UTILITIES

ELECTRIC:
JERSEY CENTRAL POWER & LIGHT
ATTN:BRIAN FRETZ
101 CRAWFORDS CORNER ROAD, BLDG. 1, SUITE 1-511
HOLMDEL, NJ 07733
bfretz@firstenergycorp.com

TELEPHONE:
VERIZON
ATTN: BILL HIGGINS
175 WEST MAIN STREET
FREEHOLD NJ, 07728
william.w.higgins@verizon.com

CABLE:
CABLEVISION OF MONMOUTH COUNTY
ATTN: PAUL KOSTYZ
40 PINE STREET
TINTON FALLS, NJ
pkostyz@cablevision.com

GAS:
NEW JERSEY NATURAL GAS COMPANY
ATTN: XAVIER ROBLES-GIRON
1415 WYCKOFF ROAD
WALL, NJ 07727
xroblesgiron@njng.com

WATER:
NEW JERSEY AMERICAN WATER COMPANY
ATTN: MAUREEN KELLY
661 SHREWSBURY AVENUE
SHREWSBURY, NJ 07702
maureen.kelly@amwater.com

SEWER:
HIGHLANDS BORO SEWER DEPT.
ATTN: SPENCER CARPENTER
151 NAVESINK AVENUE
HIGHLANDS, NJ 07732
publicworks@highlandsnj.gov

LOCATION OF UTILITIES SHOWN ON THE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND ARE NOT WARRANTED AS TO EXACTNESS. CONTRACTOR IS TO DETERMINE EXACT LOCATION AND DEPTH OF UTILITIES AT ALL CROSSINGS PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

GOVERNING BODY

MAYOR	CAROLYN BROULLON
COUNCIL MEMBERS	JO-ANNE OLSZEWSKI DONALD MELNYK KAREN CHELAK LEO CERVANTES
ADDRESS	151 NAVESINK AVENUE HIGHLANDS, NJ 07732 (732) 872-1224

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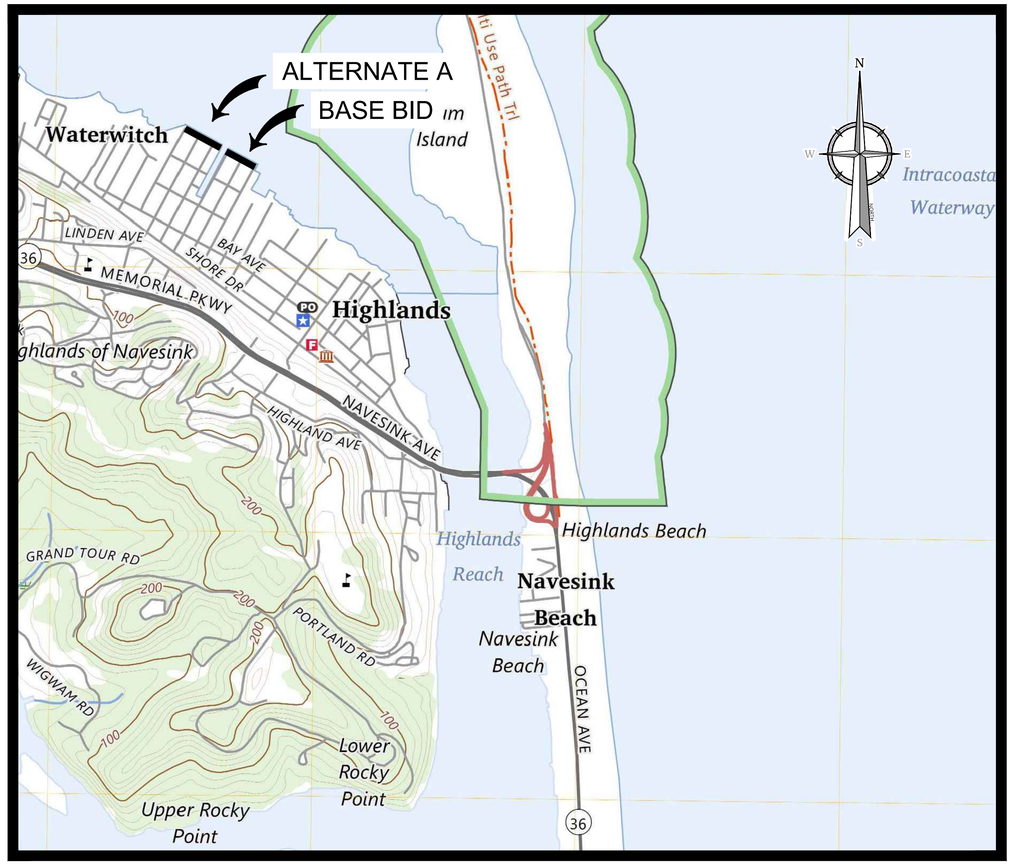
CONSTRUCTION PLANS
FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

MONMOUTH COUNTY COMMUNITY DEVELOPMENT BLOCK GRANT - FY 2024
MONMOUTH COUNTY CDBG PROJECT NUMBER
G-14-56-892-240-298

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY, NEW JERSEY



KEY & ZONING MAP

U.S.G.S. QUADRANGLE MAP
HIGHLANDS, NJ - PANEL (SANDY HOOK EAST)
NOT TO SCALE

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REV	DATE	DRAWN BY	DESCRIPTION

Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN
FOR
PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road,
Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, PSC, DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER: HIBC0009
DRAWING NAME: C-CVER

SHEET TITLE: COVER SHEET

SHEET NUMBER: T-000

H:\HIBC0009\Engineering\Site Plans\C-CVER.dwg|C-1.00 COVER By:HALENZ,BEA

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL MUNICIPAL/COUNTY/STATE REGULATIONS AND CODES AND O.S.H.A. STANDARDS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, MAILBOXES, FENCES, LANDSCAPING, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED THE PRICE BID FOR "CLEARING SITE".

3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED.

4. THESE PLANS ARE BASED ON SURVEY PERFORMED BY COLLIERS ENGINEERING & DESIGN. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY COLLIERS ENGINEERING & DESIGN IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER SITE FEATURES.

5. EXISTING SITE TOPOGRAPHIC INFORMATION AS SHOWN HEREON IS BASED UPON NAVD 88 (NORTH AMERICAN VERTICAL DATUM OF 1988) PER GPS OBSERVATION BY COLLIERS ENGINEERING & DESIGN, INC., UTILIZING KEYNET GPS.

6. SURVEY LAYOUT AND STAKEOUT SHALL BE PROVIDED BY THE CONTRACTOR FOR ALL IMPROVEMENTS. ALL WORK SHALL BE COMPLETED BY A NEW JERSEY LICENSED PROFESSIONAL LAND SURVEYOR AND ALL COSTS FOR SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONSTRUCTION LAYOUT.

7. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

8. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL MUNICIPAL, COUNTY, STATE AND FEDERAL LAW AND APPLICABLE CODES.

9. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PROVISIONS TO ASSURE STABILITY OF EXCAVATIONS, AS FIELD CONDITIONS DICTATE.

10. CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF ITEMS TO REMAIN, AND TO PROVIDE A SAFE WORK AREA.

11. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEMS DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, LANDSCAPING, FENCES, MAILBOXES, WALLS, WALKWAYS, IRRIGATION SYSTEMS, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL AMENITIES DAMAGED DURING CONSTRUCTION. REPAIR SHALL BE EQUAL OR BETTER THAN EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND NOTIFY CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION START.

12. ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING METHODS/ MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND MUST NOTIFY THE OWNER AND ENGINEER IF A CONFLICT IS IDENTIFIED.

13. THE CONTRACTOR IS RESPONSIBLE TO CLEAR ANY AND ALL ITEMS REQUIRED TO BUILD THE PROJECT AS SHOWN ON THE PLANS. THE NOTES SHOWN ON THE PLANS MAY NOT BE ALL-INCLUSIVE. ANY ITEMS NOT SPECIFICALLY SHOWN FOR REMOVAL ON THE PLANS, BUT REQUIRED TO BUILD THE PROPOSED IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF. PAYMENT SHALL BE INCLUDED IN THE "CLEARING SITE" PAY ITEM.

14. THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON VISIBLE SURFACE STRUCTURES AND ANY UTILITY MAPS PROVIDED BY UTILITY COMPANIES REFERENCED HEREON. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES, ADDITIONAL BURIED UTILITIES/STRUCTURES MAY HAVE BEEN ENCOUNTERED, THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES FIELD-VERIFIED BY THE PROPER UTILITY COMPANIES BEFORE ANY CONSTRUCTION BEGINS.

15. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES BY CONTACTING THE APPROPRIATE UTILITY COMPANIES AND CONTACTING THE NJ ONE-CALL SYSTEM (1-800-272-1000). THE LOCATION OF ALL EXISTING UTILITIES MAY NOT BE ACCURATELY SHOWN ON THE PLANS.

16. DO NOT INTERRUPT EXISTING UTILITIES SERVING ADJACENT OCCUPIED OR OPERATING FACILITIES UNLESS AUTHORIZED IN WRITING BY OWNER AND AUTHORITIES HAVING JURISDICTION.

17. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE GENERAL PUBLIC AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION AREAS, AND FOR THE ADJACENT PROPERTY AND PERSONS. ADEQUATE BARRIERS SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE INGRESS AND EGRESS AT ALL ROADWAY INTERSECTIONS. THE CONTRACTOR SHALL BARRICADE ALL UNSAFE OR INJURIOUS CONDITIONS.

18. THE CONTRACTOR SHALL ENSURE FREE AND SAFE PASSAGE OF PERSONS AROUND THE AREA OF CONSTRUCTION. ALL OPERATIONS SHALL BE CONDUCTED SO AS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND OTHER FACILITIES AND INJURY TO PERSONS, BOTH PEDESTRIAN AND WORKERS ALIKE.

19. ALL ITEMS TO BE PARTIALLY REMOVED OR REMOVED AND RESET SHALL BE REMOVED TO THE NEAREST POST OR JOINT.

20. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE TO A CLEAN, SAFE AND PASSABLE CONDITION AT THE END OF EACH WORK DAY. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR DAILY RESTORATION OF THE SITE. NO MATERIALS OR EQUIPMENT MAY BE STAGED IN THE WORK ZONE OVERNIGHT UNLESS SPECIFICALLY PERMITTED BY THE OWNER. A STAGING AREA MAY BE PROVIDED AT THE DISCRETION OF THE OWNER, THE LOCATION OF WHICH SHALL BE IDENTIFIED AT THE PRE-CONSTRUCTION MEETING.

21. THE CONTRACTOR SHALL MEET THE ELEVATION OF THE EXISTING PAVEMENT AND SIDEWALK AT THE LIMITS OF PROPOSED WORK.

22. NO SEPARATE PAYMENT WILL BE MADE FOR RESETTING WATER OR GAS VALVES IN AREAS OF PROPOSED PAVEMENT. WATER AND GAS VALVES SHALL BE RESET TO THE NEW GRADES AND COSTS SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE PROPOSAL.

23. CONTRACTOR SHALL VERIFY ALL GRADES, INLET ELEVATIONS AND LOCATIONS IN THE FIELD PRIOR TO CONSTRUCTION.

24. CONTRACTOR SHALL ADJUST GRADING AS NECESSARY TO PROVIDE POSITIVE DRAINAGE TO EXISTING AND PROPOSED INLETS.

25. ALL INLET CASTINGS, CURB PIECES, AND GRATES WITHIN THE PROJECT LIMITS SHALL BE UPGRADED TO CONFORM WITH NEW JERSEY STORMWATER MANAGEMENT REGULATIONS.

26. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.

27. NO SEPARATE PAYMENT WILL BE MADE FOR EXCAVATION, DEWATERING OR TRENCH RESTORATION REQUIRED TO INSTALL THE PIPES AND STRUCTURES SPECIFIED TO BE CONSTRUCTED. PAYMENT FOR EXCAVATION, DEWATERING, AND TRENCH RESTORATION SHALL BE INCLUDED IN THE PRICES BID FOR EACH RESPECTIVE ITEM.

28. TRENCH RESTORATION SHALL BE AS SHOWN ON THE CONSTRUCTION DETAILS. NO SEPARATE PAYMENT WILL BE MADE FOR TRENCH RESTORATION, INCLUDING THE INSTALLATION OF SUBBASE, AND HOT MIX ASPHALT BASE COURSE. PAYMENT FOR TRENCH RESTORATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS SIZE PIPES IN THE PROPOSAL.

29. ALL PAVEMENT STRIPING, MARKINGS, REGULATORY AND WARNING SIGNS SHALL CONFORM WITH THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

30. CONTRACTOR SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN.

31. CONTRACTOR TO MAINTAIN ACCESS FOR PEDESTRIANS AND EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.

32. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED UTILITY RELOCATION WITH EACH RESPECTIVE UTILITY COMPANY. NO SEPARATE PAYMENT SHALL BE MADE FOR COORDINATION. WATER UTILITY RELOCATION REQUIRED TO CONSTRUCT THE IMPROVEMENTS SHOWN SHALL BE INCLUDED IN THE COST OF VARIOUS BID ITEMS.

33. THE 2019 NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ALL AMENDMENTS, INCLUDING THE 2019 SPECIAL PROVISIONS FOR LOCAL AID PROJECTS, THERETO OR MODIFIED HEREIN SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT.

34. CONTRACTOR TO EXERCISE CAUTION WHEN PERFORMING WORK ADJACENT TO EXISTING RETAINING WALLS AND LANDSCAPE STRUCTURES AND FEATURES. ANY RETAINING WALLS OR LANDSCAPE STRUCTURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS ENCOURAGED TO TAKE PRECONSTRUCTION PHOTOGRAPHS TO AVOID INCONCLUSIVE DISPUTES DURING OR AFTER CONSTRUCTION.

35. CONTRACTOR SHALL NOT MILL IN EXCESS OF AREA TO BE PAVED WITHIN THE SAME DAY OF WORK.

36. THE COMMENCEMENT OF MILLING AND HOT MIX ASPHALT OVERLAY WORK SHALL NOT BEGIN UNTIL THE COMPLETION OF ANY CONCRETE WORK IN THAT AREA.

37. ALL TRAFFIC STRIPES AND MARKINGS SHALL BE LONG-LIFE THERMOPLASTIC.

38. CONTRACTOR SHALL SUBMIT SEED BAG TICKETS TO THE ENGINEER FOR APPROVAL PRIOR TO PLACING SEED.

39. CONTRACTOR SHALL ESTABLISH A FULL STAND OF GRASS WITH NO BARE PATCHES, CRABGRASS, OR WEEDS.

40. CONTRACTOR SHALL SUBMIT INVOICES FOR TRAFFIC DIRECTOR, FLAGGER TO ENGINEER AS BACK UP FOR PAY APPLICATION.

41. PAVEMENT SHALL BE SAWCUT TO FULL DEPTH OF EXISTING PAVEMENT AT THE TIME OF CONSTRUCTION. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

42. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHY AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES SHALL BE PROVIDED TO THE ENGINEER IN WRITING IMMEDIATELY.

43. DENSE GRADED AGGREGATE BASE COURSE SHALL BE INSTALLED IF & WHERE DIRECTED.

44. TACK COAT SHALL BE IN ACCORDANCE WITH SECTION 401.03.05.

45. INSTALLATION OF HOT MIX ASPHALT SURFACE COURSE SHALL NOT BE PERMITTED UNTIL THE BASE COURSE IS APPROVED BY THE ENGINEER. THE ENGINEER MAY DIRECT THE CONTRACTOR TO MAKE CORRECTIVE MEASURES TO THE BASE COURSE PRIOR TO THE INSTALLATION OF THE SURFACE COURSE AT NO ADDITIONAL COST TO THE OWNER.

46. UNLESS ECHELON PAVING IS USED, ALL JOINTS RESULTING FROM THE PAVING OPERATIONS SHALL BE CONSIDERED COLD JOINTS AND POLYMERIZED JOINT ADHESIVE SHALL BE APPLIED IN ACCORDANCE WITH THE NJDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2019, UNDER SUBSECTION 401.03.04 COLD JOINT PAVING.

47. THE MAXIMUM LENGTH OF LONGITUDINAL COLD JOINT IS 300 FEET OR UP TO 500 FEET IF DIRECTED BY THE ENGINEER. NO LONGITUDINAL COLD JOINTS ARE TO BE LEFT EXPOSED AT THE END OF THE DAY'S WORK OR OVERNIGHT.

48. CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS WHEN RECONSTRUCTING OR OVERLAYING UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY QUESTIONABLE DRAINAGE AREAS SO THAT FIELD ADJUSTMENTS CAN BE MADE TO ELIMINATE PONDING.

49. EXISTING GUTTERLINE GRADES ARE TO BE MAINTAINED EXCEPT AS OTHERWISE SHOWN ON PLAN OR DIRECTED BY THE ENGINEER.

50. THE EDGES OF THE BASE COURSE ITEMS SHALL BE PARALLEL TO THE ROADWAY CENTERLINE AND RECTANGULAR IN SHAPE. ALL EDGES SHALL BE VERTICAL.

51. THE SUMMATION OF THE QUANTITIES FOR EACH PAY ITEM IN THE QUANTITY TABLE MAY DIFFER FROM THE PAY ITEM QUANTITY LISTED IN THE PROPOSAL. THIS IS TO ALLOW FOR UNSEEN ADJUSTMENTS THAT MAY BE NECESSARY TO TO COMPLETE THE PROJECT. THE CONTRACTOR IS ADVISED TO BID THE PROJECT BASED ON THE QUANTITIES LISTED IN THE PROPOSAL.

52. TEST PITS SHALL BE COMPLETED BEFORE ORDERING OF ANY MATERIALS.

53. CONTRACTOR SHALL BE MADE AWARE THAT THERE ARE VARIOUS UTILITIES, ABOVE OR BELOW GROUND, THAT WILL NEED TO BE RELOCATED, RAISED, OR LOWERED THAT ARE CURRENTLY WITHIN THE PROJECT LIMITS. ALL UTILITY ITEMS INCLUDING BUT NOT LIMITED TO UTILITY BOXES, VALVES, METERS, ETC. THAT NEED TO BE ADJUSTED AND/OR RELOCATED TO COMPLETE THE PROJECT MUST BE COMPLETED. ALL MATERIAL, LABOR, AND COORDINATION WITH THE RELEVANT UTILITIES SHALL BE PAID FOR THROUGH THE LUMP SUM ITEM CLEARING SITE. NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ADDITIONAL MATERIAL, LABOR, AND UTILITY COORDINATION TO ADJUST OR REPLACE ANY UTILITY ENTITY TO CONFORM WITH THE PROPOSED IMPROVEMENTS. ANY UTILITY ENTITY THAT IS IN EXISTING PAVEMENT, CURB, SIDEWALK, OR GRASS WILL NEED TO BE SET IN CONCRETE IN A MANNER THAT CONFORMS WITH THE CONTRACT DOCUMENTS. CONTRACTOR SHALL HAVE NO CLAIM FOR DELAYS DUE TO UTILITY COMPANIES NEEDING TO RESET FEATURES. THIS INCLUDES ANY MATERIALS REQUIRED BY THE BOROUGH AND VARIOUS UTILITIES TO ESTABLISH THE UTILITY ENTITIES IN A MANNER THAT ALLOW THEM TO BE ACCESSIBLE AND OPERABLE. ALL MATERIALS NEEDED TO SET UTILITY ENTITIES IN THE SIDEWALK, INCLUDING BUT NOT LIMITED TO RISERS, C-4 BOXES, RINGS, ETC., SHALL BE PAID FOR THROUGH CLEARING SITE. THIS NOTE ACCOUNTS FOR ANY ENTITY FOR ANY UTILITY, ABOVE OR BELOW GROUND, WHICH MAY POSE AS A CONFLICT TO THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL TAKE NOTICE THAT THEY SHOULD VISIT THE SITE AND INSPECT THE LEVEL OF EFFORT, MATERIAL, AND COORDINATION NEEDED TO ADJUST THESE UTILITY ENTITIES TO COMPLETE THE PROJECT AND INCLUDE THAT FEE IN CLEARING SITE.

54. ANY UTILITIES LOCATED IN THE PROPOSED CURB RAMPS ARE TO BE RELOCATED. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH UTILITY COMPANIES TO RELOCATE ANY FEATURES. ALL MATERIAL, LABOR, AND COORDINATION FOR THIS EFFORT SHALL BE PAID FOR THROUGH CLEARING SITE.

LEGEND

EXISTING		PROPOSED
12+00 PI 13+00	TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	12+00 13+00
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
FACE BACK	CURB	FACE BACK
	DEPRESSED CURB	
	SIDEWALK	
X X	FENCES	X X
	TREELINE	
	ROADWAY SIGNS	
	WETLAND LINE	
	MUNICIPAL BOUNDARY LINE	
	'B' INLET	
	'E' INLET	
D	STORM MANHOLE	D
S	SANITARY MANHOLE	S
	FLARED END SECTION	
	HEADWALL	
	HYDRANT	
	POLE MOUNTED LIGHT	
75 74	CONTOURS	75 74
× G 29.0	SPOT ELEVATION	× G 29.0
	DIRECTION OF OVERLAND FLOW	
× TC 29.0	TOP OF CURB ELEVATION	× TC 29.0
× BC 29.0	BOTTOM OF CURB ELEVATION	× BC 29.0
	TOP OF DEPRESSED CURB ELEVATION	× TDC 29.0
CATV	CABLE TV CONDUIT	CATV
W	WATER MAIN	W
G	GAS MAIN	G
T	TELEPHONE CONDUIT	T
E	ELECTRIC CONDUIT	E
	SANITARY PIPE	
	STORM PIPE	

SUPPLEMENTAL LEGEND

PAVEMENT REPAIR STRIP
- DENSE GRADED AGGREGATE BASE COURSE, 6" THICK
- HOT MIX ASPHALT 19M64 BASE COURSE, 4" THICK
- HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK

CONCRETE SIDEWALK, REINFORCED, 5" THICK

DETECTABLE WARNING SURFACE

RESET EXISTING STONES

PAVER DRIVEWAY RESTORATION

LANDING AREA

RECONSTRUCT MANHOLE, SANITARY SEWER

RESET MANHOLE, SANITARY SEWER

RESET OR SET MANHOLE CASTING

RECONSTRUCT MANHOLE

RESET EXISTING CASTING OR SET INLET CASTING

RECONSTRUCT STRUCTURE

EXCAVATION, TEST PIT

DISTRIBUTION SYSTEM WATER VALVE

REMOVAL

TB TOP OF BULKHEAD
BB BOTTOM OF BULKHEAD
TW TOP OF WALL
BW BOTTOM OF WALL

BASE BID			
PAY ITEM NO.	DESCRIPTION	UNIT	TOTAL CONTRACT QUANTITIES
1	CLEARING SITE	LS	1
2	BREAKAWAY BARRICADE	UN	25
3	DRUM	UN	30
4	TRAFFIC CONES	UN	80
5	CONSTRUCTION SIGNS	SF	100
6	UNIFORM TRAFFIC DIRECTORS	ALL	1
7	EXCAVATION, TEST PIT	CY	50
8	DENSE GRADED AGGREGATE BASE COURSE, 6" THICK	SY	25
9	HOT MIX ASPHALT 19M64 BASE COURSE, 4" THICK	TON	7
10	HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK	TON	2
11	8" X 18" CONCRETE VERTICAL CURB	LF	160
12	CONCRETE STEPS	UN	1
13	CONCRETE SIDEWALK, REINFORCED, 5" THICK	SY	125
14	CONCRETE ELEVATED WALKWAY, REINFORCED, 5" THICK	SY	405
15	RESET EXISTING PAVERS	SY	5
16	DETECTABLE WARNING SURFACE	SY	10
17	FURNISH AND INSTALL RAILING, 42" HIGH	LF	515
18	FURNISH AND INSTALL DECORATIVE BENCHES	UN	6
19	FURNISH AND INSTALL BICYCLE RACK	UN	1
20	FURNISH AND INSTALL TRASH RECEPTACLE	UN	3
21	PARK SIGN	SF	10
22	COMPACTED LIGHTWEIGHT FILL	CY	350
23	CONCRETE RETAINING WALL, TYPE 1, WALKWAY	LF	435
24	CONCRETE RETAINING WALL, TYPE 2, RAMP	LF	80
25	CONCRETE FAÇADE, 6" THICK	SF	1,680
26	BULKHEAD HOLE REPAIR	UN	40
27	CONTINGENCY	ALL	1
ALTERNATE A			
A1	CONCRETE FAÇADE, 6" THICK	SF	2,100

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REV	DATE	DRAWN BY	DESCRIPTION

[illegible]

Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

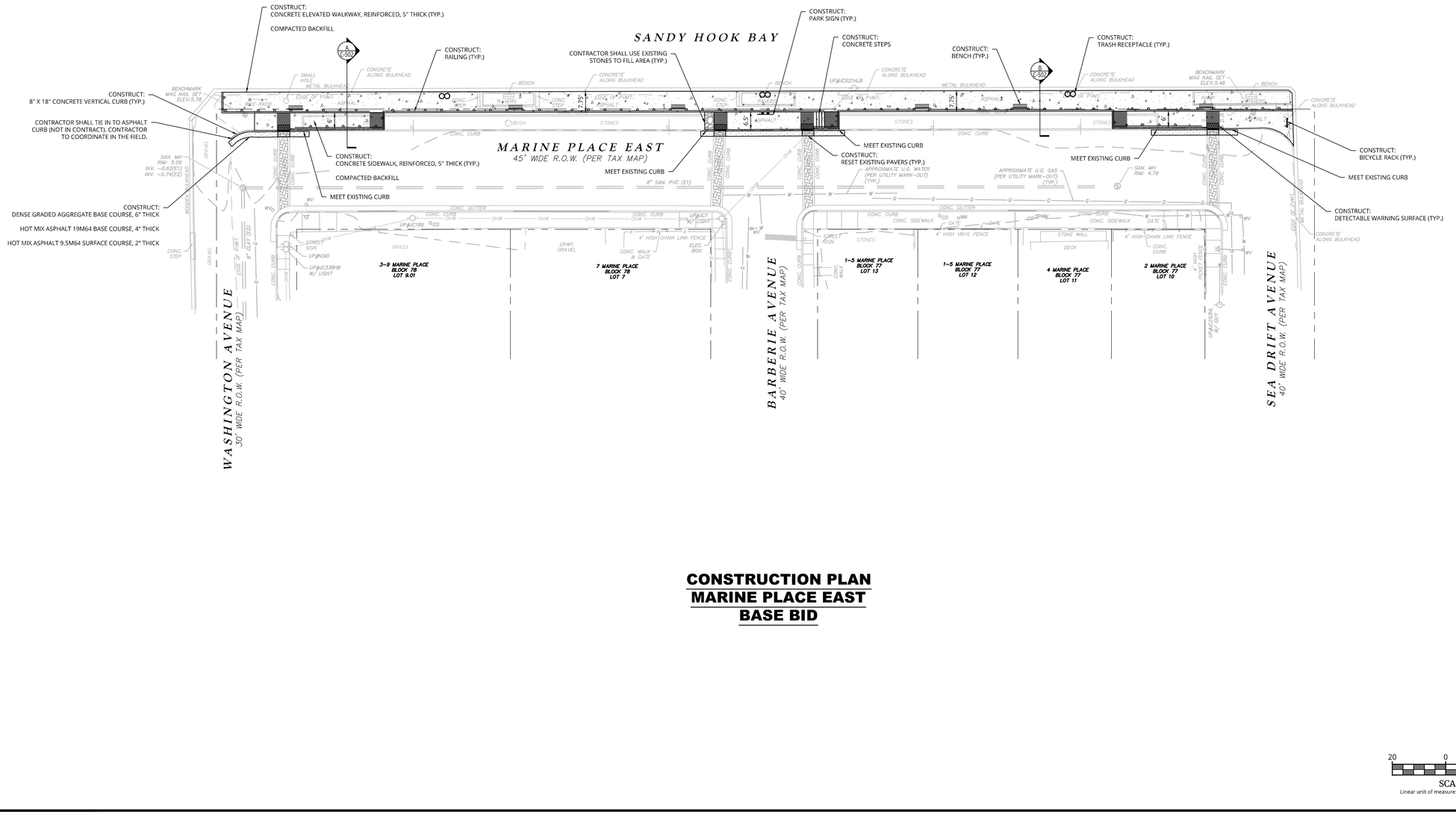
Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road, Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR
PROJECT NUMBER: HIBC0009	DRAWING NAME: C-CVER		

SHEET TITLE:
GENERAL NOTES, LEGENDS, AND QUANTITIES

SHEET NUMBER:
G-001

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



CONSTRUCTION PLAN
MARINE PLACE EAST
BASE BID

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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road, Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER:	DRAWING NAME:
HIBC0009	C-LAYT

SHEET TITLE:
BASE BID CONSTRUCTION PLAN

SHEET NUMBER:
C-201

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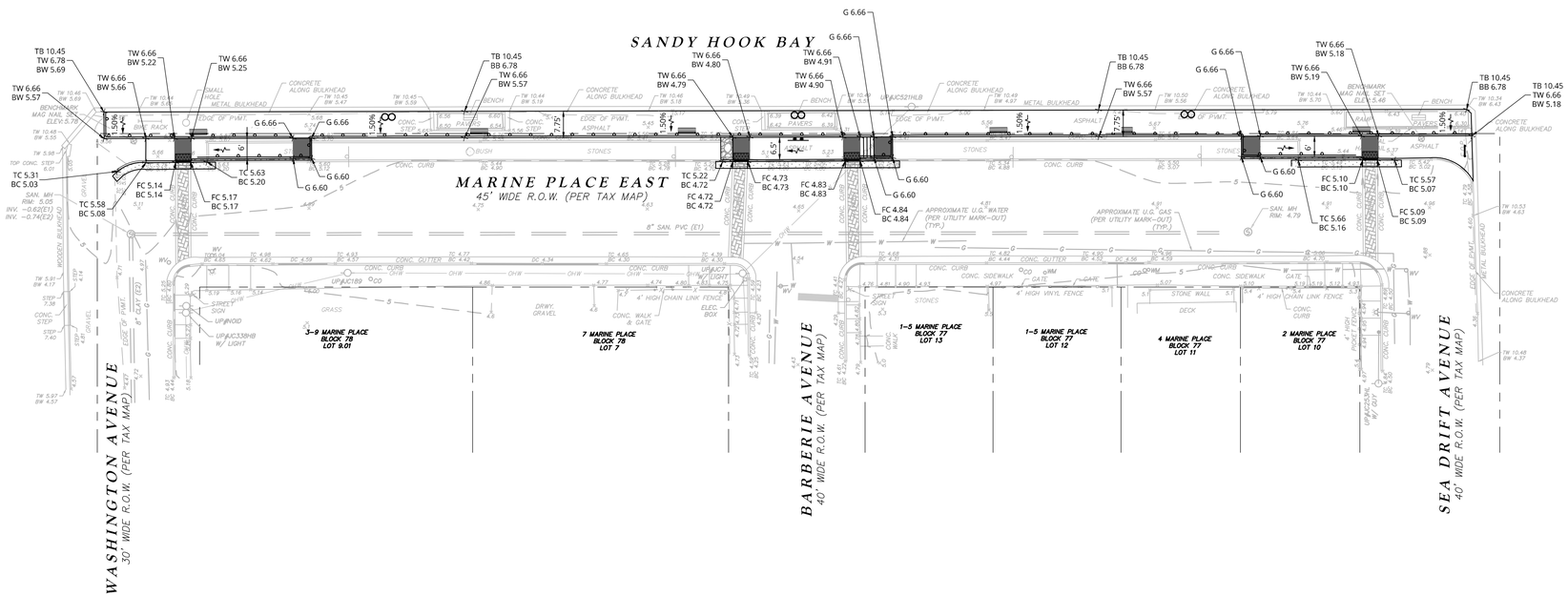
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



GRADING PLAN
MARINE PLACE EAST
BASE BID

NOTE:

1. TYPICAL CURB REVEAL SHALL BE 6" THROUGHOUT PROJECT UNLESS OTHERWISE STATED ON THE PLANS. FLUSH CURB AT ADA RAMPS.

SUPPLEMENTAL LEGEND

	LANDING AREA
TB	TOP OF BULKHEAD
BB	BOTTOM OF BULKHEAD
TW	TOP OF WALL
BW	BOTTOM OF WALL

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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER:	DRAWING NAME:
H18C0009	C-GRAD

SHEET TITLE:
BASE BID GRADING PLAN

SHEET NUMBER:
C-202

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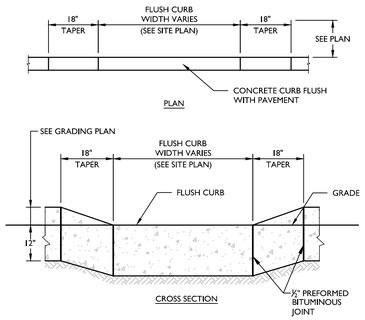
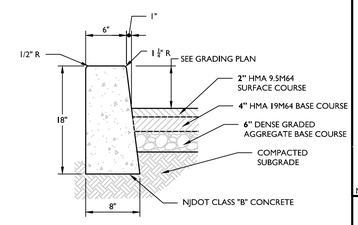
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



CONCRETE FLUSH CURB DETAIL

NOT TO SCALE | MCNJ-SITE-CURB-1400 | MOD: 10/14/24 05/01/17

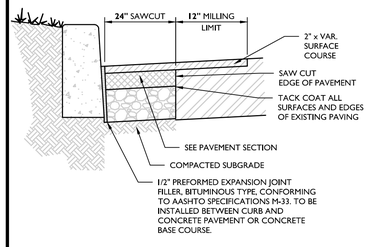


NOTES:

1. PREFORMED BITUMINOUS FIBER TRAVERSE JOINTS, 1/2" THICK AT 20' MAX. INTERVALS ALONG THE CURB.

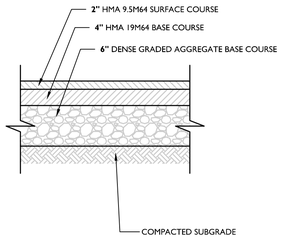
CONCRETE CURB (ASPHALT PAVEMENT) DETAIL

NOT TO SCALE | MCNJ-SITE-CURB-1000 | MOD: 10/14/24 05/01/17



SAWCUT AND PAVEMENT RESTORATION DETAIL

NOT TO SCALE | MCNJ-SITE-PVMT-2800 | MOD: 10/14/24 08/01/20



STANDARD ASPHALT PAVEMENT DETAIL

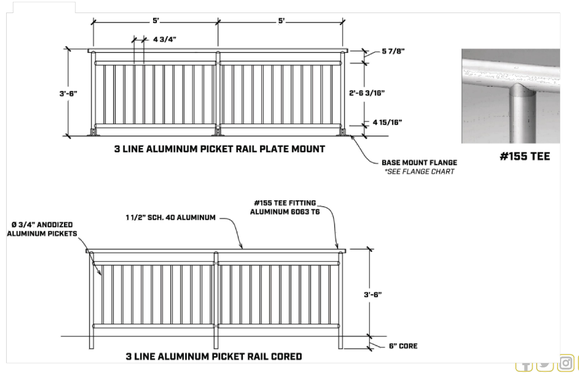
NOT TO SCALE | MCNJ-SITE-PVMT-1000 | MOD: 01/14/25 11/01/24

NOTES:

1. TRASH RECEPTACLES TO BE MODEL EB-236SD AS MANUFACTURED BY VICTOR STANLEY, OR APPROVED EQUAL.
2. COLOR TO BE BLACK.

TRASH RECEPTACLE DETAL

NOT TO SCALE | GNRL-DTLS-STND-GRID | 10/14/24



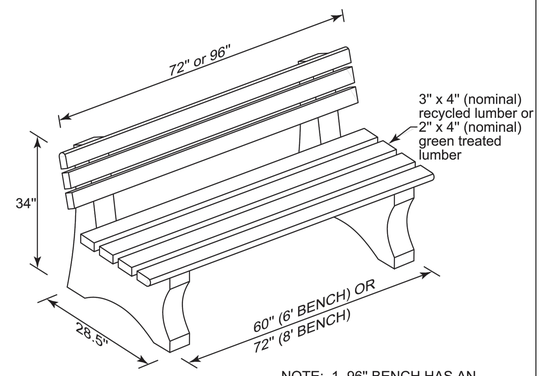
NOTES:

1. RAILING TO BE THREE LINE ALUMINUM HANDRAIL WITH PICKET AS MANUFACTURED BY IDEALSHIELD, OR APPROVED EQUAL.

RAILING DETAIL

NOT TO SCALE | GNRL-DTLS-STND-GRID | 10/14/24

CONCRETE BENCH
W/RECYCLED PLASTIC BOARDS
OR GREEN TREATED LUMBER



NOTE: 1. 96" BENCH HAS AN ADDITIONAL CONCRETE SUPPORT (CENTER).
2. CONCRETE SUPPORTS ARE STEEL REINFORCED

NOTES:

1. BENCHES TO BE MODEL #261-1233 AS MANUFACTURED BY THE PARK CATALOG, OR APPROVED EQUAL.
2. FRAME COLOR SHALL BE BLACK WITH CEDAR SLATS.

BENCH DETAIL

NOT TO SCALE | GNRL-DTLS-STND-GRID | 10/14/24

MARINE PLACE EAST REGULATIONS

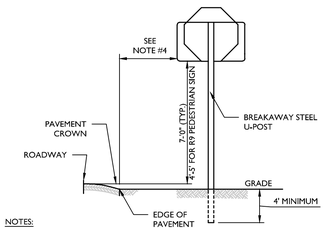
- NO FISHING BETWEEN 10:00 PM AND 7:00 AM
- NO CAMPING
- NO LITTERING
- NO CONSUMPTION OF ALCOHOLIC BEVERAGES
- NO RADIOS

PER BOROUGH ORDINANCE 3-11

36"x36"

PARK SIGN DETAIL

NOT TO SCALE | GNRL-DTLS-STND-GRID | 10/14/24



NOTES:

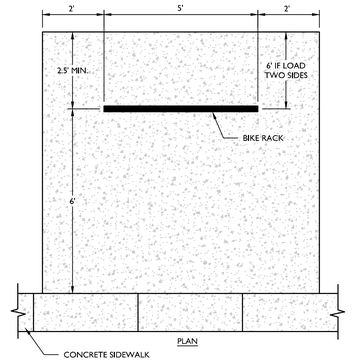
1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION, AS STATED IN THE CURRENT MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS.
2. ALL POSTS SHALL BE EMBEDDED 4' MINIMUM.
3. ALL POSTS TO BE BREAKAWAY STEEL U-POSTS IN CONFORMANCE WITH CURRENT ASTM SPECIFICATION A123 AND STANDARDS.
4. IN AREAS WITHOUT CURBING, THE OUTER EDGE OF SIGN TO BE 2'-0" MINIMUM TO 12'-0" MAXIMUM FROM EDGE OF CURB, AS DIRECTED.

SINGLE POST SIGN MOUNTING DETAIL

NOT TO SCALE | MCCM-SIGN-POST-1100 | 07/01/19

NOTE:

ORIGINAL CYCLOOPS BICYCLE RACK MODEL NO. 2170-7-C (7 BIKES) EMBEDMENT MOUNTING COLOR SHALL BE BLACK MANUFACTURED BY COLUMBIA CASCADE, 1-800-547-1940 OR APPROVED EQUAL.



ELEVATION

BICYCLE RACK DETAIL

NOT TO SCALE | MCCM-SITE-FNCE-2400 | 07/01/19

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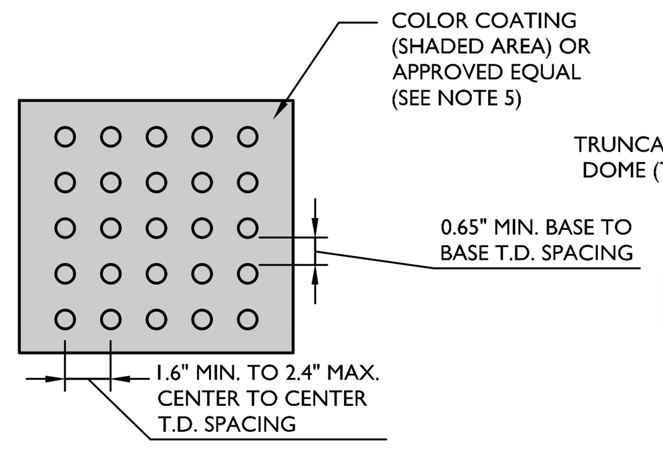
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

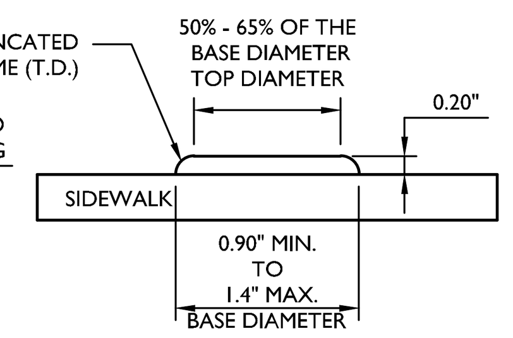
PROJECT NUMBER:	DRAWING NAME:
HIBC0009	C-DTLS

SHEET TITLE:
CONSTRUCTION DETAILS

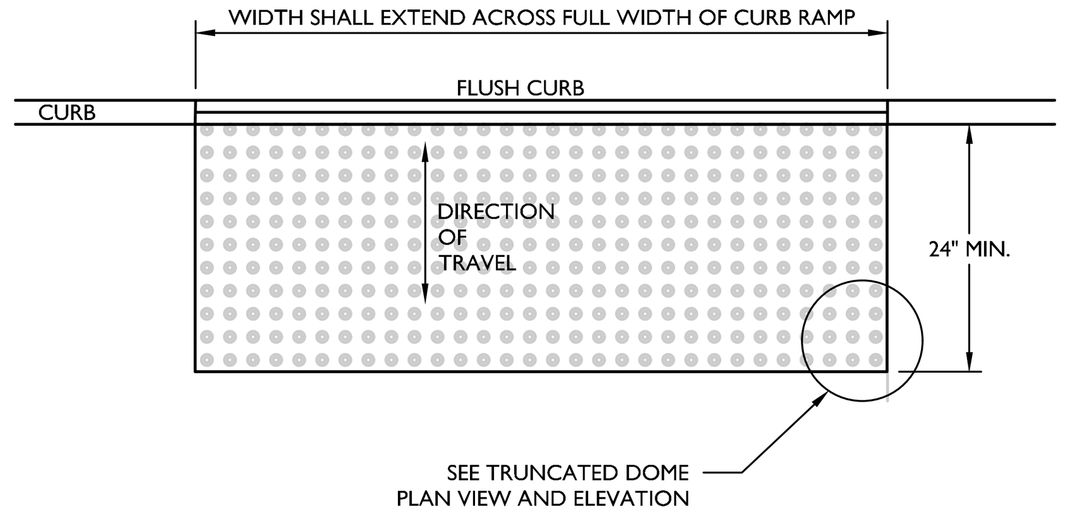
SHEET NUMBER:
C-501



TRUNCATED DOME PLAN VIEW ENLARGEMENT



TRUNCATED DOME ELEVATION



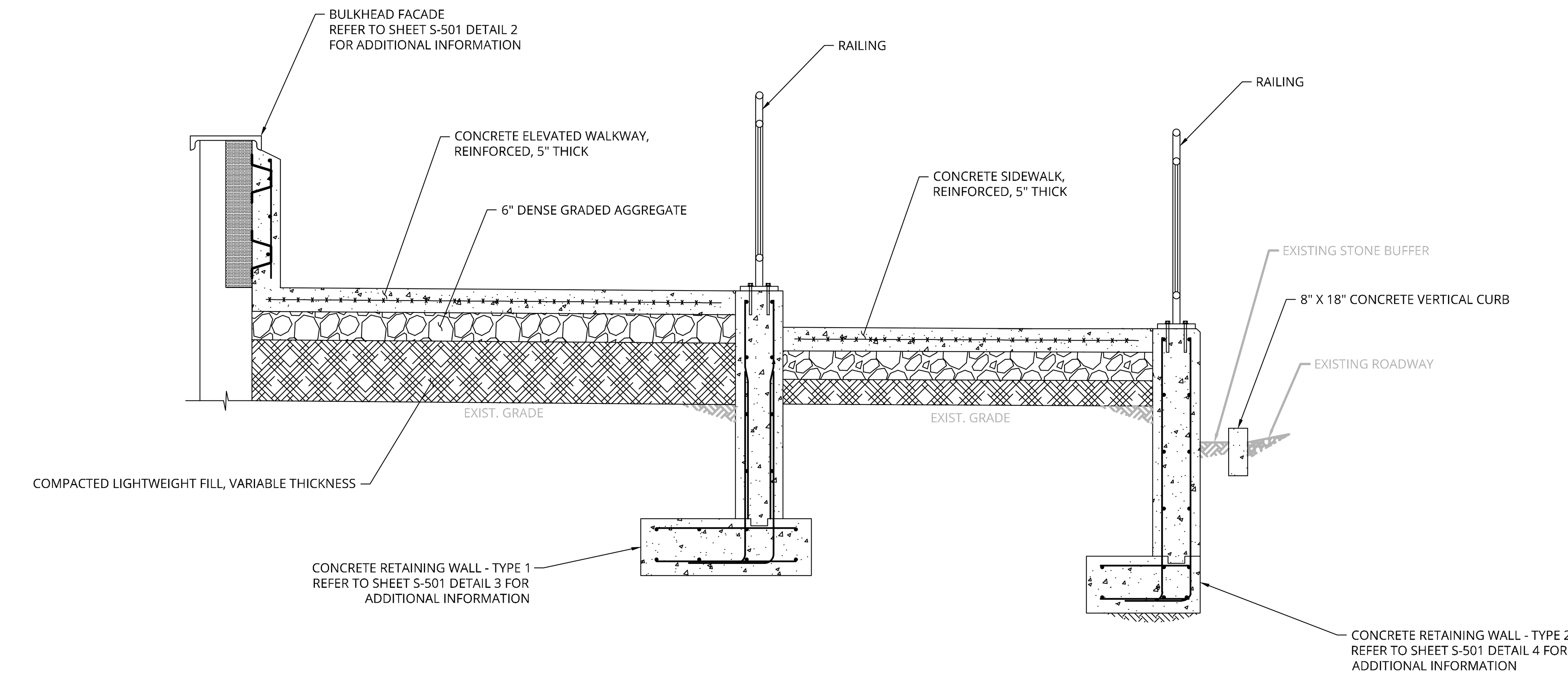
PLAN VIEW

NOTES:

1. THE DETECTABLE WARNING SURFACE IS TO BE MANUFACTURED MATS THAT ARE EMBEDDED AND CAST-IN-PLACE IN THE CONCRETE.
2. IN LIEU OF A CAST IN PLACE DETECTABLE WARNING SURFACE, THE CONTRACTOR MAY UTILIZE A SURFACE APPLIED DETECTABLE WARNING SURFACE WITH PRIOR APPROVAL OF THE UNDERSIGNED ENGINEER AND PRIOR TO POURING OF THE CONCRETE RAMP.
3. THE CONTRACTOR MUST SUBMIT TO THE ENGINEER FOR APPROVAL A SHOP DRAWING OF THE DETECTABLE WARNING SURFACE PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR MUST PROVIDE A MANUFACTURER CERTIFICATION THAT THE DETECTABLE WARNING SURFACE COMPLIES WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE AND THE ADA STANDARDS AS SUPPORTED BY THE UNITED STATES ACCESS BOARD, AND THE STATE AND/OR LOCAL ADA STANDARDS.
5. **SAFETY RED** AS APPROVED BY THE LOCAL JURISDICTION PRIOR TO INSTALLATION. DETECTABLE WARNING SURFACES MUST CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. ALTERNATIVE COLOR MAY BE USED PROVIDED SUCH COLOR COMPLIES WITH CURRENT ADA STANDARDS.
6. DETECTABLE WARNINGS ARE TO CONSIST OF A SURFACE OF TRUNCATED DOMES.
7. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE MUST HAVE A BASE DIAMETER OF 0.9 INCH (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM, A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM, AND A HEIGHT OF 0.2 INCH (5.1 mm).
8. TRUNCATED DOMES IN DETECTABLE WARNING SURFACE MUST HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 mm) MINIMUM AND 2.4 INCHES (61 mm) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCH (17 mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
9. SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. WHERE REQUIRED BY THE MANUFACTURER, THE CONCRETE BORDER MUST NOT EXCEED 2 INCHES (51 mm).
10. DETECTABLE WARNING SURFACES ARE NOT BE PLACED ON PAVING OR EXPANSION JOINTS AT CURB RAMPS. THE ROWS OF TRUNCATED DOMES IN DETECTABLE WARNING SURFACES ARE TO BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET SO PEDESTRIANS WHO USE WHEELCHAIRS CAN "TRACK" BETWEEN THE DOMES.
11. ON PERPENDICULAR CURB RAMPS, DETECTABLE WARNING SURFACES ARE TO BE PLACED AS FOLLOWS:
    a. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE IN FRONT OF THE BACK OF CURB, DETECTABLE WARNING SURFACES ARE TO BE PLACED AT THE BACK OF CURB.
    b. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS 5.0 FT OR LESS, DETECTABLE WARNING SURFACES ARE TO BE PLACED ON THE RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK.
    c. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS MORE THAN 5.0 FT, DETECTABLE WARNING SURFACES ARE TO BE PLACED ON THE LOWER LANDING AT THE BACK OF CURB.
12. ON PARALLEL CURB RAMPS, DETECTABLE WARNING SURFACES ARE TO BE PLACED ON THE TURNING SPACE AT THE FLUSH TRANSITION BETWEEN THE STREET AND SIDEWALKS.
13. ON BLENDED TRANSITIONS, DETECTABLE WARNING SURFACES ARE TO BE PLACED AT THE BACK OF CURB. WHERE RAISED PEDESTRIAN STREET CROSSINGS, DEPRESSED CORNERS OR OTHER LEVEL PEDESTRIAN STREET CROSSINGS ARE PROVIDED, DETECTABLE WARNING SURFACES ARE TO BE PLACED AT THE FLUSH TRANSITION BETWEEN THE STREET AND THE SIDEWALK.

DETECTABLE WARNING SURFACE DETAIL

NOT TO SCALE MCNJ-SITE-HADA-2100 07/01/20



NOTES:
1. REFER TO SHEET S-501 FOR ADDITIONAL INFORMATION.
2. DENSE GRADED AGGREGATE SHALL BE INCLUDED IN THE PRICING OF "CONCRETE ELEVATED WALKWAY, REINFORCED, 5" THICK" OR "CONCRETE SIDEWALK, REINFORCED, 5" THICK."
3. COMPACTED FILL SHALL BE ULTRA-LIGHTWEIGHT FOAMED GLASS AGGREGATE, AREOAGGREGATES – FG-G15 AS MANUFACTURED BY AREO AGGREGATES LLC, OR APPROVED EQUAL.

CROSS SECTION A DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID 10/14/24

NOTES:

1. CONTRACTOR MUST PREPARE SHOP DRAWINGS OF EACH CURB RAMP FOR SUBMISSION AND APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION. DEVIATIONS FROM THE CURB RAMP DETAILS REQUIRE WRITTEN APPROVAL OF THE UNDERSIGNED PROFESSIONAL AND THE MUNICIPAL, COUNTY, STATE OR OTHER AGENCY'S ENGINEER HAVING JURISDICTION.
2. ACCESSIBLE RAMPS:
    a. ON-SITE RAMP OR CURB RAMPS MUST BE INSTALLED IN CONFORMANCE WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE AND MUST ALSO MEET OTHER APPLICABLE LOCAL AND STATE REQUIREMENTS IN EFFECT AT THE DATE OF CONSTRUCTION.
    b. PUBLIC RIGHT OF WAY ACCESSIBLE OR CURB RAMPS MUST BE INSTALLED PURSUANT WITH THE CURRENT UNITED STATES ACCESS BOARD "ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY" (PROWAG).
3. CURB RAMP SLOPE AS CONSTRUCTED IN THE DIRECTION OF TRAVEL CANNOT EXCEED 12H:1V. RAMP SLOPES OF 14H:1V ARE THE PREFERRED SLOPE TO MAINTAIN A LEVEL OF CONSTRUCTION TOLERANCE. MINIMUM CURB RAMP CROSS-SLOPE IS TO BE 0.50%, MAXIMUM CANNOT EXCEED 2.00%.
4. CURB RAMP SIDE FLARE SLOPES ARE TO BE 14H:1V DESIRABLE, 12H:1V MAXIMUM, BUT MAY BE 10H:1V UPON APPROVAL OF THE ENGINEER. WHERE SIDE FLARES ARE NOT REQUIRED, PROVIDE AN 18" CURB TAPER TO THE FLUSH CURB PER THE DETAIL.
5. LANDING AREA AT THE TOP AND BOTTOM OF THE CURB RAMP (AKA. CLEAR OR TURNING SPACE) MUST BE KEPT CLEAR OF OBSTRUCTIONS. THE LANDING AREA IS TO BE 4' X 4' MINIMUM AND MATCH THE WIDTH OF THE CURB RAMP. INCREASED THE DEPTH OF MINIMUM LANDING AREA TO 5 FEET IF CONSTRAINED AT THE BACK OF THE SIDEWALK.
6. THE LANDING AREA MUST HAVE AN ABSOLUTE MINIMUM SLOPE OF 0.5% AND A MAXIMUM SLOPE OF 2%, WHEREAS 1.0% TO 1.5% IS THE DESIRED DESIGN SLOPE IN THE DIRECTION OF TRAVEL AND FOR THE CROSS SLOPE.
7. SIDEWALK CROSS SLOPE MUST BE A MINIMUM OF 1% AND MAXIMUM 2%, WHEREAS 1.5% IS THE DESIRED DESIGN CROSS SLOPE. SIDEWALK BEYOND LANDING AREA MUST HAVE A MINIMUM 1% TO MAXIMUM 5% OF LONGITUDINAL SLOPE IN THE DIRECTION OF TRAVEL, AND A 1% TO 2% MAX. CROSS SLOPE.
8. FLUSH CURB AT CURB RAMP MUST BE MINIMUM 4' WIDE AND FLUSH WITH PAVEMENT. THE SEGMENT OF FLUSH CURB MUST BE MADE WITH CONCRETE CURB REGARDLESS OF THE CURB MATERIAL USED THROUGHOUT THE SITE.
9. GUTTER SLOPE THE ALONG CURB RAMP MUST MAINTAIN POSITIVE DRAINAGE WITH A 1.0 % TO 1.5% GUTTER SLOPE PREFERRED, WHEREAS 0.5% AS THE ABSOLUTE MINIMUM AND 2.0% IS MAXIMUM ALONG THE LENGTH OF THE FLUSH CURB.
10. CROSSWALKS AND PAVEMENT MARKINGS MUST BE INSTALLED AS DENOTED ON SITE PLAN. CURB RAMP MUST BE WHOLLY CONTAINED WITHIN THE CROSSWALK CROSSING.
11. THE RAMP SURFACE MUST HAVE A SLIP RESISTANT, BROOM FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
12. CONCRETE EXPANSION JOINTS MUST HAVE A FIRM SURFACE WITH ¼" BEVELED CONCRETE EDGES. THE JOINT SURFACE SHALL NOT BE MORE THAN ¼" BELOW THE ADJOINING CONCRETE SURFACE.
13. DETECTABLE WARNING SURFACES ARE TO BE PROVIDED AT CURB RAMPS, BLENDED TRANSITION AT PEDESTRIAN STREET CROSSINGS AND PEDESTRIAN REFUGE ISLANDS WHEN THOSE ARE WITHIN THE PUBLIC RIGHT-OF-WAY, AND WHERE AS SHOWN ON THE PLANS.
14. SEE SEPARATE DETAILS FOR "DETECTABLE WARNING SURFACE" AND "CURB RAMP SECTIONS".

CURB RAMP NOTES

NOT TO SCALE MCNJ-SITE-HADA-2500 07/01/20

ADA INSTRUCTIONS TO CONTRACTOR

MCNJ-SITE-HADA-2600 09/01/22

NOTES:

1. CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAPPED) ACCESSIBLE COMPONENTS FOR THE SITE/PROJECT. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST FEDERAL ADA STANDARDS FOR ACCESSIBLE DESIGN, AND CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY MUST COMPLY WITH THE LATEST FEDERAL PROPOSED "ASSESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY" (PROWAG).
2. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, MUST COMPLY WITH THESE ADA CODE REQUIREMENTS AND ANY SUPPLEMENTAL STATE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

   (NOTE: THIS LIST IS NOT INTENDED TO CAPTURE EVERY APPLICABLE FEDERAL, STATE AND LOCAL RULE AND REGULATION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE LAW, WHETHER OR NOT STATED SPECIFICALLY HEREIN):

   A. PARKING SPACES AND PARKING AISLES - SLOPE MUST NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN ANY DIRECTION.

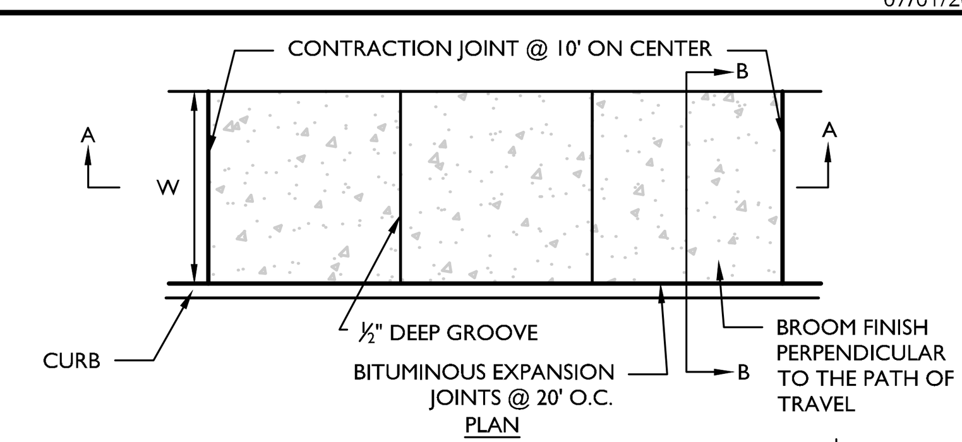
   B. CURB RAMPS- SLOPES MUST NOT EXCEED 1:12 (8.3%).

   C. LANDINGS
      i. LANDINGS AT CURB RAMPS - MUST BE 4 FT. MIN., X 4 FT. MIN. AND ARE TO BE INCREASED TO 5 FEET WHERE THE LANDING SPACE (TURNING SPACE) IS CONSTRAINED AT THE BACK OF THE SIDEWALK.
      ii. LANDINGS AT RAMPS - MUST BE 5 FT MIN. IN THE DIRECTION OF TRAVEL AND BE PROVIDED AT EACH END OF THE RAMP, MUST PROVIDE POSITIVE DRAINAGE (1 % MIN.), AND MUST NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN ANY DIRECTION. WHEN LANDING IS ALSO A TURNING SPACE, IT MUST BE A MINIMUM 5 FT X 5 FT.
      iii. LANDINGS AT DOORWAYS - SEE NOTE F BELOW.

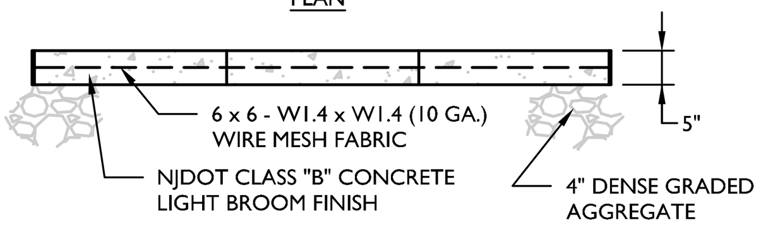
   D. PATH OF TRAVEL ALONG ON-SITE ACCESSIBLE ROUTE - MUST PROVIDE A 36 INCH (EXCLUDING THE CURB) OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS MUST NOT REDUCE THIS MINIMUM WIDTH). IN A PUBLIC RIGHT-OF-WAY, THE MINIMUM WIDTH EXCLUDING THE CURB IS 4 FT. THE SLOPE MUST BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN CROSS SLOPE.

   E. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP, WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM RISE OF 30 INCHES, MUST BE PROVIDED. THE RAMP MUST HAVE A MINIMUM. CLEAR WIDTH OF 36 INCHES, HAVE ADA HAND RAILS AND LANDINGS (MIN. 5 FT. LONG IN THE DIRECTION OF TRAVEL) ON EACH END THAT ARE SLOPED A MIN. 1 % AND NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.

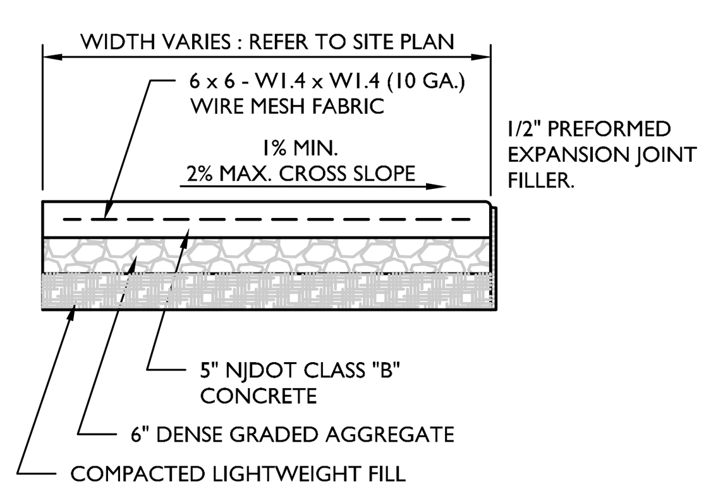
   F. EXTERIOR DOORWAYS - MUST HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA IS GENERALLY 5 FT X 5 FT, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS. (SEE APPLICABLE CODE SECTIONS).
3. IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL, INCLUDING WHETHER OR NOT FALL PROTECTION IS REQUIRED.
4. IT IS RECOMMENDED THAT THE CONTRACTOR CHECK THE SLOPE OF FORMWORK FOR COMPLIANCE WITH ADA STANDARDS PRIOR TO POURING CONCRETE.



PLAN



SECTION A-A



SECTION B-B

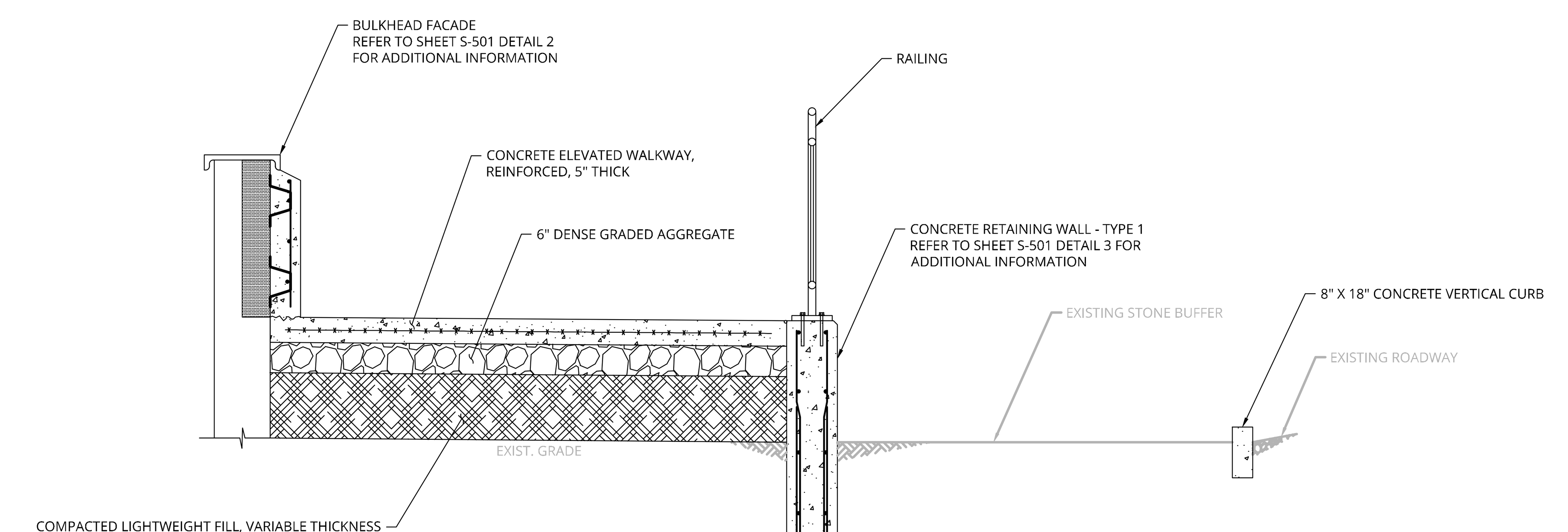
NOTES:

1. ½" EXPANSION JOINT FILLER INSTALLED BETWEEN THE CURB AND CONCRETE SIDEWALK AT 10' MAXIMUM SPACING, RECESS TO ¼" FROM THE TOP OF SIDEWALK.
2. ½" CONTRACTION JOINTS INSTALLED AT AN INTERVAL 24 TO 30 TIMES THE THICKNESS OF THE SLAB, TO A DEPTH OF ¼ OF THE THICKNESS OF THE SLAB, RECESS TO ¼" FROM THE TOP OF SIDEWALK, FOR THE FULL WIDTH OF THE SIDEWALK. SCORE A ¼" GROOVED JOINT HALF WAY BETWEEN THE CONTRACTION JOINTS.
3. JOINT FILLER SHALL CONFORM TO AASHTO M-33. SURFACE OF CONCRETE SHALL BE BROOM FINISH. ROUND EDGES USING AN EDGING TOOL WITH A ¼" RADIUS.
4. CONCRETE SIDEWALK SHALL BE CONSTRUCTED PER THE LATEST ADA REQUIREMENTS.

REINFORCED CONCRETE SIDEWALK DETAIL

MOD: 01/09/25

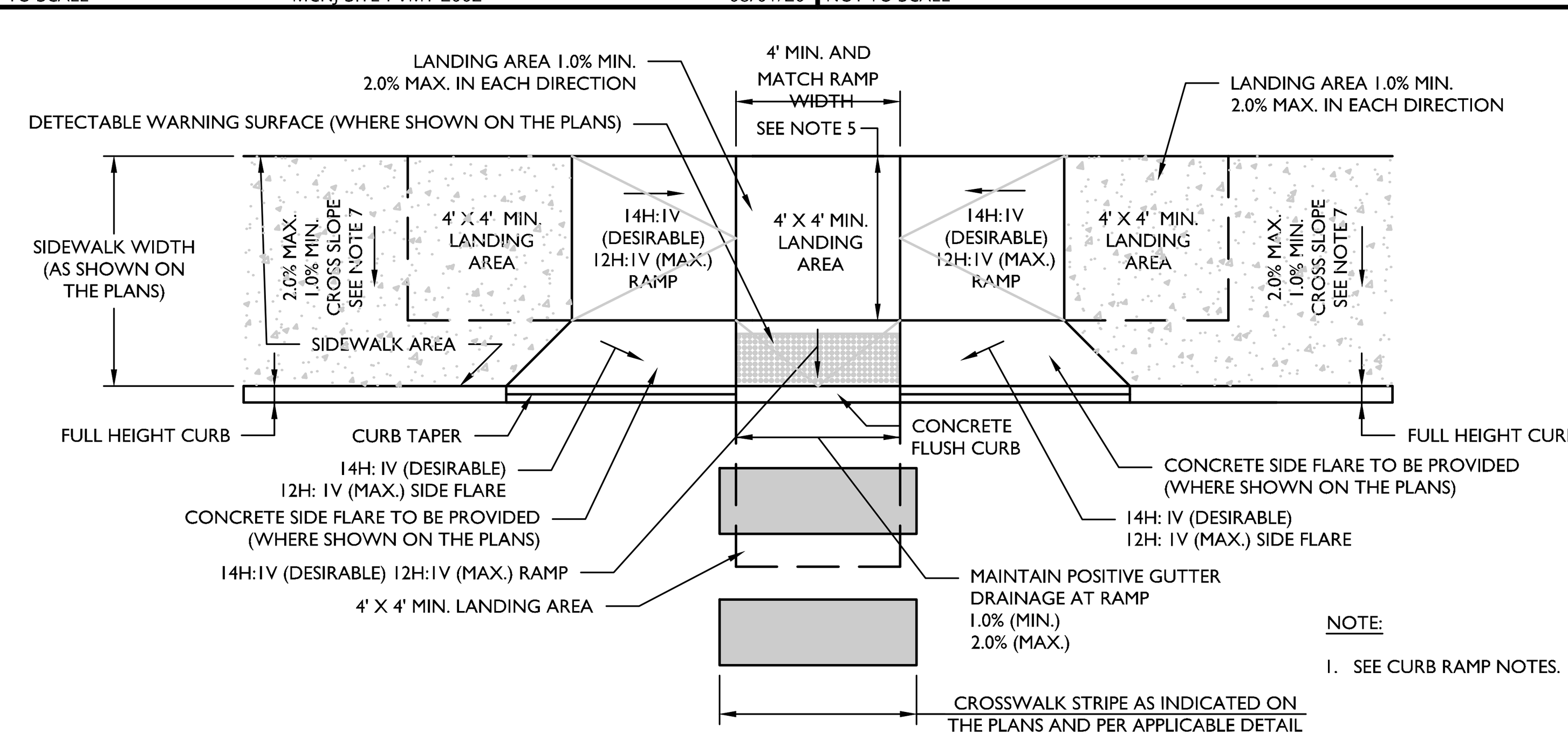
NOT TO SCALE MCNJ-SITE-PVMT-2002 08/01/20



NOTES:
1. REFER TO SHEET S-501 FOR ADDITIONAL INFORMATION.
2. DENSE GRADED AGGREGATE SHALL BE INCLUDED IN THE PRICING OF "CONCRETE ELEVATED WALKWAY, REINFORCED, 5" THICK."
3. COMPACTED FILL SHALL BE ULTRA-LIGHTWEIGHT FOAMED GLASS AGGREGATE, AREOAGGREGATES – FG-G15 AS MANUFACTURED BY AREO AGGREGATES LLC, OR APPROVED EQUAL.

CROSS SECTION B DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID 10/14/24



NOTE:
1. SEE CURB RAMP NOTES.

PLAN

CURB RAMP TYPE 3 DETAIL

NOT TO SCALE MCNJ-SITE-HADA-1200 07/01/20

H:\HIBC0009\Engineering\Site Plans\C-DTLS.dwg\C-4.01-DETAILS By: BHAMMELL

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LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road, Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR
PROJECT NUMBER: HIBC0009	DRAWING NAME: C-DTLS		

SHEET TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: C-502

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

FREEHOLD SOIL CONSERVATION DISTRICT NOTES

MCNJ-SOIL-NOTE-1005 05/01/17

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 PROTECTION IS ESTABLISHED.
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 STOCKPILE OR DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN **FOURTEEN (14) 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 THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, 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 ACCESS 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. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. 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.
15. 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.
16. 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.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. 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 THE PROJECT.

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

MCNJ-SOIL-NOTE-1100

1. SITE PREPARATION
   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 STANDARD FOR LAND GRADING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5 INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING ETC. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
   D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SITE SPECIFIC SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/).
      a. FOR TEMPORARY SEEDING: FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIMING RATE SHALL BE ESTABLISHED PER SOIL TESTING.
      b. FOR PERMANENT SEEDING: FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.
   D. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, 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.). SEE "SOIL DECOMPACTION AND TESTING REQUIREMENTS".
   E. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION AND OTHER DEBRIS SUCH AS WIRE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
3. SEEDING
   A. TEMPORARY SEEDING SPECIFICATIONS - TEMPORARY VEGETATIVE COVER SHALL CONSIST OF PERENNIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUNDS PER 1,000 SQ.FT. (100 LBS/ACRE), OR A MIXTURE FROM TABLE 7-2 OF THE STANDARDS APPROVED BY THE SOIL CONSERVATION DISTRICT.
   B. PERMANENT SEEDING SPECIFICATIONS - SELECT AN APPROVED MIXTURE FROM THOSE LISTED BELOW, AN APPROVED MIXTURE FROM TABLE 4-3 OF THE STANDARDS, OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED. SEED SHALL BE APPLIED AS NOTED BELOW WITHIN THE DATES SPECIFIED IN THE STANDARDS:

1. LAWN AREAS:

	Botanical Name	Common Name
30.00 %	*Festuca arundinacea, 'Fawn'*	Tall Fescue, 'Fawn'
30.00 %	*Lolium perenne, 'Shining Star'*	Perennial Ryegrass, 'Shining Star' (turf type)
15.00 %	*Poa pratensis, 'Shamrock'*	Kentucky Bluegrass, 'Shamrock'
15.00 %	*Poa pratensis, 'Volt'*	Kentucky Bluegrass, 'Volt'
10.00 %	*Lolium multiflorum*	Annual Ryegrass
100.00 %		**Mix Price/**

Seeding Rate: 75-150 lb per acre, or 3-5 lb per 1,000 sq ft

ATHLETIC FIELD MIX BY ERNST CONSERVATION SEEDS OR APPROVED EQUIVALENT.

OPTIMUM SEEDING DATES:
8/15 - 10/30 (ZONE 7A, 7B)

ACCEPTABLE SEEDING DATES:
2/1 - 4/30 (ZONE 7A, 7B)

SUMMER SEEDING DATES * :
5/1 - 8/14 (ZONE 6B, 7A, 7B)

   C. * NOTE: SUMMER SEEDING SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENDURE ESTABLISHMENT BEFORE FREEZING CONDITIONS.
   D. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING 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.
   E. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
   F. 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. (ALSO SEE SECTION 4 - MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.
4. MULCHING
   MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT 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, 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 A LIQUID MULCH-BINDER (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 MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS 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 SHALL 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 A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
      2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
      3. CRIMPER (MULCH ANCHORING COULTER TOOL) - 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 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, HAY OR STRAW MULCH.
         a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
         b. USE ONE OF THE FOLLOWING:
            1) 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 TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
            2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

            NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
   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. MULCH SHALL NOT BE MIXED IN THE TANK WITH 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 MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/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.
5. IRRIGATION (WHERE FEASIBLE):
   IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING:
   NO FOLLOW-UP TOPDRESSING IS MANDATORY UNLESS WHERE GROSS NITROGEN DIFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 LB PER ACRE OR 7 LB PER 1,000 SF EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION:
   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 RATES IN TABLE 4-2 ARE 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. THESE RATES APPLY TO ALL METHODS OF SEEDING. **ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE**. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

STABILIZATION WITH MULCH ONLY

MCNJ-SOIL-NOTE-1301 05/01/17

1. SITE PREPARATION

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 GRADING.

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. UNROTTEN SMALL-GRAIN STRAW, AT 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 CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.

B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.

C. WOOD-FIBER OR PAPER-FIBER MULCH HYDROSEEDER IN QUANTITIES/APPLICATION RATES AS RECOMMENDED BY MANUFACTURER.

D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.

E. 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 INTO AN INLET AND PLUG IT.

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 OF THE SLOPES.

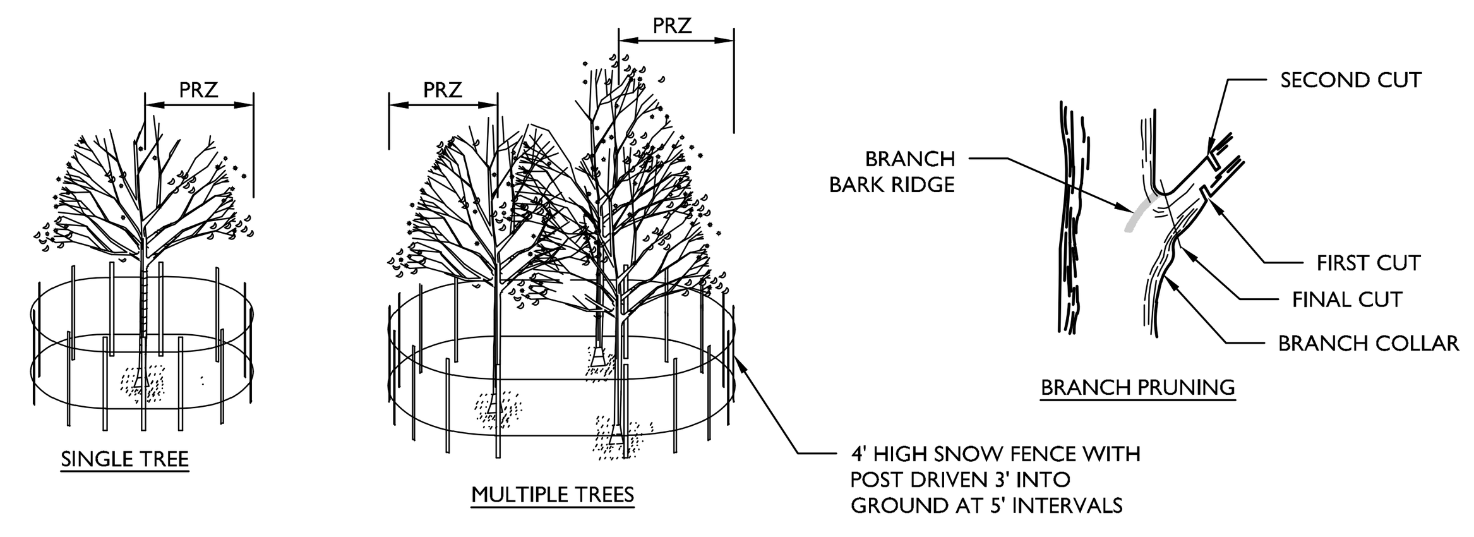
A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.

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 THE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON A SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.

D. LIQUID MULCH-BINDERS

1. 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 APPERANCE.
2. USE ONE OF THE FOLLOWING:
   a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS 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 PHYTO-TOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
   b. SYNTHETIC BINDERS - HIGH POLYMERS 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.

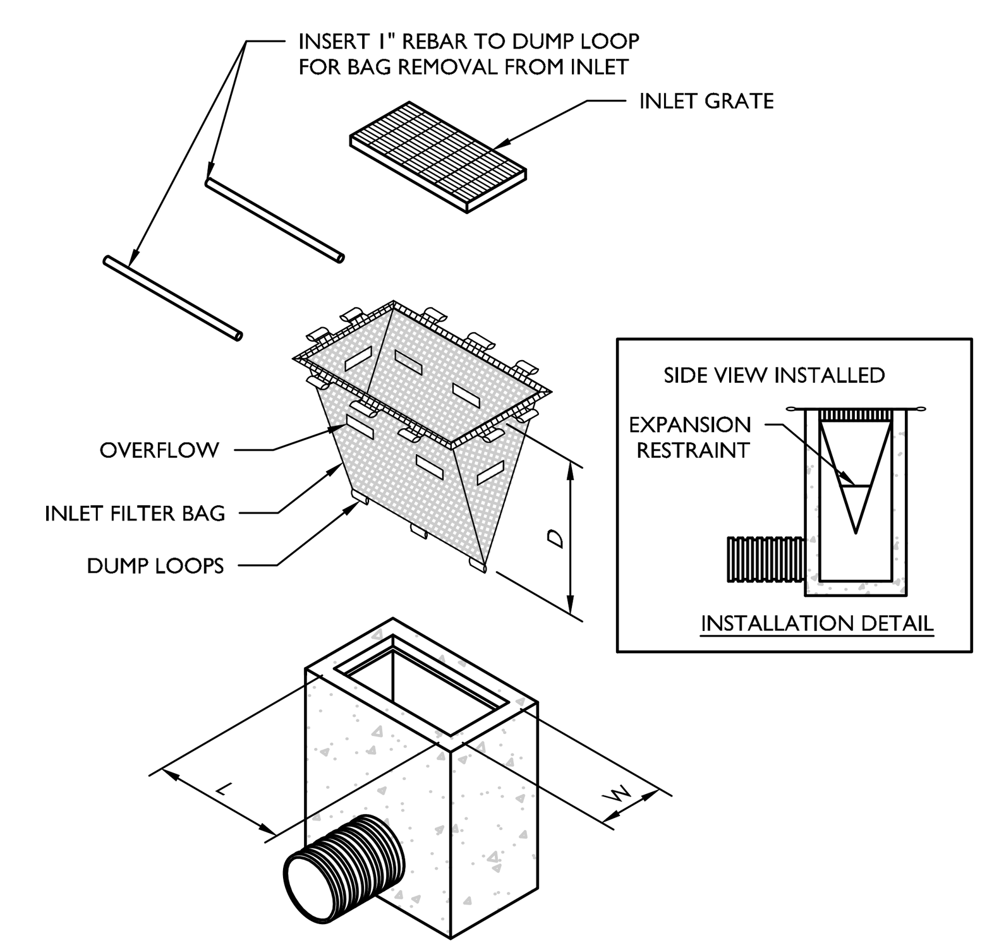


NOTES:

1. PROTECTIVE FENCING IS TO BE ERECTED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION AS DIRECTED BY THE LANDSCAPE ARCHITECT, SOIL CONSERVATION DISTRICT AND/OR MUNICIPAL ENGINEER.
2. NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN THE PROTECTIVE FENCING.
3. AS CONSTRUCTION NEARS COMPLETION THE FENCING WILL BE REMOVED AS DIRECTED.
4. AT THE COMPLETION OF CONSTRUCTION, ALL TREES WILL BE PRUNED AS NECESSARY TO CORRECT ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY.
5. GENERAL MECHANICAL DAMAGE - SEE CRITICAL ROOT ZONE CALCULATION (CRZ) FOR CORRECT PLACEMENT OF TREE PROTECTION.
6. BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED BEYOND THE CRITICAL ROOT ZONE.
7. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
8. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE PROTECTED ROOT ZONE (PRZ) OR CRITICAL ROOT ZONE (CRZ). TREE ROOT SYSTEM COMMONLY EXTEND BEYOND THE DRIP LINE.
9. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHOULD BE COVERED WITH TOPSOIL IMMEDIATELY AFTER EXCAVATION IS COMPLETE. ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR CERTIFIED TREE EXPERT.
10. TREE LIMB REMOVAL WHERE NECESSARY, WILL BE DONE AS NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO FAR BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS AND ROT. REMOVAL OF A "V" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.
11. CRITICAL ROOT ZONE (CRZ) OR PROTECTED ROOT ZONE (PRZ) CALCULATION:
    MEASURE DHB OF THE TREE (DIAMETER OF TREE IN BREAST HEIGHT OR 4.5' ABOVE GROUND ON THE UPHILL SIDE) IN INCHES.
    CRZ OR PRZ = DHB TIMES 1.5 (FOR OLD/UNHEALTHY/SENSITIVE TREES) OR DHB X 1.0 (FOR YOUNG/HEALTH/TOLERANT TREES), EXPRESS IN FEET.

TEMPORARY TREE PROTECTION DETAIL

NOT TO SCALE MCNJ-SOIL-EROS-2100 05/01/17



INLET PROTECTION (FILTER BAG) DETAIL

NOT TO SCALE MCNJ-SOIL-EROS-1500 09/01/17

NOTES FOR ROAD WORK

MCNJ-SOIL-NOTE-1900 MOD: 06/12/18 05/01/17

1. ANY AREAS USED FOR THE CONTRACTOR'S STAGING, INCLUDING BUT NOT LIMITED TO, TEMPORARY STORAGE OF STOCKPILED MATERIAL (E.G. CRUSHED STONE, QUARRY PROCESS STONE, SELECT FILL, EXCAVATED MATERIALS, ETC.) SHALL BE ENTIRELY PROTECTED BY A SILT FENCE ALONG THE LOW ELEVATION SIDE TO CONTROL SEDIMENT RUNOFF.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE FREEHOLD SOIL CONSERVATION DISTRICT OF ANY STAGING AND/OR STOCKPILE LOCATION AREAS AND FOR OBTAINING A SOIL EROSION AND SEDIMENT CONTROL CERTIFICATION FOR THESE AREAS.
3. A CRUSHED STONE, VEHICLE WEEL-CLEANING BLANKET SHALL BE INSTALLED AT THE CONTRACTOR'S STAGING YARD AND/OR STOCKPILE AREAS TO PREVENT OFF-SITE TRACING OF SEDIMENT BY CONSTRUCTION VEHICLES ONTO PUBLIC ROADS. BLANKET SHALL BE 15 FT. X 50 FT. X 6 IN. (MINIMUM), CRUSHED STONE 2-1/2 INCHES IN DIAMETER. SAID BLANKET SHALL BE UNDERLAIN WITH SUITABLE SYNTHETIC SEDIMENT FILTER FABRIC AND MAINTAINED IN GOOD ORDER.

DUST CONTROL

MCNJ-SOIL-NOTE-1400 MOD: 01/15/20 05/01/17

DUST CONTROL METHODS:

1. APPLY MULCHES OR VEGETATIVE COVER AS PER NJ SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
2. TILL AND ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
3. SPRINKLE THE SITE UNTIL THE SURFACE IS WET.
4. ERECT BARRIERS SUCH AS SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL TO CONTROL AIR CURRENTS AND SOIL BLOWING.
5. APPLY CALCIUM CHLORIDE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. NOT SUITABLE ON STEEPER SLOPES NEAR THE STREAMS OR POTENTIALLY ACCUMULATE AROUND PLANTS.
6. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
7. USE SPRAY-ON ADHESIVE ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. MATERIALS AS FOLLOWS:

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) - SPRAY ON POLYACRYLAMIDE (PAM) - DRY SPREAD	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD, P. 26-1		
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

CONSTRUCTION SEQUENCE

MCNJ-SOIL-NOTE-1501 MOD: 02/09/18 05/01/17

EXACT TIMING FOR DEVELOPMENT OF THIS PROJECT IS NOT KNOWN AT THIS TIME. HOWEVER, IT IS ANTICIPATED THAT CONSTRUCTION WILL COMMENCE IN 2022 AND WILL PROCEED IMMEDIATELY AND CONTINUOUSLY ONCE THE REQUIRED APPROVALS ARE SECURED. ITEMS AND DURATIONS OF CONSTRUCTION WILL OCCUR APPROXIMATELY AS FOLLOWS:

PHASE	DURATION
1. SITE PREPARATION	1 WEEK
2. TEMPORARY SOIL EROSION CONTROLS	IMMEDIATELY
3. MAINTENANCE OF SOIL EROSION CONTROLS	CONTINUOUS
4. CURB CONSTRUCTION	1 WEEKS
5. SIDEWALK & BULKHEAD CONSTRUCTION	1 WEEKS
6. MILLING & PAVEMENT CONSTRUCTION	1 WEEK
7. PERMANENT VEGETATIVE COVER	IMMEDIATELY

*TEMPORARY SEEDING SHALL ALSO BE PERFORMED WHEN NECESSARY IN ACCORDANCE WITH THE STANDARD FOR VEGETATIVE COVER.

NOTES:

1. CONCRETE WASHOUTS ARE REQUIRED ON ALL CONSTRUCTION SITES INVOLVING CONCRETE AND STUCCO USE:
2. THE CONTRACTOR SHALL REQUIRE ALL CONCRETE DRIVERS TO UTILIZE THE CONCRETE WASHOUTS ONSITE.
3. WASHOUT FACILITIES SHALL BE LOCATED AT LEAST 50 YARDS AWAY FROM STORM SEWER DRAIN INLETS, GUTTERS, OPEN DITCHES, AND WATER COURSES.
4. APPROPRIATE STONE SHOULD COVER PATHS TO CONCRETE WASHOUT.
5. THE NUMBER OF CONCRETE WASHOUTS DEPENDS ON THE EXPECTED DEMAND FOR STORAGE CAPACITY. LARGE SITES WITH EXTENSIVE CONCRETE WORK SHALL BE PLACED AT MULTIPLE LOCATIONS FOR USE BY CONCRETE TRUCK DRIVERS.
6. CONCRETE WASHOUT AREAS SHALL BE IDENTIFIED BY POSTING SIGNS ONSITE.
7. CONCRETE WASHOUTS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR FOR LEAKS OR TEARS IN PLASTIC LINER.
8. REMOVE AND DISPOSE OF ALL MATERIAL WHEN THE WASHOUT HAS BEEN FILLED TO 75% CAPACITY.
9. PRIOR TO ANY RAINFALL, ALL CONCRETE WASHOUTS ARE TO BE CLEANED OUT OR COVERED.
10. ONCE THE MATERIAL HAS BEEN CLEANED OUT OF THE CONCRETE WASHOUT FACILITY, THE FACILITY MUST BE INSPECTED FOR REPAIR, RECONSTRUCTION OR REPLACEMENT. ALL PLASTIC LINING SHALL BE REMOVED AND REPLACED.
11. PRE-FABRICATED OR ONSITE FABRICATED CONCRETE WASHOUTS MAY BE USED.
12. OPTIONS FOR ONSITE CONCRETE WASHOUTS:
    A. DIG A PIT AND LINE WITH 10 MIL PLASTIC SHEETING.
    B. CREATE AN ABOVE-GROUND STRUCTURE FROM STRAW BALES OR SANDBAGS, WITH 10 MIL PLASTIC LINING.

CONCRETE WASHOUT NOTES

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Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road,
Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER:	DRAWING NAME:
HIBC0009	C-SESC

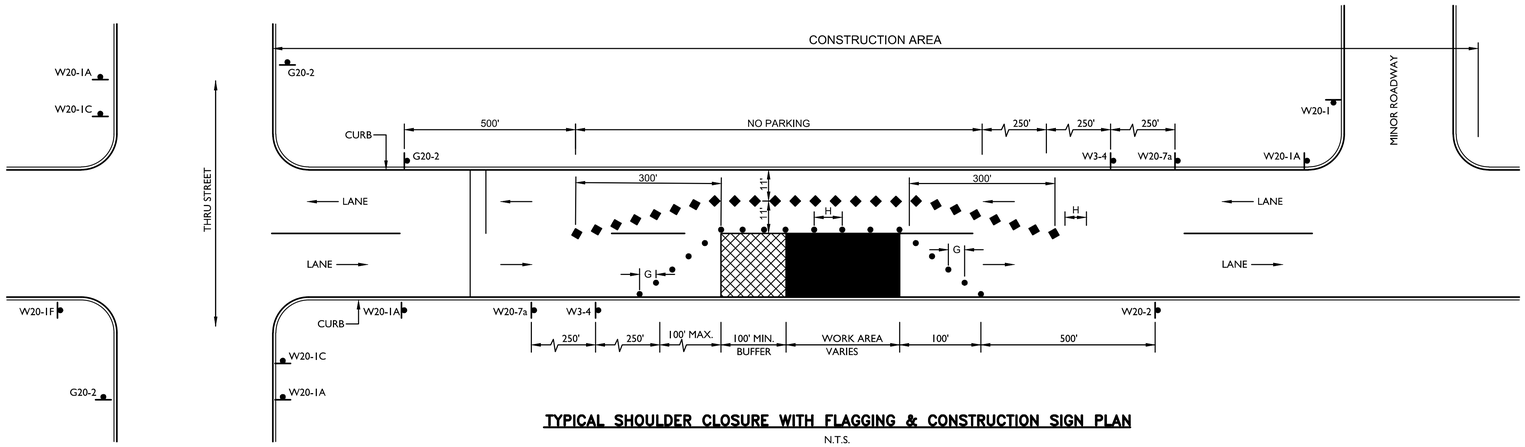
SHEET TITLE:
SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-503

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

NOTES

1. THE CONTRACTOR SHALLL NOTIFY THE POLICE DEPARTMENT AND ENGINEER 72 HOURS IN ADVANCE OF CONSTRUCTION.
2. ALL CONSTRUCTION SIGNS AND SAFETY EQUIPMENT SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. ALL CONSTRUCTION SIGNS AND SAFETY EQUIPMENT SHALL REMAIN IN PLACE AS DIRECTED BY THE ENGINEER FOR THE DURATION OF THE CONSTRUCTION PROJECT.
4. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION TO VEHICLE OPERATORS SHALL BE REMOVED BY GRINDING OR OBLITERATED AS SOON AS PRACTICABLE.
5. ACCESS TO DRIVEWAYS AND SIDE STREETS FROM BOTH APPROACHES SHALL BE MAINTAINED AT ALL TIMES.
6. TRENCHES ARE TO BE COVERED AT THE END OF EACH DAY OF WORK.
7. STREET INTERSECTING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE SIGN (W20-1F, ROAD CONSTRUCTION AHEAD) AS A MINIMUM.
8. POLICE TRAFFIC DIRECTORS OR TRAFFIC DIRECTORS SHALL BE USED TO ASSIST IN CONTROLLING TRAFFIC AT INTERSECTIONS.
9. 100' BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE THERE SHALL BE A W1-6 MOUNTED ON A BREAKAWAY BARRICADE CENTERED ON THE CLOSED WIDTH.
10. ADVANCE WARNING SIGNS AND TAPERS MAY BE EXTENDED AS SIGHT DISTANCES REQUIRE TO ADJUST FOR REDUCED VISIBILITY DUE TO THE HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
11. CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) SHALL BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
12. TRAFFIC FINES DOUBLED IN WORK AREA - R(NJ)5-17 SHALL BE LOCATED 500 FEET AFTER FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA.
13. A REDUCED SPEED AHEAD SIGN, R2-5a(S) (BLACK ON WHITE) SHALL BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 OR W13-1 SIGNS, WHICH REDUCES THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.
14. CONSTRUCTION SIGNS W8-9A AND W8-14A SHALL BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST. THE PLACEMENT OF THESE SIGNS SHALL BE DONE AS DIRECTED BY THE ENGINEER.



TYPICAL SHOULDER CLOSURE WITH FLAGGING & CONSTRUCTION SIGN PLAN

N.T.S.

TRAFFIC CONTROL LEGEND

- BREAKAWAY BARRICADES
- BREAKAWAY BARRICADES WITH SIGN
- CONSTRUCTION SIGNS
- DRUMS
- CONE
- PRECAST CONCRETE CURB CONSTRUCTION BARRIER (TYPE SPECIFIED)
- DIRECTION OF TRAFFIC FLOW
- FLAGGER
- ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING BAR PATTERN
- ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING ARROW PATTERN
- TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING ARROW PATTERN
- TEMPORARY CRASH CUSHION, INERTIAL BARRIER SYSTEM
- TEMPORARY CRASH CUSHION, (G.R.E.A.T., QUAD GUARD OR ADIEM)
- BUFFER ZONE
- WORK AREA
- PAINT STRIPING TRUCK OR OTHER OPERATING VEHICLE

DISTANCE LEGEND

SIGN NUMBER FOLLWED BY

LETTER	DISTANCE
A	1500'
B	1000'
C	500'
D	1/2 MILE
E	_ MILES AHEAD
F	AHEAD

WARNING SIGN LAYOUT – TYPICAL CONDITION

N.T.S.

DURING CONSTRUCTION THE LENGTH OF LANE SHIFT AND SPACING OF TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE TABLE LISTED BELOW

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS						RECOMMENDED SPACING ALONG TANGENTS
APPROACH SPEED OF TRAFFIC IN MILES/HOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH FOR LATERAL SHIFT OF			MAXIMUM DEVICE SPACING ALONG TAPER IN FEET (G)	MAXIMUM DEVICE SPACING ALONG TAPER IN FEET (H)
		10 FT	11 FT	12 FT		
25	10 1/2:1	105	115	125	25	50
30	15:1	150	165	180	30	60
35	20 1/2:1	205	225	245	35	70
40	27 1/2:1	275	300	330	40	80
45	45:1	450	495	540	45	90
50	50:1	500	550	600	50	100
55	55:1	550	605	660	55	110

LANE SHIFT LENGTHS AND CONTROL DEVICE SPACING TABLE

NOTE: DEVICES AND LANE SHIFT LENGTHS SHOWN ALSO APPLY TO LANE CLOSURE REQUIREMENTS

CONTRACTOR TAKE NOTICE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A TRAFFIC DETOUR PLAN TO BE USED DURING PAVING OPERATIONS AND OBTAINING APPROVAL FROM THE BOROUGH POLICE DEPARTMENT AND BOROUGH ENGINEER. THIS TRAFFIC CONTROL PLAN SERVES FOR USE WHEN THE CONTRACTOR IS ENGAGED IN CONCRETE WORK, DRAINAGE INSTALLATION, PAVEMENT BASE REPAIRS, ETC.

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Joseph Raftery
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N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
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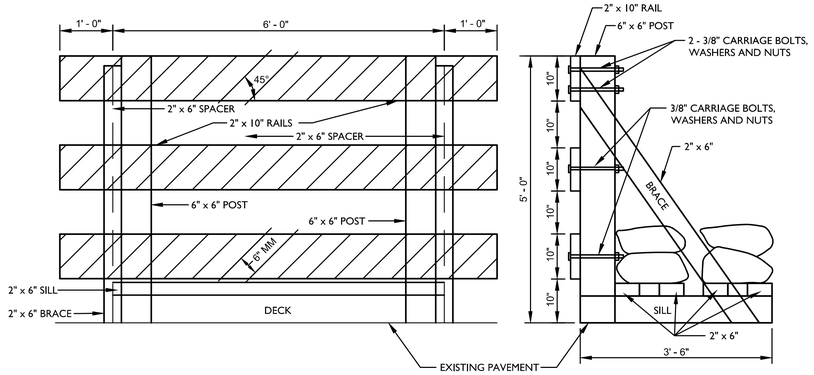
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER: HIBC0009
DRAWING NAME: C-DTLS-TRAF

SHEET TITLE: TRAFFIC DETAILS

SHEET NUMBER: C-504

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



BARRICADE TYPE IIIA

N.T.S.

CD-617-1.1

NOTES:

1. LUMBER USED SHALL BE YELLOW PINE OR FIR NO. 1 COMMON S4S, EXCEPT 12"x12" TIMBERS.

2. RAILS ARE TO BE PAINTED ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE OR RETROREFLECTIVE SHEETING, TYPE II, OR IIIA MAY BE UTILIZED MEETING REQUIREMENTS SPECIFIED FOR CONSTRUCTION SIGNS. OTHER PARTS TO BE PAINTED WHITE, 3 COATS.

3. THE ORANGE AND WHITE STRIPES SHALL BE REFLECTORIZED SO AS TO BE VISIBLE UNDER NORMAL ATMOSPHERIC CONDITIONS FROM A MINIMUM DISTANCE OF 1,000 FEET WHEN ILLUMINATED BY THE LOW BEAMS OF STANDARD AUTOMOBILE HEADLIGHTS.

4. THE 18"x24" SANDBAGS SHALL BE FABRICATED FROM POLYPROPYLENE AND SHALL HAVE A CAPACITY OF 1 CU. FT. SANDBAG PLACEMENT MAY BE ADJUSTED AT THE DIRECTION OF THE ENGINEER.

5. BARRICADE, TYPE IIIA SHALL BE FABRICATED OF WOOD OR METAL. RAILS MAY BE CONSTRUCTED OF WOOD, METAL OR PLASTIC. IF WOOD IS USED, SPACERS, BRACES, SILL AND DECK TO BE FASTENED WITH 40 SPIKES. HOLES TO BE BORED IN PLANKS FOR ALL SPIKES.

IMPORTANT

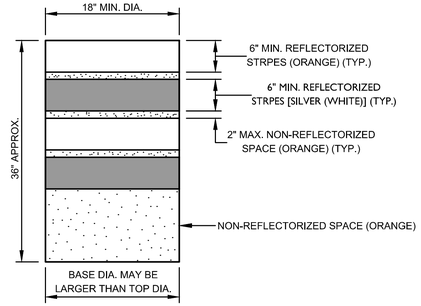
NOTE:

BARRICADE, TYPE IIIA SHALL BE NOT BE USED IN ANY AREA WHERE CONTACT WITH PUBLIC VEHICULAR TRAFFIC IS POSSIBLE. OPEN EXCAVATION AREAS AND OTHER SIMILAR SITUATIONS MAY REQUIRE BARRICADES TYPE IIIA AND THEIR USE SHALL BE ONLY UPON DIRECTION.

DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE ORANGE AND SILVER (WHITE)) REFLECTORIZED STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. STRIPES SHALL BE RETRO- REFLECTIVE SHEETING, TYPE III-B. THE TOP OF THE DRUM SHALL NOT BE OPEN.

DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS A 18" DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED IF APPROVED BY THE BUREAU OF MATERIALS.

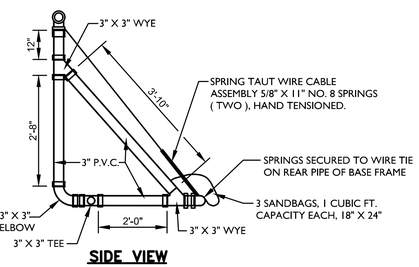


WHEN BALLAST IS REQUIRED BY THE ENGINEER, SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS AND BE LOCATED APPROXIMATELY AT GROUND LEVEL.

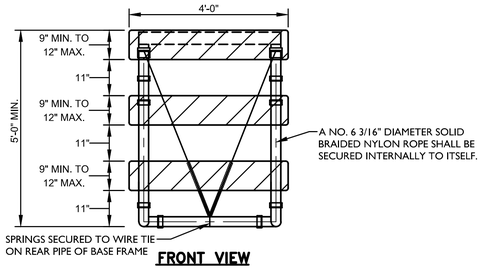
DRUM DETAIL

N.T.S.

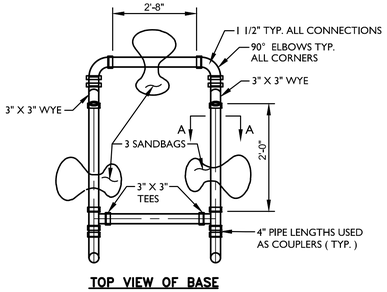
CD-617-1.2



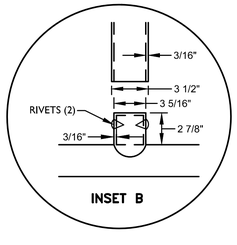
SIDE VIEW

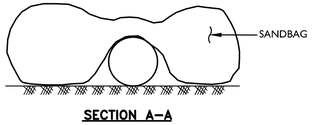


FRONT VIEW



TOP VIEW OF BASE

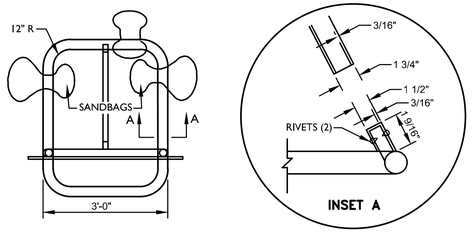


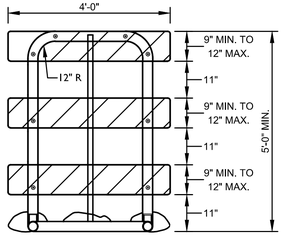


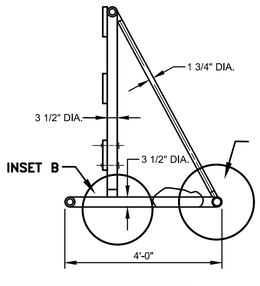
SECTION A–A

PIPE SHALL BE WHITE PVC SCHEDULE 40 ASTM D 1785 OR PVC, SDR-26 ASTM D 2241. FITTINGS SHALL BE WHITE PVC OR ABS OF MATCHING WALL THICKNESS AND INSIDE DIAMETER AND MEETING THE MATERIALS, REQUIREMENTS AND TESTING SECTIONS OF ASTM D 2466 FOR PVC AND ASTM D 2468 FOR ABS. ALL JOINTS SHALL BE SLIP FIT AND NOT THREADED OR CEMENTED. PVC FITTINGS MEETING ASTM D 2665 WILL ALSO BE ACCEPTABLE. PVC OR ABS MATERIAL SHALL BE ULTRAVIOLET LIGHT STABILIZED.

TYPE III. PE







THE BASE AND UPRIGHT SHALL BE 3 1/2" DIA. ROTATIONALLY MOLDED POLYETHYLENE PLASTIC CONFORMING TO ASTM D 1248-II A3-E4. THE BRACE SHALL BE 1 3/4" DIA. EXTRUDED POLYETHYLENE PLASTIC CONFORMING TO ASTM D 1248-III A4. POLYETHYLENE PLASTIC SHALL BE WHITE AND SHALL BE ULTRA-VIOLET LIGHT STABILIZED.

TYPE III. PE

NOTES:

1. THE 9" MIN. x 48", OR 12" MAX. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.024" ANODIZED ALUMINUM OR 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO.14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.

2. ORANGE AND SILVER (WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, TYPE II OR III-A, AS SHOWN FOR CONSTRUCTION SIGNS.

   ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.

3. THE 18" X 24" SANDBAGS SHALL BE FABRICATED FROM POLYPROPYLENE AND SHALL HAVE A CAPACITY OF 1 CUBIC FOOT. PLACEMENT OF SANDBAGS SHALL BE AS SHOWN ABOVE.

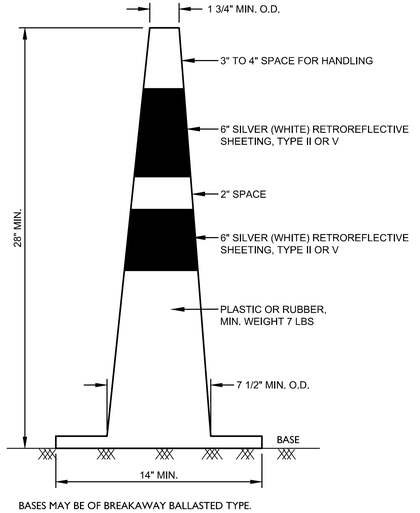
4. SANDBAG PLACEMENT MAY BE ADJUSTED AT THE DIRECTION OF THE ENGINEER. ALL DIMENSIONS ON FULL PIPE LENGHT. 5. EITHER TYPE III, PE OR TYPE III, PVC CAN BE USED AT THE OPTION OF THE CONTRACTOR.

BREAKAWAY BARRICADE DETAILS

N.T.S.

CD-617-1.3

TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.



BASES MAY BE OF BREAKAWAY BALLASTED TYPE.

MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

TRAFFIC CONE DETAIL

N.T.S.

CD-617-1.4

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design

HOLMDEL (Headquarters)
101 Crawfords Corner Road, Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

PROJECT NUMBER:	DRAWING NAME:
HIBC0009	C-DTLS-TRAF

SHEET TITLE:

TRAFFIC DETAILS

SHEET NUMBER:

C-505

H:\HIBC0009\Engineering\Site Plans\C-DTLS-TRAF.dwg|C-LO1 (DETAIL)-TRAFFIC By: BHAMMEL

G20 - 1
60" x 36"
(15 S.F.)

M4 - 8a
24" x 18"
(15 S.F.)

R11 - 4
60" x 30"
(12.5 S.F.)

W3 - 4
36" x 36"
(9 S.F.)

(L OR R)
(CENTER)
W20 - 5
36" x 36"
(9 S.F.)

W8 - 1
36" x 36"
(9 S.F.)

G20 - 2
36" x 18"
(4.5 S.F.)

R2 - 1
24" x 30"
(5 S.F.)

R2 - 1 (S)
36" x 48"
(12 S.F.)

(L OR R)
W1 - 4
36" x 36"
(9 S.F.)

W13 - 1P
18" x 18"
(2.3 S.F.)

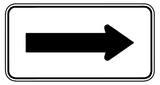
W13 - 1 (S)
24" x 24"
(4 S.F.)

W20 - 7b
36" x 36"
(9 S.F.)

W8 - 17
36" x 36"
(9 S.F.)

M4 - 9L (LEFT)
M4 - 9R (RIGHT)
30" x 24"
(5 S.F.)
M4 - 9 (L OR R) (S)
48" x 36"
(12 S.F.)

W3 - 5a
36" x 36"
(9 S.F.)



(L OR R)
W1 - 6
48" x 24"
(8 S.F.)

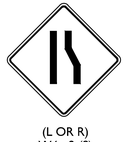
W1 - 6 (S)
60" x 30"
(12.5 S.F.)

W20 - 1A
36" x 36"
(9 S.F.)

W21 - 5 (S)
36" x 36"
(9 S.F.)

M4 - 9LX (LEFT)
M4 - 9RX (RIGHT)
30" x 24"
(5 S.F.)
M4 - 9 (L OR R) XS
48" x 36"
(12 S.F.)

R4 - 1
24" x 30"
(5 S.F.)



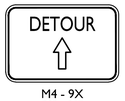
(L OR R)
W4 - 2 (S)
36" x 36"
(9 S.F.)

W20 - 2
36" x 36"
(9 S.F.)

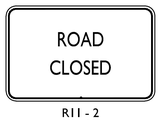
M4 - 9NP
30" x 12" MIN.
(2.5 S.F. MIN.)
(SIZE WILL VARY WITH
LENGTH OF STREET NAME)

STREET NAME SIGN TO BE
USED IN CONJUCTION WITH
M4 - 9 SIGNS BLACK ON ORANGE

W8 - 15
36" x 36"
(9 S.F.)



M4 - 9X
30" x 24"
(5 S.F.)
M4 - 9X (S)
48" x 36"
(12 S.F.)



R11 - 2
48" x 30"
(10 S.F.)

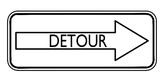
W5 - 1 (S)
36" x 36"
(9 S.F.)

W20 - 3
36" x 36"
(9 S.F.)

24" x 24"
(4 S.F.)
30" x 30"
(6.3 S.F.)

36" x 36"
(9 S.F.)

NOTE: THE BORDER, THE WORDS "GIVE US A ", "SLOW DOWN!, AND THE BRAKE PEDAL ARE BLACK; LEAVING THE WORD "BRAKE" ORANGE



M4 - 10L (LEFT)
M4 - 10R (RIGHT)
48" x 18"
(6 S.F.)

R11- 3a
60" x 30"
(12.5 S.F.)

W6 - 3
36" x 36"
(9 S.F.)

W20 - 4
36" x 36"
(9 S.F.)

24" x 24"
(4 S.F.)
30" x 30" (S)
(6.3 S.F.)

CONSTRUCTION SIGNS
N.T.S.

GENERAL NOTES:
1. DIMENSIONS, COLORS AND DETAILS OF VARIOUS SIZE SIGNS AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGN PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".

2. (S) REPRESENTS A SPECIAL SIZE SIGN.

3. LETTERS AND NUMERALS SHALL CONFORM TO THE CURRENT MANUAL " STANDARD ALPHABETS FOR HIGHWAY SIGNS" U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

4. THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ENGINEER FOR THE DISTANCE TO BE USED ON THE ADVANCE WARNING SIGNS, AND FOR THE SPEED LIMIT TO BE USED ON THE R2-1 SIGN.

5. DISTANCE LEGEND

SIGN NUMBER FOLLOWED BY LETTER	DISTANCE
A	1500'
B	1000'
C	500'
D	MILE
E	___ MILES AHEAD
F	AHEAD

BACKING MATERIAL

1. ALUMINUM SHALL BE FLAT SHEET OF ALLOY 5052-H38 OR 6061-T6 ALLOY, 0.100" GAUGE.

TEMPORARY SIGN SUPPORTS

1. SIGN SUPPORTS SHALL BE OF WELL SEASONED LUMBER, S4S, FREE OF SPLITS, KNOTS AND WARPS OR, OF STEEL COMPONENTS.

2. WOOD POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL NOT EXCEED THE FOLLOWING DIMENSIONS FOR:

SINGLE POSTS = 4" x 6";
TWO POSTS = 3" x 6" OR 4" x 5";
THREE POSTS = 3" x 5" OR 4" x 4"

4" x 6" WOOD POSTS SHALL BE MODIFIED BY DRILLING 1 1/2" DIAMETER HOLES 4" AND 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.

3. NO BRACING IS PERMITTED. VERTICAL CLEARANCES FOR SIGNS MOUNTED ON WOOD SUPPORTS SHALL BE 7' MINIMUM. ENBEDMENT DEPTH FOR THE WOOD POST SHALL NOT EXCEED 3.5'.

4. STEEL POSTS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR U-POST SIGN SUPPORT.

5. TEMPORARY SIGN SUPPORTS NOT MEETING THIS CRITERIA SHALL BE SHIELDED BY A LONGITUDINAL BARRIER OR CRASH CUSHIONS.

SIGN FACES

1. SIGN FACES SHALL BE RETROREFLECTIVE SHEETING, TYPE 11 OR 111A, EXCEPT FOR THE W20 SERIES AND W4 - 2 SIGN FACES WHICH SHALL BE TYPE IV-B SHEETING.

FASTENING

1. ALL SIGNS SHALL BE SECURELY FASTENED TO THEIR SUPPORTS WITH BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH THE SPECIFICATIONS.

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CONSTRUCTION PLAN

FOR

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B: 78,77, L: 9.01,7,13,12,11, 10
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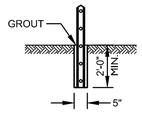
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

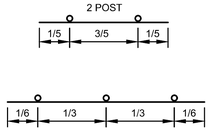
PROJECT NUMBER: HIBC0009
DRAWING NAME: C-DTLS-TRAF

SHEET TITLE: TRAFFIC DETAILS

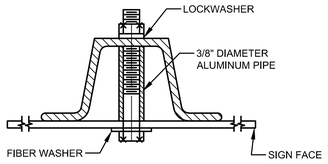
SHEET NUMBER: C-506



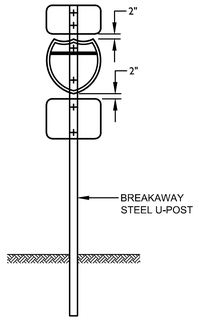
ROCK INSTALLATION
N.T.S.



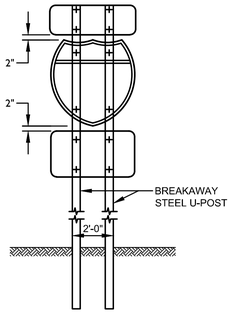
STEEL U-POST SPACING
N.T.S.



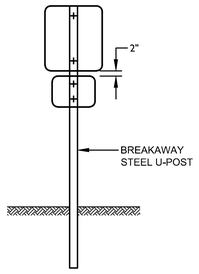
FRONT MOUNT
N.T.S.



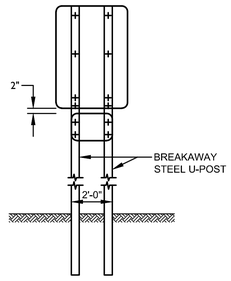
36" x 36" SHIELD



36" x 36" SHIELD



30" x 30" OR SMALLER

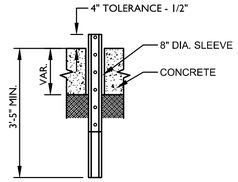


36" x 36" OR LARGER

PANEL SIZE (W x H)	# OF POSTS	POST SIZE (KG/M)
18" x 18"	1	2.5
18" x 24"	1	2.5
24" x 24"	1	2.5
24" x 30"	1	2.5
24" x 36"	1	2.5
30" x 24"	1	2.5
30" x 30"	1	2.5
36" x 12"	2	2.5
36" x 36" x 36"	2	2.5
30" x 36"	1	4.0

PANEL SIZE (W x H)	# OF POSTS	POST SIZE (KG/M)
36" x 36"	2	2.5
36" x 48"	2	2.5
45" x 36"	2	2.5
48" x 24"	2	2.5
48" x 36"	2	2.5
48" x 48"	2	4.0
48" x 64" x 64"	2	2.5
60" x 36"	2	4.0
48" x 60"	2	4.0
60" x 30"	2	4.0

POST SELECTION TABLE
BREAKAWAY SIGN SUPPORT



CONCRETE INSTALLATION
N.T.S.

GENERAL NOTES:

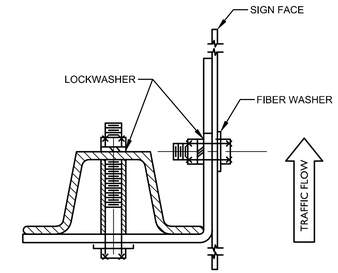
1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND AS INDICATED BELOW.
2. ALL SMALL SIGN SUPPORTS SHALL BE OF THE BREAKAWAY TYPE WITH EXCEPTION OF THOSE INSTALLED BEHIND GUIDE RAIL OR OTHER ROADSIDE BARRIER.
3. ALL STEEL POSTS AND BRACKETS SHALL BE CUT, BENT AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. A 123.
4. ALL STEEL U-POST SIGN SUPPORTS MUST BE INSTALLED FACING THE PREDOMINANT TRAFFIC FLOW. A MOUNTING BRACKET SHOULD BE USED ON SIDE MOUNTED SIGNS SUCH AS "ONE WAY" SIGNS INSTALLED IN MEDIANS.
5. SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBER AS SHOWN ON THIS DETAIL.
6. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT, BUT SHALL ENGAGE ALL THREADS IN THE NUT.
7. WHEN SIGNS ARE INSTALLED ON SLOPES 1:10 OR FLATTER THE MINIMUM VERTICAL CLEARANCE REQUIREMENTS FOR SIGNS ARE:
   FOR SINGLE POST INSTALLATIONS THE MINIMUM DISTANCE BETWEEN THE EDGE OF THE PAVEMENT AND THE BOTTOM OF ANY PANEL MUST BE 7 FEET AND THE MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO THE TOP OF ANY SIGN PANEL MUST BE 9 FEET.

   FOR MULTI-POST INSTALLATIONS THE MINIMUM DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF A MAJOR SIGN PANEL MUST BE 7 FEET.

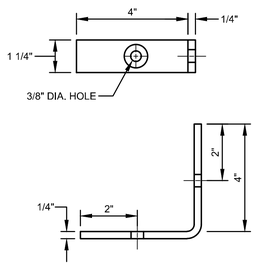
   SECONDARY SIGN PANELS
   LAND SERVICE HIGHWAYS:
   THE MINIMUM DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF A SECONDARY SIGN PANEL IS 6 FEET.

   FOR INTERSTATE AND FREEWAYS:
   THE BOTTOM OF THE MAJOR SIGN SHALL BE A MINIMUM OF 8 FEET AND THE SECONDARY SIGN PANEL A MINIMUM OF 5 FEET ABOVE THE EDGE OF PAVEMENT.

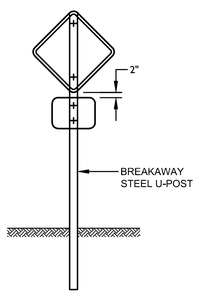
   WHERE GRADING OF 1:0 OR FLATTER CANNOT BE OBTAINED OR WHERE CURB OR BERM IS GREATER THAN 330 FEET. THE MINIMUM VERTICAL CLEARANCE WILL BE MEASURED FROM THE GROUND LINE TO THE BOTTOM OF THE SIGN.
8. PERMANENT SIGN SUPPORTS SHOULD NOT BE INSTALLED ON SLOPES GREATER THAN 1:10, EXCEPT WHERE GRADING OF 1:10 CANNOT BE OBTAINED O THE SIGN SUPPORTS WILL BE BEHIND A TRAFFIC BARRIER. THE SLOPE SHALL EXTEND A MINIMUM OF 3 FEET BEYOND THE OUTSIDE EDGE OF SIGN (SEE GRADING DETAIL FOR SLOPE TREATMENT).
9. EXTRUDED ALUMINUM SIGN PANELS ARE NOT PERMITTED FOR USE WITH STEEL U-POST SIGN SUPPORTS.
10. STEEL U-POST SIGN SUPPORTS SHALL NOT BE PLACED IN FRONT OF GUIDE RAIL AND THE POSTS MUST NOT STRADDLE GUIDE RAIL.
11. TO EXTEND THE HEIGHT OF A SIGN POST, A MAXIMUM OF ONE SPLICE MAY BE MADE AND MUST A MINIMUM OF 9 FEET FROM THE GROUND LINE TO CENTER LINE OF SPLICE.



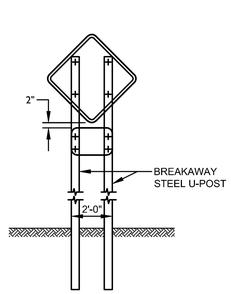
SIDE MOUNTING BRACKET
N.T.S.



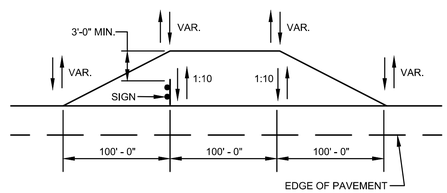
DETAIL OF BRACKET FOR SIDE MOUNTED SIGNS
N.T.S.



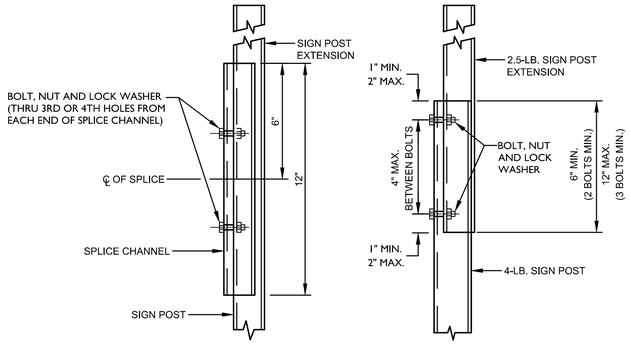
30" x 30" OR SMALLER



36" x 36" OR LARGER



STEEL U-POST GRADING DETAIL
N.T.S.



SIGN POST EXTENSION SPLICE DETAILS
N.T.S.

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

Joseph Raftery
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE53339
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77, L: 9.01,7,13,12,11, 10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

Colliers Engineering & Design
HOLMDEL (Headquarters)
101 Crawfords Corner Road, Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	BJH	JJR

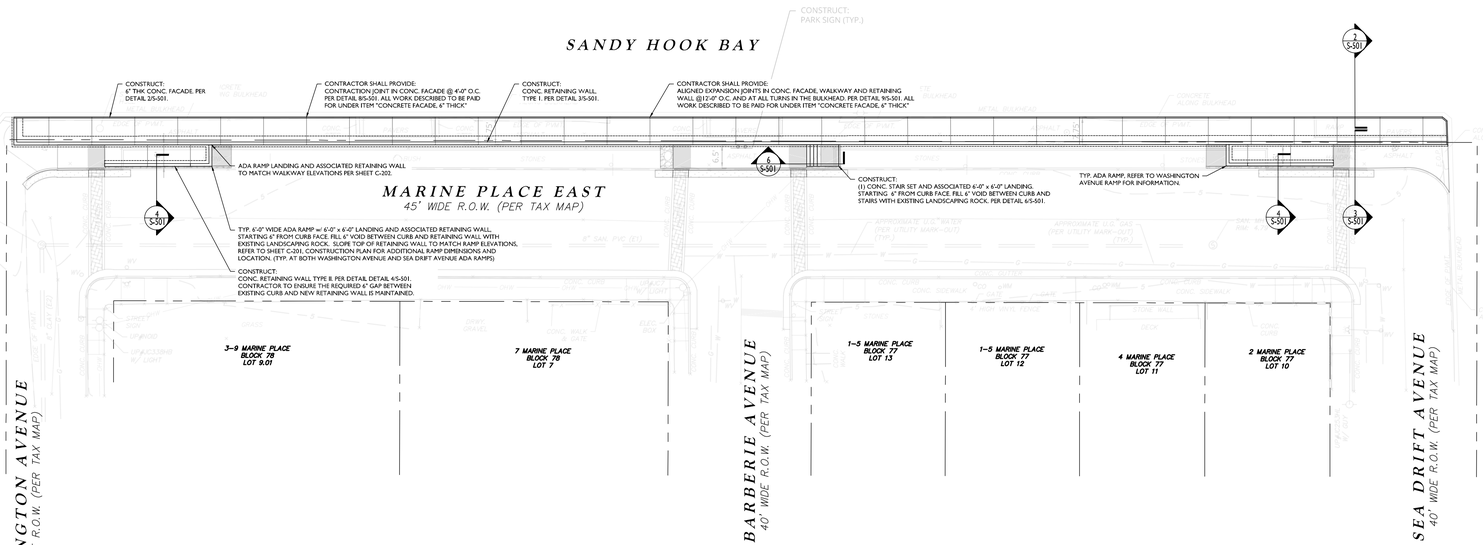
PROJECT NUMBER: H18C0009
DRAWING NAME: C-DTLS-TRAF

SHEET TITLE: TRAFFIC DETAILS

SHEET NUMBER: C-507

H:\H18C0009\Engineering\Site Plans\C-DTLS-TRAF.dwg|C-510 DETAILS-TRAFFIC By: BHAMMEL

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



STRUCTURAL PLAN MARINE PLACE EAST - BASE BID

NOTES:
1. REFER TO SHEET C-201, CONSTRUCTION PLAN AND SHEET C-202, GRADING PLAN FOR ADDITIONAL DIMENSIONS AND INFORMATION.

20 0 20 40
SCALE : 1" = 20'

N
E
W
S
NORTH

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CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77 , L: 9.01,7,13,12,11,10
WATERFRONT

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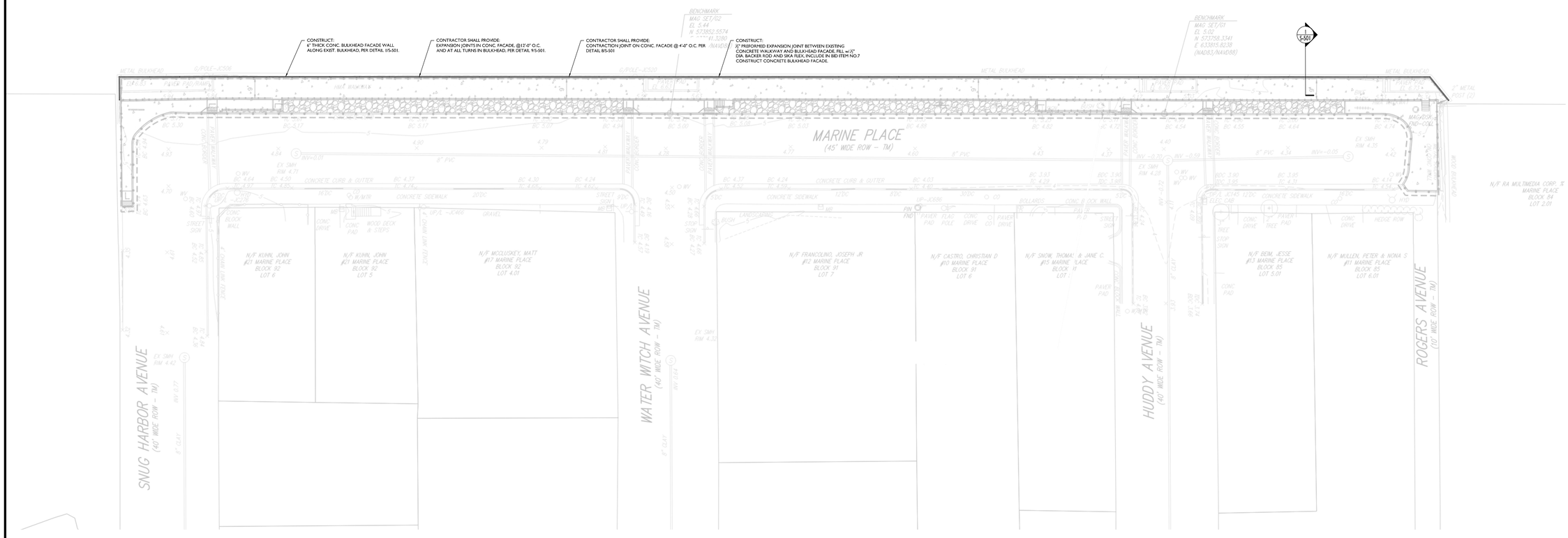
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	MMM	RW

PROJECT NUMBER:	DRAWING NAME:
HIBC0009	S-PLAN

SHEET TITLE:
BASE BID
STRUCTURAL PLAN

SHEET NUMBER:
S-301

H:\HIBC0009\Engineering\Structures\S-PLAN.dwg(S-301 PLAN By: BHAMMELL



STRUCTURAL PLAN MARINE PLACE WEST - ALTERNATE A

NOTES:
1. ALL WORK DESCRIBED ON THIS PLAN TO BE PAID FOR UNDER ITEM "CONCRETE FACADE, 6" THICK."

20 0 20 40
SCALE : 1" = 20'

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REV	DESCRIPTION	DRAWN BY	DATE

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N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77 , L: 9.01,7,13,12,11,10
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	MMM	IW

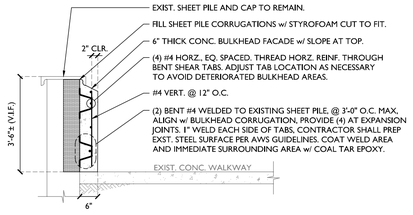
PROJECT NUMBER:	DRAWING NAME:
HIBC0009	S-PLAN

SHEET TITLE:
ALTERNATE A STRUCTURAL PLAN

SHEET NUMBER:
S-302

H:\HIBC0009\Engineering\Structures\S-PLAN.dwg|S-302 PLAN By: BHAMMELL

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



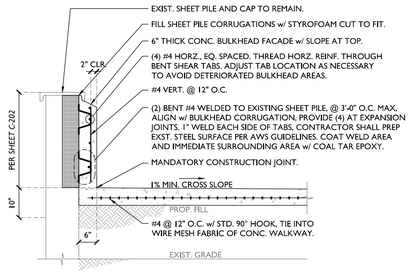
1 BULKHEAD FACADE AT EXIST. WALKWAY SECTION

SCALE: ½"=1'-0"

NOTES:

1. #4 WELDED EACH SIDE ALL TABS, TO EXISTING SHEET PILE, WITH 1" LONG ¼" FILLET WELD, BEND AS SHOWN:

2. ALL REINF. DOWEL, & W.W.M. SHALL BE H.D.G., EPOXY COATED WILL NOT BE AN ACCEPTABLE ALTERNATIVE.
3. MUST VIBRATE CONCRETE TO ENSURE NO HONEYCOMBING.
4. STRIP FORMS AND PROVIDE ACI 5.3.3.3(b) SURFACE FINISH-2.0 (SF-2.0) ON ALL EXPOSED FACES.



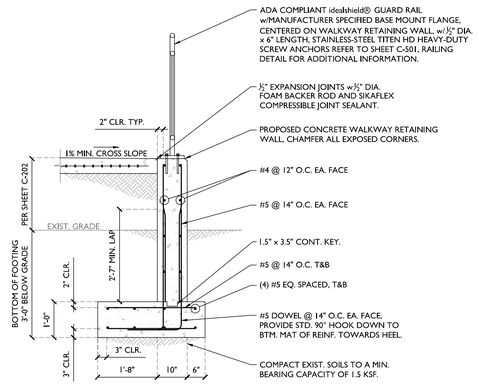
2 BULKHEAD FACADE AND WALKWAY TYP. SECTION

SCALE: ½"=1'-0"

NOTES:

1. #4 WELDED EACH SIDE ALL TABS, TO EXISTING SHEET PILE, WITH 1" LONG ¼" FILLET WELD, BEND AS SHOWN:

2. REFER TO SHEET C-501 FOR REINFORCED CONCRETE SIDEWALK DETAIL.
3. ALL REINF. DOWEL, & W.W.M. SHALL BE H.D.G., EPOXY COATED WILL NOT BE AN ACCEPTABLE ALTERNATIVE.
4. MUST VIBRATE CONCRETE TO ENSURE NO HONEYCOMBING.
5. STRIP FORMS AND PROVIDE ACI 5.3.3.3(b) SURFACE FINISH-2.0 (SF-2.0) ON ALL EXPOSED FACES.

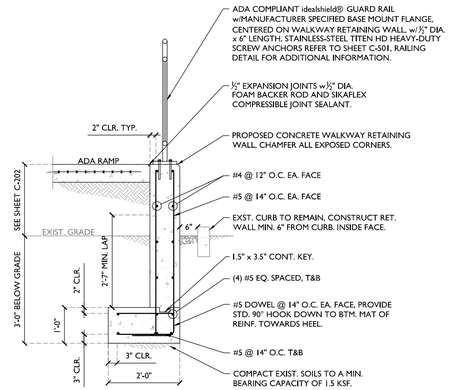


3 CONC. RETAINING WALL - TYPE I

SCALE: ½"=1'-0"

NOTES:

1. CONTRACTOR TO SUBMIT SIGNED AND SEALED SHOP DRAWINGS OF idealshield® GUARDRAIL AND GUARDRAIL BASEMOUNT FLANGE.
2. REFER TO SHEET C-501 FOR REINFORCED CONCRETE SIDEWALK DETAIL.
3. ALL REINF. DOWEL, & W.W.M. SHALL BE H.D.G., EPOXY COATED WILL NOT BE AN ACCEPTABLE ALTERNATIVE.

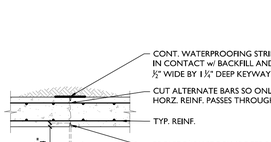


4 CONC. RETAINING WALL - TYPE 2

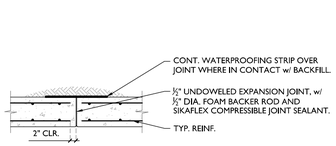
SCALE: ½"=1'-0"

NOTES:

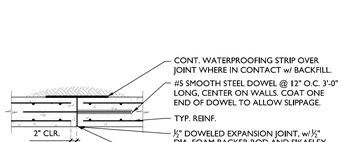
1. CONTRACTOR TO SUBMIT SIGNED AND SEALED SHOP DRAWINGS OF idealshield® GUARDRAIL AND GUARDRAIL BASEMOUNT FLANGE.
2. ALL REINF. DOWEL, & W.W.M. SHALL BE H.D.G., EPOXY COATED WILL NOT BE AN ACCEPTABLE ALTERNATIVE.



FORMED CONTRACTION JOINT



ISOLATION JOINT



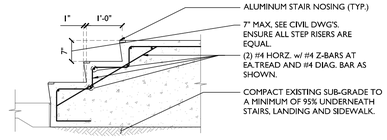
EXPANSION JOINT

5 TYP. RETAINING WALL JOINTS

SCALE: ½"=1'-0"

NOTES:

1. CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS @ 8'-0" O.C. U.O.N.
2. CONTRACTOR SHALL PROVIDE EXPANSION JOINTS @ 24'-0" O.C. U.O.N.
3. ALL DOWELS USED IN EXPANSION JOINTS TO BE H.D.G.
4. PROVIDE ISOLATION JOINT AT CORNERS.

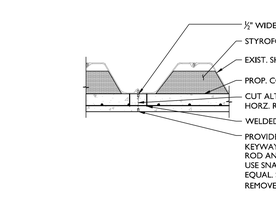


6 TYP. CONCRETE STAIR AND LANDING SECTION

SCALE: 1"=1'-0"

NOTES:

1. REFER TO GRADING AND CIVIL PLAN FOR LOCATION OF STAIR SETS, NUMBER OF STEPS AND LANDING DIMENSIONS.
2. ALL REBAR TO BE HOT DIPPED GALVANIZED.
3. SLOPE TREAD AWAY FROM RETAINING WALL AT 1.0% MAX FOR DRAINAGE.
4. STAIR FINISH SHALL BE A NON-SLIP HORIZONTAL BROOM FINISH.
5. ALL DIMENSIONS AND MATERIALS FOR TYP. STAIRS SHALL COMPLY WITH ADA.
6. RAILING POSTS SHALL BE SURFACE MOUNTED.

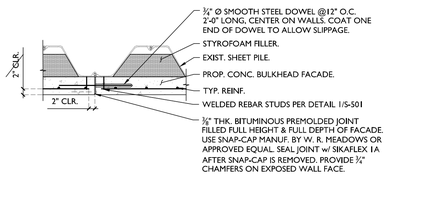


7 TYP. BULKHEAD FACADE CONTRACTION JOINT

SCALE: ½"=1'-0"

NOTES:

1. CONTRACTOR SHALL PROVIDE CONTRACTION JOINTS ON FACADE AT 3'-0" O.C. PROVIDE AT EVERY BULKHEAD CORRUGATION V.I.F.
2. CONTRACTOR SHALL PROVIDE SNAP CAP ALONG TOP SLOPE OF FACADE TO CONTINUE FORMED JOINT ALONG SLOPE. PROVIDE CLEAN TROWEL FINISH ON FACADE.

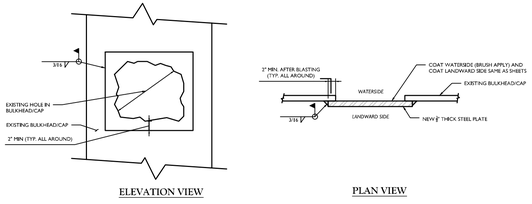


8 TYP. BULKHEAD FACADE EXPANSION JOINT

SCALE: ½"=1'-0"

NOTES:

1. CONTRACTOR SHALL PROVIDE CONTRACTION JOINTS ON FACADE AT 12'-0" O.C.
2. ALL DOWELS TO BE H.D.G.



ELEVATION VIEW PLAN VIEW

9 TYP. BULKHEAD HOLE REPAIR

SCALE: NTS

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REV	DATE	DRAWN BY	DESCRIPTION

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LICENSE NUMBER: GE53339
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N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77 , L: 9.01,7,13,12,11,10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/6/2025	MMM	JW

PROJECT NUMBER:	DRAWING NAME:
HIBC0009	S-DTLS

SHEET TITLE:
STRUCTURAL DETAILS

SHEET NUMBER:
S-501

GENERAL NOTES:

ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE NEW JERSEY UNIFORM BUILDING CONSTRUCTION CODE, THE INTERNATIONAL BUILDING CODE NEW JERSEY EDITION (2021), AND LOCAL BUILDING CODES, AND OTHER APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

THE CONTRACTOR SHALL OBTAIN ALL PERMITS FROM THE BUILDING DEPARTMENT PRIOR TO THE START OF WORK.

IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.

COORDINATE THE STRUCTURAL DRAWINGS WITH THE CIVIL DRAWINGS.

EXISTING CONDITIONS, ELEVATIONS, DIMENSIONS AND SYSTEMS SHOWN ON PLANS ARE BASED ON LIMITED FIELD OBSERVATIONS. THE CONTRACTOR SHALL FIELD-VERIFY ALL DETAILS, DIMENSIONS AND ASSUMPTIONS PRIOR TO ANY WORK, AND COORDINATE WITH CIVIL AND STRUCTURAL DRAWINGS. FOR FINAL CONSTRUCTION WHERE EXISTING CONDITIONS DIFFER FROM OR PRECLUDE THE EXECUTION OF THE OUTLINED DETAILS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED.

CONTRACTOR TO EXPOSE ALL CONNECTION POINTS AND VERIFY EXISTING CONDITIONS TO ENSURE FIT PRIOR TO ANY WORK. ALL STEEL FABRICATION SHALL BE BASED ON FIELD VERIFIED EXISTING CONDITIONS.

ALL DIMENSIONS AND ELEVATIONS FOR FINAL CONSTRUCTION SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND COORDINATED WITH CIVIL SHOP DRAWINGS SHALL BE BASED ON EXISTING CONDITIONS AND DIMENSIONS.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING AND BRACING REQUIRED FOR PLUMBNESS, STRUCTURAL STABILITY AND SAFETY WHENEVER REQUIRED TO SUPPORT LOADS AS MAY BE IMPOSED UPON THE STRUCTURE DURING CONSTRUCTION. BRACING AND SHORING AND SEQUENCES OF SUCH WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HIS/HER LICENSED ENGINEER REGISTERED IN THE STATE OF NEW JERSEY. ALL SUBMITTALS SHALL BEAR THIS ENGINEER'S SEAL AND SIGNATURE.

CONTRACTOR TO PROTECT AT ALL TIMES EQUIPMENT, PIPES AND OTHER EXPOSED OR EMBEDDED ITEMS ON THE SITE AGAINST DAMAGE.

SHORE ALL EXISTING SUSPENDED CONDUITS, PIPES, DUCTS, ETC. REFASTEN TO NEW CONSTRUCTION. DO NOT DAMAGE ANY EMBEDDED CONDUITS OR OTHER EMBEDDED ITEMS SCHEDULED TO REMAIN DURING DEMOLITION. CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE OF ANY ELECTRICAL CONDUITS PRIOR TO CUTTING OPENING. REROUTE AS REQUIRED.

CONTRACTOR SHALL INCLUDE COST OF POSSIBLE MODIFICATIONS TO CONNECTIONS DUE TO EXISTING CONDITIONS.

SUBMIT SHOP DRAWINGS FOR ALL WORK. DO NOT PROCEED WITH ANY FABRICATION UNTIL THE SHOP DRAWINGS ARE FAVORABLY REVIEWED FOR ALL STRUCTURAL WORK. SHOP DRAWINGS SHALL BE BASED ON FIELD VERIFIED CONDITIONS.

REVIEW OF SHOP DRAWINGS AND SUBMITTALS BY STRUCTURAL ENGINEER OF RECORD SHALL BE TO REVIEW AND TAKE APPROPRIATE ACTION ON SHOP DRAWINGS FOR CONFORMANCE WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS BUT NOT FOR ACCURACY OF DIMENSIONS AND QUANTITIES REQUIRED FOR PROPER CONSTRUCTION, WHICH ARE THE CONTRACTOR'S RESPONSIBILITY.

SHOP DRAWINGS SUBMITTED FOR STRUCTURAL REVIEW SHALL CONSIST OF TWO (2) SETS OF PRINTS AND ONE (1) SET OF REPRODUCIBLES UNLESS OTHERWISE NOTED. ONLY ONE (1) MARKED UP SET OF REPRODUCIBLE WITH THE STRUCTURAL ENGINEER'S COMMENTS WILL BE RETURNED TO THE CONTRACTOR.

REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.

SUBMIT PERIODIC INSPECTION REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO ENGINEER DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.

PROTECT ALL WORK SCHEDULED TO REMAIN AND IF DAMAGED REPAIR TO MATCH EXISTING AT CONTRACTORS EXPENSE.

ANY ADDITIONAL WORK/FRAMING/FOUNDATIONS NOT SPECIFICALLY SHOWN OR CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS, THAT ARE REQUIRED TO COMPLETE THE INTENT OF THE WORK, SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AS IF INCLUDED IN THE DRAWINGS/SPECIFICATIONS. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF SUCH OCCURRENCES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL AREAS. PROVIDE ANY PROTECTIVE MEASURES DEEMED NECESSARY TO PROTECT PROPERTY AND PREVENT INJURY.

REMOVE ALL DEMOLITION MATERIALS FROM THE SITE PROMPTLY. TRANSPORT AND DISPOSE OF DEBRIS AS REQUIRED BY THE APPROPRIATE CODES.

EXCAVATION AND FOUNDATION NOTES:

ALL MATERIAL, FABRICATION, INSTALLATION, AND INSPECTION REQUIREMENTS RELATING TO THE FOUNDATIONS SHALL CONFORM TO THE NEW JERSEY STATE AND LOCAL BUILDING CODES.

THE CONTRACTOR SHALL DEMOLISH AND REMOVE EXISTING ELEMENTS AS INDICATED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REMOVE, TRANSPORT, AND DISPOSE OF ALL DEBRIS PROMPTLY.

DEMOLITION SHALL BE DONE CAREFULLY. TAKE SPECIAL CARE NOT TO DAMAGE ANY EXISTING UNDERSLAB UTILITIES OR OTHER ELEMENTS NOT DESIGNATED FOR REMOVAL.

EXCAVATION SHALL BE PERFORMED SO AS NOT TO DISTURB EXISTING ADJACENT BUILDINGS, STREETS, AND UTILITY LINES. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK. HAND EXCAVATE AROUND AND RESUPPORT UTILITIES AS REQUIRED.

THE CONTRACTOR SHALL PROTECT ALL EXCAVATIONS FROM FLOODING AND EXISTING WATER TABLE AND PROVIDE CONTINUOUS PUMPING AS REQUIRED FOR PERFORMANCE OF WORK. THE DEPTH OF EXCAVATION SHALL NOT BE CARRIED DEEPER THAN SPECIFIED IN THE CONTRACT DOCUMENTS WITHOUT THE ENGINEER OF RECORD'S CONSENT.

THE SUBGRADE FOR FOOTINGS AND SLABS SHALL BE INSPECTED AND APPROVED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY IMMEDIATELY PRIOR TO PLACING FOUNDATION CONCRETE. THE SPECIAL INSPECTOR OR SPECIAL AGENCY SHALL BE ACCEPTABLE TO THE ENGINEER AND OWNER AND PRODUCE REPORTS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY WHICH SHALL BE SUBMITTED TO THE ENGINEER OUTLINING WORK PERFORMED AND TEST RESULTS.

FOOTING SUBGRADES SHOULD BE THOROUGHLY CLEARED OF ALL MUD, DEBRIS AND LOOSE MATERIAL PRIOR TO THE PLACEMENT OF CONCRETE OR CRUSHED STONE.

THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO CONTROL ICE, FROST, SURFACE AND SUBSURFACE WATER SO THAT THE FOUNDATION WORK IS PERFORMED ON DRY SUBGRADE.

ALL UNDERPINNING, SHEETING, SHORING OR OTHER SIMILAR CONSTRUCTION REQUIRED SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE SUBJECT TO INSPECTIONS AS REQUIRED BY THE LOCAL BUILDING CODE. THE CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PROVIDE ALL NECESSARY DESIGNS, REQUIRED INSPECTIONS AND SUBMITTALS CONFORMING TO THE LOCAL BUILDING CODE.

ALL UNDERPINNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HIS/HER PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. CONTRACTOR TO SUBMIT ALL UNDERPINNING DESIGNS AND PROCEDURES, SIGNED AND SEALED BY HIS/HER LICENSED PROFESSIONAL ENGINEER, TO THE GEOTECHNICAL ENGINEER FOR REVIEW. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE UNDERPINNING DESIGN, INCLUDING A FULL SURVEY OF ALL EXISTING CONDITIONS INCLUDING THOSE AT NEIGHBORING WALLS AND ADJACENT AREAS. SEE GEOTECHNICAL REPORT PREPARED BY PILLORI ASSOCIATES. SEE ALSO EXCAVATION AND FOUNDATION NOTES ON S-7. MINIMUM BEARING CAPACITY IS 8.0 TSF PER GEOTECHNICAL ENGINEER RECOMMENDATION.

DO NOT PLACE CONCRETE WITHOUT FAVORABLY REVIEWED STRUCTURAL SHOP DRAWINGS RELATED TO THE CONCRETE WORK.

THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT (HORIZONTAL AND VERTICAL) OF EXISTING OR NEW CONSTRUCTION, INSIDE OR OUTSIDE THE PROJECT LIMITS.

NEW EXCAVATION SHALL NOT UNDERMINE NOR DISTURB ANY EXISTING ADJACENT FOOTINGS. NEW FOOTINGS SHALL BE SUPPORTED IN A MANNER TO MAINTAIN AN EXCAVATION SLOPE OF ONE VERTICAL TO TWO HORIZONTAL BETWEEN THE BOTTOM OF FOOTINGS AND EXCAVATION. REROUTE ANY UNDERGROUND UTILITIES IF REQUIRED.

ALL FILL REQUIRED BELOW ANY PORTION OF THE STRUCTURE SHALL BE COMPACTED IN 8" LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D698 AND D-1557. REMOVE UNSUITABLE FILL AND REPLACE WITH CONTROLLED FILL AS REQUIRED FOR SOUND PLACEMENT OF FOUNDATIONS. NEW CONTROLLED FILL SHALL BE CRUSHED STONE, RECYCLED CONCRETE AGGREGATE OR GRANULAR SAND AND GRAVEL WITH LESS THAN 35% PASSING THE #200 SIEVE.

SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED NATURAL SUBGRADE (OR CONTROLLED COMPACTED FILL) WITH A MINIMUM BEARING CAPACITY OF 2 TONS PER SQUARE FOOT AS FIELD VERIFIED AND APPROVED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY. THE BOTTOM OF THE FOOTING ELEVATIONS AND BEARING CAPACITIES AS SHOWN ON THE DRAWINGS ARE ESTIMATED AND WILL REQUIRE VERIFICATION. FINAL EXACT ELEVATIONS AND BEARING CAPACITIES SHALL BE FIELD DETERMINED AND VERIFIED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY.

STRUCTURAL CONCRETE NOTES:

ALL WORK SHALL COMPLY TO THE ACI CODE, LATEST EDITION, AS AMENDED BY THE STATE OF NEW JERSEY AND LOCAL BUILDING CODES.

ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WEIGHING 145 PCF HAVING A COMPRESSIVE STRENGTH 4,000 PSI AT 28 DAYS AND A MAXIMUM WATER-CEMENT RATIO OF 0.45.

STRUCTURAL CONCRETE SHALL CONTAIN A WATER REDUCING, PLASTICIZING ADMIXTURE. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN AN AIR-ENTRAINING ADMIXTURE.

ALL CONCRETE WORK: MIXES, INSPECTIONS, AND FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE AND ACI CODES.

CONFORM TO ACI HOT AND COLD WEATHER CONCRETING.

CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DESIGN OF CONCRETE MIXES AND FOR MAINTAINING STRENGTH AND PROPER SLUMP DURING CONSTRUCTION. CONCRETE MIXES SHALL BE DESIGNED IN ACCORDANCE WITH METHOD DESCRIBED IN THE GOVERNING CODE. THE MIX DESIGNS BEARING THE NAME OF THE PROJECT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE MIXES HAVE BEEN APPROVED BY THE ENGINEER. SUBMIT THE PROPOSED CONCRETE MIX AND CYLINDER BREAKS FOR REVIEW BY ENGINEER OF RECORD.

SUBMIT TO THE ENGINEER PROPOSALS FOR ALL PROCEDURES AND SEQUENCES FOR FORMWORK STRIPPING AND RESHORING SYSTEMS.

ALL FORMWORK SHALL BE CONSTRUCTED SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED WITHIN TOLERANCE LIMITS OF ACI 117.

REINFORCING BARS SHALL BE DEFORMED STEEL BARS COMPLYING WITH ASTM A615, GRADE 60.

ALL REINFORCEMENT TO BE CONTINUOUS U.O.N.

WELDED WIRE FABRIC SHALL COMPLY WITH ASTM A185 AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 70,000 PSI.

ALL REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE, UNLESS OTHERWISE NOTED. PLACING OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY.

CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

REINFORCING BARS, WELDED WIRE FABRIC, TIE WIRES AND ACCESSORIES SHALL BE EPOXY COATED FOR CONCRETE WORKS THAT ARE EXPOSED TO WEATHER OR UNDER WATER IN ACCORDANCE WITH ASTM A-775. DAMAGED EPOXY COATING ON REINFORCING MATERIALS SHALL BE TOUCHED UP TO THE ORIGINAL COATING STANDARDS.

SUBMIT DETAIL DRAWINGS, AFTER COORDINATION WITH LATEST ENGINEERING DRAWINGS, SHOWING THE LOCATIONS OF ALL CONSTRUCTION JOINTS, CURBS, SLAB DEPRESSION, SLEEVES, OPENINGS, ETC.

IF SLAB OPENINGS NEED TO BE CUT IN FIELD SUBMIT LOCATIONS, DIMENSIONS AND SIZES TO ENGINEER OF RECORD FOR REVIEW AND STEEL REINFORCEMENT MAY BE REQUIRED TO REINFORCE THE SLAB.

REINFORCING SPLICES SHALL COMPLY WITH ACI 318, BUT SHALL IN NO CASE BE LESS THAN 40 DIAMETERS, UNLESS OTHERWISE NOTED.

MECHANICAL SPLICING IF REQUIRED, SHALL HAVE THE BARS CONNECTED TO DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. IF MECHANICAL SPLICING IS USED, SUBMIT PRODUCT LITERATURE DESCRIBING AND METHOD OF INSTALLATION.

WELDED WIRE FABRIC SHALL BE LAPPED TWO (2) FULL MESH PANELS AND TIED SECURELY.

WHERE REQUIRED, DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING AND LAP A MIN. OF 48ø (UNLESS OTHERWISE NOTED).

DO NOT PLACE CONCRETE WITHOUT FAVORABLY REVIEWED SHOP DRAWINGS.

PROVIDE (2) ADDITIONAL #5 BARS AROUND ALL FLOORS AND WALL OPENINGS, AS PER TYPICAL OPENING DETAIL.

AT EXTERIOR EXPOSURE PROVIDE EXPANSION JOINTS IN ALL SLABS AT 15'-0" O.C. MAX. WITH COMPRESSIBLE JOINT FILLER.

COORDINATE CONTROL AND EXPANSION JOINTS.

ALL CONSTRUCTION JOINTS SHALL BE CLEANED AND MOISTENED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.

BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.

NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.

CONCRETE SLABS SHALL HAVE A MONOLITHIC FINISH AND SHALL BE SCREEDED, COMPACTED BY ROLLING OR TAMPING, FLOATED OFF AND GRADED AS REQUIRED. AFTER SUFFICIENT HARDENING SLAB SHALL BE PROTECTED AND CURED. START CURING AS SOON AS POSSIBLE WITHOUT MARKING FINISH. COVER SLABS WITH REINFORCED PAPER AS REQUIRED. KEEP SURFACE CONTINUOUSLY MOIST FOR SEVEN DAYS OR USE A CURING COMPOUND.

ALL BEARING GROUT SHALL BE NON-SHRINK, NONMETALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.

CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS OTHERWISE NOTED.

WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS PER MANUFACTURE'S RECOMMENDATIONS.

PATCH CONCRETE WHERE REQUIRED. PATCHING CONCRETE SHALL BE SIKA TOP 122 OR 123 WITH EPOXIED PINS WHERE REQUIRED BY MANUFACTURER.

ALL EXPOSED CONCRETE WALLS AND FACADE SHALL RECEIVE SURFACE FINISH 2.0 (SF-2):

A. PATCH VOIDS LARGER THAN 3/4 INCH WIDE OR 1/2 INCH DEEP.
B. REMOVE PROJECTIONS LARGER THAN 1/4 INCH.
C. PATCH TIE HOLES.
D. PROVIDE SURFACE TOLERANCE CLASS B IN ACCORDANCE WITH ACI 117.
E. CONCRETE SURFACES [EXPOSED TO PUBLIC VIEW,] [TO RECEIVE A RUBBED FINISH,]

CONCRETE CURING:

PROPER CURING OF CONCRETE IS OF THE UTMOST IMPORTANCE. BEGINNING IMMEDIATELY AFTER PLACEMENT, CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY AND SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR AT LEAST 7 DAYS. THE MATERIALS AND METHODS OF CURING SHALL BE SUBJECT TO ACCEPTANCE BY THE ENGINEER. UNSATISFACTORY FINISHED CONCRETE THAT RESULTS FROM FAILURE TO FOLLOW THE SPECIFIED CURING PROCEDURES MAY BE REQUESTED BY THE OWNER OR ENGINEER TO BE REMOVED AND REPLACED. ALL COSTS ASSOCIATED WITH REMOVAL AND REPLACEMENT OF CONCRETE WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

SLABS - IT IS MANDATORY THAT 7 DAYS OF WET CURING ON ALL MAT SLABS AND FORMED SLABS BE PERFORMED. USE SOAKER HOSE, WET BURLAP AND PLASTIC SHEETS OVER BURLAP ON ALL EXPOSED SURFACES FOR 7 DAYS MINIMUM.

WALLS -COVER TOP OF WALL FORMS WITH WET BURLAP AND PLASTIC SHEETS. MOISTURE LOSS FROM SURFACES PLACED AGAINST WOODEN FORMS OR METAL FORMS EXPOSED TO HEATING BY THE SUN SHALL BE MINIMIZED BY KEEPING THE FORMS WET UNTIL THEY CAN BE SAFELY REMOVED. AFTER FORM REMOVAL THE CONCRETE SHALL BE CURED FOR AT LEAST 7 DAYS.

COLD WEATHER -WHEN THE MEAN DAILY OUTDOOR TEMPERATURE IS LESS THAN 40°F, THE TEMPERATURE OF THE CONCRETE SHALL BE MAINTAINED BETWEEN 50°F AND 70°F FOR THE REQUIRED CURING PERIOD. WHEN NECESSARY, ARRANGEMENTS FOR HEATING, COVERING, INSULATING, OR HOUSING THE CONCRETE WORK SHALL BE MADE IN ADVANCE OF PLACEMENT AND SHALL BE ADEQUATE TO MAINTAIN THE REQUIRED TEMPERATURE WITHOUT INJURY TO THE CONCRETE DUE TO CONCENTRATION OF HEAT.

HOT WEATHER -WHEN NECESSARY, PROVISION FOR WINDBREAKS, SHADING, AND/OR COVERING WITH A LIGHT-COLORED MATERIAL SHALL BE MADE IN ADVANCE OF CONCRETE PLACEMENT. SUCH PROTECTIVE MEASURES SHALL BE TAKEN AS QUICKLY AS CONCRETE HARDENING AND FINISHING OPERATIONS WILL ALLOW. TEMPERATURE OF CONCRETE AT PLACEMENT SHALL NOT EXCEED 85°F.

HANDRAIL AND GUARDRAIL SYSTEM:

HANDRAILS AND GUARDRAILS SHALL BE UV-RESISTANT AND SALT-WATER SPRAY RESISTANT MATERIAL. MATERIAL SHALL BE SUITABLE FOR EXTERIOR USE IN THE PROJECT LOCATION AT TEMPERATURES RANGING FROM 0°F TO 110°F WITHOUT PERMANENT DAMAGE OR DEFORMATION. ALL MOUNTING DETAILS SHALL ACCOMMODATE THERMAL EXPANSION OR CONTRACTION WITHIN THIS RANGE OF TEMPERATURES. GUARDRAIL EXPANSION JOINTS SHALL BE LOCATED AT DECK EXPANSION JOINTS (SEE PLAN) AND AT MAXIMUM GUARDRAIL EXPANSION JOINT SPACING OF 45'-0".

ALL HANDRAILS AND GUARDRAIL SYSTEMS AND THEIR MOUNTINGS SHALL BE CAPABLE OF WITHSTANDING LIVE LOADS IN ACCORDANCE WITH NJUCC SECTION 1607.7.1 AND SHALL MEET ALL APPLICABLE REQUIREMENTS OF ANSI A117.1 AND APPLICABLE OSHA STANDARDS.

DIMENSIONS AND ALL DETAILS OF HANDRAILS AND GUARDRAIL SYSTEMS SHALL BE IN COMPLETE ACCORDANCE WITH THE REQUIREMENTS OF NJUCC SECTION 1003.2.12.

TYPICAL GUARDRAILS SHALL HAVE FLANGE-MOUNTED VERTICAL POSTS FOR ATTACHMENT BY MEANS OF LAG BOLTS THROUGH WALKWAY DECK INTO WOOD FRAMING BELOW. ALL STEEL CONNECTION HARDWARE AND ATTACHMENT SECTIONS SHALL CONFORM TO ASTM A36 (Fy = 36 KSI) MINIMUM, AND SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 & A123. STEEL PIPE SECTIONS USED FOR REINFORCEMENT (IF ANY) SHALL BE ASTM A53, TYPE F, GALVANIZED.

PAINTING OF EXPOSED STRUCTURAL STEEL:

1. MATERIALS
   A. SHOP COAT PRIMER PAINT: SERIES 90-97 THEME-ZINC AS MANUFACTURED BY TNEME COMPANY, KANSAS CITY, MO; ORGAN 16 ZINC RICH PRIMER S 3297 AS MANUFACTURED BY PRATT & LAMBERT, BUFFALO, NY, OR ZINC PLATE 265-74 PRIME AS MAUFACTURED BY CON-LUX COATINGS INC., EDISON, NJ.
   B. FIELD COAT PAINT: OWNER TO PROVIDE FINISH PAINT SPECIFICATIONS.
2. GENERAL
   A. DO NOT PAINT SURFACES WHICH ARE TO BE WELDED OR HIGH STRENGTH BOLTED WITH SLIP-CRITICAL CONNECTIONS.
   B. APPLY 2 COATS OF PAINT TO SURFACES WHICH ARE INACCESSIBLE AFTER ASSEMBY OR ERECTION CHANGE COLOR OF SECOND COAT TO DISTINGUISH IT FROM FIRST.
   C. SURFACE PREPARATION: AFTER INSPECTION AND BEFORE SHIPPIN, CLEAN STEELWORK TO BE PAINTED. REMOVE LOOSE RUST, LOOSE MILL SCALE AND SPATTED, SLAG OR FLUX DEPOSITS. CLEAN STEEL IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SSPC AS FOLLOWS:
      I. NEW STEEL SHALL BE CLEANED IN ACCORDANCE WITH SSPC SP6 "COMMERCIAL BLAST CLEANING".
   D. PAINTING: IMMEDIATELY AFTER SURFACE PREPARATION, APPLY STRUCTURAL STEEL PRIMER PAIN IN ACCORDANCE WITH MAUFACTURER'S WRITTEN INSTRUCTIONS AND AT A RATE TO PROVIDE A DRY FILM THICKNESS OF 2.0 TO 3.0 MILS. USE PAINTING METHODS WHICH RESULT IN FULL COVERAGE OF JOINTS, CORNERS, EDGES AND EXPOSED SURFACES. STEEL SHALL RECIEVE A FIELD COAT APPLIED IN ACCORDANCE WITH THE MAUFACTURER'S WRITTEN INSTRUCTIONS AND AT A RATE TO PROVIDE A DRY FILM THICKNESS OF 4.0 TO 6.0 MILS.
   E. APPLY EXTRA COAT TO CORNERS, WELDS, EDGES, AND FASTENERS.

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CONSTRUCTION PLAN

FOR

PEDESTRIAN IMPROVEMENTS TO MARINE PLACE EAST

B: 78,77 , L: 9.01,7,13,12,11,10
WATERFRONT

BOROUGH OF HIGHLANDS
MONMOUTH COUNTY
NEW JERSEY

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PROJECT NUMBER: HIBC0009
DRAWING NAME: S-DTLS

SHEET TITLE: STRUCTURAL NOTES

SHEET NUMBER: S-502