

MICHIGAN DEPARTMENT
OF
NATURAL RESOURCES

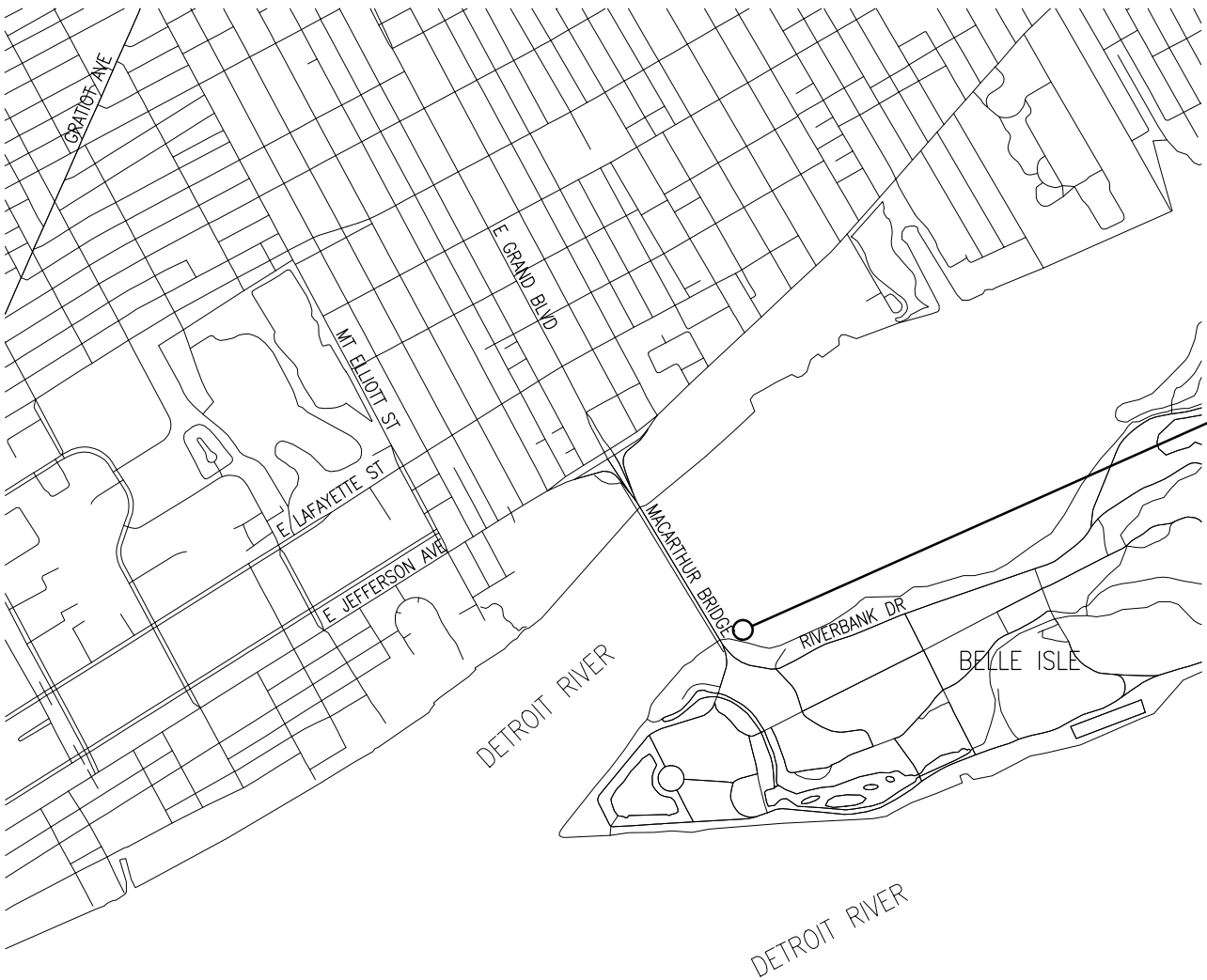
PARKS AND RECREATION DIVISION

FILE NO: 75/15224.MNB INDEX NO: 59715

PLANS OF PIER RENOVATIONS AND SITE IMPROVEMENTS

BELLE ISLE BOAT CLUB FISHING ACCESS

T2S, R12E
WAYNE COUNTY, MICHIGAN



PROJECT
LOCATION



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NORTHWEST DESIGN GROUP, LLC
PROFESSIONAL IN RESPONSIBLE
CHARGE OF THE PROJECT

SHEETS: ALL

NAME:
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BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN
FILE NO: 75/15224.MNB INDEX NO: 59715

PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY,
MANAGEMENT AND BUDGET/MICHIGAN DEPARTMENT
OF NATURAL RESOURCES

PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	G-001 COVER	
MANAGER	AHP	
DESIGNED BY	AHP	
DRAWN BY	SMM	
CHECKED BY	AHP	
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SHEET TITLE

COVER

G-001



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR

UNDERGROUND UTILITY LINES

=====	12" SAN	=====	EX SANITARY SEWER
=====	6" FM	=====	EX SANITARY SEWER FORCEMAIN
=====	12" STM	=====	EX STORM SEWER
=====	24" CULV	=====	EX CULVERT
-----	U/G-E	-----	EX UNDERGROUND ELECTRIC LINE
-----	0/H-E	-----	EX OVERHEAD ELECTRIC LINE
-----	T	-----	EX TELEPHONE LINE
-----	CATV	-----	EX CATV LINE
-----	FO	-----	EX FIBEROPTIC LINE
-----	10" W	-----	EX WATER LINE
-----	4" G	-----	EX GAS LINE
-----	12" OIL	-----	EX OIL LINE
=====	12" SAN	=====	PROP SANITARY SEWER
=====	6" FM	=====	PROP SANITARY SEWER FORCEMAIN
=====	12" STM	=====	PROP STORM SEWER
=====	24" CULV	=====	PROP CULVERT
=====	10" W	=====	PROP WATER
-----	E	-----	PROP ELECTRIC LINE
-----	6" G	-----	PROP GAS LINE
-----	3" DSP	-----	PROP SUPPRESSION STANDPIPE LINE, DRY
-----	A	-----	PROP COMPRESSED AIR LINE
-----	DIESEL	-----	PROP DIESEL LINE
-----	GASOLINE	-----	PROP GASOLINE LINE

TOPO LINES

-----	102	-----	EX CONTOUR LINE
-----	104	-----	PROP CONTOUR LINE
-----	104	-----	PROP UNDERWATER CONTOUR LINE
-----		-----	PROP DREDGE LIMIT
-----		-----	PROPERTY LINE
-----		-----	GOVERNMENT LINE
-----		-----	ROW LINE
-----	X	-----	EX FENCE
-----	X	-----	PROP FENCE
-----		-----	EX TREE LINE
-----		-----	PROP CLEARING/TREE LINE
-----		-----	WETLANDS AREA
-----		-----	EX DRAINAGE COURSE
-----		-----	PROP DRAINAGE COURSE
-----		-----	EDGE OF WATER
-----		-----	RAILROAD
-----		-----	EX GUARDRAIL
-----		-----	PROP GUARDRAIL
-----		-----	PROP SLOPE STAKE LINE

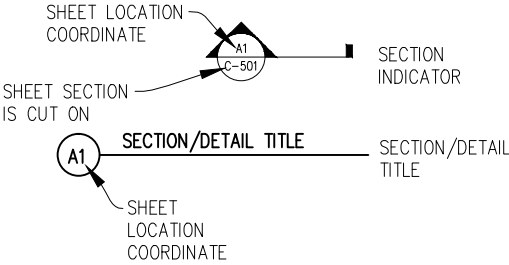
CIVIL SYMBOLS

MB	EX MAILBOX
SN	EX SIGN
FP	FLAG POLE
POST & DESC	POST & DESC
EX GROUND ELEVATION	EX GROUND ELEVATION
FINISH GRADE ELEVATION	FINISH GRADE ELEVATION
DRAINAGE DIRECTION	DRAINAGE DIRECTION
PROP BARRIER FREE SYMBOL	PROP BARRIER FREE SYMBOL
BENCHMARK	BENCHMARK
HORIZONTAL CONTROL POINT	HORIZONTAL CONTROL POINT
FOUND PROPERTY CORNER	FOUND PROPERTY CORNER
FOUND R/W MARKER	FOUND R/W MARKER
GOVERNMENT CORNER	GOVERNMENT CORNER
SOIL BORING	SOIL BORING
MONITOR WELL	MONITOR WELL
EX RIPRAP	EX RIPRAP
PROP RIPRAP	PROP RIPRAP
HMA APPROACH	HMA APPROACH
EX HMA	EX HMA
DECIDUOUS TREE	DECIDUOUS TREE
CONIFER TREE	CONIFER TREE

LANDSCAPE

EX RETAINING WALL & DESC	EX RETAINING WALL & DESC
EX SITE FURNISHINGS & DESC	EX SITE FURNISHINGS & DESC
EX CONIFER TREE	EX CONIFER TREE
EX DECIDUOUS TREE	EX DECIDUOUS TREE
PROP CONIFER TREE	PROP CONIFER TREE
PROP DECIDUOUS TREE	PROP DECIDUOUS TREE
PROP ORNAMENTAL TREE	PROP ORNAMENTAL TREE
PROP SHRUBS	PROP SHRUBS
PROP MULCH BED	PROP MULCH BED
PROP COBBLE STONE	PROP COBBLE STONE
PROP STONE RETAINING WALL	PROP STONE RETAINING WALL
PROP SITE FURNISHINGS	PROP SITE FURNISHINGS

GENERAL



UTILITY SYMBOLS

EX SAN MH	EX LIGHT POLE
EX SAN SEWER CLEANOUT	EX UTILITY POLE
EX STORM CB	EX GUY ANCHOR
EX STORM SEWER (DRAINAGE) MH	EX ELECTRIC HAND HOLE
EX CULVERT END SECTION	EX SQUARE HAND HOLE
EX HEADWALL	EX UNDERGROUND MARKER
EX WATER GATE VALVE	EX WATER CURB STOP BOX
EX WATER METER	EX TELEPHONE MH
EX WATER MH	EX ELECTRIC MH
EX WATER WELL	EX ROUND HAND HOLE
EX FIRE HYDRANT	EX ELECTRIC BOX
EX IRRIGATION	EX ELECTRIC TRANSFORMER
PROP SAN MH	CABLE TV PEDESTAL
PROP SAN SEWER CLEANOUT	EX TELEPHONE PEDESTAL
PROP STORM CB	EX GAS VALVE
PROP YARD DRAIN	EX GAS LINE MARKER
PROP STORM MH	FIBER OPTIC MARKER
PROP CULVERT END SECTION	RAILROAD SIGNAL
PROP HEADWALL	
PROP WATER MH	
PROP WATER VALVE	
PROP WATER RISER	
PROP WATER METER	
PROP WATER WELL	
PROP FIRE HYDRANT	
PROP FIRE DEPT CONNECTION INLET	
PROP FIRE DEPT CONNECTION OUTLET	
PROP REDUCER	
PROP SEPTIC TANK	

HAZARDOUS OR FLAMMABLE MATERIAL	USED WITH UNDERGROUND GAS & ELECTRICAL LINES
CAUTION - CRITICAL UNDERGROUND UTILITY	USED WITH FIBER OPTIC, TELEPHONE LINES & WATER LINES

ROADS, WALKS, PAVED SURFACES

EX SURVEY C	EX SURVEY C
EX PAVT EDGE	EX PAVT EDGE
EX AGG EDGE	EX AGG EDGE
EX CURB	EX CURB
EX SIDEWALK	EX SIDEWALK
EX PAVEMENT JOINT	EX PAVEMENT JOINT
EX TRAIL	EX TRAIL
PROP CONST C	PROP CONST C
PROP PAVT EDGE	PROP PAVT EDGE
PROP SHOULDER PAVED	PROP SHOULDER PAVED
PROP AGG EDGE	PROP AGG EDGE
PROP CURB	PROP CURB
PROP SIDEWALK	PROP SIDEWALK
PROP PAVEMENT JOINT	PROP PAVEMENT JOINT
PROP TRAIL	PROP TRAIL

REMOVAL SYMBOLS

REMOVING PAVT, SIDEWALK	REMOVING PAVT, SIDEWALK
REMOVING	REMOVING
RELOCATE-BY OTHERS	RELOCATE-BY OTHERS
REMOVE-BY OTHERS	REMOVE-BY OTHERS
ABANDON	ABANDON
SAVE	SAVE
BULKHEAD	BULKHEAD
REMOVING CONC CURB	REMOVING CONC CURB

BUILDINGS

EX 1 STORY HOUSE FFE 0.0	EX BUILDING, DESCRIPTION & FFE
BUILDING FFE 0.0	PROP BUILDING, DESCRIPTION & FFE

SITE ELECTRIC

EX LIGHTING	EX LIGHTING
EX RECEPTACLE	EX RECEPTACLE
EX JUNCTION	EX JUNCTION
EX TRANSFORMER	EX TRANSFORMER
EX PANEL	EX PANEL
PROP LIGHTING	PROP LIGHTING
PROP RECEPTACLE	PROP RECEPTACLE
PROP JUNCTION	PROP JUNCTION
PROP TRANSFORMER	PROP TRANSFORMER
PROP PANEL	PROP PANEL
PROP ELEC FEEDER CIRCUIT HOME RUN TO PANEL	PROP ELEC FEEDER CIRCUIT HOME RUN TO PANEL
PROP 50A SITE	PROP 50A SITE
PROP 100A SITE	PROP 100A SITE
PROP PHOTOCCELL	PROP PHOTOCCELL

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BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN
INDEX NO: 59715
FILE NO: 751/15224.MNB



PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY,
MANAGEMENT AND BUDGET/MICHIGAN DEPARTMENT
OF NATURAL RESOURCES

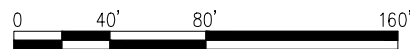
PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	G-002 LEGEND	
MANAGER	AHP	
DESIGNED BY	AHP	
DRAWN BY	SMM	
CHECKED BY	AHP	
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SHEET TITLE		

LEGEND

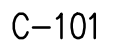
G-002

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR

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<p>BELLE ISLE BOAT CLUB FISHING ACCESS</p> <p>WAYNE COUNTY, MICHIGAN</p> <p>INDEX NO: 59715</p> <p>FILE NO: 751/15224.MNB</p> <p>PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET/MICHIGAN DEPARTMENT OF NATURAL RESOURCES</p>		
PP	12.21.16	OWNER REVIEW
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PROJECT NO	N3055.180	
CADD FILE	G-003 NOTES	
MANAGER	AHP	
DESIGNED BY	AHP	
DRAWN BY	SMM	
CHECKED BY	AHP	
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SHEET TITLE		
<h1 style="margin: 0;">NOTES</h1>		
<h2 style="margin: 0;">G-003</h2>		

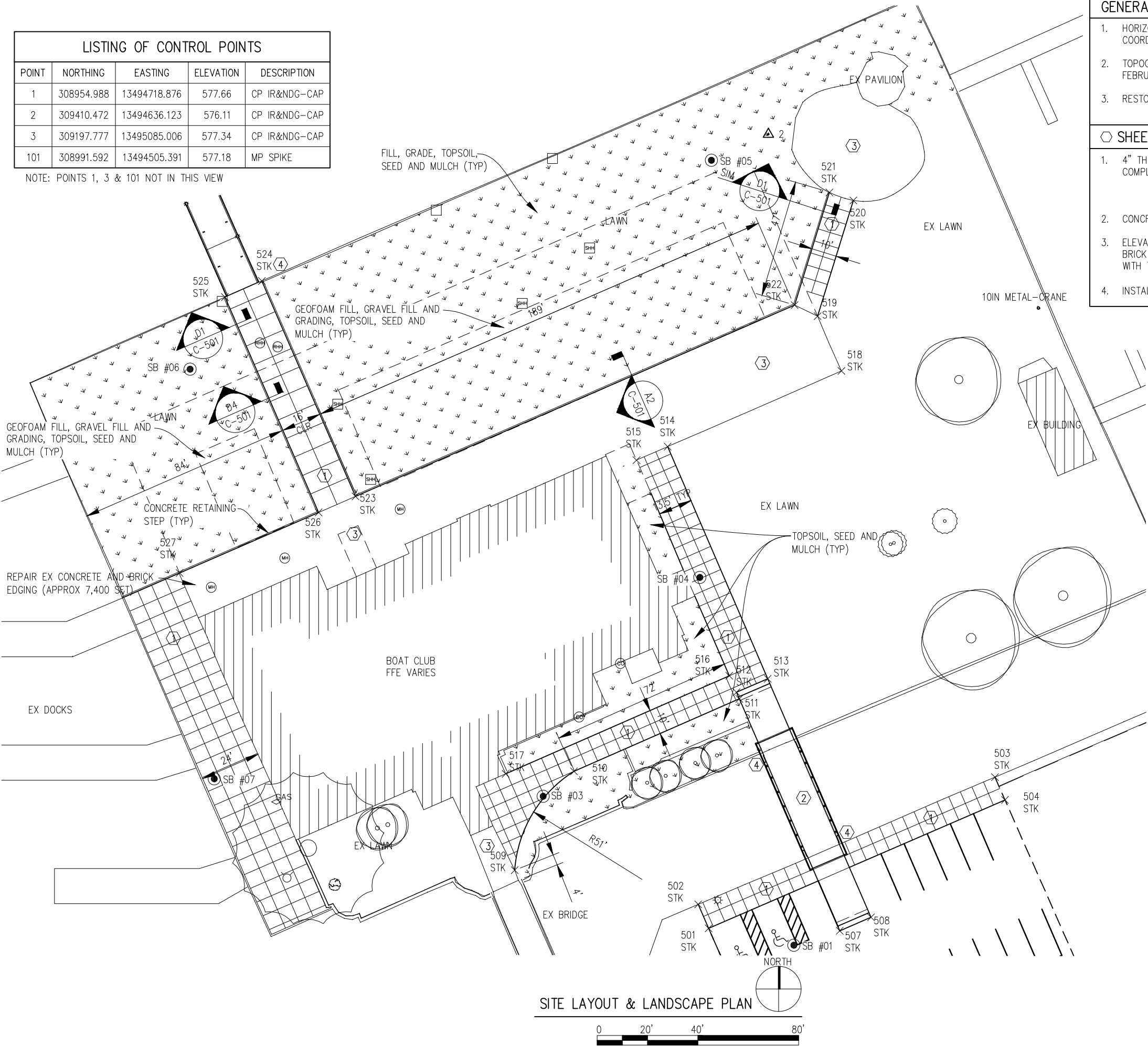


STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR



LISTING OF CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	308954.988	13494718.876	577.66	CP IR&NDG-CAP
2	309410.472	13494636.123	576.11	CP IR&NDG-CAP
3	309197.777	13495085.006	577.34	CP IR&NDG-CAP
101	308991.592	13494505.391	577.18	MP SPIKE

NOTE: POINTS 1, 3 & 101 NOT IN THIS VIEW



GENERAL SHEET NOTES

- HORIZONTAL AND VERTICAL CONTROL IS BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE GEOID 12b.
- TOPOGRAPHIC SURVEY PERFORMED BY NORTHWEST DESIGN GROUP, LLC., FEBRUARY 11, 2016.
- RESTORE AREAS WHERE EX SIDEWALK WAS REMOVED AND NOT REPLACED.

SHEET KEYNOTES

- 4" TH. CONCRETE SIDEWALK. SAWCUT CONTROL JOINTS PROVIDE ADA COMPLIANT SIDEWALK:
RUNNING SLOPE $\leq 5\%$
CROSS SLOPE $\leq 1.5\%$
- CONCRETE BRIDGE, SEE SHEET S-103.
- ELEVATED CONCRETE SIDEWALK REPAIR AREA. POWERWASH. REMOVE EX BRICK AND FILL SPACES WITH CONCRETE. COAT ALL CONCRETE SURFACES WITH THOROCCOAT COLOR CHOSEN BY OWNER.
- INSTALL 4" DIA JET FILTER AT A EA EXISTING WEEP HOLE IN SHEET PILE.

LISTING OF STAKE POINTS

POINT	NORTHING	EASTING	DESCRIPTION
500	309068.158	13494624.373	STK
501	309095.318	13494612.405	STK
502	309104.846	13494608.273	STK
503	309155.314	13494726.085	STK
504	309146.267	13494730.075	STK
505	308993.913	13494797.274	STK
506	308940.832	13494680.579	STK
507	309094.340	13494664.465	STK
508	309099.704	13494676.853	STK
509	309118.415	13494535.398	STK
510	309157.628	13494558.904	STK
511	309186.417	13494624.597	STK
512	309189.012	13494623.473	STK
513	309194.376	13494635.861	STK
514	309286.554	13494596.131	STK
515	309281.149	13494583.760	STK
516	309195.572	13494620.599	STK
517	309156.666	13494531.782	STK
518	309316.590	13494665.114	STK
519	309338.321	13494655.651	STK
520	309384.241	13494669.843	STK
521	309387.402	13494660.353	STK
522	309342.717	13494646.543	STK
523	309266.789	13494472.180	STK
524	309352.261	13494434.961	STK
525	309345.874	13494420.291	STK
526	309260.402	13494457.510	STK
527	309236.359	13494402.295	STK

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BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN

FILE NO: 751/15224-MNB

INDEX NO: 59715

PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY,
MANAGEMENT AND BUDGET/MICHIGAN DEPARTMENT
OF NATURAL RESOURCES

SITE LAYOUT & LANDSCAPE



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR

LISTING OF BENCHMARK POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
301	309025.4	13494879.4	579.92	BM 1 CHISELED SQ N EDGE LP
302	308961.8	13494612.7	579.28	BM 2 CHISELED SQ S EDGE PP

NOTE: POINTS 1, 3 & 101 NOT IN THIS VIEW

LISTING OF CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	308954.988	13494718.876	577.66	CP IR&NDG-CAP
2	309410.472	13494636.123	576.11	CP IR&NDG-CAP
3	309197.777	13495085.006	577.34	CP IR&NDG-CAP
101	308991.592	13494505.391	577.18	MP SPIKE

NOTE: POINTS 2 & 3 NOT IN THIS VIEW

LISTING OF CATCH BASINS		
TAG	RIM EL	BOT EL
CB 1 (#10352)	577.13	574.38
CB 2 (#10346)	577.01	574.51
CB 3 (#10477)	576.29	574.29
CB 4 (#10621)	577.19	574.19
CB 5 (#10622)	576.81	574.81

HMA APPLICATION ESTIMATE				
IDENT. NO.	ITEM	RATE: LB/SYD	PERFORMANCE GRADE	REMARKS
(T)	HMA, LVSP	165	58-28	TOP COURSE (AWI = 220 MIN)
(L)	HMA, LVSP	165	58-28	LEVELING COURSE
BOND COAT		0.05 - 0.15 GAL/SYD	FOR INFORMATION ONLY	

LISTING OF STAKE POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
500	309068.158	13494624.373	STK
501	309095.318	13494612.405	STK
502	309104.846	13494608.273	STK
503	309155.314	13494726.085	STK
504	309146.267	13494730.075	STK
505	308993.913	13494797.274	STK
506	308940.832	13494680.579	STK
507	309094.340	13494664.465	STK
508	309099.704	13494676.853	STK

- GENERAL SHEET NOTES
1.

PARKING SPACES PROVIDED IN REPAIRED AREA = 2 ADA & 37 STANDARD.
2.

PROVIDE BARRIER FREE SIGNS AND POSTS AS REQUIRED BY CODE AND ADA.
3.

INSTALL CAST IN PLACE TRUNCATED DOME DETECTABLE WARNING SYSTEM, COMPOSITE, DARK GREY 24" DEEP x FULL WIDTH OF SIDEWALK, FRONT EDGE 6" FROM EDGE OF PAVEMENT.

- SHEET KEYNOTES
1.

EXISTING HMA TO REMAIN IN THIS AREA.
2.

EXISTING CONCRETE SIDEWALK TO REMAIN.
3.

REMOVE AND REPLACE HMA (NOTE HMA IN POOR CONDITIONS, NEED TO REMOVE AT LEAST 2 1/2" OF SURFACE MATERIAL HMA OR AGGREGATE FOR NEW CONSTRUCTION) IN THIS AREA.
4.

REMOVE AND REPLACE CONCRETE SIDEWALK IN THIS AREA.
5.

NEW 4" TH. CONCRETE SIDEWALK. SAWCUT CONTROL JOINTS PROVIDE ADA COMPLIANT SIDEWALK:
RUNNING SLOPE ≤ 1:20
CROSS SLOPE ≤ 1:48
6.

NEW HMA PARKING LOT. CONSTRUCT PER APPLICATION TABLE. GRADE PAVEMENT TO DRAIN TO EX CATCH BASINS.

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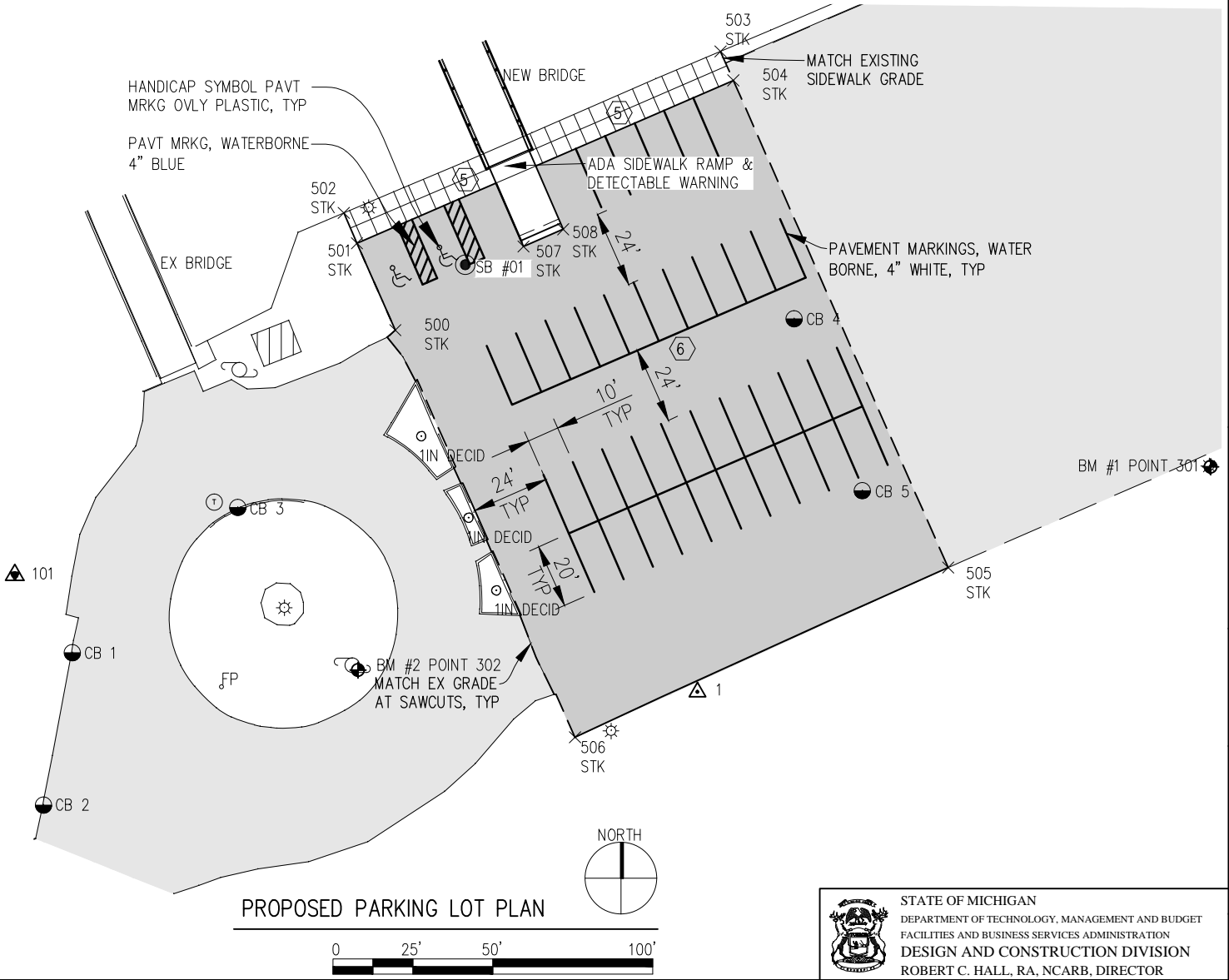
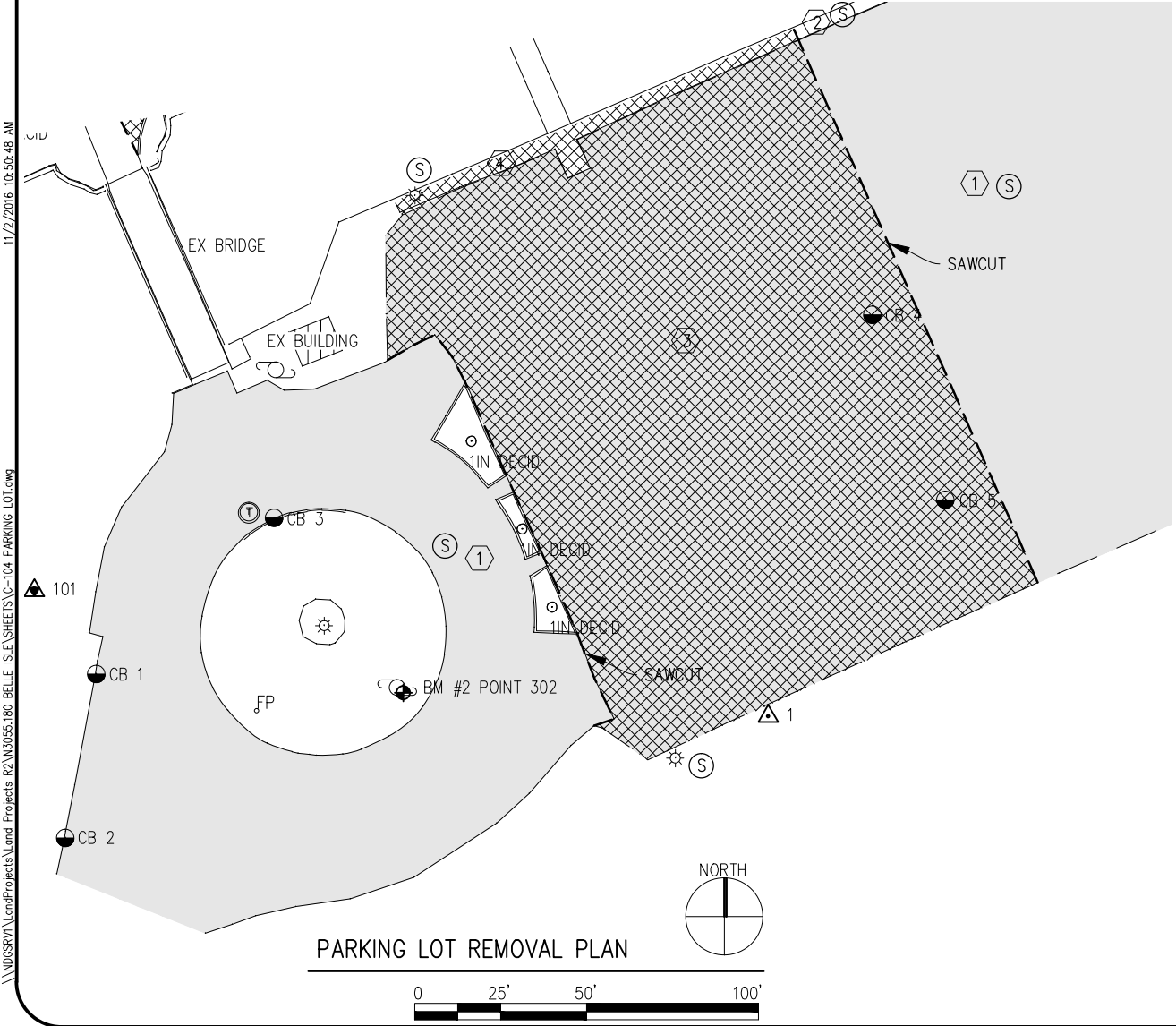
WAYNE COUNTY, MICHIGAN
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MANAGEMENT AND BUDGET/MICHIGAN DEPARTMENT
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PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	C-104 PARKING LOT	
MANAGER	AHP	
DESIGNED BY	AHP	
DRAWN BY	SMM	
CHECKED BY	AHP	
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SHEET TITLE		

PARKING LOT
PLANS

C-104



STATE OF MICHIGAN

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR

1. DCPT (DYNAMIC CONE PENETROMETER TEST) VALUES DENOTE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 1.5' DIA CONE 3 SUCCESSIVE 1.75" INCREMENTS USING A 15LB MASS FALLING 20".
2. WATER LEVELS MAY BE INFLUENCED BY RESIDUAL BORING WATER.
3. THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.
4. THE SOIL BORINGS WERE DRILLED AND LOGGED BY NORTHWEST DESIGN GROUP, LLC. ON NOVEMBER 8, 2016.
5. SEE SHEETS C-102, C-103 AND C-104 FOR BORING LOCATIONS, EXCEPT BORING 02. BORING 02 IS NOT SHOWN ON DRAWINGS OR IN PROPOSED WORK AREAS.

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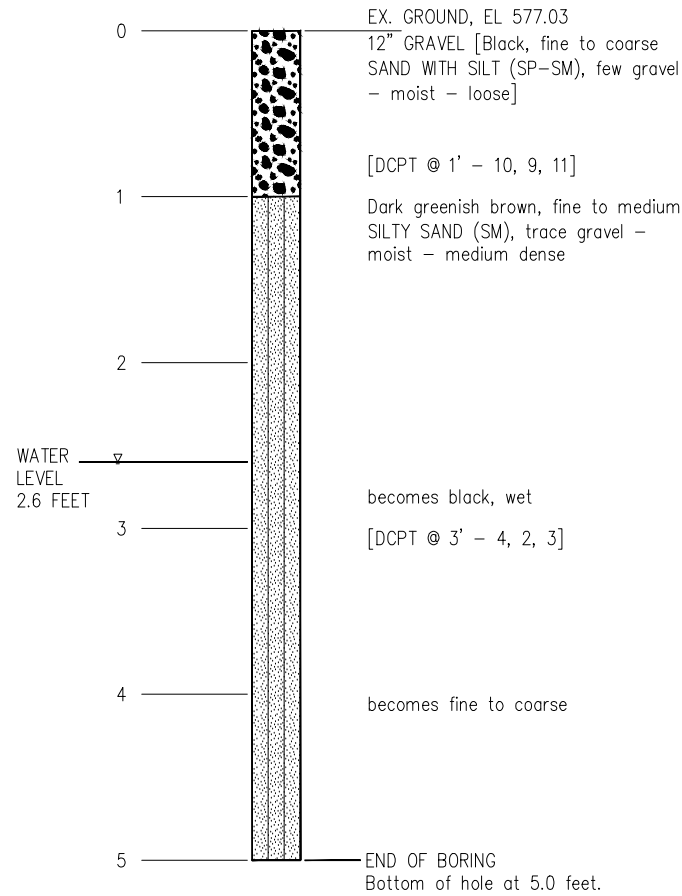
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WAYNE COUNTY, MICHIGAN

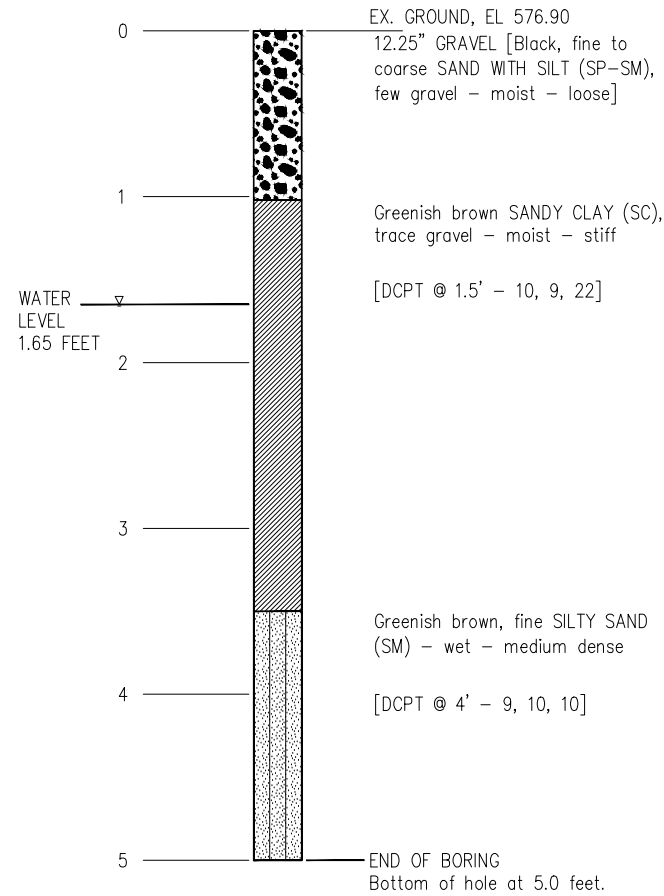
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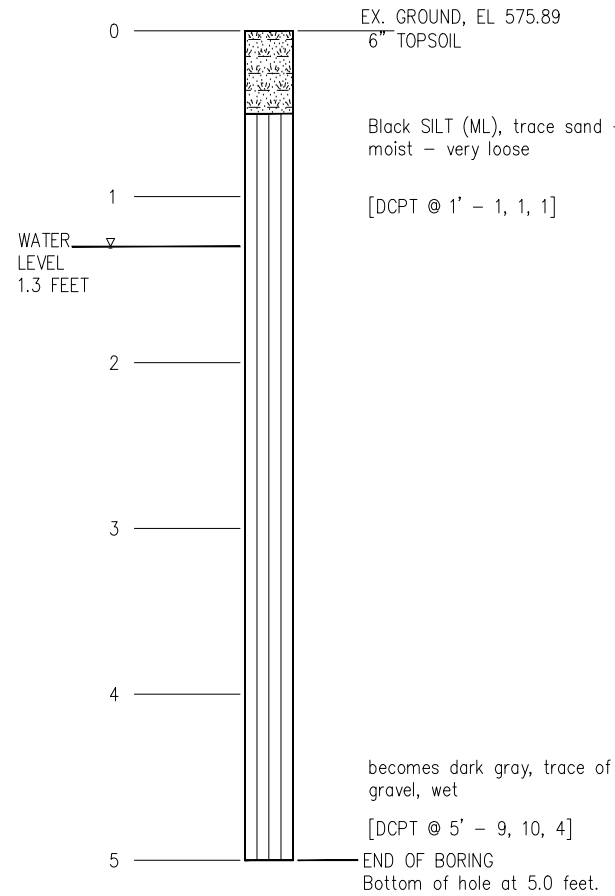
LOG OF SOIL BORING 01



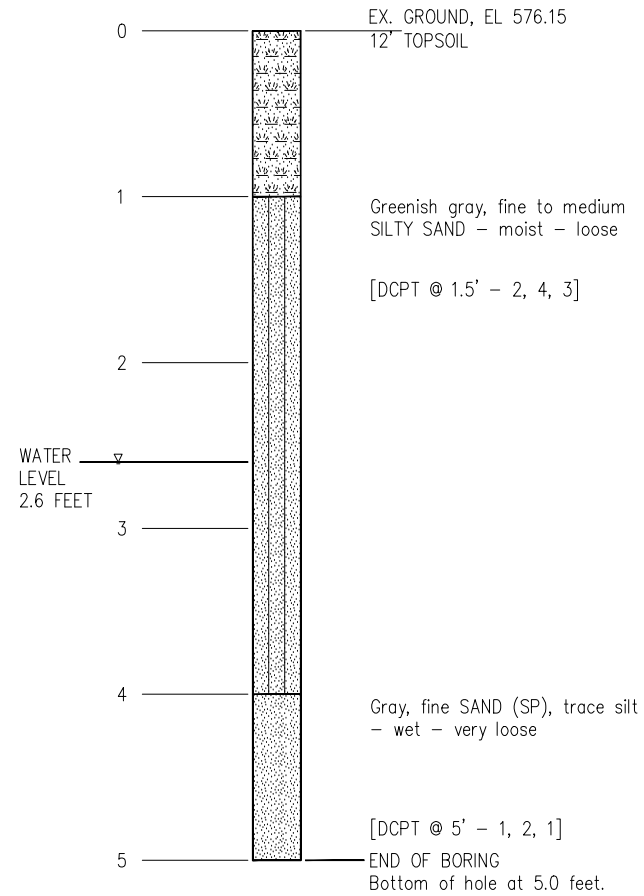
LOG OF SOIL BORING 02 (NOT SHOWN IN WORK AREA)



LOG OF SOIL BORING 03



LOG OF SOIL BORING 04



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CADD FILE	C-401 BORINGS	
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SHEET TITLE		

SOIL BORINGS

C-401



STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ROBERT C. HALL, RA, NCARB, DIRECTOR

12/16/2016 11:17:59 AM



1. DCPT (DYNAMIC CONE PENETROMETER TEST) VALUES DENOTE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 1.5' DIA CONE 3 SUCCESSIVE 1.75" INCREMENTS USING A 15LB MASS FALLING 20".
2. WATER LEVELS MAY BE INFLUENCED BY RESIDUAL BORING WATER.
3. THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.
4. THE SOIL BORINGS WERE DRILLED AND LOGGED BY NORTHWEST DESIGN GROUP, LLC. ON NOVEMBER 8, 2016.
5. SEE SHEETS C-102, C-103 AND C-104 FOR BORING LOCATIONS.



WAYNE COUNTY, MICHIGAN
FILE NO: 751/15224.MNB INDEX NO: 59715

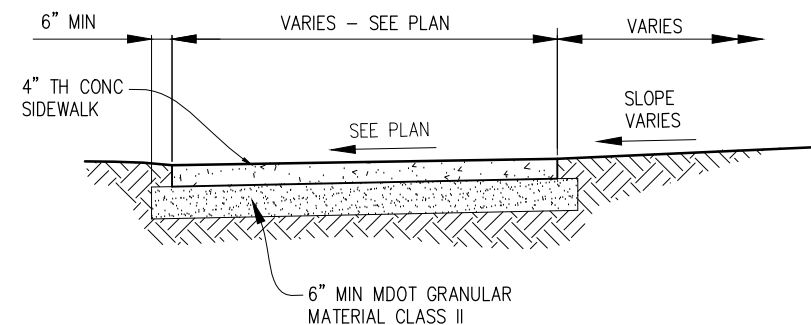
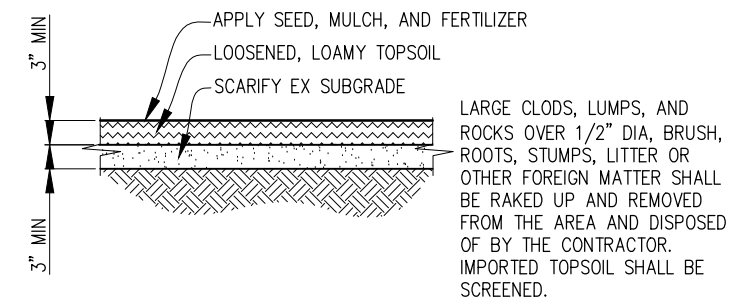
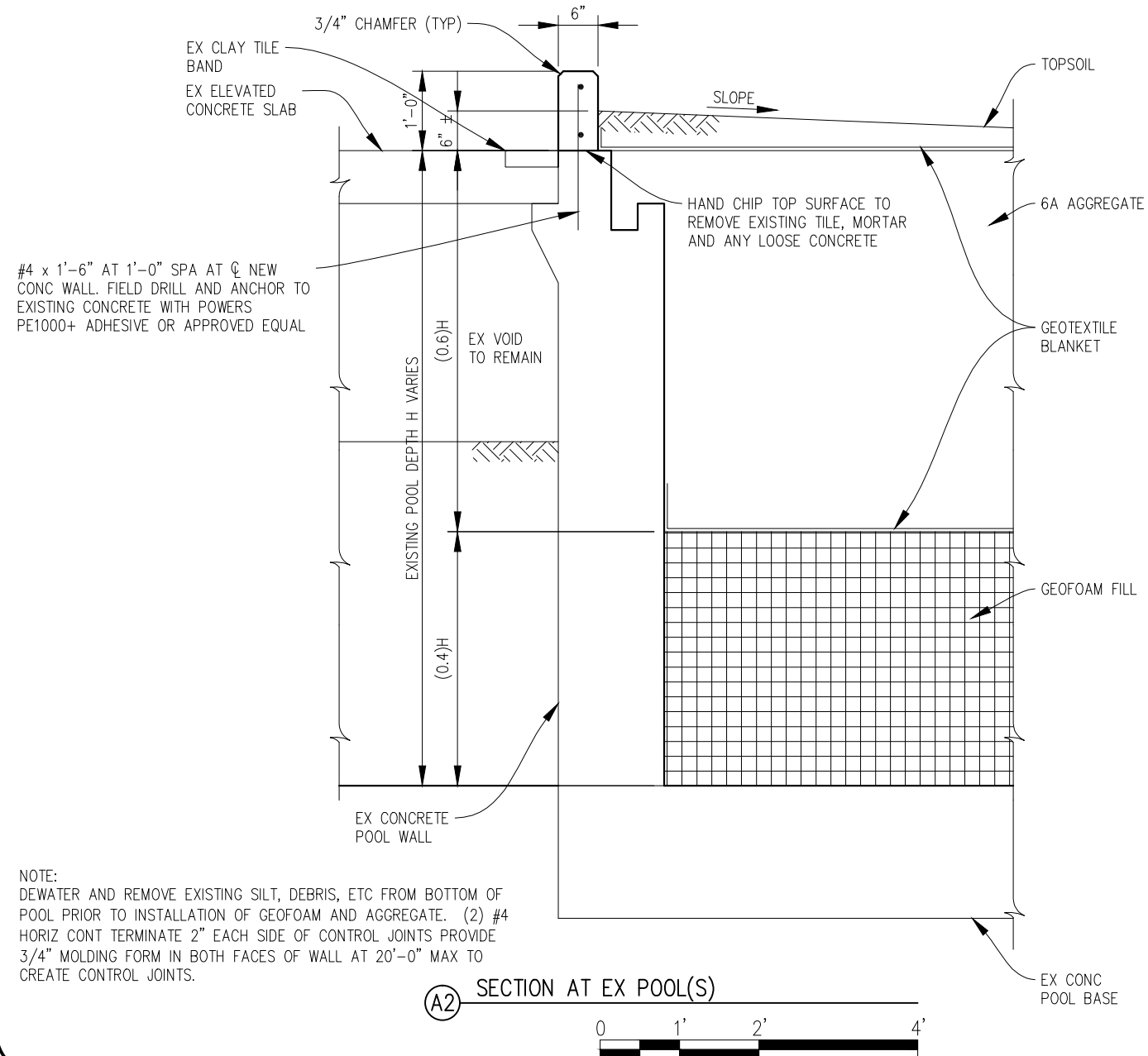
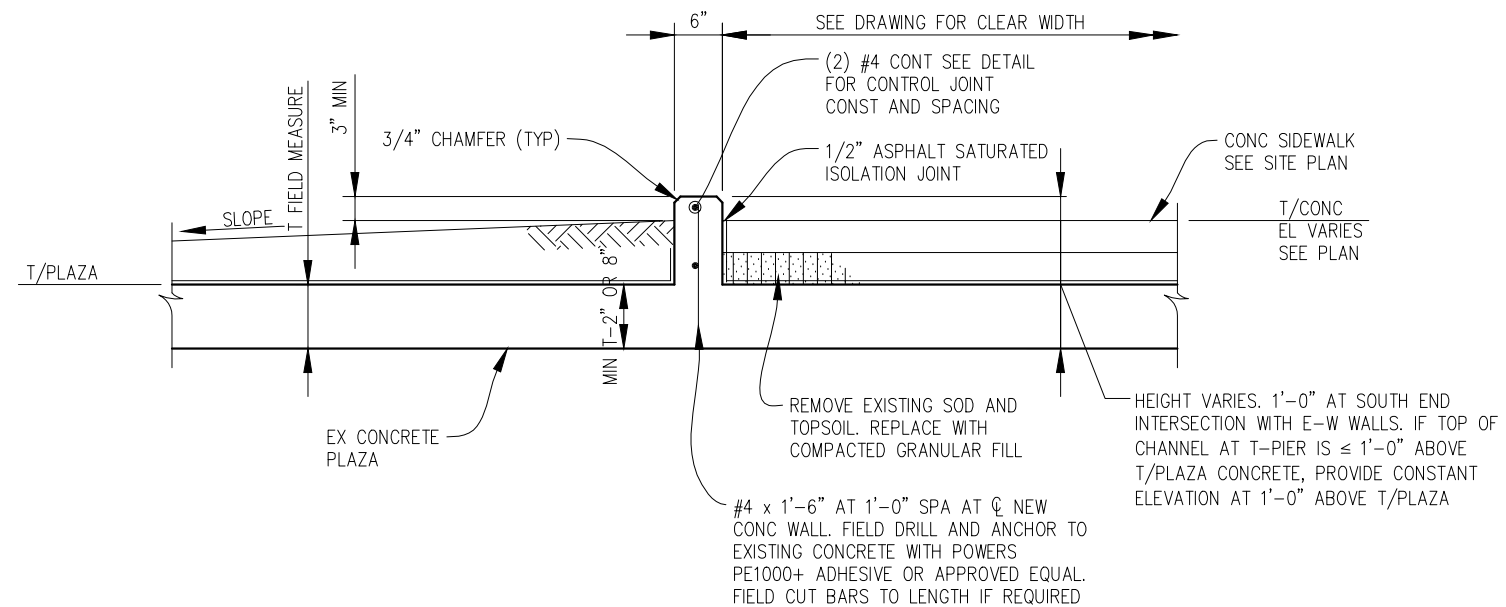
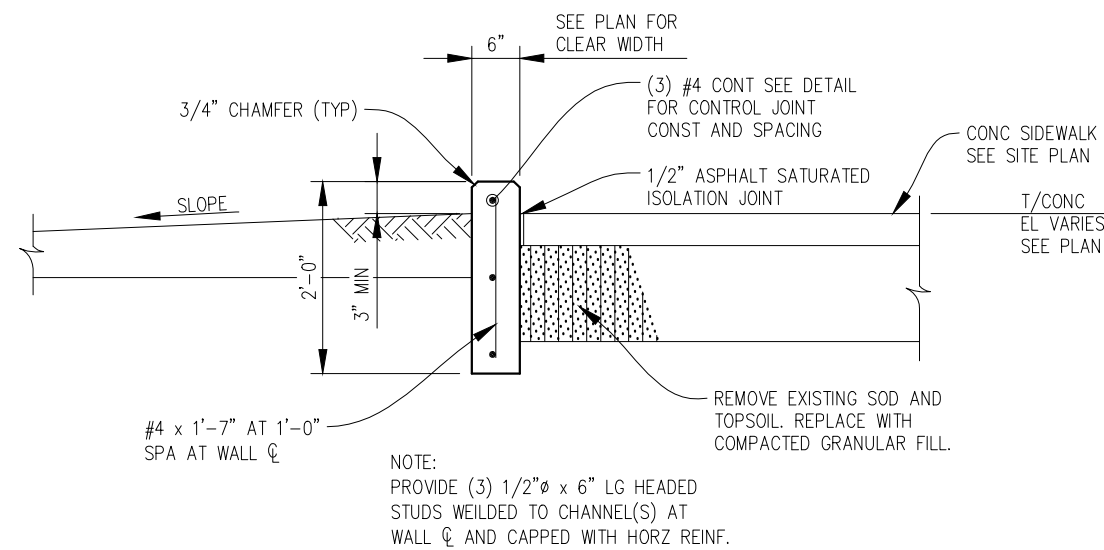
PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY,
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OF NATURAL RESOURCES

PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO		N3055.180
CADD FILE		C-402 BORINGS
MANAGER		AHP
DESIGNED BY		AHP
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C-402



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BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN
FILE NO: 751/15224.MNB INDEX NO: 59715

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PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	C-501 SITE DETAILS	
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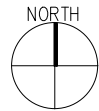
SITE DETAILS

C-501



S-101

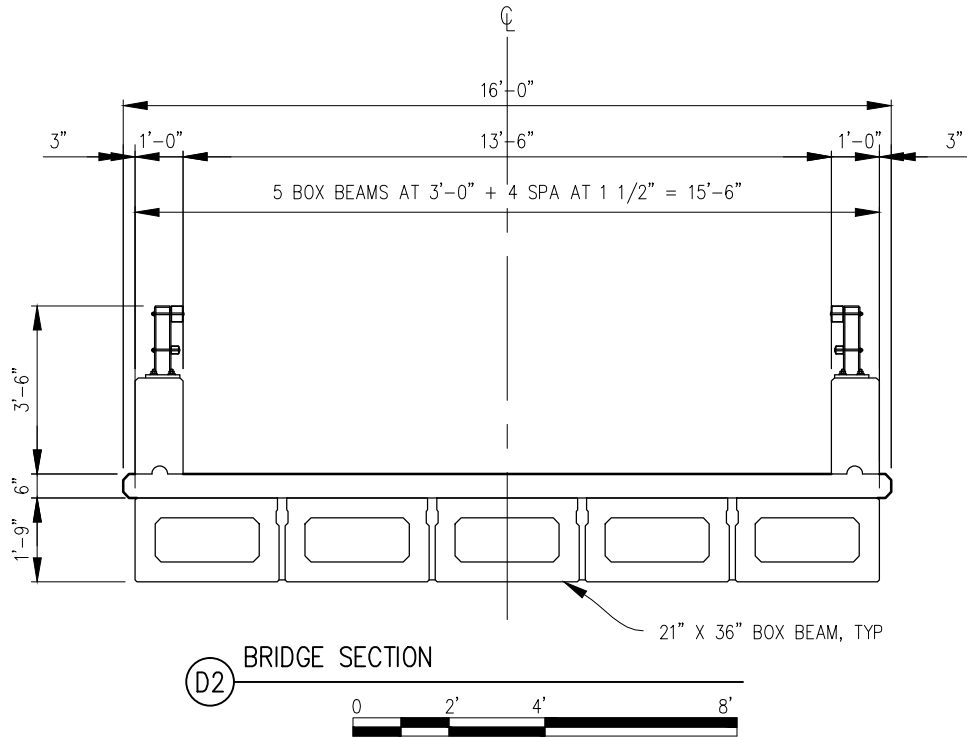




S-102

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\\NDGSRV1\LandProjects\Land Projects R2\N3055.180 BELLE ISLE\PROJECTS\S-103 BRIDGE PLAN & SEC.dwg



GENERAL SHEET NOTES

- THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION PEDESTRIAN LOADING OF 90 PSF AND A MAINTENANCE VEHICLE H20 LOADING, NOT ACTING CONCURRENTLY. LIVE LOAD DEFLECTION DOES NOT EXCEED 1/360 OF SPAN LENGTH.
- THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2 F'C = 3,000 PSI
CONCRETE: GRADE D F'C = 4,000 PSI
STEEL REINFORCEMENT FY = 60,000 PSI
STEEL REINFORCEMENT: STIRRUPS FOR PRESTRESSED 21" BOX BEAMS FY = 40,000 PSI

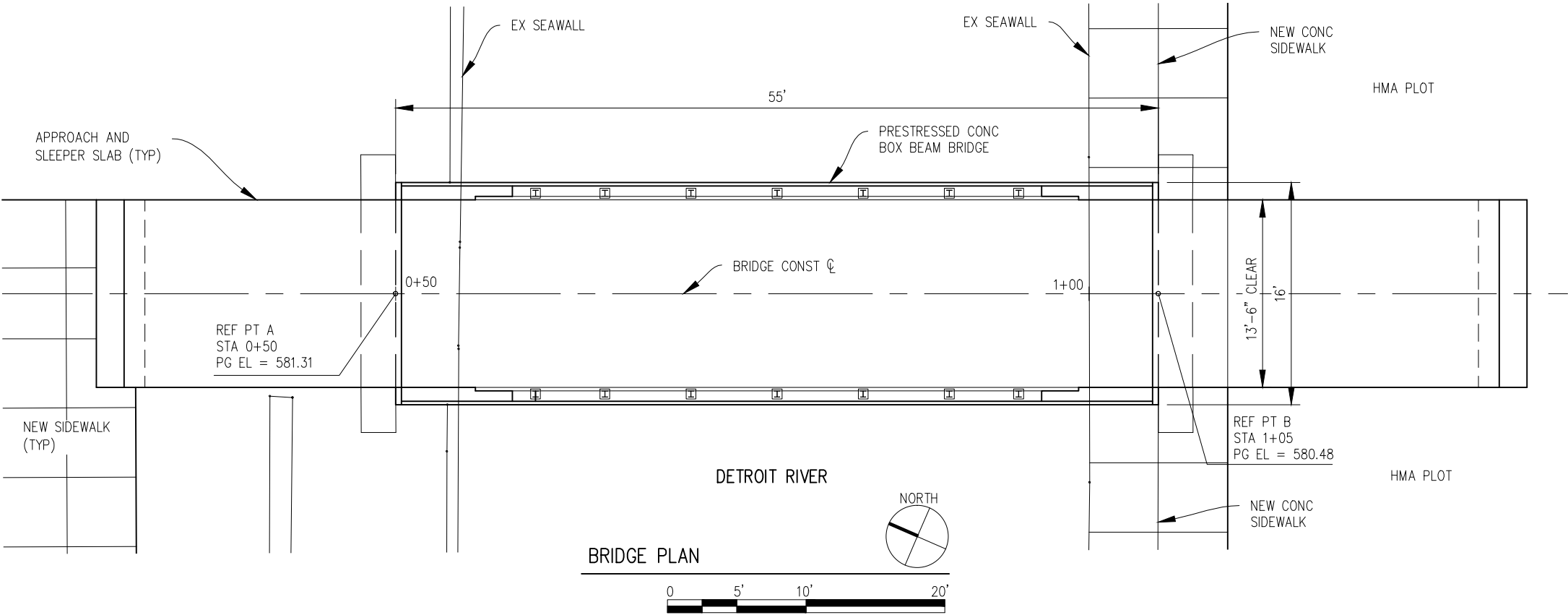
STRUCTURAL STEEL: AASHTO M270
GRADE 36 FY = 36,000 PSI
STRUCTURAL STEEL: AASHTO M270
GRADE 50W FY = 50,000 PSI
PRESTRESSED CONCRETE F'C = 7,000 PSI
PRESTRESSED CONCRETE COMPRESSIVE STRENGTH AT RELEASE F'CI = 4,000 PSI
PRESTRESSING STRANDS FPU = 270,000 PSI
- ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.
- THE EXISTING SHEET PILE WALL PAINT MAY CONTAIN LEAD.
- THE DESIGN OF THE FOUNDATION PILING IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES (AND LOSSES):

CONCRETE: GRADE S1 F'C = 3,500 PSI
STEEL REINFORCEMENT FY = 60,000 PSI
FOUNDATION PILING (STEEL H-PILING): AASHTO M270
GRADE 50 FY = 50,000 PSI
FOUNDATION PILING (STEEL H-PILING): AASHTO M270
GRADE 50W FY = 50,000 PSI

GENERAL SHEET NOTES CONT

- UNLESS OTHERWISE SHOWN ON THE PLANS PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING:

CONCRETE CAST AGAINST EARTH: 3 IN.
PRESTRESSED BEAMS: 1 IN.
ALL OTHER UNLESS SHOWN ON PLANS: 2 IN.
- THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
- WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.
- SOIL CLASSIFIED AS SHALL BE UNDERCUT AND REPLACED WITH "EMBANKMENT, STRUCTURE, CIP" COMPACTED TO 100 PERCENT OF MAXIMUM UNIT WEIGHT. EXCAVATION AND BACKFILL QUANTITIES ARE BASED ON AN ESTIMATED UNDERCUT TO ELEVATION. ACTUAL LIMITS OF EXCAVATION WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
- MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE. IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE EFFECTIVE.



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WAYNE COUNTY, MICHIGAN
FILE NO: 751/15224.MNB INDEX NO: 59715
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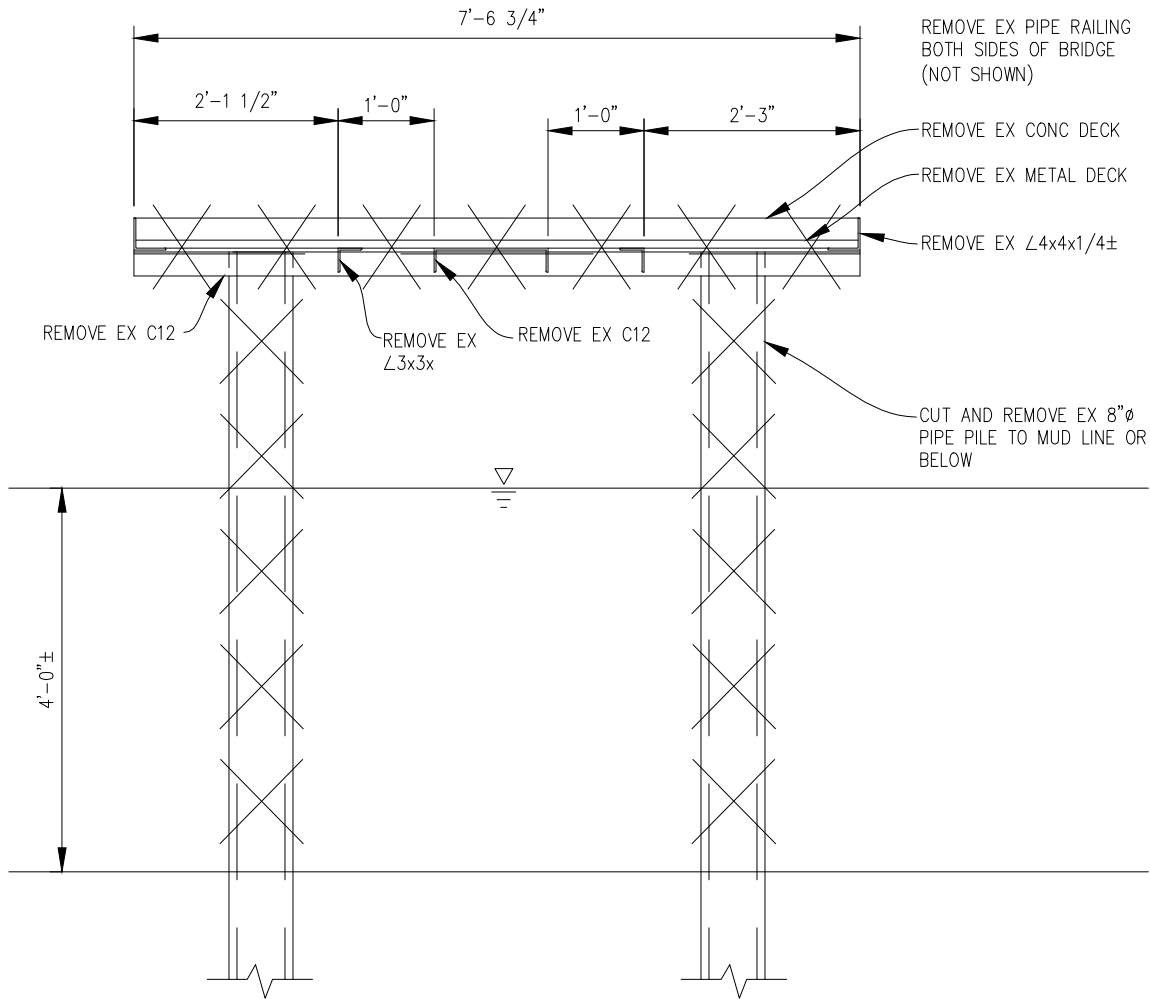
PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	S-103 BRIDGE PLAN & SEC	
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BRIDGE
PLAN & SECTION

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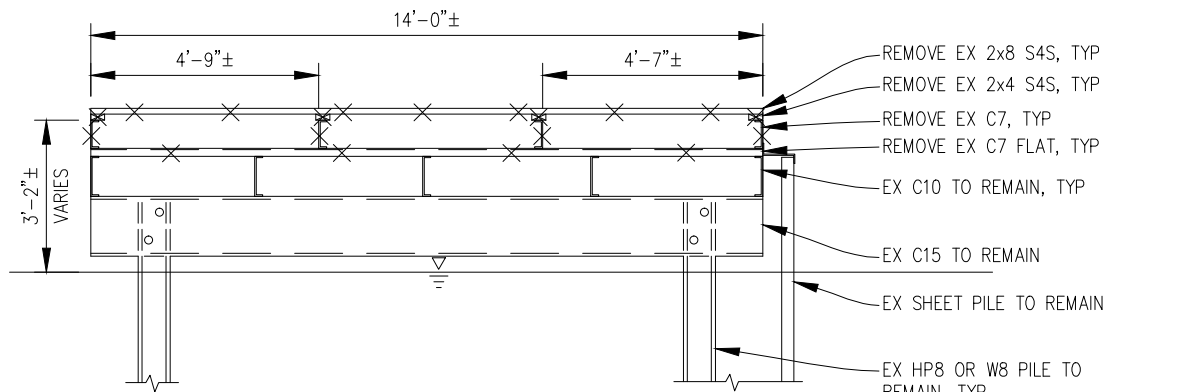
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C1 EX BRIDGE SECTION

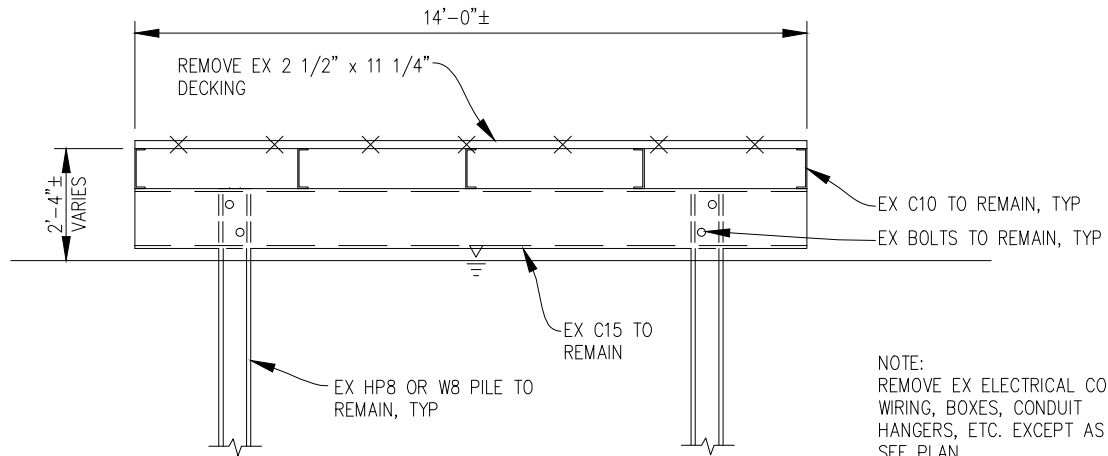
0 1' 2' 4'



A1 REMOVAL SECTION

0 2' 4' 8'

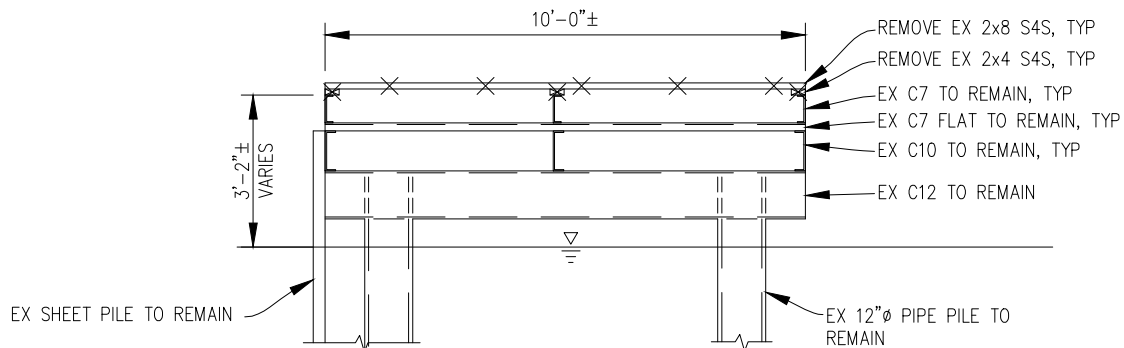
NOTE:
REMOVE EX ELECTRICAL CONDUIT,
WIRING, BOXES, CONDUIT
HANGERS, ETC. EXCEPT AS NOTED.
SEE PLAN.



C4 REMOVAL SECTION

0 2' 4' 8'

NOTE:
REMOVE EX ELECTRICAL CONDUIT,
WIRING, BOXES, CONDUIT
HANGERS, ETC. EXCEPT AS NOTED.
SEE PLAN.



A4 REMOVAL SECTION

0 2' 4' 8'

NOTE:
REMOVE EX ELECTRICAL CONDUIT,
WIRING, BOXES, CONDUIT
HANGERS, ETC. EXCEPT AS NOTED.
SEE PLAN.



BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN

FILE NO: 751/15224.MNB

INDEX NO: 59715

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PIER AND
BRIDGE REMOVALS

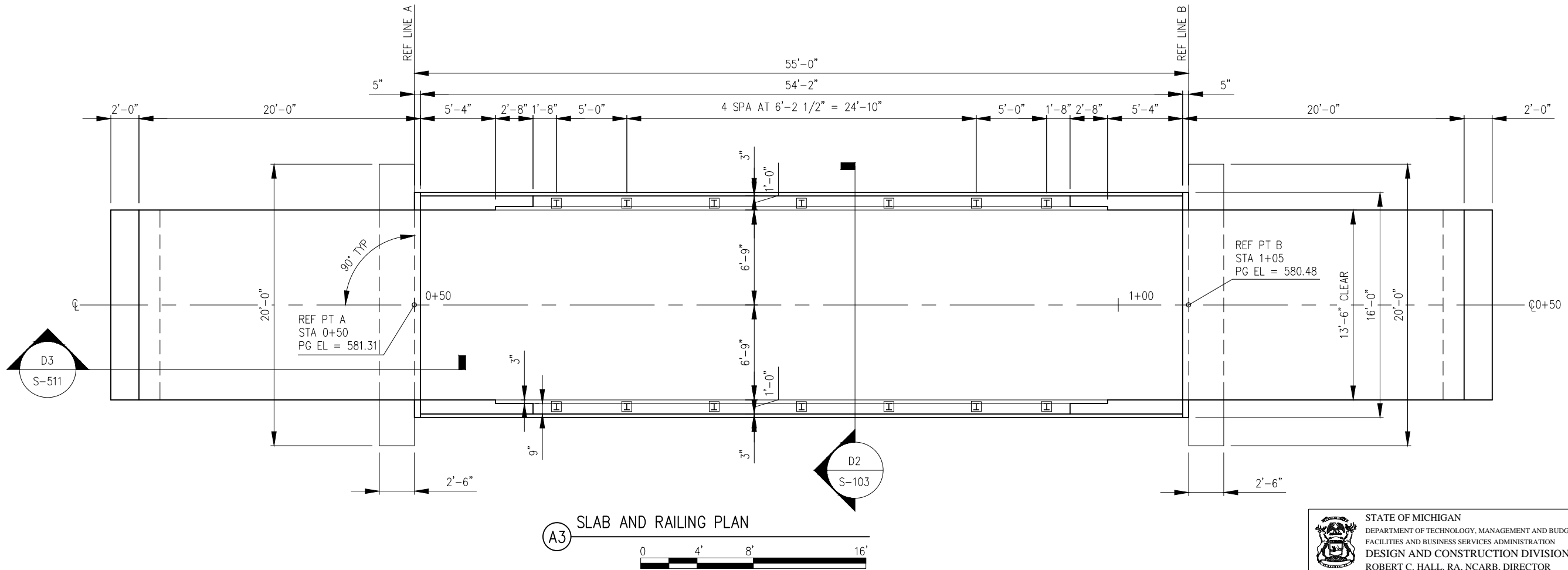
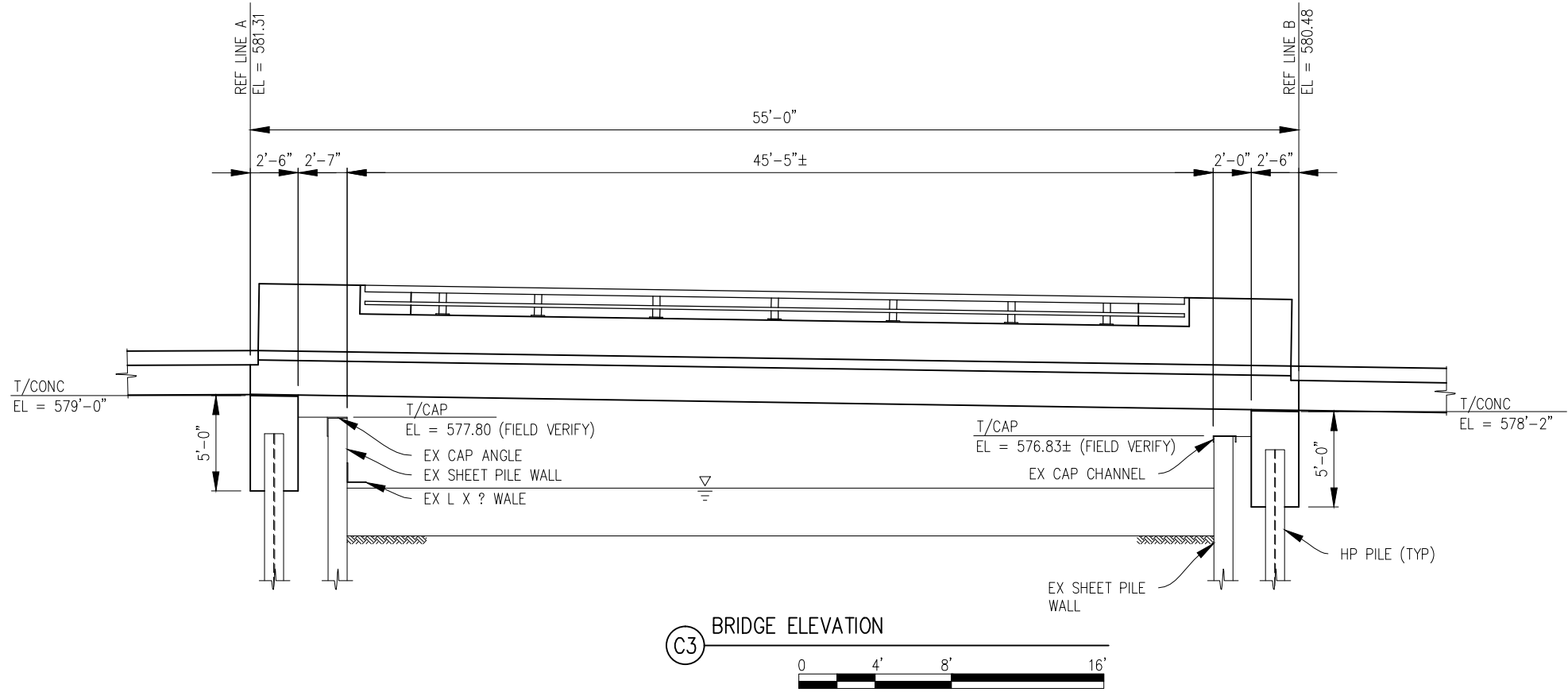
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\\NDGSRV1\LandProjects\Land Projects\N3055.180 BELLE ISLE\PROJECTS\S-502 BRID ELEV SLAB RAIL.dwg



GENERAL SHEET NOTES

1. A COFFERDAM HAS NOT BEEN PROVIDED FOR THIS STRUCTURE. OTHER MEANS OF WATER CONTROL MAY BE USED, AS APPROVED BY THE ENGINEER, PROVIDED THEY DO NOT DISTURB THE STREAM BED. WATER CONTROL, WHETHER IT BE BY COFFERDAM OR OTHER APPROVED MEANS.
2. ITEMS CAST INTO STRUCTURAL PRECAST CONCRETE TO FACILITATE BRIDGE CONSTRUCTION (FORMING, FINISHING, ETC.) SHALL BE GALVANIZED OR EPOXY COATED.
3. DO NOT USE WHEELED, ROLLER BASED OR MACHINE MOUNTED COMPACTION EQUIPMENT TO COMPACT THE SUBGRADE, SUBBASE, AND BASE WITHIN 10' OF THE SLEEPER SLAB AFTER IT IS BUILT. USE ONLY HAND/PLATE COMPACTORS. CONTACT PRESSURE OF COMPACTION EQUIPMENT SHALL NOT EXCEED 10 PSI.

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CADD FILE	S-502 BRID ELEV SLAB RAIL	
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BRIDGE ELEVATION
& SLAB/
RAILING PLAN

S-502

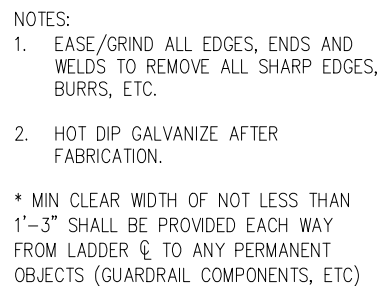
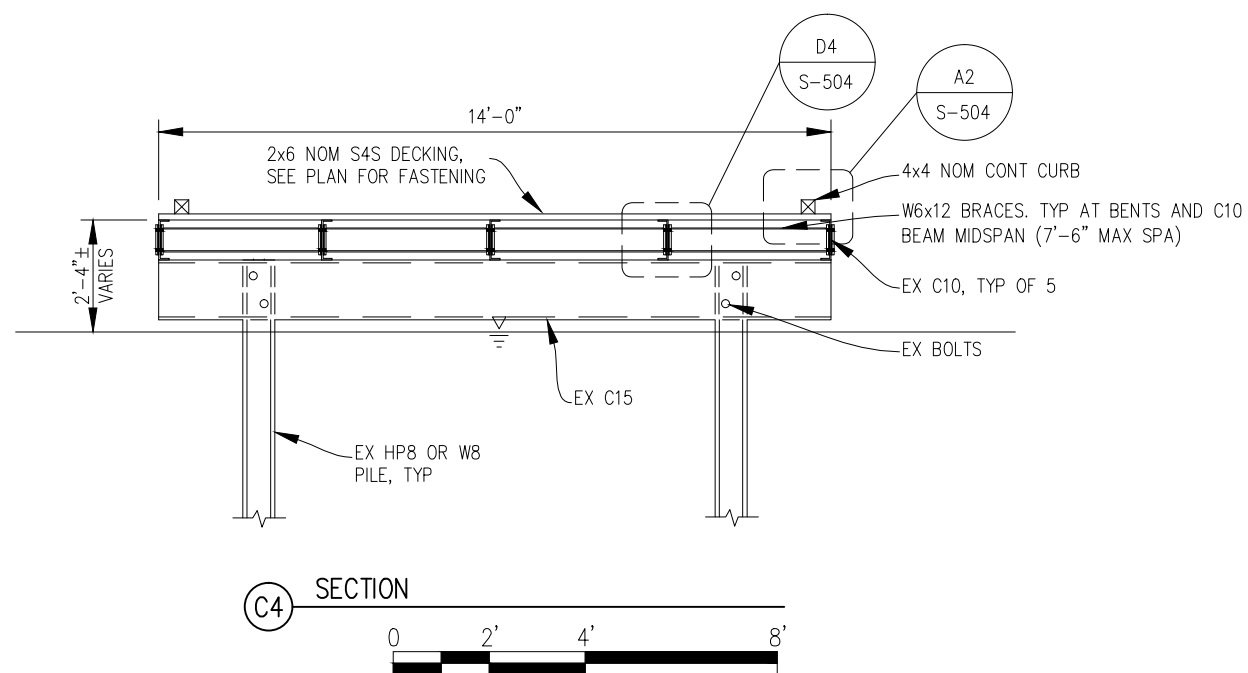


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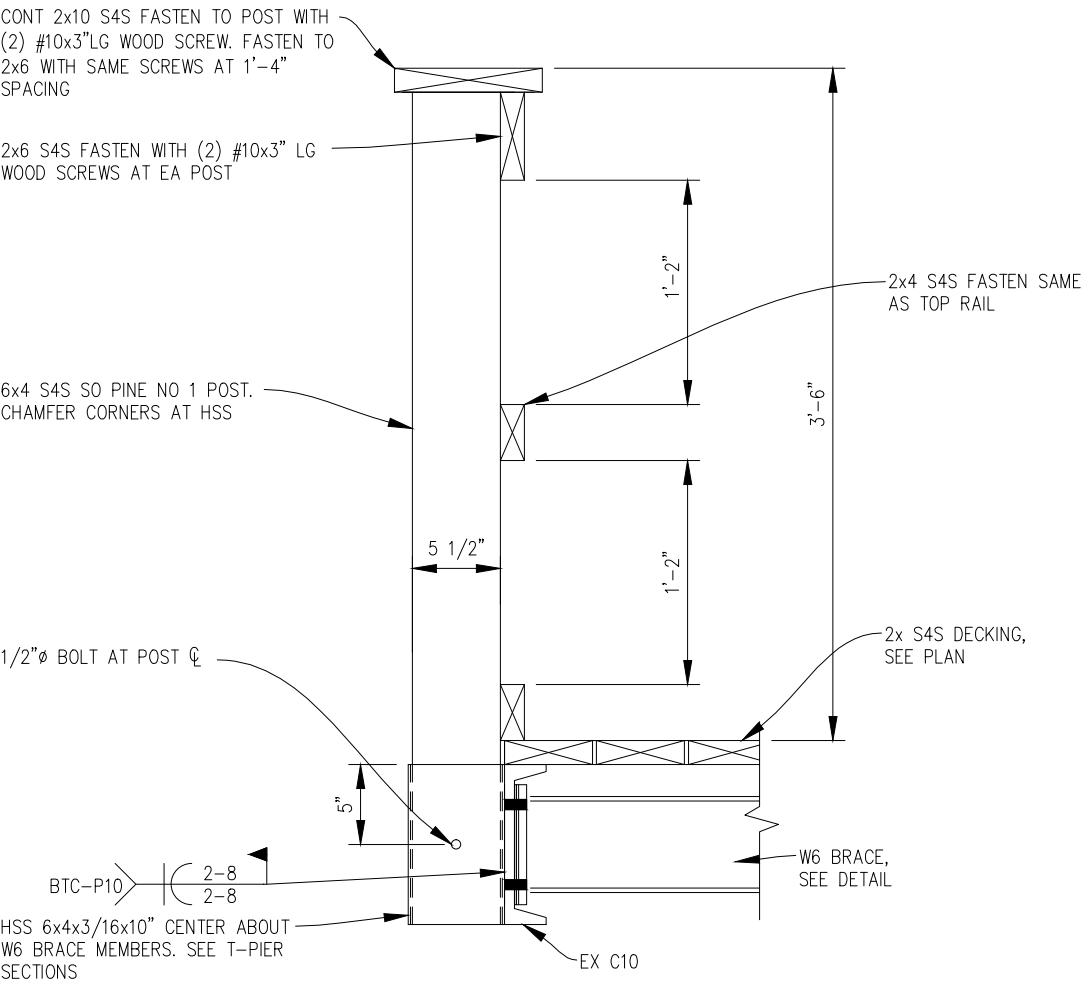
PIER DETAILS
S-503



* MIN CLEAR WIDTH OF NOT LESS THAN 1'-3" SHALL BE PROVIDED EACH WAY FROM LADDER C/L TO ANY PERMANENT OBJECTS (GUARDRAIL COMPONENTS, ETC)

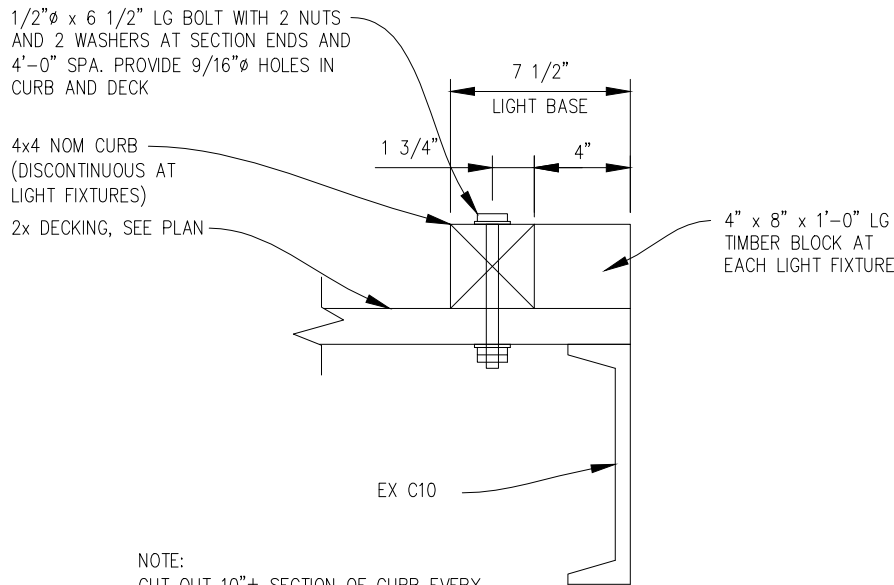
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C2 GUARDRAIL AT T-PIER - ALTERNATE 1

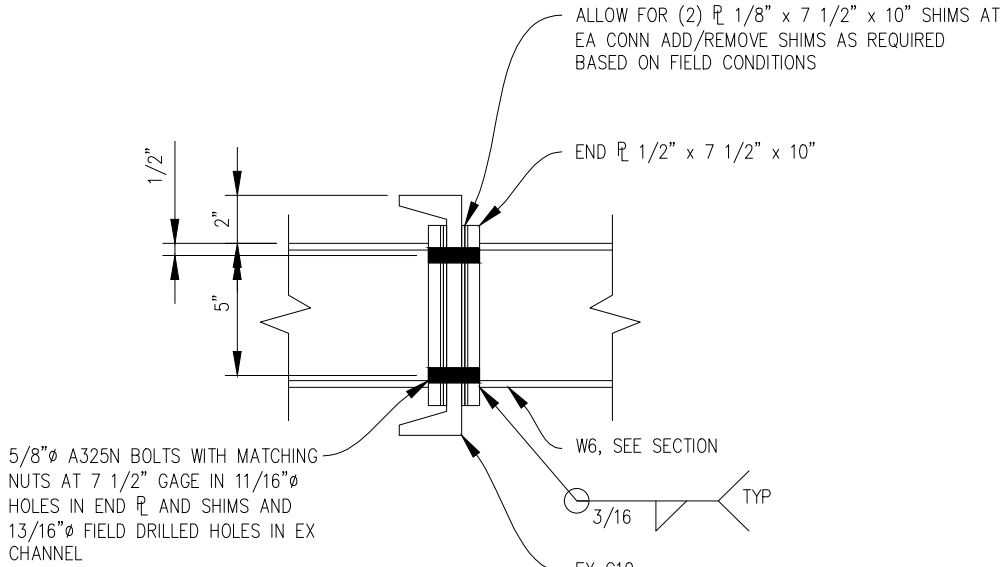
0 1/2' 1' 2'



NOTE:
CUT OUT 10" ± SECTION OF CURB EVERY 20'-0" FOR LIGHT FIXTURE BASE. SEE PLAN.

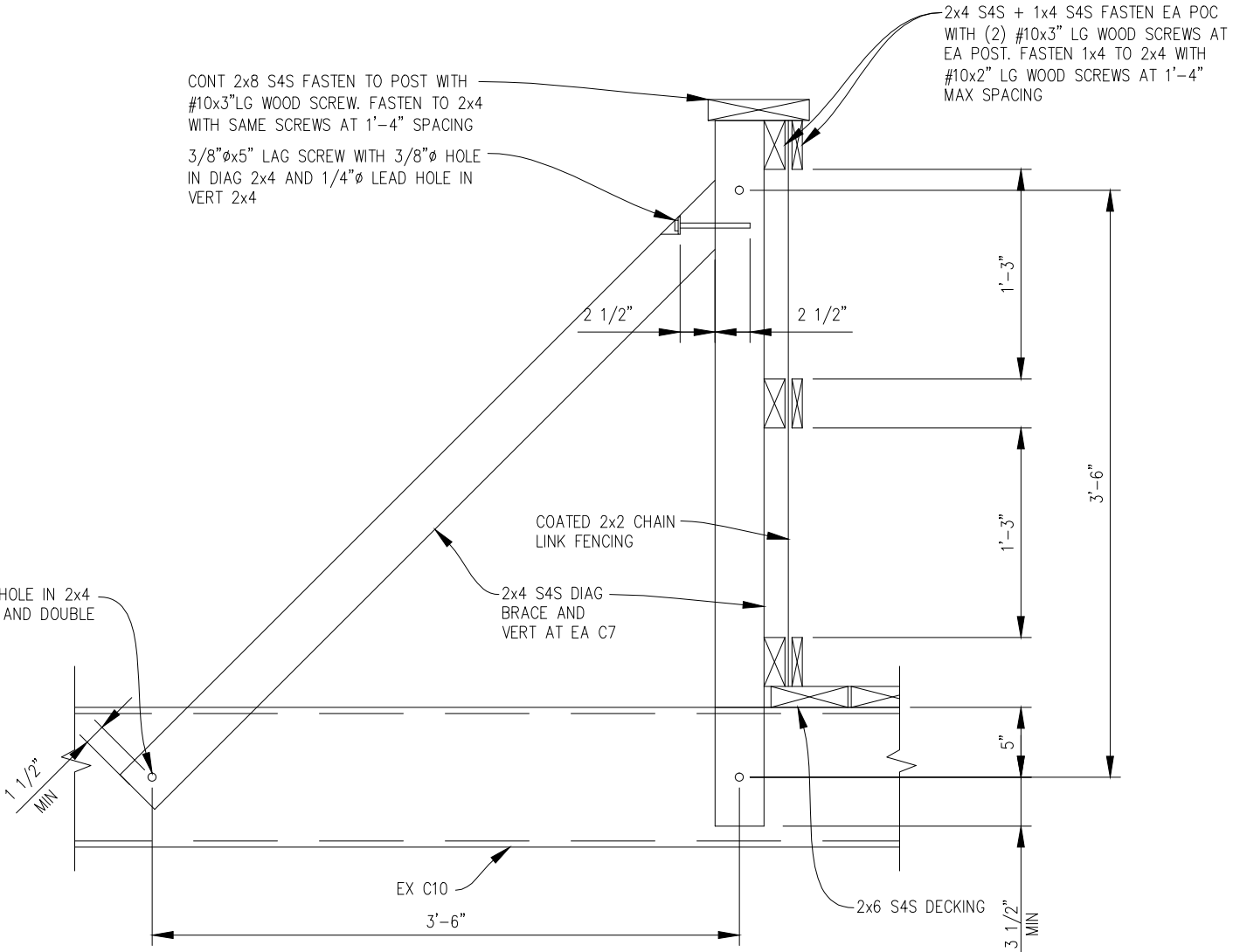
A2 TYPICAL EDGE CURB - BASE BID

0 1/2' 1' 1 1/2'



D4 STRENGTHENING DETAIL AT C10

0 1/2' 1' 1 1/2'



A4 TYPICAL BARRIER (2) LOCATIONS

0 1/2' 1' 2'



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INDEX NO: 59715
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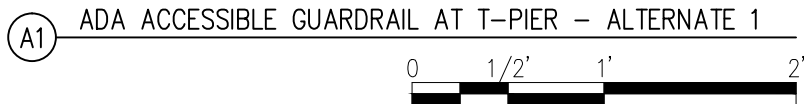
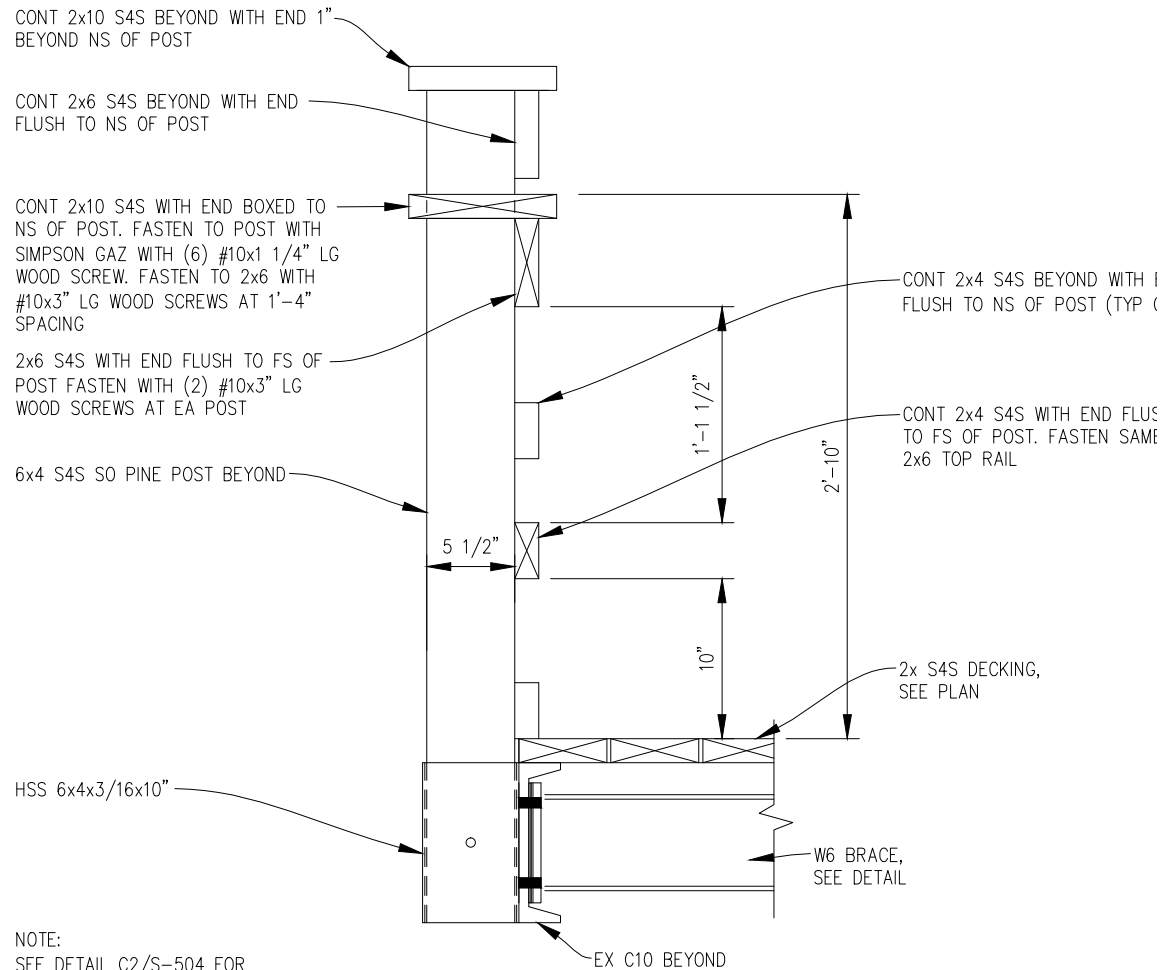
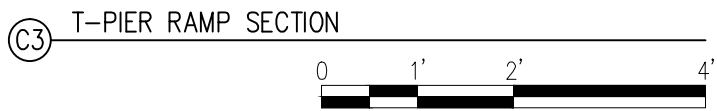
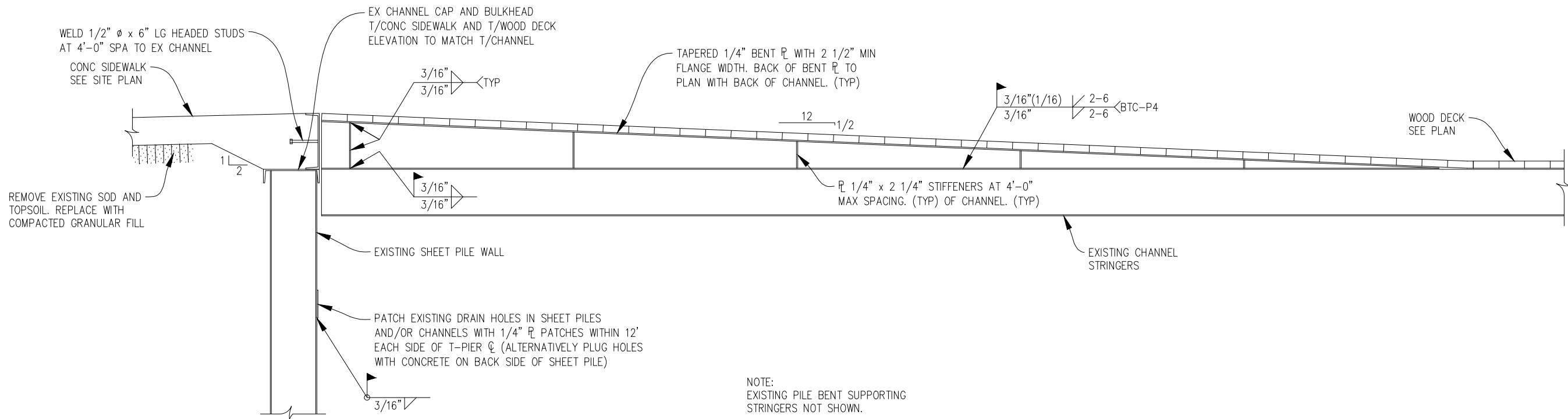
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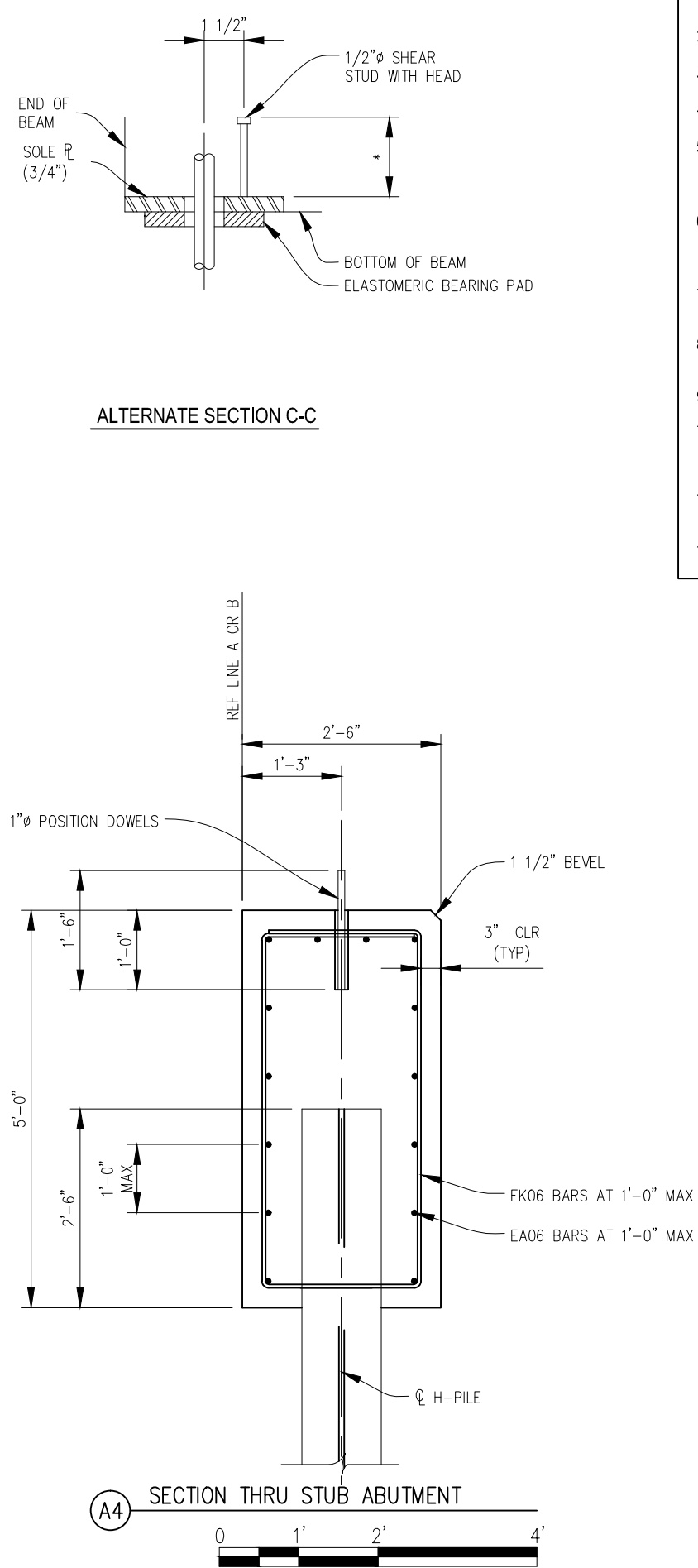
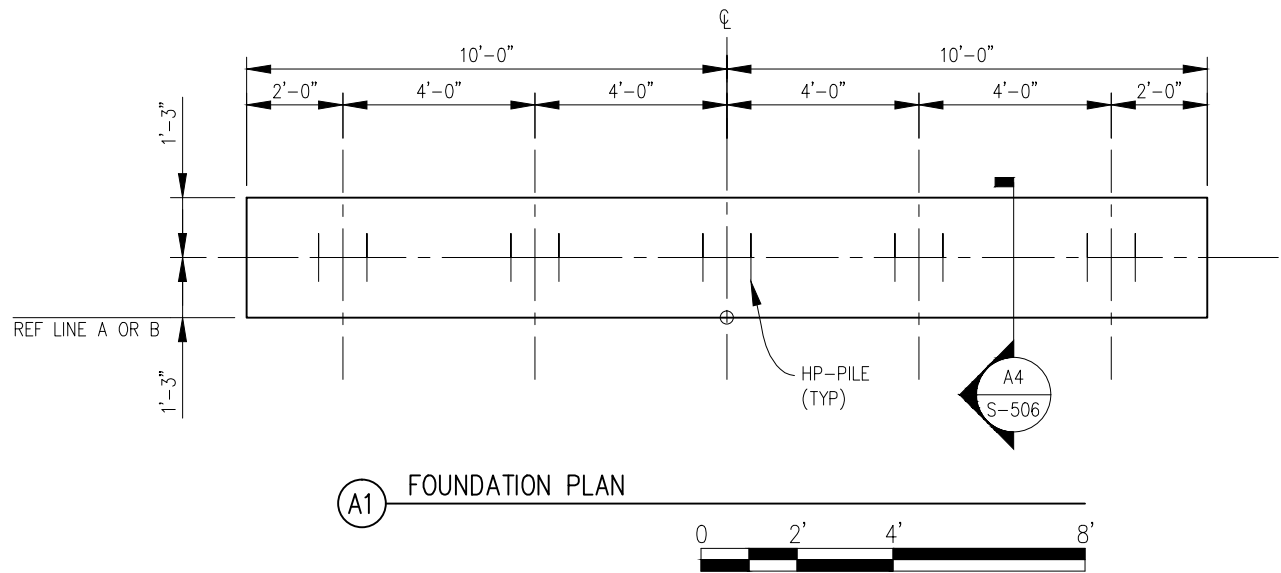
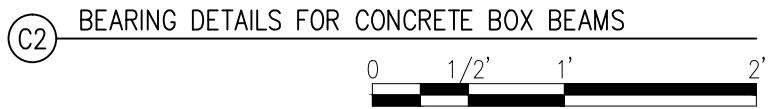
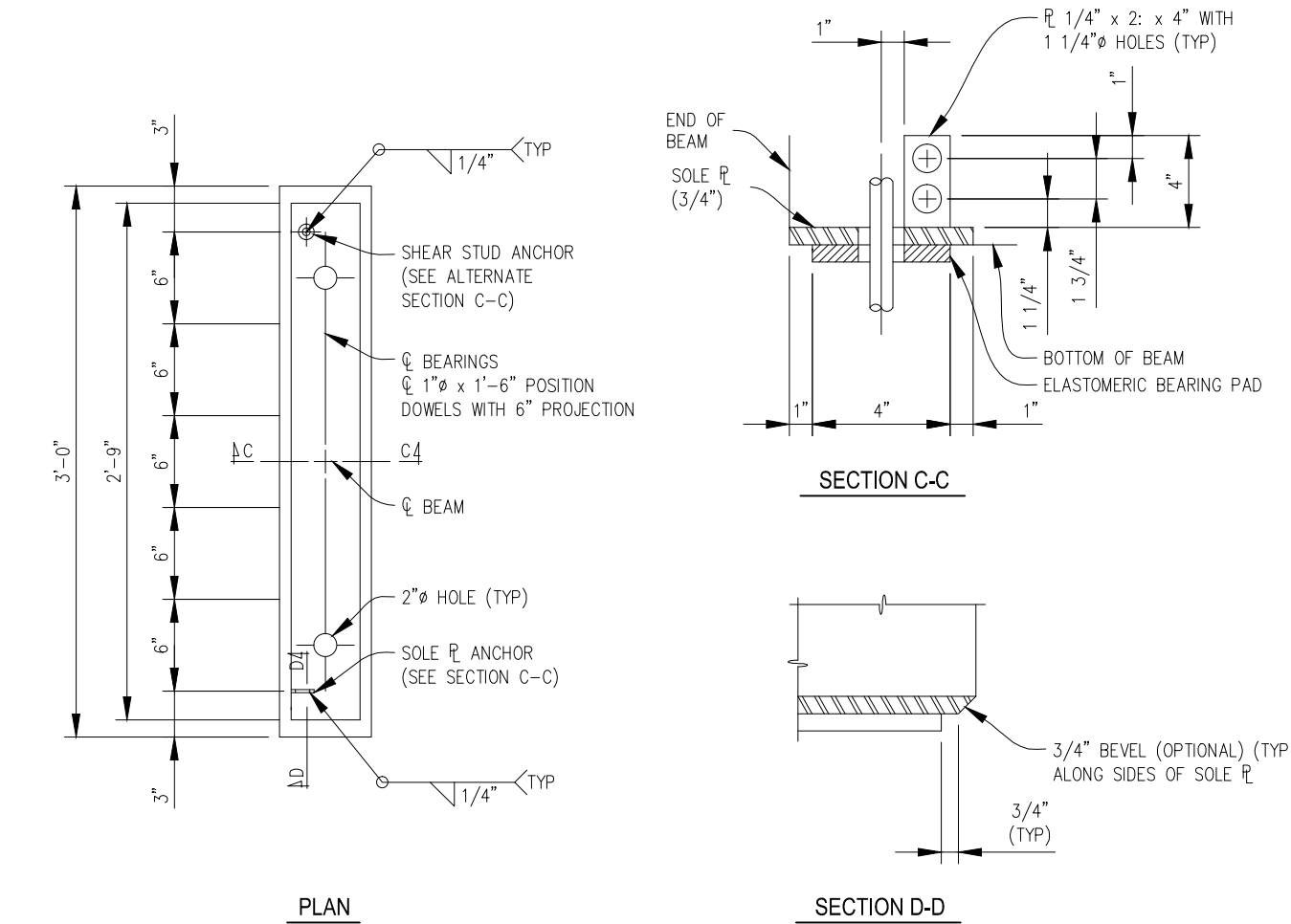
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PIER DETAILS

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- GENERAL SHEET NOTES
1. JWP DENOTES JOINT WATERPROOFING.
 2. NS DENOTES NEAR SIDE.
 3. FS DENOTES FAR SIDE.
 4. ES DENOTES EACH SIDE.
 5. THE CONTRACTOR MAY ADHESIVE ANCHOR POSITION DOWELS IN HOLES DRILLED IN THE CONCRETE AT ABUTMENT A AND B.
 6. LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO APPLICABLE CODES.
 7. DRIVE ALL PILES TO A NOMINAL PILE DRIVING RESISTANCE NOT LESS THAN 20 TONS.
 8. THE ESTIMATED PILE LENGTH IS BASED ON THE STATIC ANALYSIS IS 55' DRIVEN.
 9. STEEL PILES SHALL BE HP 12X53.
 10. PILES ARE TO BE DRIVEN TO SUCH ACCURACY THAT THE ENDS OF THE PILES TO BE EMBEDDED IN THE CONCRETE ARE WITHIN 3" OF THE LOCATION SHOWN ON THE PLANS.
 11. USE STEEL FOR H-PILES AND SPLICES THAT HAVE A YIELD STRENGTH NOT LESS THAN 50,000 PSI.
 12. MINIMUM PILE PENETRATION (ABUT A AND B), 10' BELOW CHANNEL BOTTOM.

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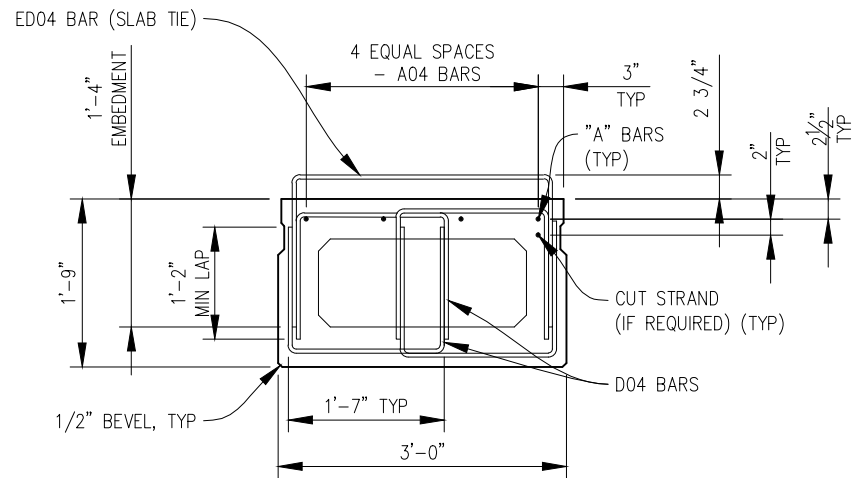
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PROJECT NO	N3055.180	
CADD FILE	S-506 BRIDGE ABUT DET	
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BRIDGE
ABUTMENT
DETAILS

S-506

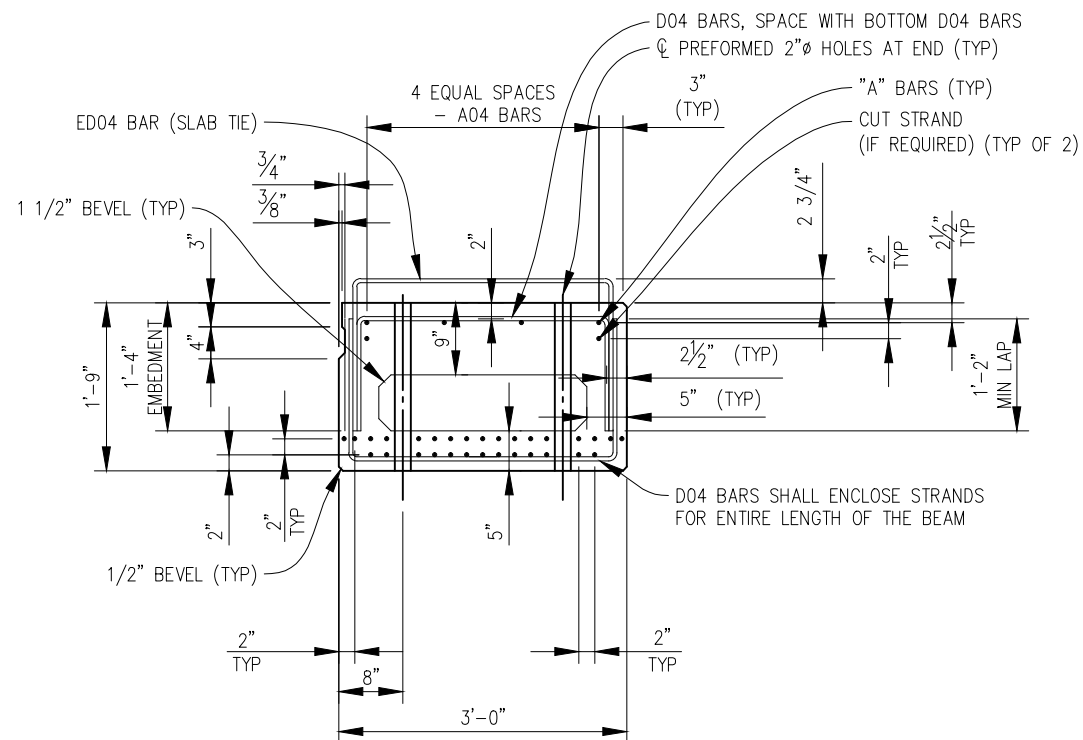
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NOTES:

1. DECREASE VOID BOXES HEIGHT IN FASCIA BEAMS TO INCREASE TOP FLANGE THICKNESS TO 9" FOR EMBEDMENT OF BRIDGE BARRIER BARS.
2. ALL A BARS SHALL BE GRADE 60 (ksi).
3. ALL D AND ED BARS SHALL BE GRADE 40 (ksi).

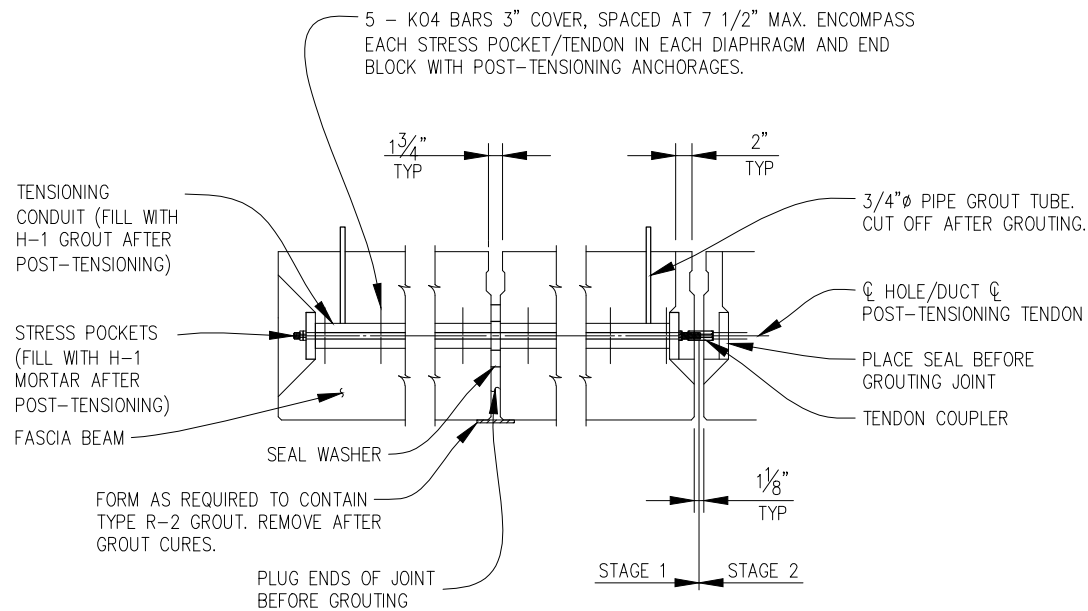
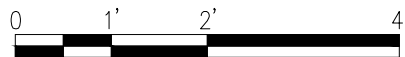
D1 TYPICAL SECTION - DOUBLE STIRRUP DETAIL, ALL BEAMS



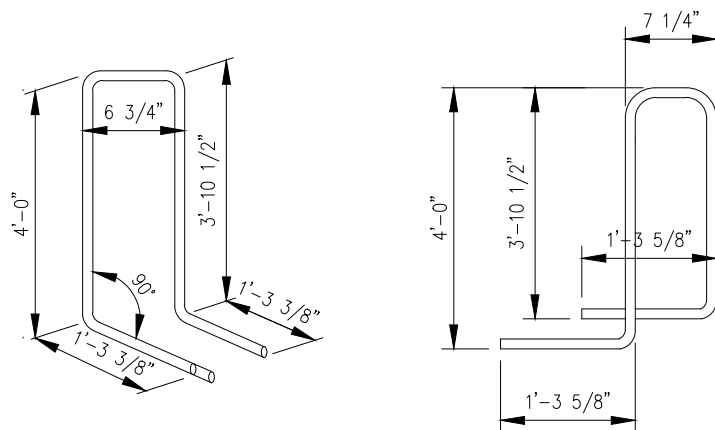
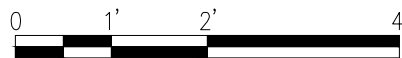
NOTES:

1. DECREASE VOID BOXES HEIGHT TO PROVIDE 1 1/2" CLEAR COVER FOR PRESTRESSING STRANDS IN UPPER ROW.
2. RAILING BARS NOT SHOWN.
3. ALL A BARS SHALL BE GRADE 60 (ksi).
4. ALL D AND ED BARS SHALL BE GRADE 40 (ksi).

A1 TYPICAL SECTION - 21" BEAMS



D4 POST - TENSIONING DETAIL



A4 SECTION



GENERAL SHEET NOTES

1. IF THE POSITION DOWELS AT ABUTMENT A OR B ARE MISALIGNED, IN RELATIONSHIP TO THE CENTERLINE OF BEARINGS, DUE TO TEMPERATURE EFFECTS ON THE BEAMS, HOLES IN THE ELASTOMERIC BEARINGS SHALL BE CENTERED ON THE DOWELS.
2. PRESTRESSING STRANDS SHALL BE GIVEN AN INITIAL PRESTRESS AS FOLLOWS:
0.6" DIA. - 44,000 LBS. PRESTRESS
3. TOTAL ESTIMATED CHANGE OF LENGTH OF BOTTOM FLANGE AT TRANSFER OF PRESTRESS FORCE IS 3/16".
4. THE ESTIMATED BEAM CAMBER AT RELEASE IS 1/2". THIS CAMBER IS DUE TO PRESTRESS AND DEAD LOAD OF THE BEAM ONLY AND IS MEASURED IN THE ERECTED POSITION.
5. THE INITIAL FORCE IN THE TRANSVERSE POST TENSIONING TENDONS SHALL BE 120,000 LBS EACH.
6. LIFTING DEVICES SHALL BE REMOVED AFTER BEAMS ARE ERECTED. REMOVAL IS INCLUDED IN THE BID ITEM
7. USE NON-DEFORMED STEEL RODS IN ACCORDANCE WITH AASHTO M 270 GRADE 36 AND HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111, AS POSITION DOWELS FOR PRECAST BEAMS.
8. PRESTRESSING STRAND SHALL BE 0.6" NOMINAL DIAMETER MEETING THE REQUIREMENTS OF AASHTO M203 (ASTM A416), GRADE 270, LOW RELAXATION STRAND.
9. STEEL FOR SOLE PLATES AND OTHER BEARING COMPONENTS SHALL MEET THE REQUIREMENTS OF AASHTO M 270 GRADE 36. SOLE PLATES ARE REQUIRED IN ALL BEAM ENDS.
10. ITEMS CAST INTO THE BEAMS TO FACILITATE BRIDGE CONSTRUCTION FORMING, FINISHING, ETC. SHALL BE GALVANIZED OR EPOXY COATED.
11. LONGITUDINAL BEAM STEEL REINFORCEMENT (A BARS) SHALL BE GRADE 60 (KSI). THE DESIGN OF TRANSVERSE BEAM STEEL REINFORCEMENT, STIRRUPS AND SLAB TIES (ED & D BARS) IS BASED ON GRADE 40 (KSI); THE USE OF EITHER GRADE 40 OR GRADE 60 IS ALLOWED IN CONSTRUCTION OF THE BEAM.

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BELLE ISLE BOAT CLUB FISHING ACCESS

WAYNE COUNTY, MICHIGAN

FILE NO: 751/15224.MNB INDEX NO: 59715

PREPARED FOR: MICHIGAN DEPARTMENT OF TECHNOLOGY,
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PP	12.21.16	OWNER REVIEW
MARK	DATE	ISSUED FOR
PROJECT NO	N3055.180	
CADD FILE	S-507 BRIDGE BEAM DET	
MANAGER	AHP	
DESIGNED BY	AHP	
DRAWN BY	SMM	
CHECKED BY	AHP	
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SHEET TITLE		

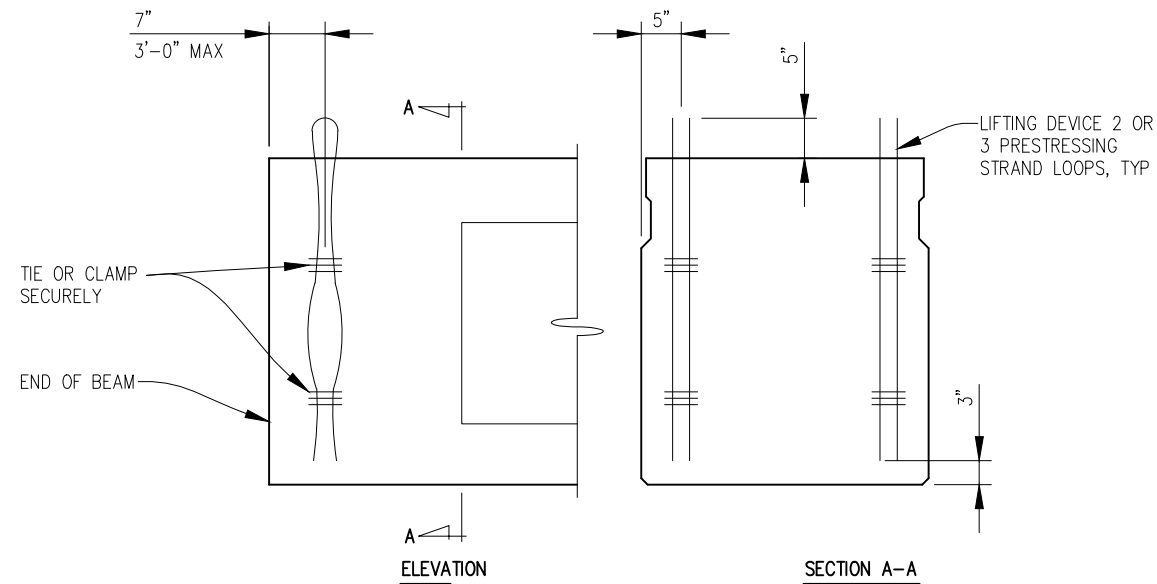
BRIDGE
BEAM DETAILS

S-507

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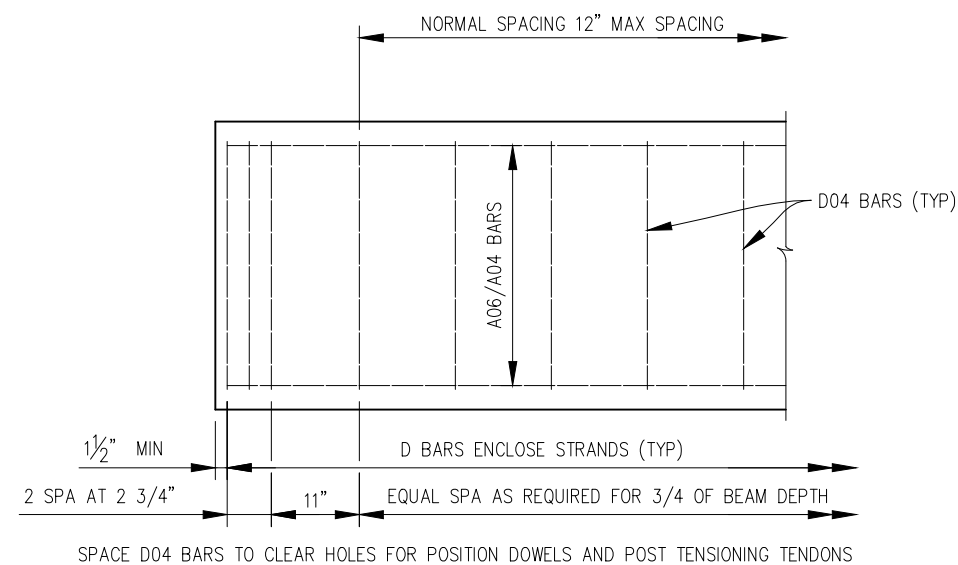
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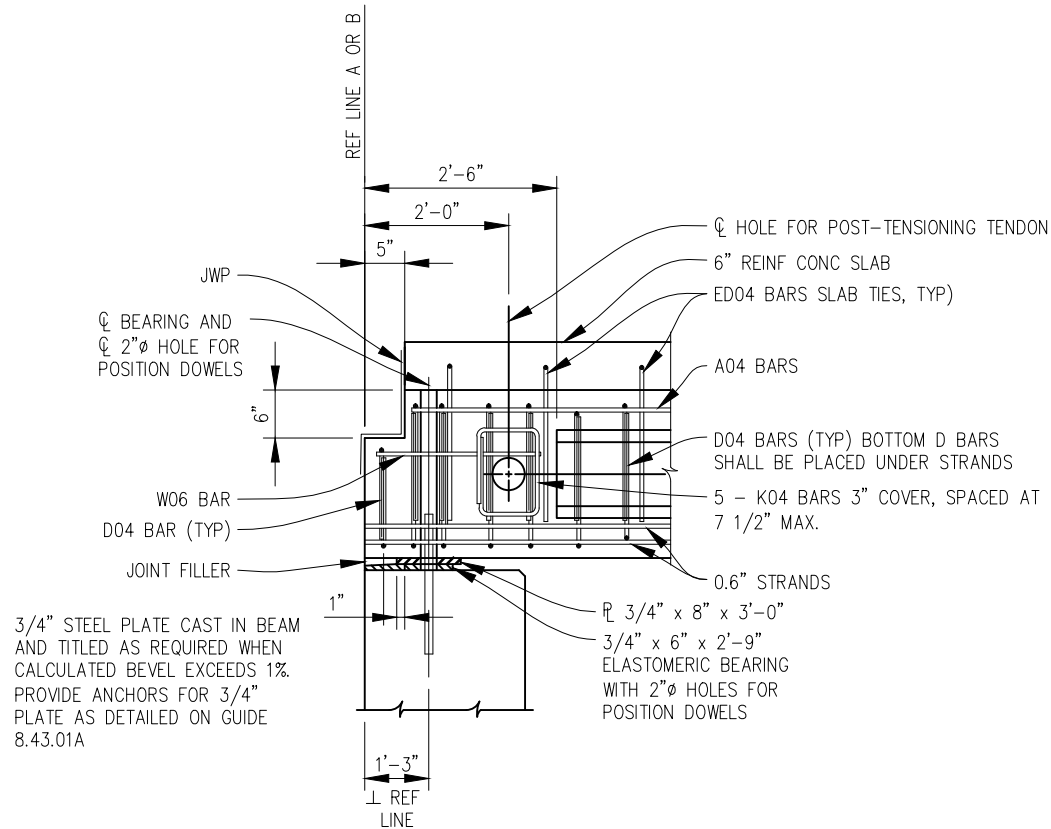


NOTE:
LIFTING DEVICE SHALL BE REMOVED.
REMOVAL IS INCLUDED IN THE BID.

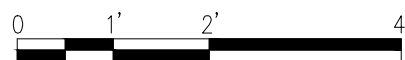
C2 DETAILS FOR BOX BEAM



A2 SECTION



A4 SECTION THROUGH END BLOCK AT ABUTMENT



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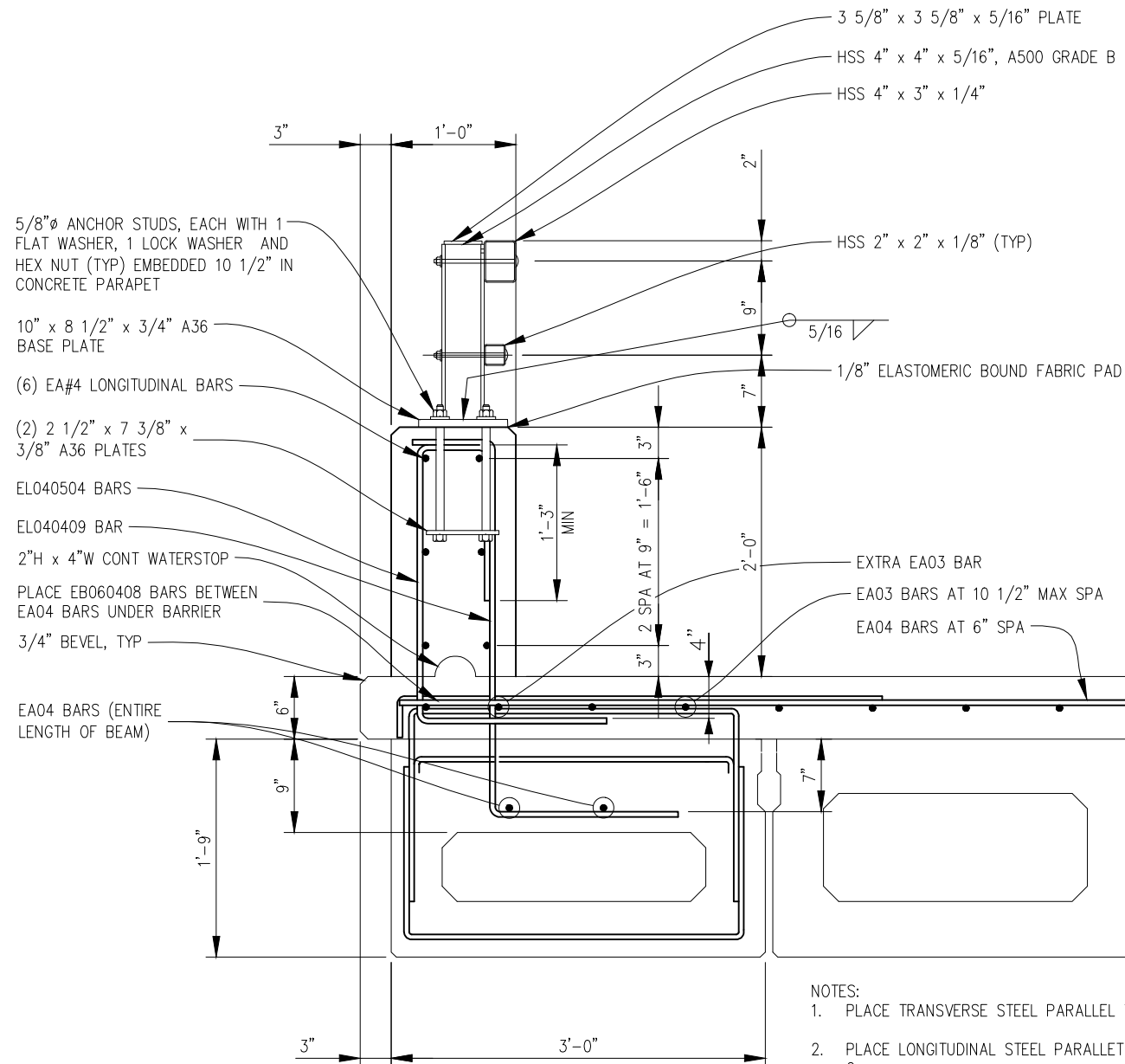
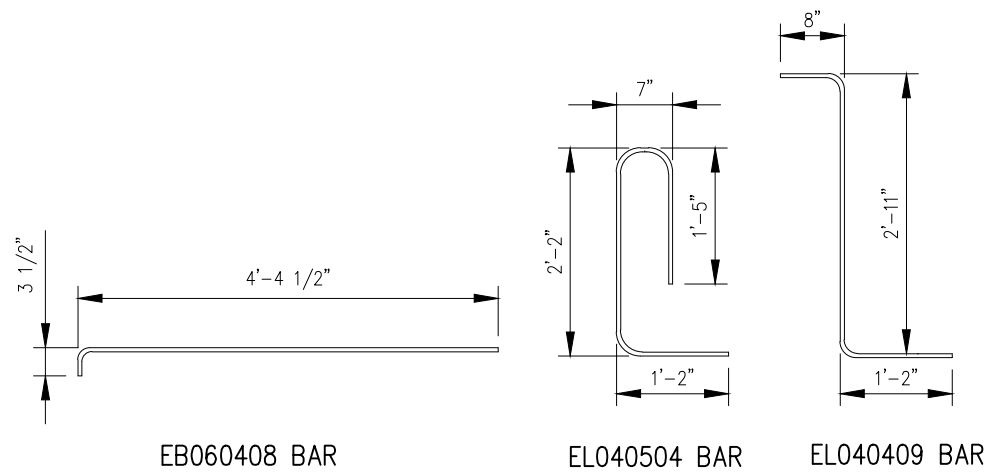
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PROJECT NO	N3055.180	
CADD FILE	S-508 BRIDGE BEAM DET	
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BRIDGE
BEAM
DETAILS

S-508

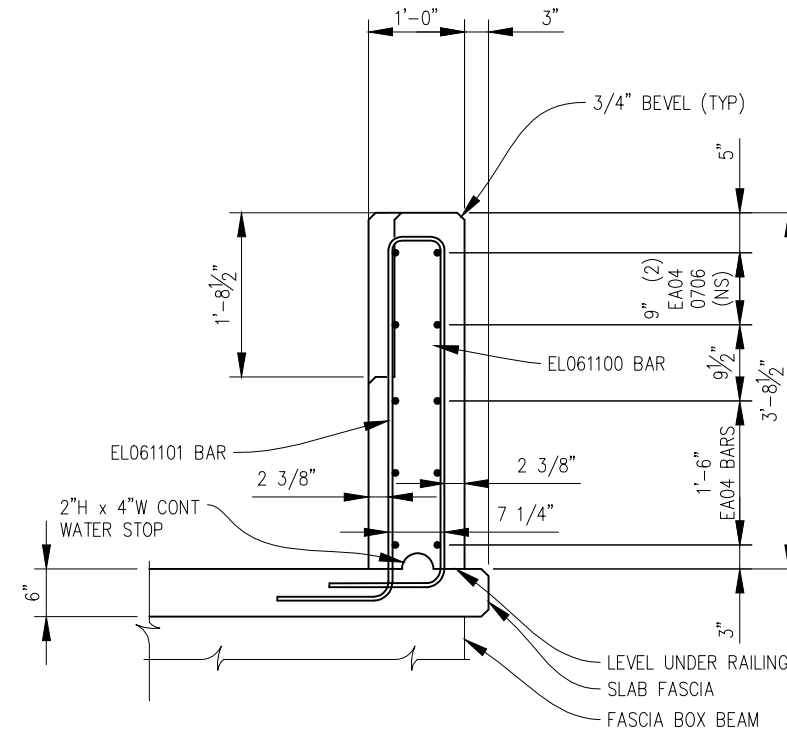
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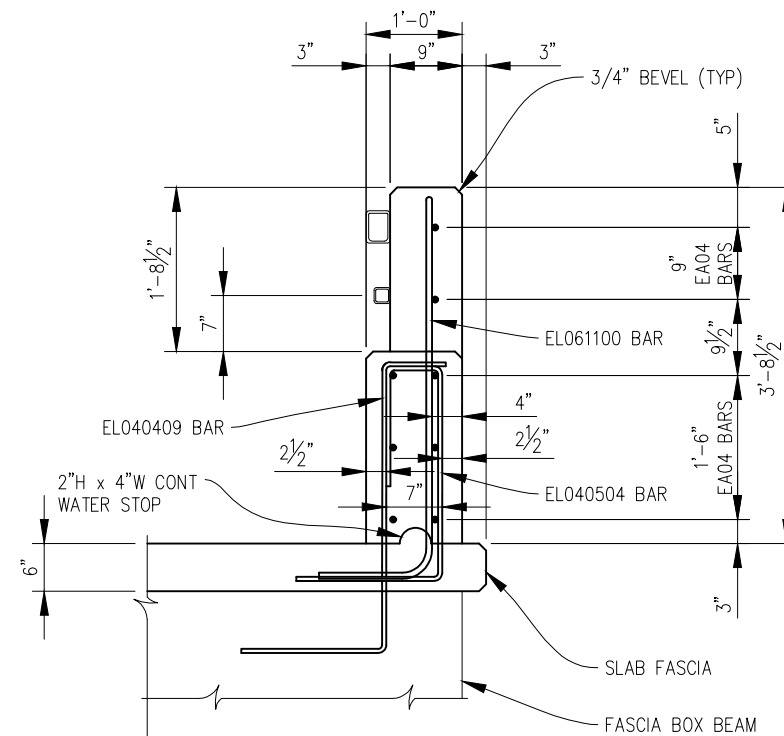
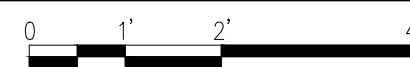
NOTES:

1. PLACE TRANSVERSE STEEL PARALLEL TO REF LINE.
2. PLACE LONGITUDINAL STEEL PARALLEL TO BRIDGE ϕ .
3. FOR ADDITIONAL DETAILS OF BRIDGE RAILING, SEE STANDARD PLAN B-25--SERIES. BARS WITH PREFIX "E" ARE TO BE EPOXY COATED.

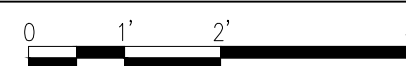
A2 RAILING ON CONCRETE BOX BEAM



D5 SECTION AT END WALL



A5 SECTION AT END WALL



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BRIDGE
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S-509



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S-510



BELLE ISLE BOAT CLUB FISHING ACCESS
WAYNE COUNTY MICHIGAN

WAYNE COUNTY, MICHIGAN

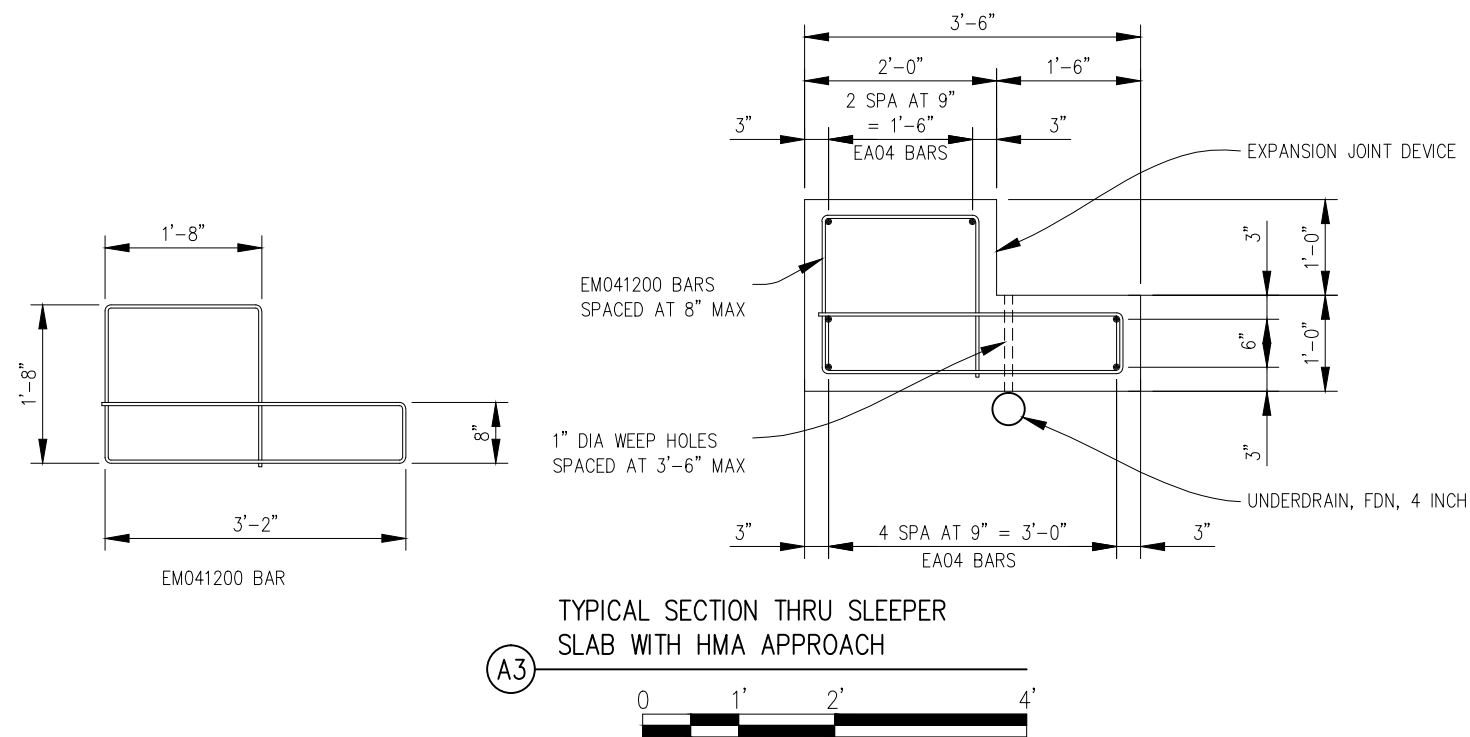
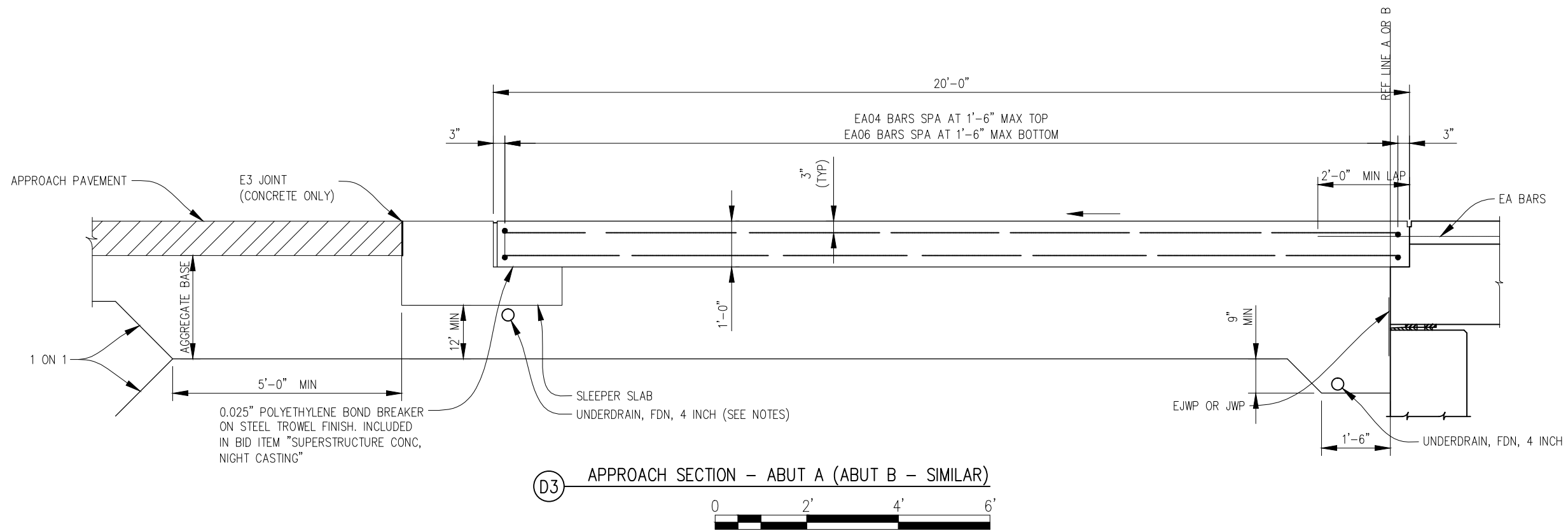
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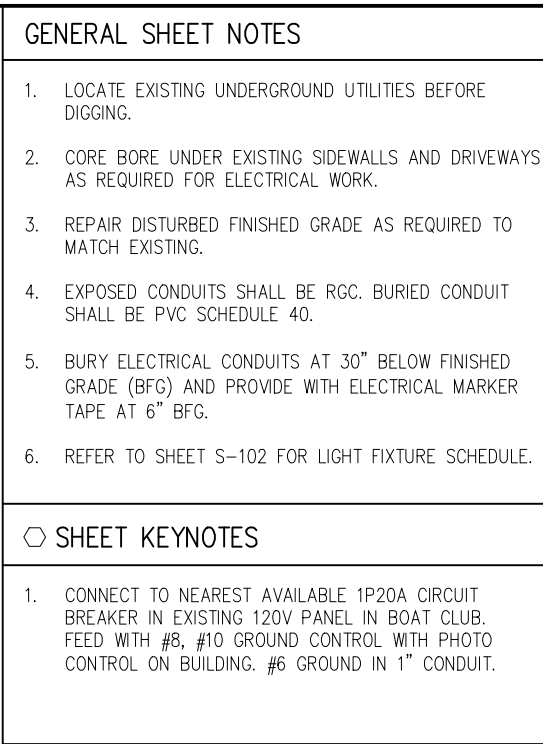
PP	12.21.16	OWNER REVIEW
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CADD FILE	S-511 BRIDGE APPR DET	
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BRIDGE APPROACH DETAILS

S-511



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LISTING OF CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	308954.988	13494718.876	577.66	CP IR&NDG—CAP
2	309410.472	13494636.123	576.11	CP IR&NDG—CAP
3	309197.777	13495085.006	577.34	CP IR&NDG—CAP
101	308991.592	13494505.391	577.18	MP SPIKE

NOTE: POINTS 1, 3 & 101 NOT IN THIS VIEW



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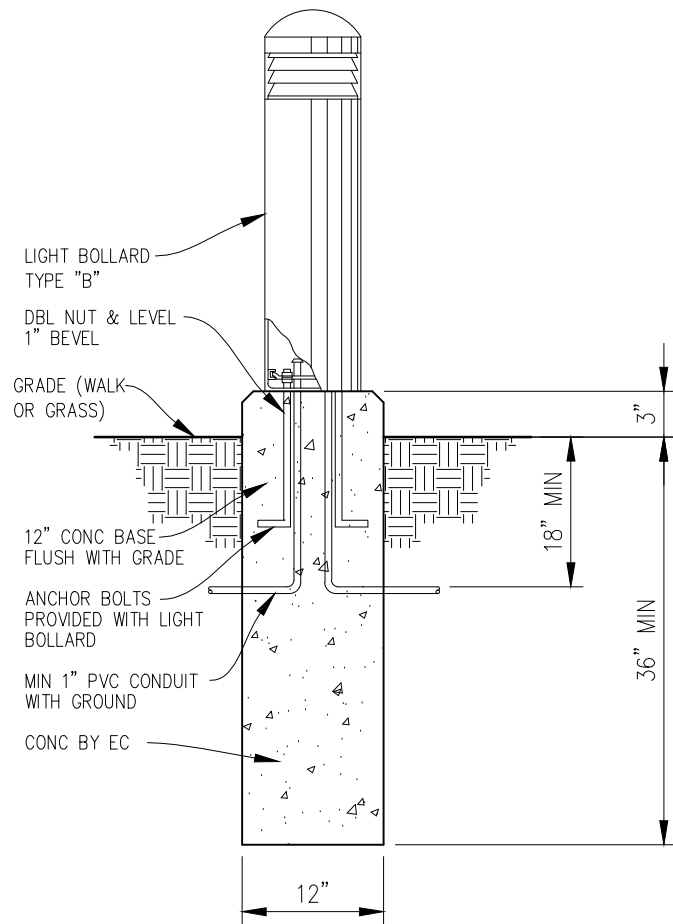
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SITE ELECTRICAL PLAN

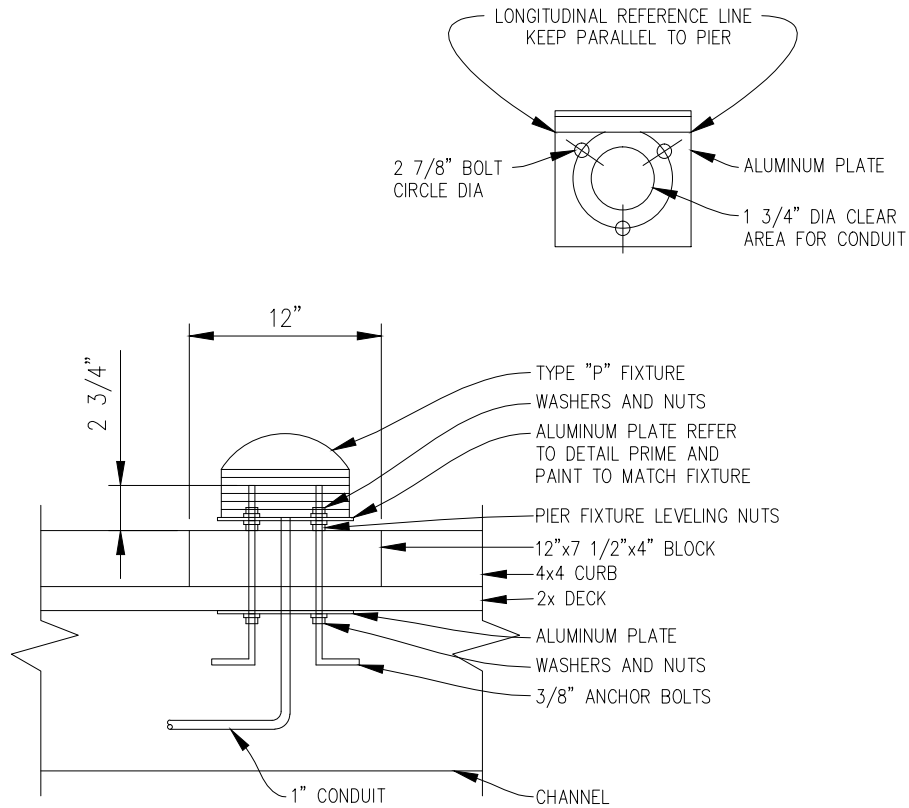
E-101

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\\NDGSRV1\LandProjects\Land Projects R2\N3055.180 BELLE ISLE\SHEETS\E-501 ELECTRICAL DETAILS.dwg



A1 LIGHT BOLLARD TYPE "B" BASE DETAIL
NOT TO SCALE



A4 PIER FIXTURE TYPE "P"
NOT TO SCALE

GENERAL SHEET NOTES

- ALL MATERIALS SHALL BE NEW AND CONFORM WITH STANDARDS OF UNDERWRITER'S LABORATORIES.
- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL AND STATE ELECTRIC CODES, AND ALL LOCAL CODES.
- ALL WORK SHALL BE DONE IN BEST POSSIBLE MANNER BY LICENSED ELECTRICIANS WHO SHALL ALSO BE RESPONSIBLE FOR CUTTING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK.
- CONTRACTOR SHALL OBTAIN ALL PERMITS AND SHALL PAY ALL NECESSARY FEES.
- BIDDERS SHALL VISIT SITE BEFORE SUBMITTING PROPOSALS AND FULLY INFORM THEMSELVES AS TO JOB AND SITE CONDITIONS, AND ANY OTHER CONDITIONS UNDER WHICH HIS WORK MUST BE DONE.
- ALL WIRING SHALL BE #12 AWG MINIMUM, TYPE THW, THHN, OR THWN. FOR RUNS OVER 100 FEET, USE #10 AWG IN LIEU OF #12. ALL WIRING SHALL BE IN METALLIC CONDUIT EITHER IMC, RGC, OR EMT.
- RGC OR IMC SHALL BE USED, AND ELSEWHERE WHERE SUBJECT TO PHYSICAL DAMAGE OR EXPOSED TO ELEMENTS. ALL CONDUIT LOCATIONS OUTSIDE TO BE WATER TIGHT.
- PROVIDE TYPEWRITTEN DIRECTORIES FOR ALL PANELS WITH CIRCUIT REVISIONS.
- ELECTRICAL CONTRACTOR SHALL LEAVE ENTIRE ELECTRICAL SYSTEM IN PROPER WORKING ORDER, AND SHALL EXTEND TO OWNER ANY GUARANTEE EXTENDED BY MANUFACTURER OF EQUIPMENT AND DEVICES INSTALLED AND FURNISHED BY CONTRACTOR. GUARANTEE PERIOD SHALL BE EXTENDED AS OF DATE OF SUBSTANTIAL COMPLETION ONE YEAR BY CONTRACTOR. GUARANTEE SHALL COVER ALL LABOR AND MATERIALS NECESSARY TO CORRECT DEFECTS IN MATERIALS OR WORKMANSHIP DURING GUARANTEE PERIOD.
- SEAL AROUND ALL PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS WITH NELSON ELECTRIC FLAMESEAL PUTTY.
- SCHEDULE ALL WORK WITH OWNER.
- TERMINATE ALL CONDUIT RUNS TO EQUIPMENT WITH FLEXIBLE METAL CONDUIT. LENGTH SHALL NOT EXCEED 6 FEET.
- ELECTRICAL CONTRACTOR TO VISIT SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND COORDINATE REPLACEMENT OF EXISTING ELECTRICAL PANEL WITH OWNER.
- ALL ELECTRICAL CONNECTIONS SHALL BE LOCATED AT LEAST 12 INCHES ABOVE THE DECK OF THE PIER BUT NOT BELOW THE ELECTRICAL DATUM PLANE (2 FEET ABOVE THE HIGHEST WATER LEVEL) PER NEC ARTICLE 555.

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ELECTRICAL
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E-501



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