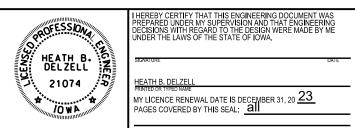
IOWA DEPARTMENT OF NATURAL RESOURCES

FOR LAKE MANAWA STATE PARK PCC PARKING AND BOAT RAMP

POTTAWATTAMIE COUNTY, IOWA

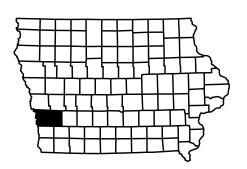
PROJECT # 21-04-78-02



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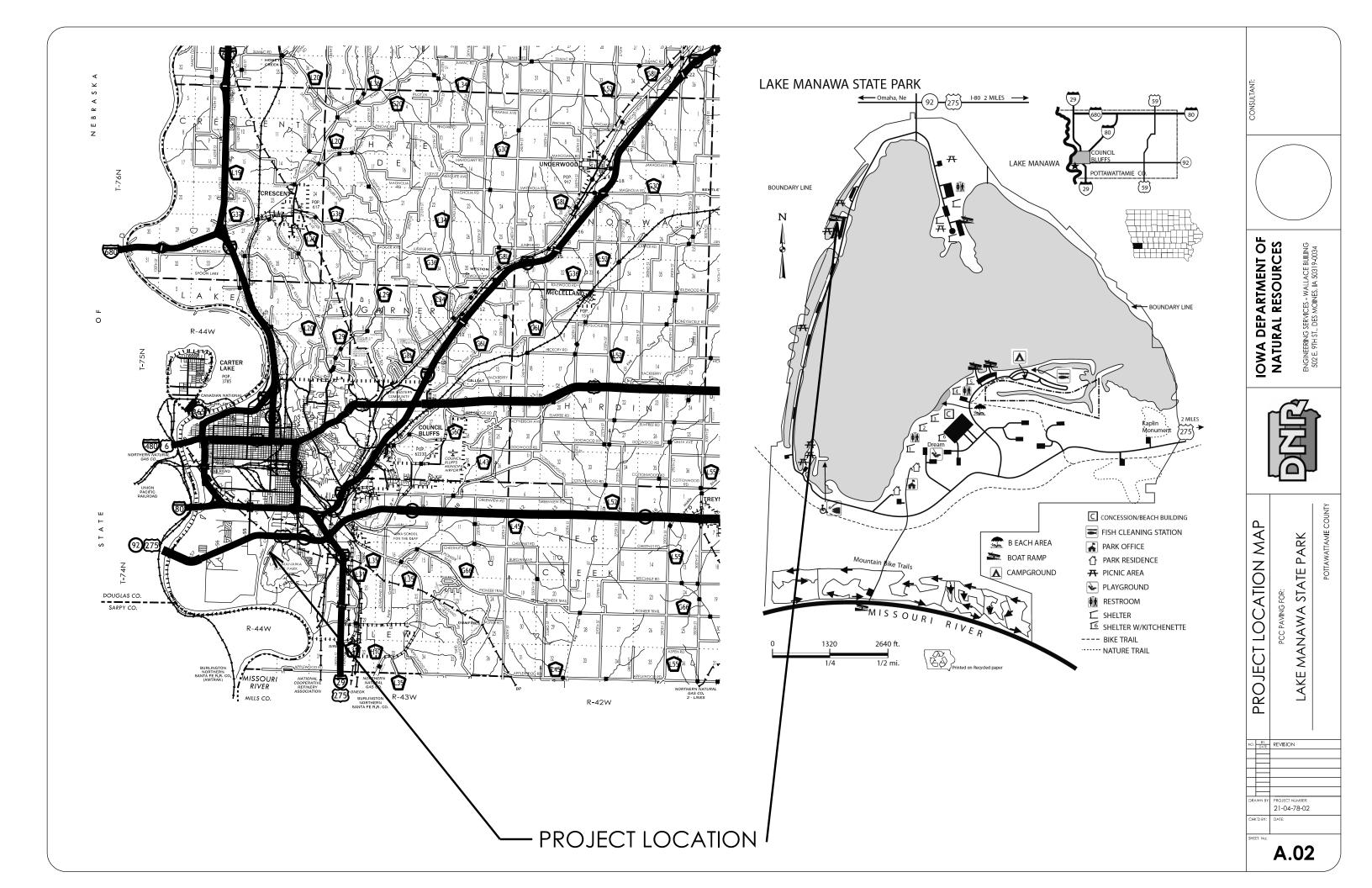


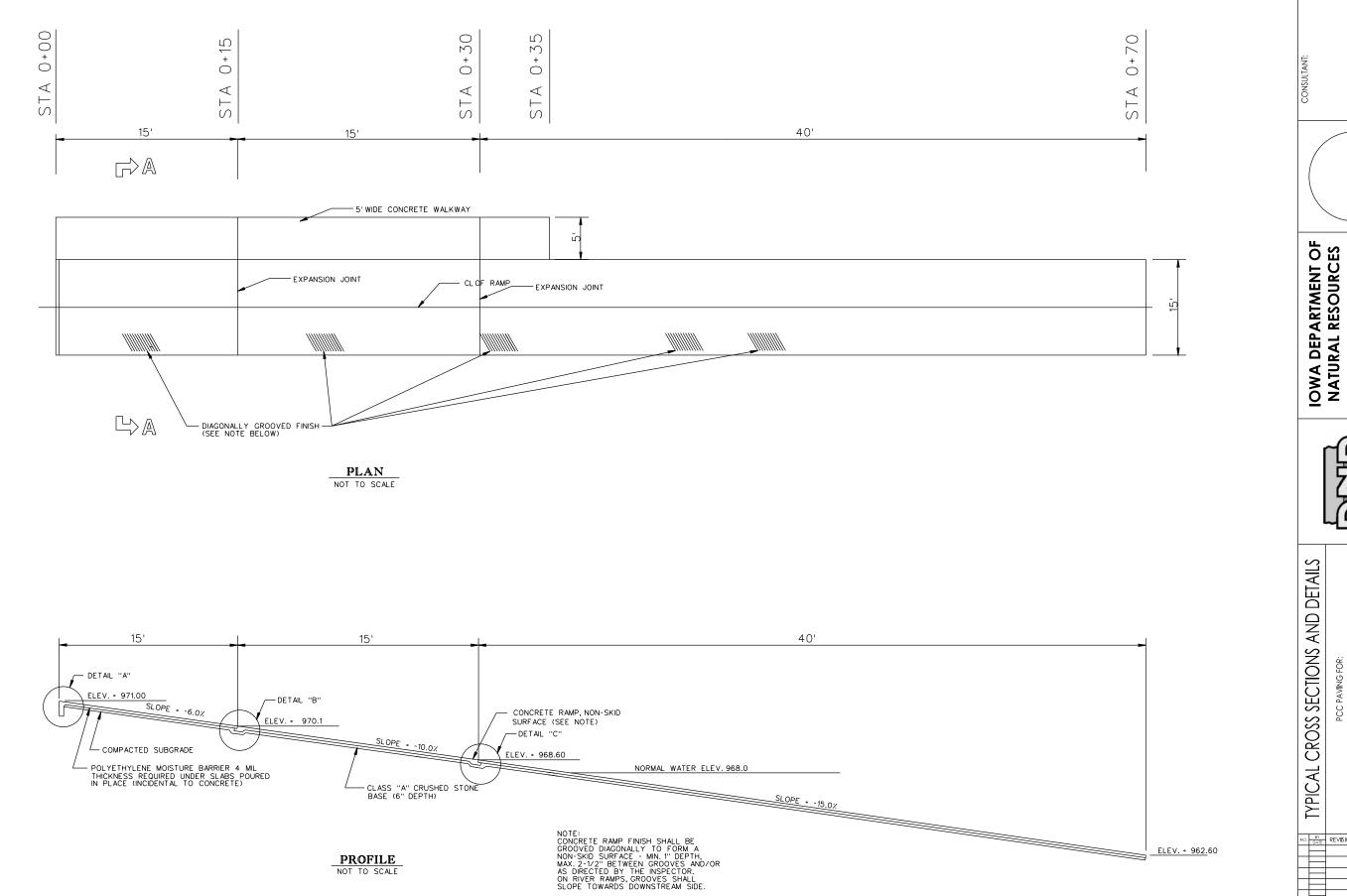
AUTHORIZATION - PARKS WILDLIFE FISHERIES LAW ENFORCEME	ENT FORESTRY	DATE
ENGINEERING BUREAU CHIEF	DATE	

AUTHORIZATION TO BID

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A.02	LOCATION MAP				
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			R SHEET	AVING FOR:	WA STATE PARK
			/ER SHEET	C PAVING FOR:	AWA STATE PARK
			VER SHEET	PCC PAVING FOR:	NAWA STATE PARK
			OVER SHEET	PCC PAVING FOR:	ANAWA STATE PARK
			COVER SHEET	PCC PAVING FOR:	MANAWA STATE PARK
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SHEET INDEX





MANAWA STATE PARK LAKE NO. BY REVISION 21-04-78-02 **B.01**

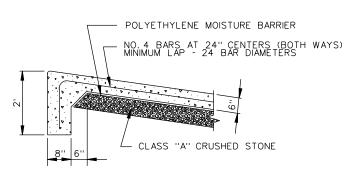
ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

POTTAWATTAMIE COUNTY

TYPICAL SECTION - FILL

TYPICAL SECTION - CUT

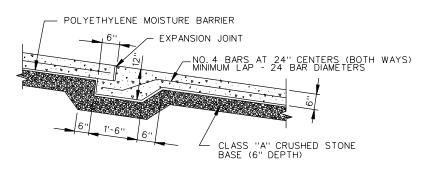
SECTION A - A



DETAIL "A"

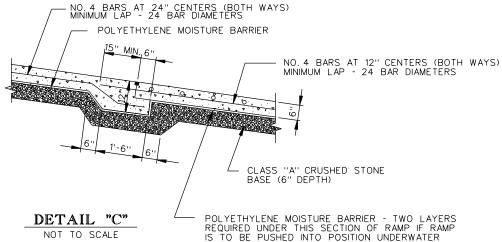
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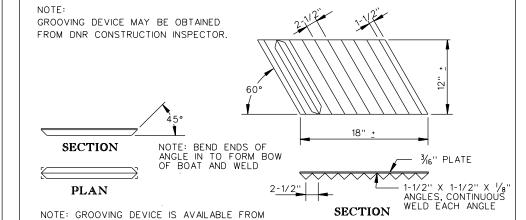
DNR CONSTRUCTION INSPECTOR.



DETAIL "B"

NOTE: EXPANSION JOINT MATERIAL, REINFORCING STEEL AND TIE BARS TO BE INCIDENTAL TO CONCRETE BID ITEM





DETAIL OF GROOVING DEVICE

NOT TO SCALE

GENERAL NOTES

ALL CONCRETE SHALL CONFORM TO CLASS "C" MIX 4 I.D.O.T. SPECIFICATION SERIES 2015

ALL EXPOSED EDGES OF CONCRETE TO BE BEVELED WITH $\frac{1}{2}$ " CHAMFER STRIPS

THE TOP 1" OF ALL EXPANSION JOINTS TO RECEIVE A SILICONE BASE POURING TYPE SEALER

EXPANSION JOINTS - $\frac{3}{4}$ " PREFORMED RESILIENT FILLER MATERIAL

REINFORCING STEEL - GRADE 40 - DEFORMED

THAT PORTION OF THE RAMP TO BE PLACED BELOW THE WATERLINE MAY BE FORMED ABOVE THE WATERLINE AND CAREFULLY PUSHED INTO POSITION UNDERWATER TO THE LOCATION AND ELEVATION AS SHOWN ON THE PLAN AND AS APPROVED BY THE ENGINEEER. THE REMAINING SECTIONS OF THE RAMP SHALL BE FORMED AND POURED IN PLACE.

TYPICAL CROSS SECTIONS AND DETAILS

PCC PAVING FOR:

LAKE MANAWA STATE PARK

DOTAWATAMIE COUNTY

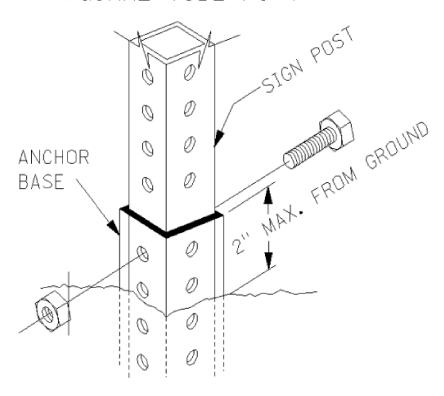
B.02

IOWA DEPARTMENT OF NATURAL RESOURCES

SERVICES - WALLACE BUILING , DES MOINES, IA 50319-0034

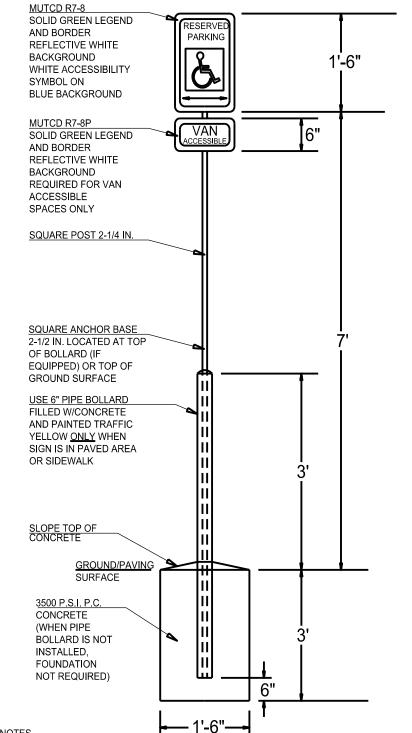
BREAK-AWAY TYPE STEEL POST DETAILS

SQUARE TUBE POST



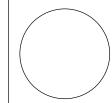
ALL SIGN POST SHALL CONSIST OF SQUARE POSTS BOLTED TO AN EMBEDDED SQUARE ANCHOR BASE. ANCHOR DEPTH IS MINIMUM 30 INCHES. TUBULAR STEEL POSTS SHALL BE 2-1/2 IN. SQUARE TUBES. TUBULAR STEEL ANCHOR BASES SHALL BE 2-1/2 IN. SQUARE, AND SHALL FIT SNUGLY OVER THE 2-1/4 IN. POST SECTION.

ALL SQUARE TUBULAR STEEL POSTS AND STEEL ANCHOR BASES SHALL BE FORMED FROM 12 GAUGE GALVANIZED STEEL. ALL SIDES OF THE TUBES SHALL HAVE 7/16 IN. DIE PUNCHED CIRCULAR HOLES OR PERFORATED KNOCK-OUTS, AT 1 IN. CENTERS ALONG THEIR ENTIRE LENGTH.



- 1. 12"x18" ACCESSIBILITY SIGN (R7-8) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
- 2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
- 3. SIGNAGE SHALL BE INSTALLED IN FRONT OF EACH ACCESSIBLE SPACE, CENTERED ON THE WIDTH OF THE SPACE. 4. REFER TO AMERICANS WITH DISABILITIES ACT AND ARCHITECTURAL BARRIERS ACT
- ACCESSIBILITY GUIDELINES (ADAAG), LATEST EDITION, FOR REQUIRED NUMBER OF ACCESSIBLE SPACE. PER ADAAG, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED, MINIMUM, WITH ADDITIONAL VAN ACCESSIBLE SPACES PER ADAAG REQUIREMENTS.
- 5. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

ADA SIGN DETAIL NOT TO SCALE



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

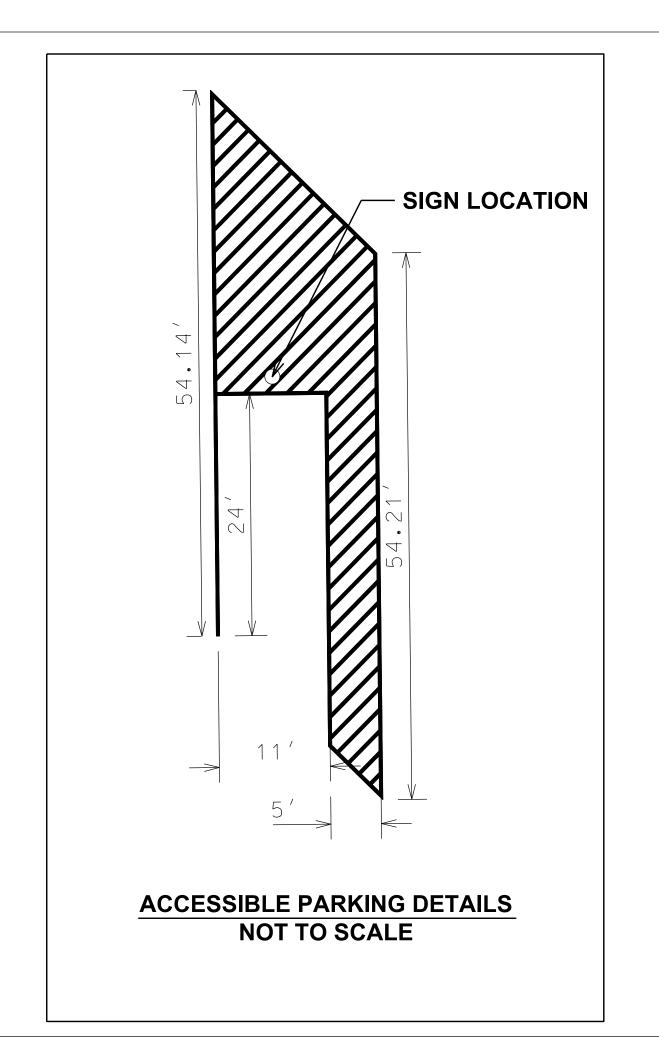


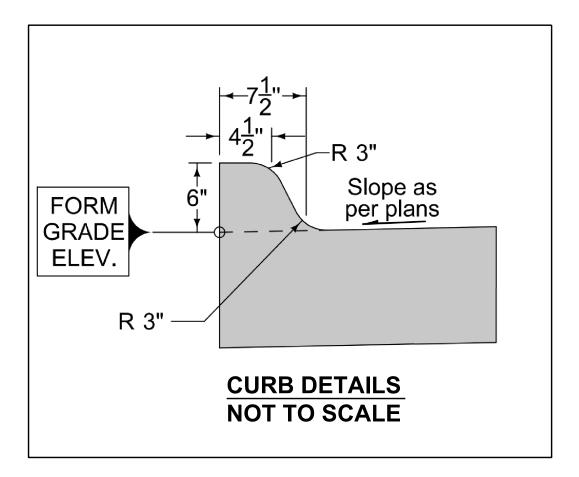
PARK STATE MANAWA

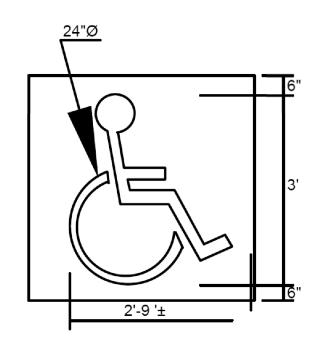
CROSS SECTIONS AND DETAILS LAKE

TYPICAL (NO. BY REVISION 21-04-78-02

B.03

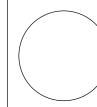






HANDICAP PARKING PAVEMENT MARKING

NOT TO SCALE



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

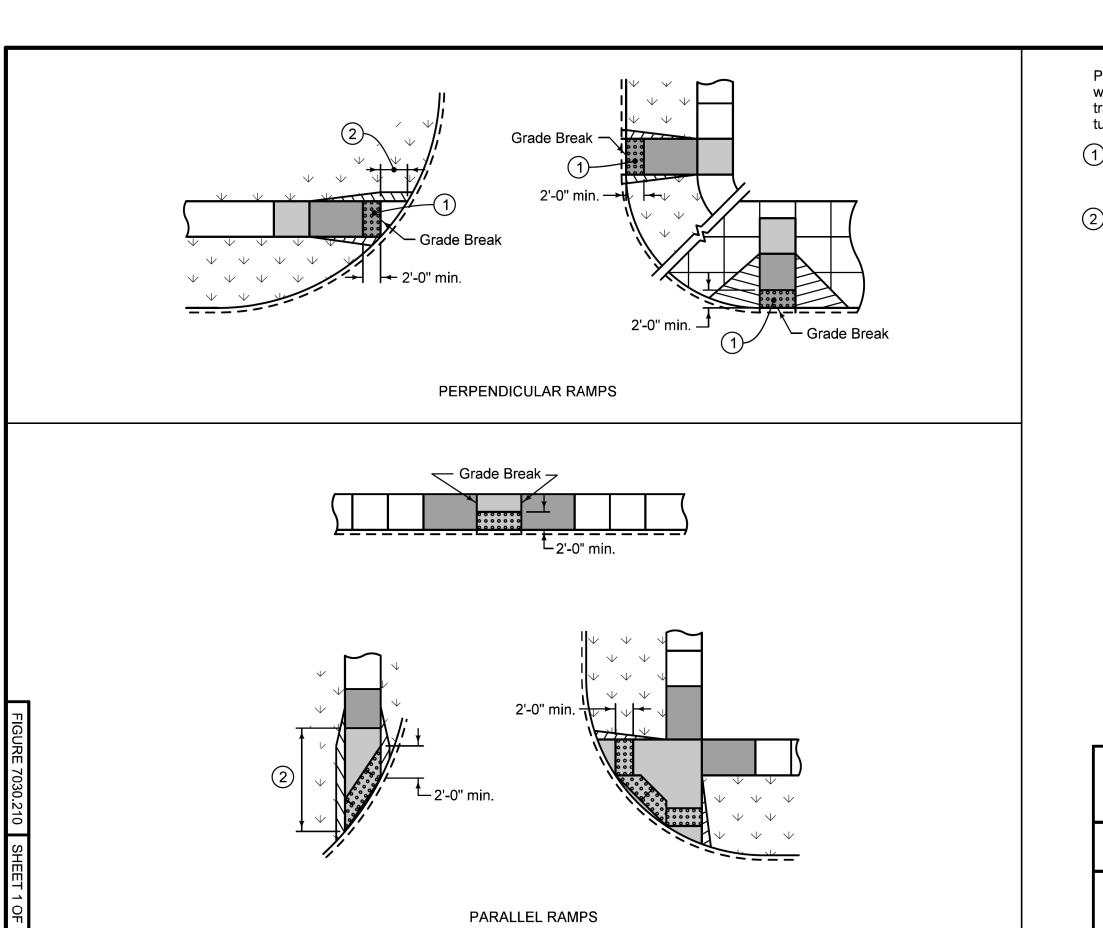


PCC PAVING FOR: LAKE MANAWA STATE PARK

TYPICAL CROSS SECTIONS AND DETAILS

BY DATE	REVISION
WN BY:	PROJECT NUMBER:
	21-04-78-02
CD BY:	DATE:
	DATE

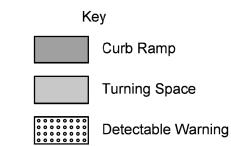
B.04



Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.

- 1) When detectable warning is located on curb ramp surface, orient domes in the direction of pedestrian travel.
- When the distance between the grade break and the back of curb is less than 5 feet, place detectable warning surface at the bottom of the curb ramp.

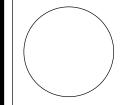
Where one corner of the curb ramp is more than 5 feet from the back of curb, construct curb ramp as a parallel curb ramp. Move grade break back as required to place detectable warning on turning space at the back of curb.





SUDAS Standard Specifications

DETECTABLE WARNING PLACEMENT



IOWA DEPARTMENT OF NATURAL RESOURCES

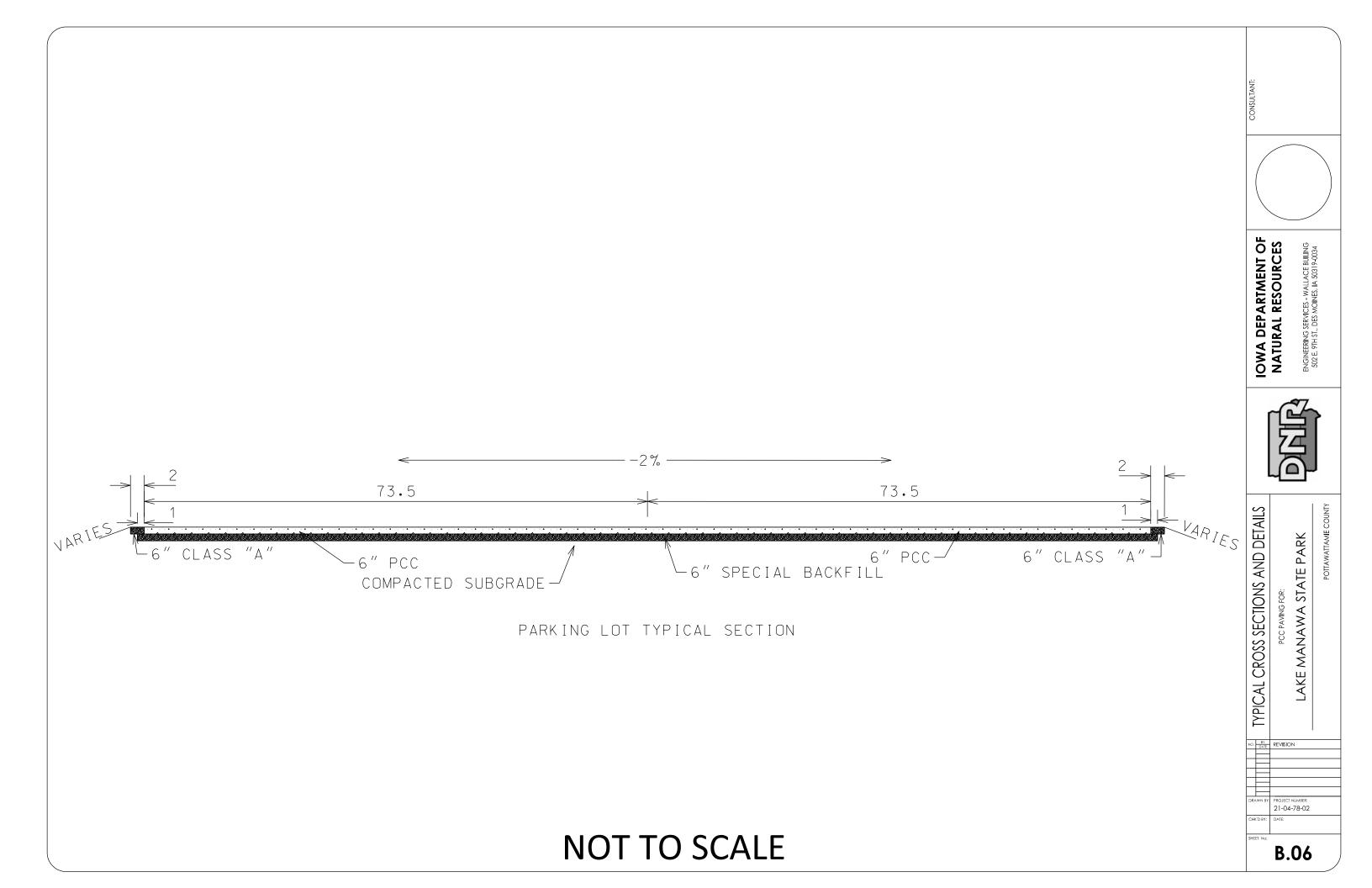
ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



LAKE MANAWA STATE PARK

TYPICAL CROSS SECTIONS AND DETAILS NO. BY REVISION 21-04-78-02

B.04



ESTIMATED PROJECT QUANTITIES

2 Cons 3 Site F 4 Pave 5 Excav 6 Grad 7 Class 8 Class 9 5" PC 11 6" PC 12 Speci	"A" Crushed Stone "E" Revetment C, Sidewalk	Lump Sum Lump Sum Lump Sum SY CY Lump Sum Tons Tons SY SY	1 1 1 5,370 1,337 1 85 76 357 5,200
3 Site F 4 Pave 5 Excav 6 Grad 7 Class 8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	restoration ment Removal ration, Class 10, Waste ng "A" Crushed Stone "E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	Lump Sum SY CY Lump Sum Tons Tons SY SY SY	1 5,370 1,337 1 85 76 357 5,200
4 Pave 5 Excav 6 Grad 7 Class 8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	ment Removal ration, Class 10, Waste ng "A" Crushed Stone "E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	SY CY Lump Sum Tons Tons SY SY	5,370 1,337 1 85 76 357 5,200
5 Excav 6 Grad 7 Class 8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	ation, Class 10, Waste ng "A" Crushed Stone "E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	CY Lump Sum Tons Tons SY SY SY	1,337 1 85 76 357 5,200
6 Grad 7 Class 8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	ng "A" Crushed Stone "E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	Lump Sum Tons Tons SY SY SY	1 85 76 357 5,200
7 Class 8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	"A" Crushed Stone "E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	Tons Tons SY SY SY SY	85 76 357 5,200
8 Class 9 5" PC 10 6" PC 11 6" PC 12 Speci	"E" Revetment C, Sidewalk C C, Reinforced, Boat Ramp	Tons SY SY SY	76 357 5,200
9 5" PC 10 6" PC 11 6" PC 12 Speci	C, Sidewalk C C, Reinforced, Boat Ramp	SY SY SY	357 5,200
10 6" PC 11 6" PC 12 Speci	C C, Reinforced, Boat Ramp	SY SY	5,200
11 6" PC 12 Speci	C, Reinforced, Boat Ramp	SY	<u> </u>
12 Speci	· · · · · · · · · · · · · · · · · · ·		117
	al Backfill	-	
13 Trun		Tons	1,802
	cated Dome Panel	SF	62
14 Sign -	ADA Parking	Each	1
15 12-In	ch RCP, Class III	LF	48
16 12-In	ch RCP Flared End Section, Class III	Each	2
17 6-Inc	n CMP	LF	20
18 Pave	ment Marking - ADA Parking	Each	1
19 Pave	ment Marking - Traffic Flow	Each	5
20 Pave	ment Striping	LF	3,927
21 PCC ,	Curb and Gutter	LF	540

ESTIMATE REFERENCE INFORMATION

	ESTIMATE REFERENCE INFORMATION
ITEM NO.	DESCRIPTION
2	A. Includes construction layout and staking. B. DNR will provide control points and digital files.
3	A. Contractor shall seed, fertilize, and mulch all disturbed areas. B. An Urban seed mix shall be used.
4	A. All asphalt and concrete pavement including boat ramp to be removed and disposed of off site.
5	A. Core out material under pavement to accommodate 6" of compacted backfill and 6" of PCC pavement. B. Cored out material to be removed from site.
6	A. Grading shall include compaction of base prior to placement of backfill.
7	A. Class "A" crushed stone to be used as base under boat ramp and a 2 foot shoulder for perimeter of pavement.
8	A. For shoulders on boat ramp. See sheet B.02.
9	A. Sidewalks to be 5" PCC. B. PCC shall be standard or slip form, Class C mix. C. Control joints shall be incidental to this bid item. D. Control joints shall be placed at spacing equal to the pavement width (square panels).
10	A. PCC shall be standard or slip form, Class C mix. B. Control joints shall be incidental to this bid item. C. Joint sealing shall be incidental to this bid item. D. Contractor shall submit joint plan to the DNR Engineer for review and approval. Joint plan shall conform to lowa Department of Transportation standards. Joint construction shall follow the lowa Department of Transportation Standard Road Plan PV-101. Joint spacing be approximately 10' on center. All cold joints shall be a "BT" joint. 2' (min.) blockouts required at acute angles. E. Center steel shall consist of one #4 bar, 30" long, placed at 30" centers and shall be incidental to this bid item.
11	A. See sheets B.01-B.02.
12	A. Special Backfill shall be placed and compacted at a 6" depth under all PCC except boat ramp.
13	A. Truncated dome panels shall be constructed of cast iron, be 24" long, and the full width of the concrete.
14	A. Post material is incidental to this item.
15	A. Remove and dispose of CMP indicated on sheet D.02, incidental to this bid item. B. Backfill and compaction are incidental to this item.
17	A. Furnish and install two 10 foot lengths of 6" diameter CMP as indicated on sheet D.02.
18	A. Detail on sheet B.04.
20	A. Pavement striping shall be yellow and 4" width for standard parking, and blue for handicap parking. B. Hatched areas shall have 2' spacing.



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



PCC PAVING FOR: LAKE MANAWA STATE PARK

QUANTITIES AND GENERAL INFORMATION NO. BY REVISION 21-04-78-02

C.01

IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



LAKE MANAWA STATE PARK

QUANTITIES AND GENERAL INFORMATION NO. BY REVISION

21-04-78-02

C.02

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

