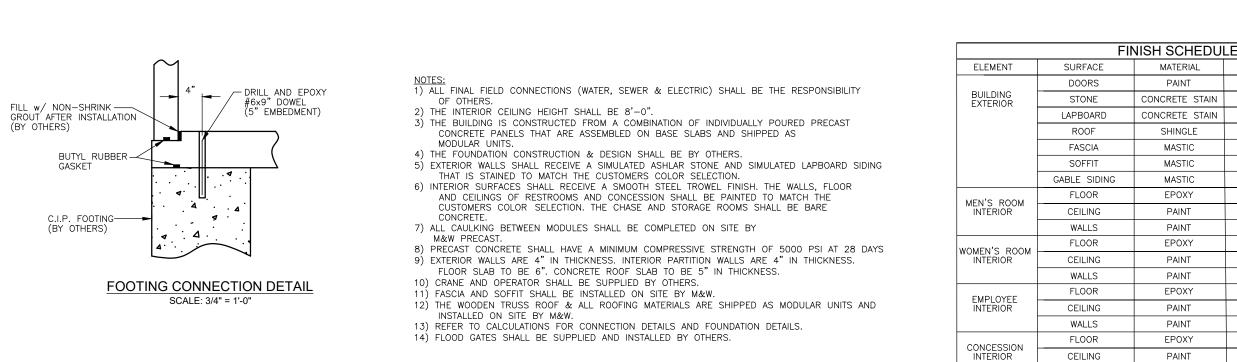




RECOMMENDED FOUNDATION PLAN

SCALE: 1/4" = 1'-0"





г	EF)
	BEACH RENTALS  (F)  (F)  (F)  (F)  (G)  (G)  (G)  (G)
MINI SPLIT WALL CONDENSOR————————————————————————————————————	CONCESSION  (IF  ADD'L RECEPTACLES FOR CONCESSION EQUIPMENT LOCATION TO BUPPMENT LOCATION TO BUPPMENT LOCATION TO BUPPMENT LOCATION TO BUPPMENT SEE SCHEDULE THIS SHEET)  STORAGE  8"x16" FLOOR OPING. FOR SEE SCHEDULE THIS SHEET)
EL	ELECTRICAL ENTRY  (F)  (F)  (F)  (F)  (F)  (F)  (F)  (F
	STORAGE  WOMENS RESTROOM  ELECTRICAL PLAN VIEW SCALE: 1/4" = 1'-0"

	ELEMENI	SURFACE	MATERIAL	COLOR
SIBILITY		DOORS	PAINT	_
DIDILIT	BUILDING EXTERIOR	STONE	CONCRETE STAIN	-
CAST		LAPBOARD	CONCRETE STAIN	-
CAST		ROOF	SHINGLE	-
		FASCIA	MASTIC	-
ARD SIDING		SOFFIT	MASTIC	-
LOOR		GABLE SIDING	MASTIC	-
LOUR	MEN'S ROOM	FLOOR	EPOXY	-
	INTERIOR	CEILING	PAINT	-
		WALLS	PAINT	_
AT 28 DAYS	WOMEN'S ROOM	FLOOR	EPOXY	-
NESS.	INTERIOR	CEILING	PAINT	_
		WALLS	PAINT	-
	EMPLOYEE	FLOOR	EPOXY	-
JNITS AND	INTERIOR	CEILING	PAINT	_
		WALLS	PAINT	_
	CONCESSION	FLOOR	EPOXY	-
	INTERIOR	CEILING	PAINT	_

LABEL LC	DESRIPTION  SQUARE D NQ120/208/3PH/4W/400 AMP MCB 42 CIRCUIT	QT)
LC	LOAD CENTER / / /	
VR	LUMINAIRE CLF7-4-50-120/277-CP-WHT VANDAL RESISTANT INTERIOR LED LIGHT FIXTURE	4
LF	COLUMBIA LAW4-40ML-EDU NON-VANDAL RESISTANT INTERIOR LED LIGHT FIXTURE	25
EL	RAB SLIM12/PC EXTERIOR LIGHT w/ PHOTOCELL	5
GFI	LEVITON GFNT2-I RECEPTACLE	11
S	LEVITON 1221-21 SINGLE POLE LIGHT SWITCH	4
3S	LEVITON CSB3-201 3-WAY LIGHT SWITCH	2
EF	CONTINENTAL FAN EXT150A WALL MOUNT EXHAUST FAN	3
SO	LEVITON ODS10-IDI OCCUPANCY SENSOR	1
OS	ACUITY CMR PDT 9 OCCUPANCY SENSOR	5

CONCESSION EQUIPMENT RECEPTACLES						
EQUIPMENT	VOLTAGE					
DOUBLE DOOR FRIDGE	115					
SINGLE DOOR FREEZER	115					
FLAT TOP GRILL	208					
4 BURNER STOVE w/ OVEN	208					
FRYER #1	208					



210 Durham Road, Ottsville, PA 18942 (610) 847-1423

BATHHOUSE @ BAYWALK EAST SUBMITTAL - 37'-4" X 40'-8" BUILDING KEANSBURG

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	JOI	ER	
/15/22	DW	S.V.	DT	-			
	DRAWING N	UMBER		REVISION 6 REV DATE 3/25/22	2	SHEET OF	2