

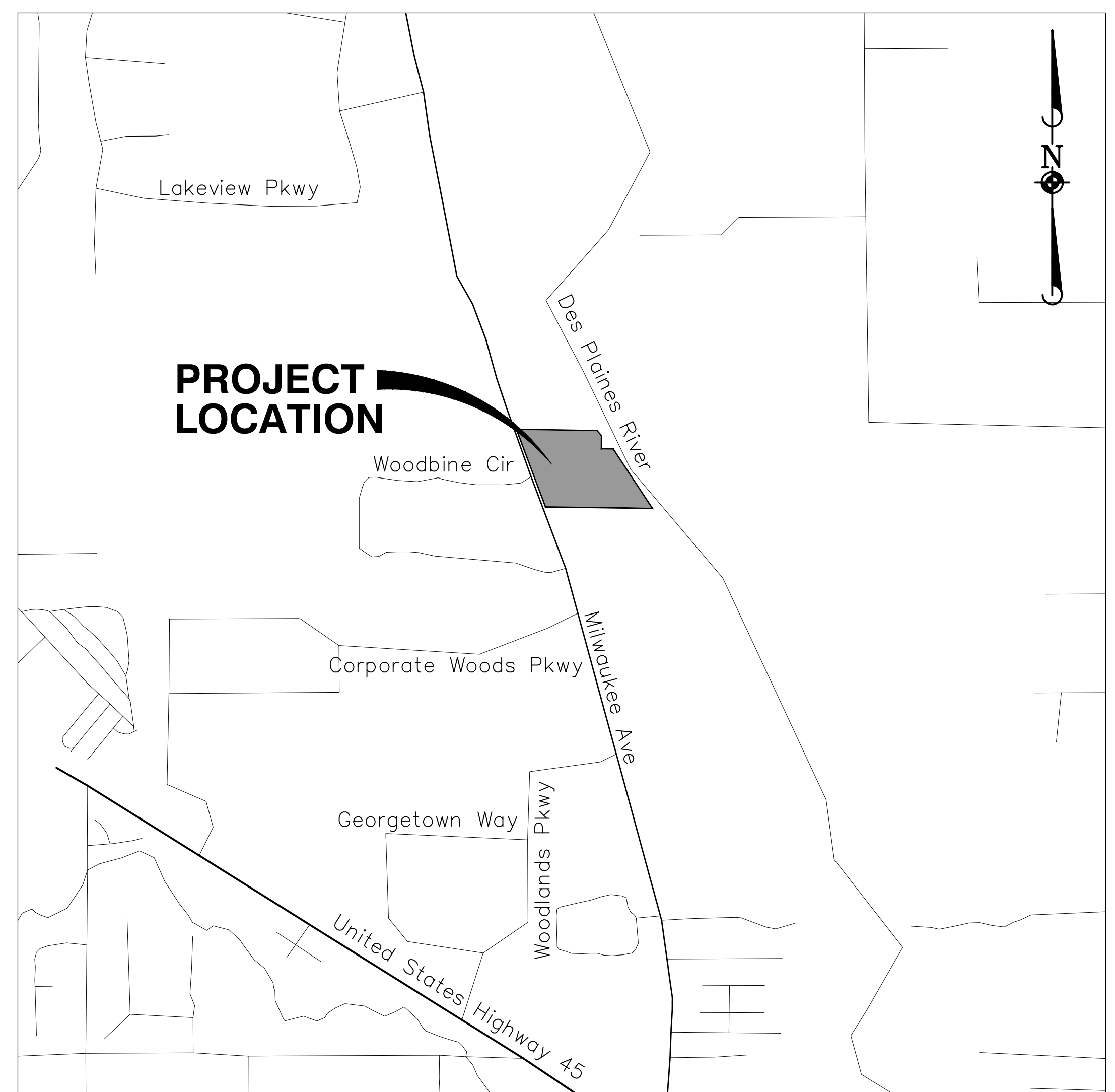
# Proposed Improvements for **DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS** 24647 NORTH MILWAULKEE AVENUE LAKE COUNTY, ILLINOIS

## STANDARD SYMBOLS

EXISTING		PROPOSED
	STORM SEWER	
	SANITARY SEWER	
	COMBINED SEWER	
	FORCE MAIN	
	DRAIN TILE	
	WATER MAIN	
	ELECTRIC	
	GAS	
	TELEPHONE	
	OVERHEAD WIRES	
	SANITARY MANHOLE	
	STORM MANHOLE	
	CATCH BASIN	
	STORM INLET	
	CLEANOUT	
	HAY BALES	
	RIP RAP	
	VALVE IN VAULT	
	FIRE HYDRANT	
	BUFFALO BOX	
	FLARED END SECTION	
	STREET LIGHT	
	SUMMIT / LOW POINT	
	RIM ELEVATION	
	INVERT ELEVATION	
	DITCH OR SWALE	
	DIRECTION OF FLOW	
	OVERFLOW RELIEF SWALE	
	1 FOOT CONTOURS	
	CURB AND GUTTER	
	DEPRESSED CURB AND GUTTER	
	REVERSE CURB AND GUTTER	
	SIDEWALK	
	DETECTABLE WARNINGS	
	PROPERTY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MAIL BOX	
	SIGN	
	TRAFFIC SIGNAL	
	POWER POLE	
	GUY WIRE	
	GAS VALVE	
	HANDHOLE	
	ELECTRICAL EQUIPMENT	
	TELEPHONE EQUIPMENT	
	CHAIN-LINK FENCE	
	SPOT ELEVATION	
	BRUSH/TREE LINE	
	DECIDUOUS TREE WITH TRUNK DIA. IN INCHES (TBR)	
	CONIFEROUS TREE WITH HEIGHT IN FEET (TBR)	
	SILT FENCE	
	RETAINING WALL	
	WETLAND	

## ABBREVIATIONS

ADJ	ADJUST	F/L	FLOW LINE	R.O.W.	RIGHT-OF-WAY
AGG.	AGGREGATE	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
ARCH	ARCHITECT	G	GROUND	REV	REMOVAL
B.A.M.	BITUMINOUS AGGREGATE MIXTURE	G/F	GRADE AT FOUNDATION	RT	REVERSE
B-B	BACK TO BACK	GW	GUY WIRE	RR	RAILROAD
B/C	BACK OF CURB	HWL	HEADWALL	RT	RIGHT
B/P	BOTTOM OF PIPE	HH	HANDHOLE	SAN	SANITARY
B/W	BACK OF WALK	HWL	HIGH WATER LEVEL	SF	SQUARE FOOT
B-BOX	BUFFALO BOX	HYD.	HYDRANT	SILD.	SHOULDER
BIT.	BITUMINOUS	INL	INLET	SL	STREET LIGHT
BM	BENCHMARK	INV.	INVERT	SMH	SANITARY MANHOLE
B.O.	BY OTHERS	IP	IRON PIPE	ST	STATION
CB	COMMERCIAL ENTRANCE	LT	LEFT	STA	STATION
C.E.	CATCH BASIN	MAX.	MAXIMUM	STD	STANDARD
C	CENTERLINE	MB	MAILBOX	SY	SQUARE YARDS
CMP	CORRUGATED METAL PIPE	M/E	MEET EXISTING	TBR	TO BE REMOVED
CONTR.	CONTROL	MH	MANHOLE	T	TYPE A
C.O.	CLEANOUT	MIN.	MINIMUM	T-A	TYPE A
CONC.	CONCRETE	NWL	NORMAL WATER LEVEL	T/C	TOP OF CURB
CY	CUBIC YARD	P.E.	PRIVATE ENTRANCE	T/F	TOP OF FOUNDATION
D	DITCH	PC	POINT OF CURVATURE	T/P	TOP OF PIPE
DIA.	DIAMETER	PCC	POINT OF COMPOUND CURVE	T/W	TOP OF WALK
DIP	DUCTILE IRON PIPE	PGL	PROFILE GRADE LINE	T/WALL	TOP OF WALL
DIWM	DUCTILE IRON WATER MAIN	PI	POINT OF INTERSECTION	TEMP	TEMPORARY
DS	DOWNSPOUT	R	PROPERTY LINE	TRANS	TRANSFORMER
DT	DRAIN TILE	PP	POWER POLE	V.B.	VALVE BOX
E	ELECTRIC	PROP.	PROPOSED	VCP	VITRIFIED CLAY PIPE
E-E	EDGE TO EDGE	P.T.	POINT OF TANGENCY	V.V.	VALVE VAULT
ELEV.	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	WL	WATER LEVEL
E/P	EDGE OF PAVEMENT	PVC	POINT OF VERTICAL CURVATURE	WM	WATER MAIN
EX.	EXISTING	PVI	POINT OF VERTICAL INTERSECTION		
F.E.	FACE TO FACE	PVT	POINT OF VERTICAL TANGENCY		
F-F	FACE TO FACE	P	PAVEMENT		
F.F.	FINISHED FLOOR	P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT		
FES	FLARED END SECTION	R	RADIUS		



## INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	SITE DIMENSIONAL AND PAVING PLAN
4	GRADING, UTILITY, AND SESC PLAN - WEST
5	GRADING, UTILITY, AND SESC PLAN - EAST
6	CONSTRUCTION DETAILS
7	CONSTRUCTION DETAILS
8	CONSTRUCTION SPECIFICATIONS

### DRAINAGE STATEMENT

TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE DRAINAGE OF THE SURFACE WATERS WILL NOT BE CHANGED BY CONSTRUCTION OF THIS DEVELOPMENT, OR ON THIS SITE, OR ANY PART THEREOF, OR THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISIONS HAVE BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS OR DRAINS WHICH THE PROPERTY OWNER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF CONSTRUCTION OF THE DEVELOPMENT, OR THE SITE.

DATE: 05/17/17

ENGINEER: \_\_\_\_\_

### BASIS OF BEARINGS:

BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, ADJUSTED TO GROUND VALUES, AS ESTABLISHED BY REAL TIME KINEMATIC (RTK) GPS METHODS

### BENCHMARKS:

**REFERENCE BENCHMARK: (NGS MONUMENT AJ2863)**  
STAINLESS STEEL ROD IN HAND HOLE APPROXIMATELY 0.9 MILES SOUTH OF THE INTERSECTION OF ILLINOIS ROUTE 60 AND ILLINOIS ROUTE 21 APPROXIMATELY 37 FEET WEST OF THE BACK OF CURB OF ILLINOIS ROUTE 21 AND APPROXIMATELY 29 FEET SOUTHWEST OF TCI CABLE BOX AND APPROXIMATELY 3.5 FEET WEST OF SIDEWALK. DATUM: NAVD 88  
ELEVATION=668.03

**SITE BENCHMARK: 1**  
SOUTH WEST FLANGE BOLT ON FIRE HYDRANT LOCATED NEAR THE NORTHWEST CORNER OF MAIN BUILDING APPROXIMATELY 39 FEET SOUTH OF THE INTERSECTION OF PARKING LOT AND SIDEWALK COMING OUT OF THE MAIN BUILDING AND APPROXIMATELY 14 FEET EAST OF THE EAST EDGE OF PAVEMENT OF THE MAIN DRIVE. DATUM: NAVD 88  
ELEVATION=659.39

**SITE BENCHMARK: 2**  
WEST ARROW FLANGE BOLT ON FIRE HYDRANT ON THE EAST SIDE OF SITE APPROXIMATELY 21 FEET NORTH OF THE NORTHEAST CORNER OF ONE STORY MAIN BUILDING AND APPROXIMATELY 5 FEET SOUTHWEST OF THE WEST EDGE OF PAVEMENT OF DRIVE. DATUM: NAVD 88  
ELEVATION=652.10

### NOTES:

1. THE TOPOGRAPHY SURVEY FOR THIS PROJECT IS BASED ON A FIELD SURVEY PREPARED BY MANHARD CONSULTING AND FIELD WORK WAS PERFORMED ON MAY 27, 2014. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

UTILITY CONTACTS	
<b>ELECTRIC</b> COMED 1500 FRANKLIN BLVD. LIBERTYVILLE, IL. 60048 CONTACT: BRIAN HAUCK (847) 816-5496	<b>SEWER AND WATER:</b> LAKE COUNTY DEPT. OF PUBLIC WORKS 650 WINCHESTER ROAD LIBERTYVILLE, IL 60048 CONTACT: DAVE HUMBERT (847) 377-7500
<b>GAS:</b> NORTH SHORE GAS COMPANY 3001 GRAND AVE. WAUKEGAN, IL 60085 CONTACT: JOE CHINICK (847) 263-4643	<b>TELEPHONE:</b> AT&T/SBC 445 EAST TOWLINE ROAD, VERNON HILLS, IL 60061 CONTACT: JIM EVERETT (770) 750-6181
<b>ENGINEERING:</b> VILLAGE OF VERNON HILLS 490 GREENLEAF DRIVE VERNON HILLS, IL 60061 CONTACT: DAVID BROWN (847) 918-3544	<b>CABLE:</b>

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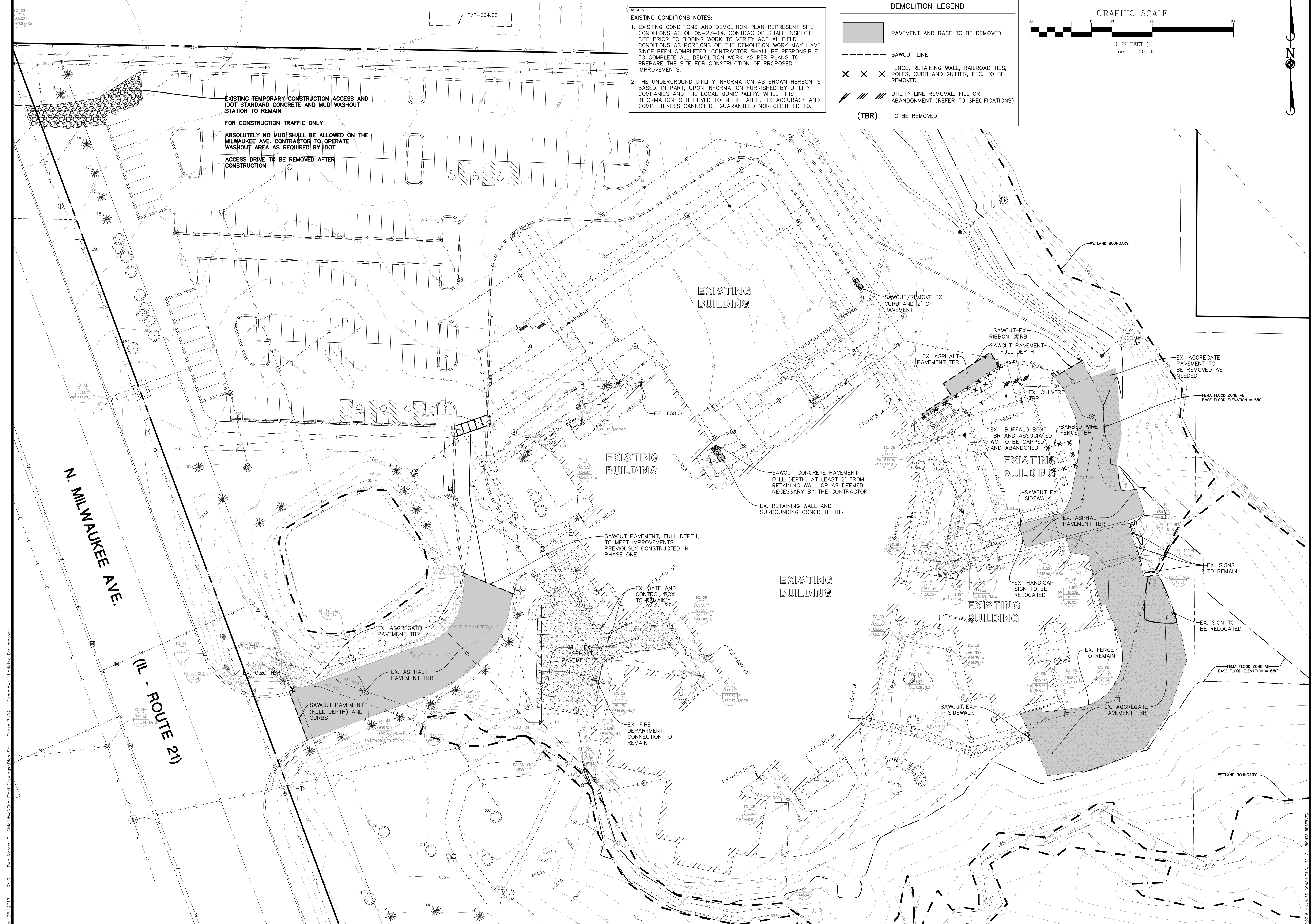
**DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS**  
LAKE COUNTY, ILLINOIS  
TITLE SHEET

PROJ. MGR: SMS  
PROJ. ASSOC: HCM  
DRAWN BY: HCM  
DATE: 05-17-17  
SCALE: N.T.S.

SHEET  
**1** OF **7**  
DLRLC

May 25, 2017 - 20:31 Day Name: P:\Dnc\Draws\Engr\Drawings\Plan Set - Phase 1\01 - Title.dwg Updated By: hmaner

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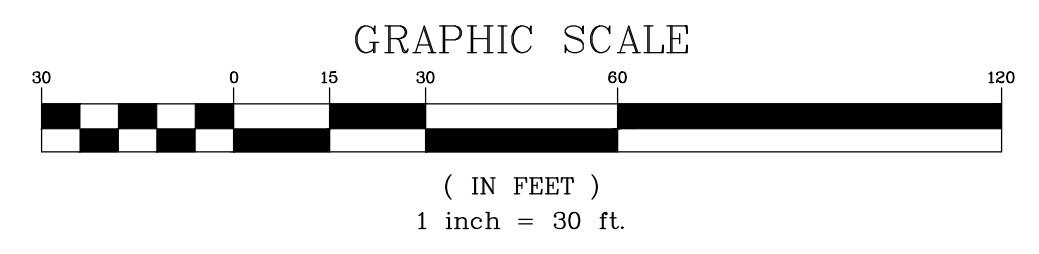


**EXISTING CONDITIONS NOTES:**

- EXISTING CONDITIONS AND DEMOLITION PLAN REPRESENT SITE CONDITIONS AS OF 05-27-14. CONTRACTOR SHALL INSPECT SITE PRIOR TO BIDDING WORK TO VERIFY ACTUAL FIELD CONDITIONS AS PORTIONS OF THE DEMOLITION WORK MAY HAVE SINCE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK AS PER PLANS TO PREPARE THE SITE FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

**DEMOLITION LEGEND**

- PAVEMENT AND BASE TO BE REMOVED
- SAWCUT LINE
- FENCE, RETAINING WALL, RAILROAD TIES, POLES, CURB AND GUTTER, ETC. TO BE REMOVED
- UTILITY LINE REMOVAL, FILL OR ABANDONMENT (REFER TO SPECIFICATIONS)
- (TBR) TO BE REMOVED



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**DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS**

LAKE COUNTY, ILLINOIS

**EXISTING CONDITIONS AND DEMOLITION PLAN**

PROJ. MGR.: SMS  
 PROJ. ASSOC.: HCM  
 DRAWN BY: HCM  
 DATE: 05-17-17  
 SCALE: 1" = 30'

SHEET  
**2** OF **7**  
 D.L.R.L.C.

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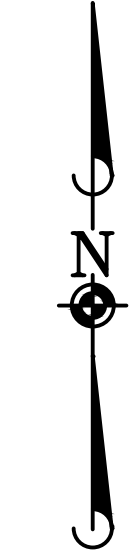
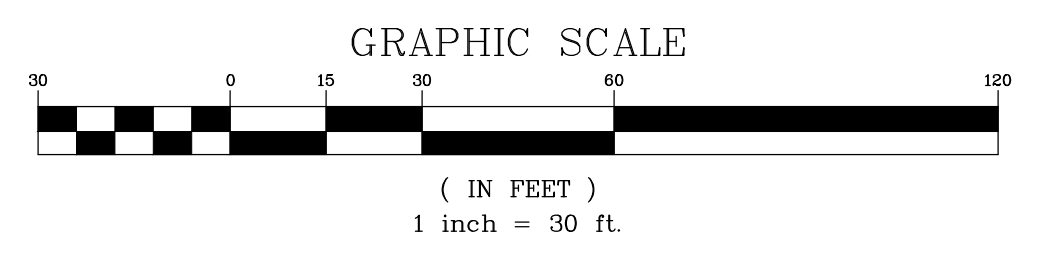
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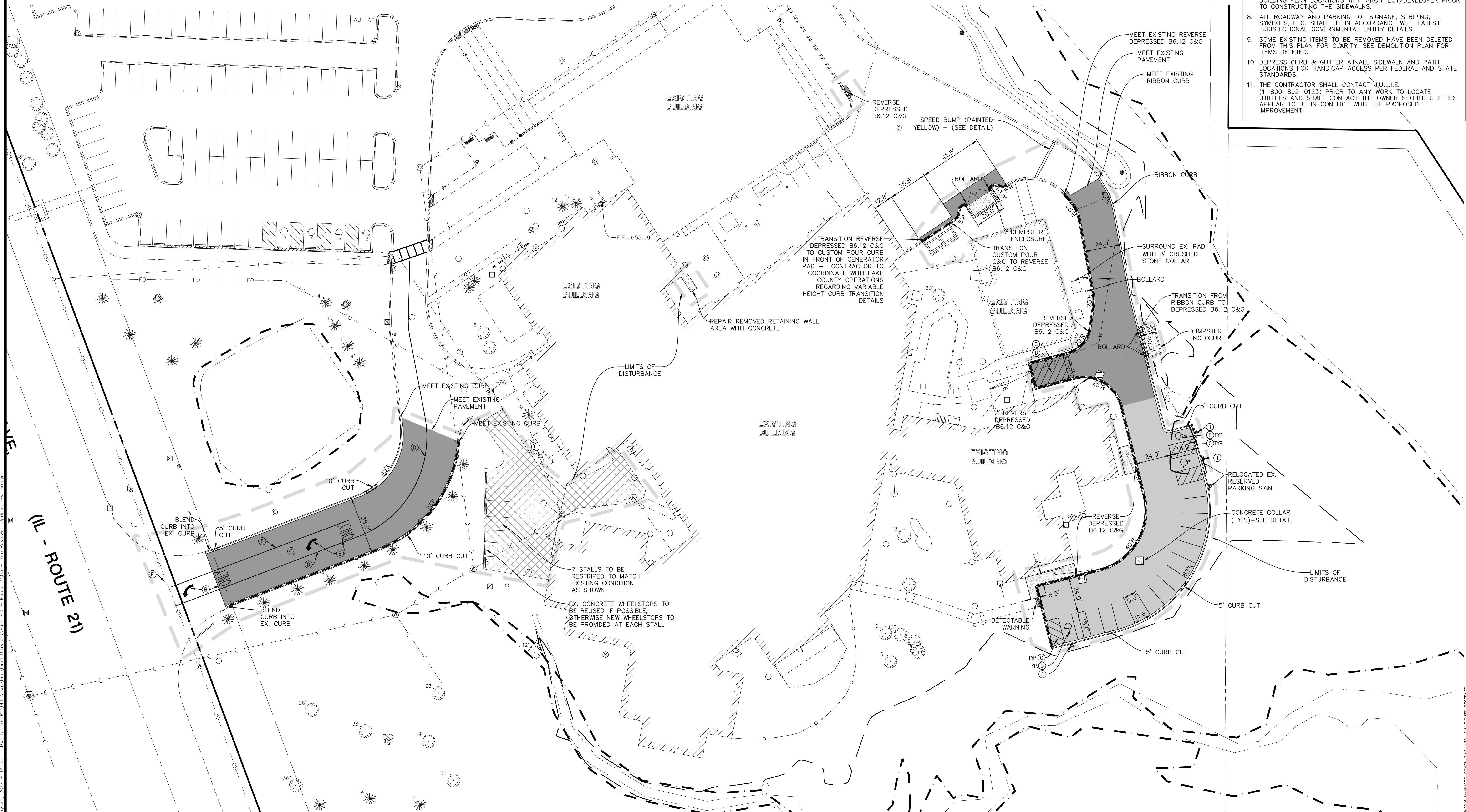
PAVEMENT LEGEND	
	<b>STANDARD DUTY PAVEMENT</b> 1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 8" AGGREGATE BASE COURSE, TYPE B
	<b>HEAVY DUTY PAVEMENT</b> 2 1/4" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 12" AGGREGATE BASE COURSE, TYPE B
	<b>CONCRETE PAVEMENT</b> 8" PORTLAND CEMENT CONCRETE PAVEMENT W/ 6 X 6 W1.4 WWF 4" COMPACTED AGGREGATE BASE, TYPE B
	<b>SIDEWALK</b> (REFER TO DETAILS)
	<b>MILL &amp; OVERLAY (2")</b>

PAVEMENT MARKING LEGEND	
(A)	4" YELLOW LINE
(B)	LETTERS AND SYMBOLS PAVEMENT MARKINGS
(C)	4" YELLOW DIAGONAL AT 45° SPACED 2' O.C. W/ 4" BOARDER
(D)	4" DOUBLE YELLOW AT 12" C-C
(E)	4" WHITE LINE
(F)	24" WHITE STOP BAR

SIGN LEGEND	
(1)	R7-8 HANDICAP PARKING SIGN



- SITE DIMENSIONAL AND PAVING NOTES:**
- ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FOUNDATION UNLESS NOTED OTHERWISE.
  - ALL PROPOSED CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
  - ALL CURB RADII SHALL BE 3' MEASURED TO FACE OF CURB UNLESS NOTED OTHERWISE.
  - THE ALL PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH 2-#6 BARS x 18" LONG DOWELED INTO EXISTING CURB.
  - BUILDING DIMENSIONS AND ADJACENT PARKING HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. BUILDING DIMENSIONS SHOWN SHOULD NOT BE USED FOR CONSTRUCTION LAYOUT OF BUILDING.
  - IMPROVEMENTS ADJACENT TO BUILDING, IF SHOWN, SUCH AS TRUCK DOCK, RETAINING WALLS, SIDEWALKS, CURBING, FENCES, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
  - LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAY. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN LOCATIONS WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
  - ALL ROADWAY AND PARKING LOT SIGNAGE, STRIPING, SYMBOLS, ETC. SHALL BE IN ACCORDANCE WITH LATEST JURISDICTIONAL GOVERNMENTAL ENTITY DETAILS.
  - SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
  - DEPRESS CURB & GUTTER AT ALL SIDEWALK AND PATH LOCATIONS FOR HANDICAP ACCESS PER FEDERAL AND STATE STANDARDS.
  - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.



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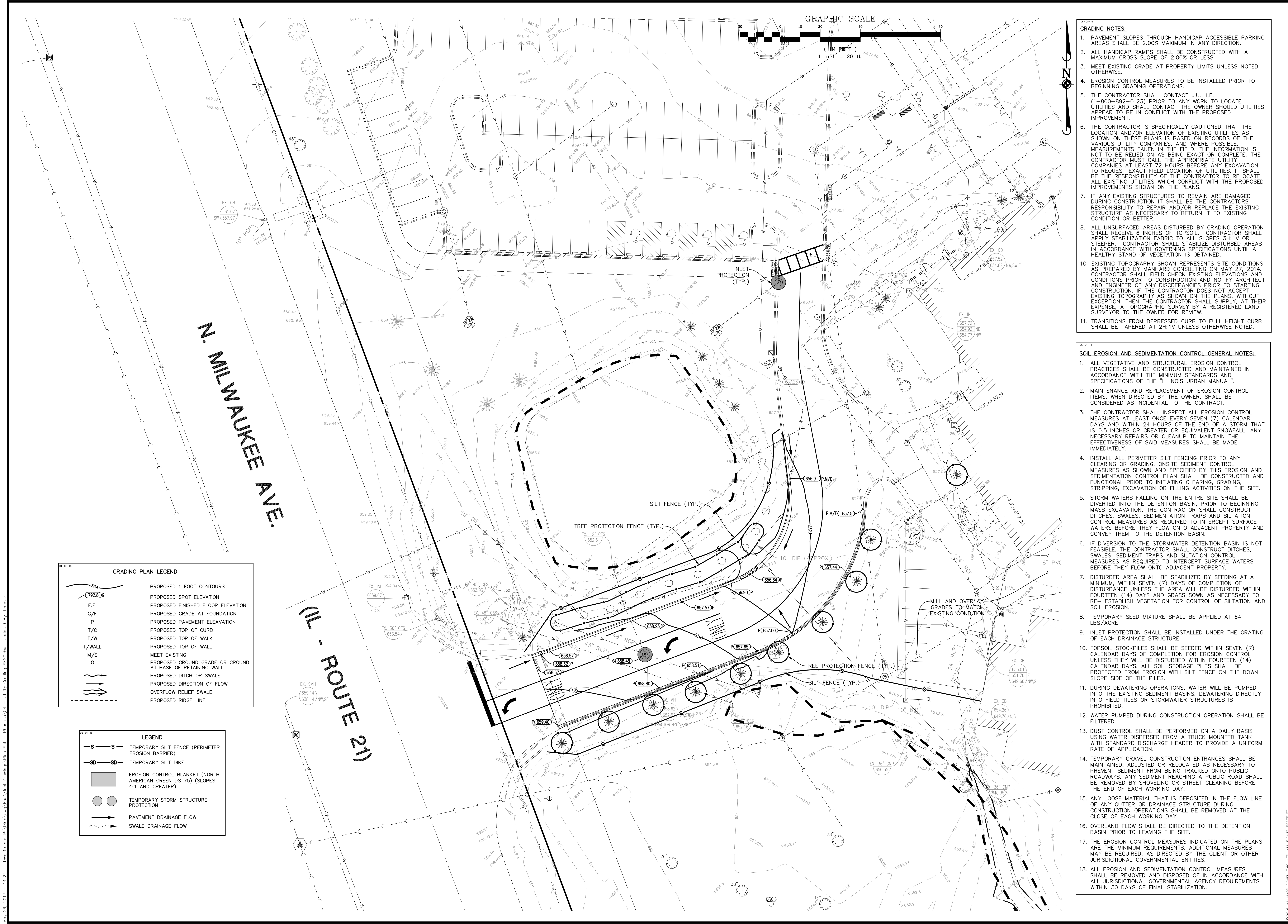
**DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS**  
**LAKE COUNTY, ILLINOIS**  
**SITE DIMENSIONAL AND PAVING PLAN**

PROJ. MGR: SMS  
PROJ. ASSOC: HCM  
DRAWN BY: [Name]  
DATE: 05-17-17  
SCALE: 1"=XX'

**SHEET 3 OF 7**  
DLRLC

*PENDING APPROVAL - NOT FOR CONSTRUCTION*

May 26, 2017 - 14:23    Draw Name: P:\Dwg\Auto\Auto\Drawings\Plan Set - Phase 3\03 - Site Paving.dwg    Updated By: hmcg



- GRADING NOTES:**
1. PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
  2. ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
  3. MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
  4. EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
  5. THE CONTRACTOR SHALL CONTACT J.U.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
  6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
  8. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL RESTORE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
  9. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING ON MAY 27, 2014. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
  10. TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.

- SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:**
1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
  2. MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
  3. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
  4. INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ONSITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
  5. STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE DETENTION BASIN, PRIOR TO BEGINNING MASS EXCAVATION. THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
  6. IF DIVERSION TO THE STORMWATER DETENTION BASIN IS NOT FEASIBLE, THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENT TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY.
  7. DISTURBED AREA SHALL BE STABILIZED BY SEEDING AT A MINIMUM, WITHIN SEVEN (7) DAYS OF COMPLETION OF DISTURBANCE UNLESS THE AREA WILL BE DISTURBED WITHIN FOURTEEN (14) DAYS AND GRASS SOWN AS NECESSARY TO RE-ESTABLISH VEGETATION FOR CONTROL OF SILTATION AND SOIL EROSION.
  8. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS/ACRE.
  9. INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE.
  10. TOPSOIL STOCKPILES SHALL BE SEEDDED WITHIN SEVEN (7) CALENDAR DAYS OF COMPLETION FOR EROSION CONTROL UNLESS THEY WILL BE DISTURBED WITHIN FOURTEEN (14) CALENDAR DAYS. ALL SOIL STORAGE PILES SHALL BE PROTECTED FROM EROSION WITH SILT FENCE ON THE DOWN SLOPE SIDE OF THE PILES.
  11. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO THE EXISTING SEDIMENT BASINS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
  12. WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
  13. DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
  14. TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
  15. ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
  16. OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
  17. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
  18. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

**GRADING PLAN LEGEND**

	PROPOSED 1 FOOT CONTOURS
	PROPOSED SPOT ELEVATION
	PROPOSED FINISHED FLOOR ELEVATION
	PROPOSED GRADE AT FOUNDATION
	PROPOSED PAVEMENT ELEVATION
	PROPOSED TOP OF CURB
	PROPOSED TOP OF WALK
	PROPOSED TOP OF WALL
	MEET EXISTING
	PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF SWALE
	PROPOSED RIDGE LINE

**LEGEND**

	TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
	TEMPORARY SILT DIKE
	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN DS 75) (SLOPES 4:1 AND GREATER)
	TEMPORARY STORM STRUCTURE PROTECTION
	PAVEMENT DRAINAGE FLOW
	SWALE DRAINAGE FLOW

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DATE	
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 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers • Construction Managers • Environmental Scientists • Landscape Architects • Planners

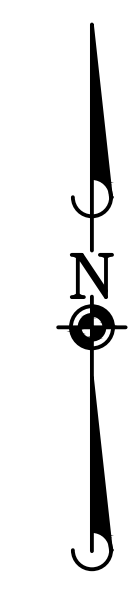
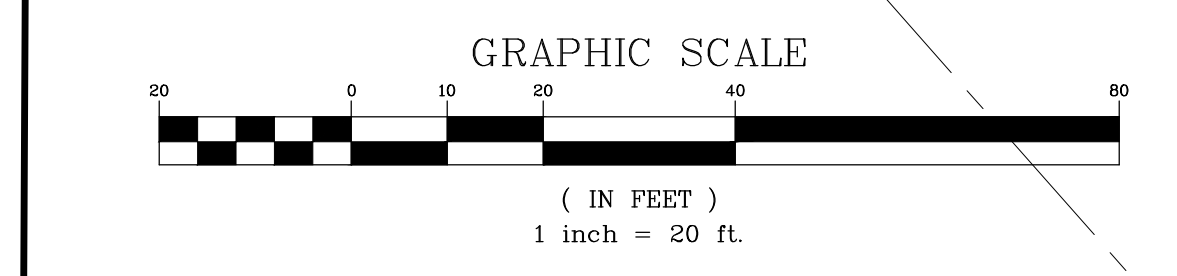
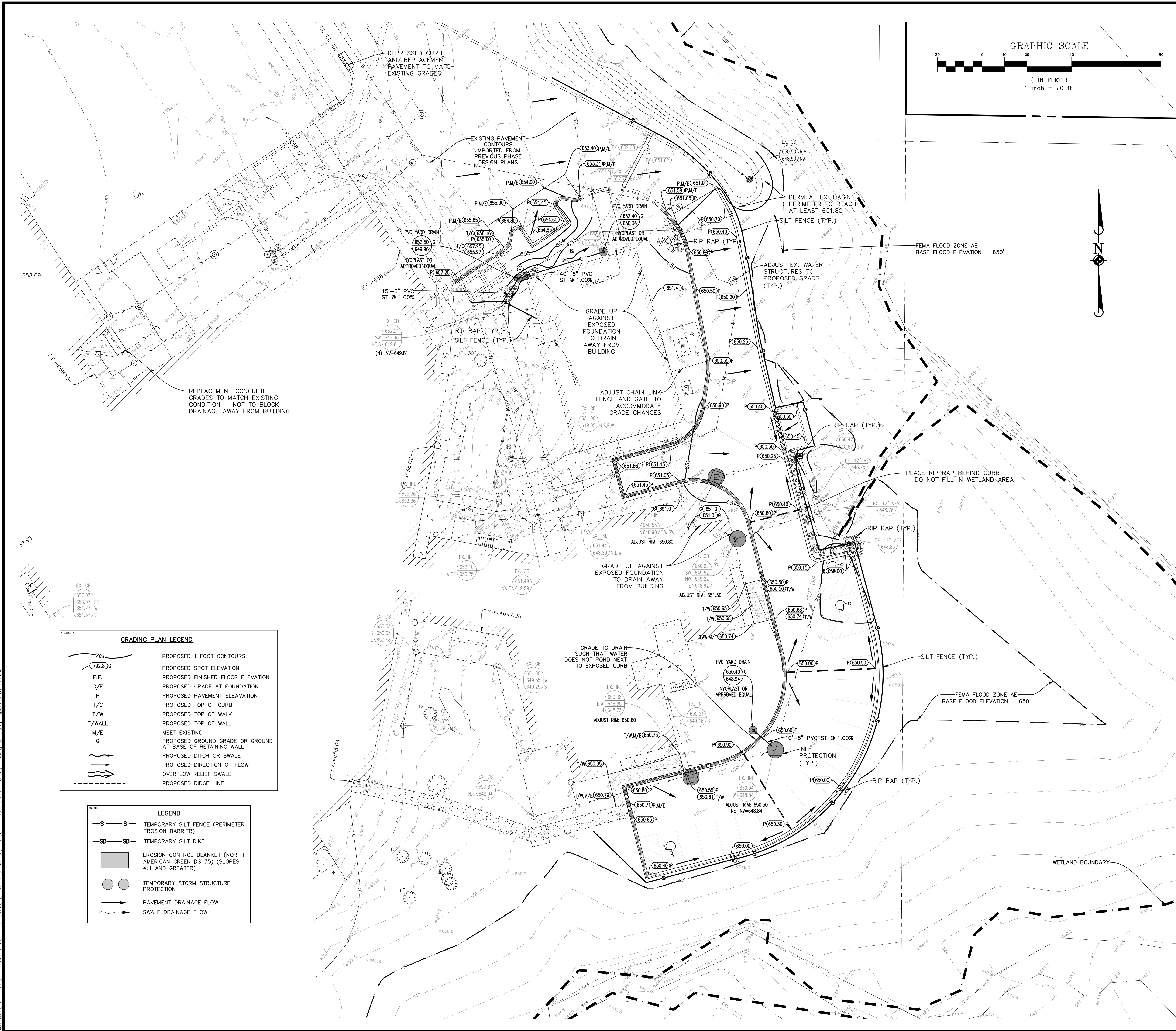
**DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS**  
 LAKE COUNTY, ILLINOIS  
 GRADING, UTILITY, AND SESC PLAN - WEST

PROJ. MGR.: SMS  
 PROJ. ASSOC.: HCM  
 DRAWN BY: HCM  
 DATE: 05-17-17  
 SCALE: 1" = 20'

SHEET **4** OF **7**  
 D.L.R.L.C.

**PENDING APPROVAL - NOT FOR CONSTRUCTION**

10/26/2017 14:24 Day Name: P:\Dwg\Manh\Area\Final\Drawings\Plan\_Sct - Phase 3\04 - Utility\_Grading\_SESC.dwg Uploaded By: hmcwgr



	PROPOSED 1 FOOT CONTOURS
	PROPOSED SPOT ELEVATION
	PROPOSED FINISHED FLOOR ELEVATION
	PROPOSED GRADE AT FOUNDATION
	PROPOSED PAVEMENT ELEVATION
	PROPOSED TOP OF CURB
	PROPOSED TOP OF WALK
	PROPOSED TOP OF WALL
	MEET EXISTING
	PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF SWALE
	PROPOSED RIDGE LINE

	TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
	TEMPORARY SILT DIKE
	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN DS 75) (SLOPES 4:1 AND GREATER)
	TEMPORARY STORM STRUCTURE PROTECTION
	PAVEMENT DRAINAGE FLOW
	SWALE DRAINAGE FLOW

- GRADING NOTES:**
- PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
  - ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
  - MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
  - EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
  - THE CONTRACTOR SHALL CONTACT J.U.I.E. (781-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
  - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
  - ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE EXPOSED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
  - EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING ON MAY 27, 2014. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
  - TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.

- SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:**
- ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
  - MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
  - THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
  - INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ONSITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
  - STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE DETENTION BASIN, PRIOR TO BEGINNING MASS EXCAVATION, THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
  - IF DIVERSION TO THE STORMWATER DETENTION BASIN IS NOT FEASIBLE, THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENT TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY.
  - DISTURBED AREA SHALL BE STABILIZED BY SEEDING AT A MINIMUM, WITHIN SEVEN (7) DAYS OF COMPLETION OF DISTURBANCE UNLESS THE AREA WILL BE DISTURBED WITHIN FOURTEEN (14) DAYS AND GRASS SOWN AS NECESSARY TO RE-ESTABLISH VEGETATION FOR CONTROL OF SILTATION AND SOIL EROSION.
  - TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS./ACRE.
  - INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE.
  - TOPSOIL STOCKPILES SHALL BE SEEDING WITHIN SEVEN (7) CALENDAR DAYS OF COMPLETION FOR EROSION CONTROL UNLESS THEY WILL BE DISTURBED WITHIN FOURTEEN (14) CALENDAR DAYS. ALL SOIL STORAGE PILES SHALL BE PROTECTED FROM EROSION WITH SILT FENCE ON THE DOWN SLOPE SIDE OF THE PILES.
  - DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO THE EXISTING SEDIMENT BASINS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
  - WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
  - DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
  - TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
  - ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
  - OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
  - THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
  - ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

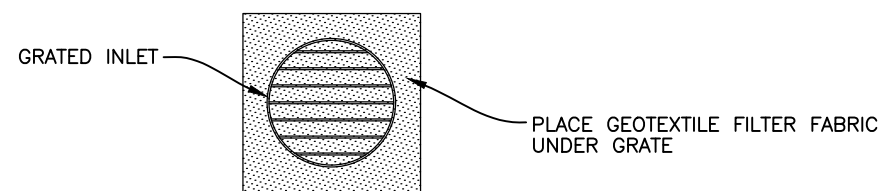
**Manhard CONSULTING LTD.**  
 800 Waukegan Parkway, Suite 200, Waukegan, IL 60093  
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**DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS**  
**LAKE COUNTY, ILLINOIS**  
**GRADING, UTILITY, AND SESC PLAN - EAST**

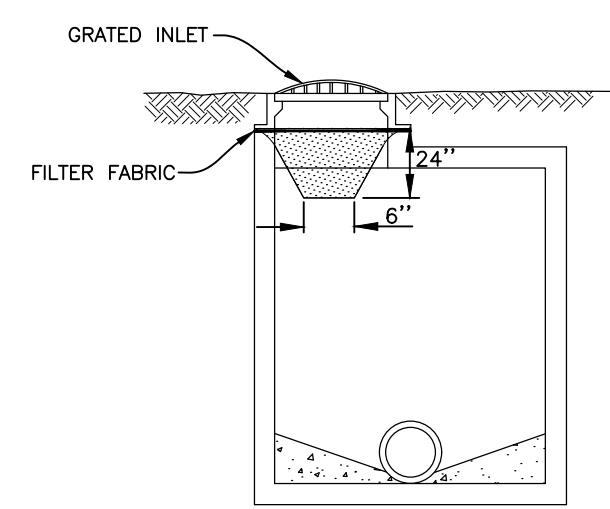
PROJ. MGR.: SMS  
 PROJ. ASSOC.: HCM  
 DRAWN BY: HCM  
 DATE: 05-17-17  
 SCALE: 1" = 20'

**SHEET 5 OF 7**  
DLRLC

**PENDING APPROVAL - NOT FOR CONSTRUCTION**



PLACEMENT OF FILTER FABRIC UNDER GRATE

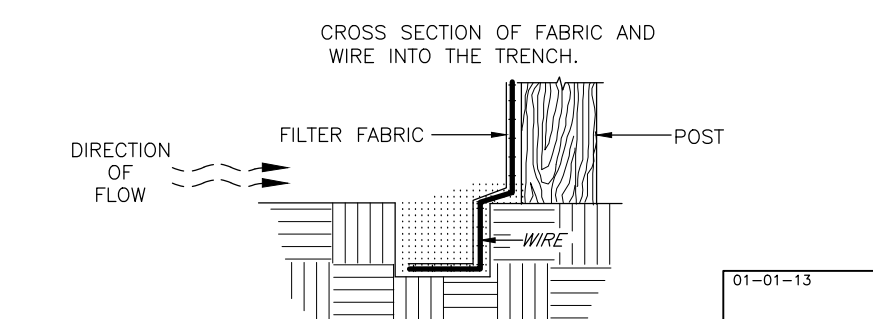
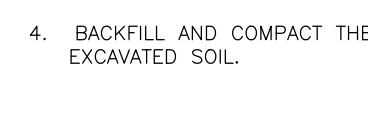
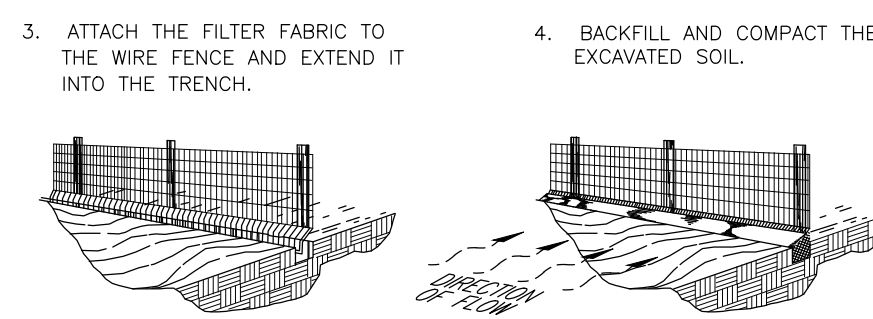
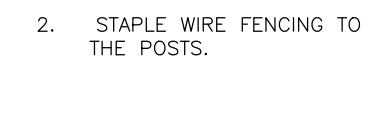
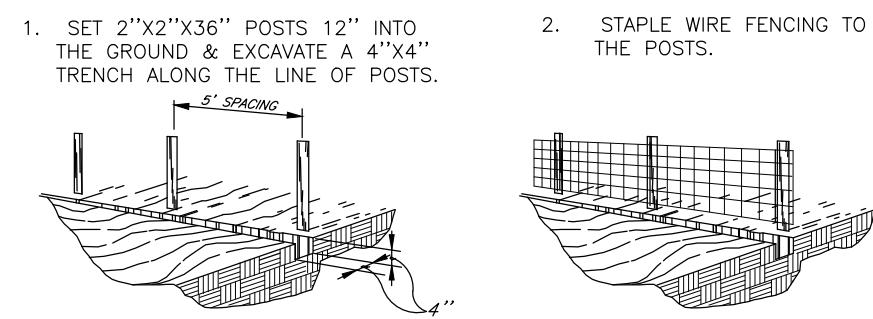


**NOTE:**  
 1. CONTRACTOR HAS THE OPTION OF USING A MANUFACTURED PRODUCT SUCH AS DANDY BAG, IPP INLET FILTER, FLEXFORM OR APPROVED EQUAL.  
 2. FOR CURB STRUCTURES, CONTRACTOR HAS THE OPTION OF USING A MANUFACTURED PRODUCT SUCH AS DANDY CURB SACK OR APPROVED EQUAL.

**FILTER BASKET INLET SEDIMENT FILTER**

06-01-15

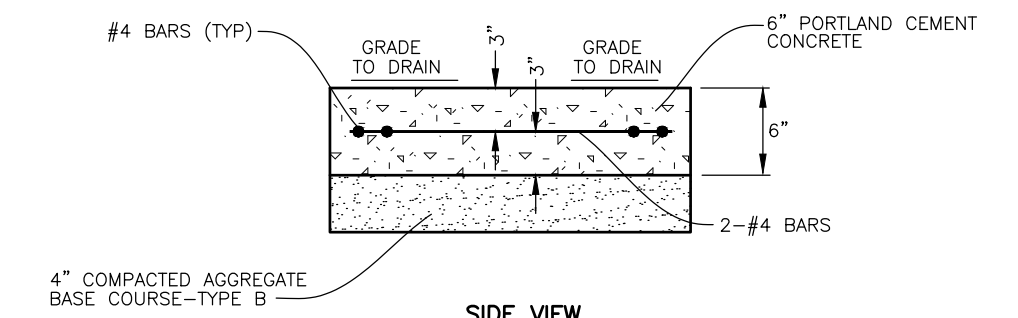
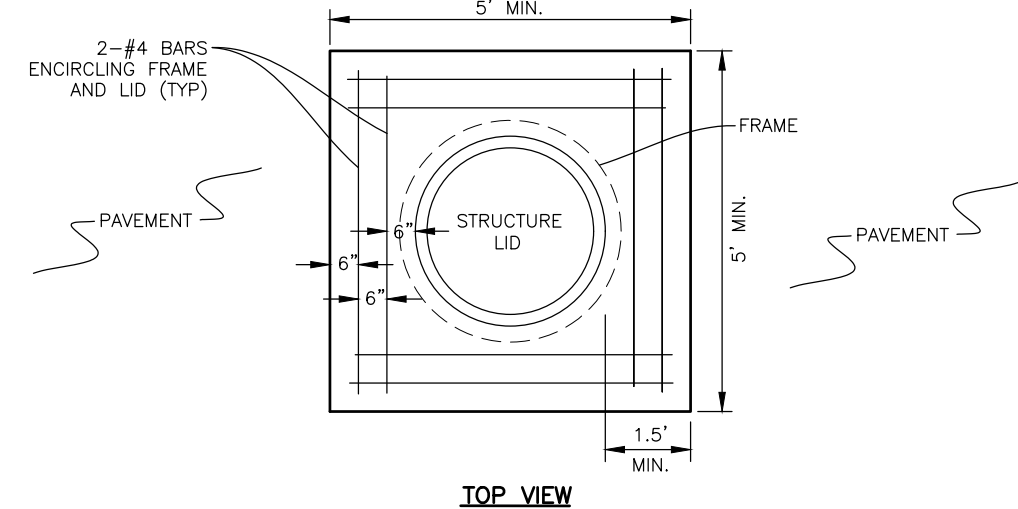
S-ST-FB-INLETSEDFILT



**SILT FENCE DETAIL**

01-01-13

S-EC-SILT FENCE

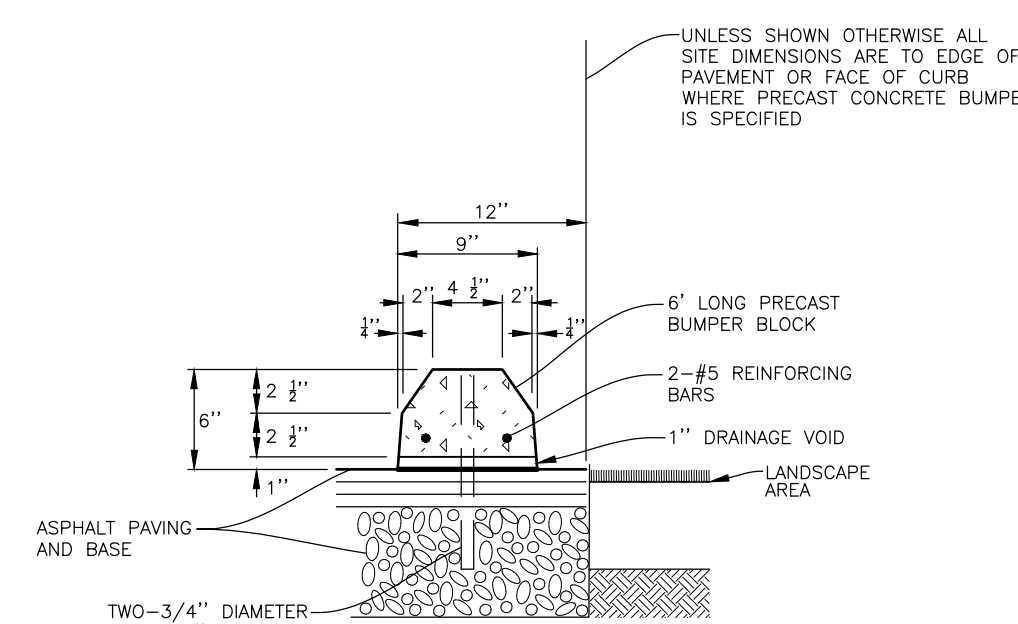


**NOTE:**  
 PROVIDE CONCRETE COLLAR AT ALL NEW STRUCTURES IN PAVEMENT, NOT ADJACENT TO CURBS.

**CONCRETE COLLAR IN ASPHALT PAVEMENT DETAIL**

06-01-15

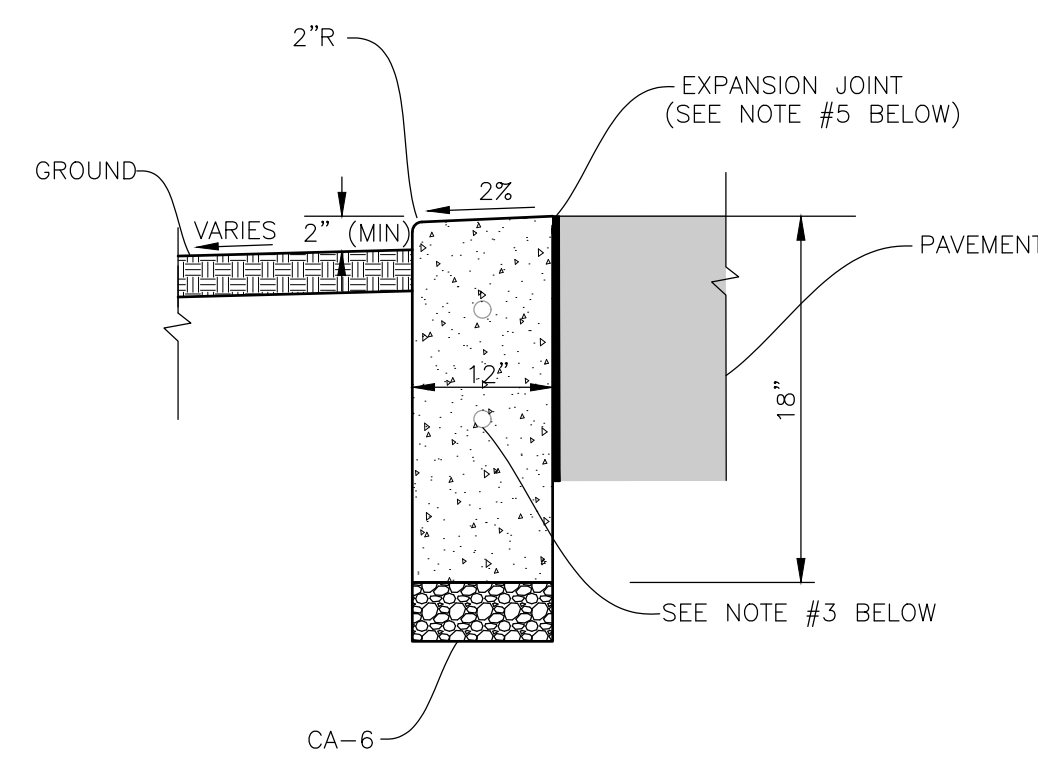
S-CC-CONC-COLLAR



**PRECAST CONCRETE WHEEL STOP DETAIL**

06-01-15

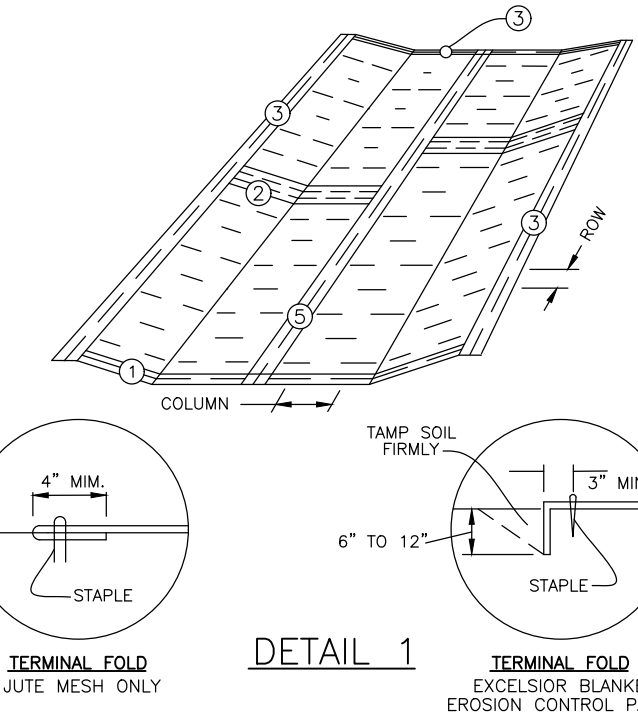
S-MS-WHEELSTOP



**NOTES:**  
 1. EXPANSION JOINTS TO BE LOCATED AT HIGH POINTS, UTILITY STRUCTURES, CURB RETURNS, COLD JOINTS OR 60' MAX (SEE DETAIL).  
 2. CONTRACTION JOINTS ARE TO BE SAW CUT 2" DEEP AT 20' INTERVALS MAX.  
 3. INSTALL 2-#4 DEFORMED BARS X 10'-0" LONG OVER ALL TRENCHES. BARS SHALL BE PLACED TO MISS FENCE POST FOOTINGS.  
 4. REFER TO DIMENSION AND PAVING PLAN WIDTH OF CURB AND GRADING PLAN FOR TOP OF CURB ELEVATIONS.  
 5. THE EXPANSION JOINT SHALL BE PLACED BETWEEN BARRIER CURB AND CONCRETE PAVEMENT JOINT NOT REQUIRED AGAINST ASPHALT PAVEMENT.

**12" WIDE RIBBON CURB DETAIL**

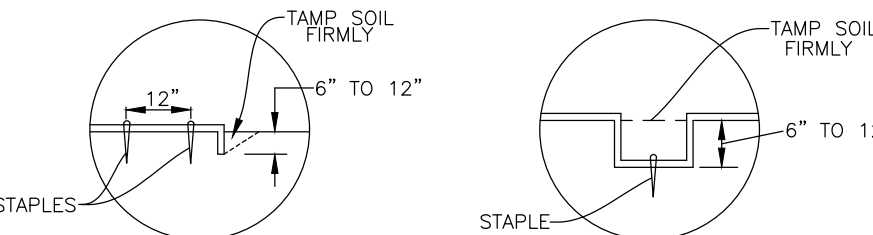
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**TERMINAL FOLD**

01-01-13

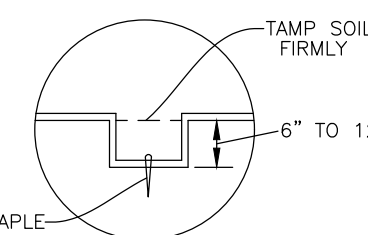
N-EC-EROSION-BLANKET1



**ANCHOR SLOT**

01-01-13

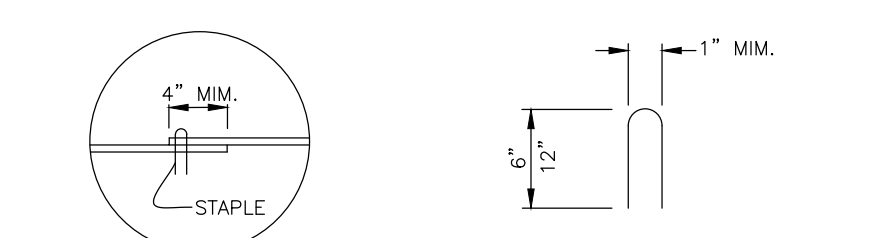
N-EC-EROSION-BLANKET2



**CHECK SLOT**

01-01-13

N-EC-EROSION-BLANKET2



**LAP JOINT**

01-01-13

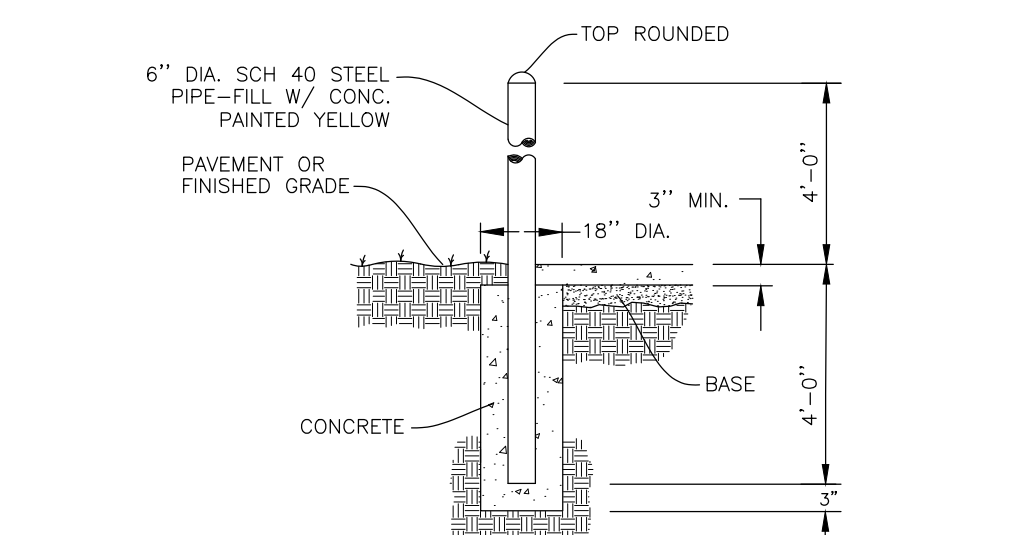
N-EC-EROSION-BLANKET2

1. ON EROSION CONTROL PAPER, CHECK SLOTS IN DITCH CHANNEL SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. SLOPES OF 6% OR MORE, SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.  
 2. STAPLES TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.  
 3. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.  
 4. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12' INTERVALS.

**EROSION BLANKET PLAN**

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, ILLINOIS. IL-530

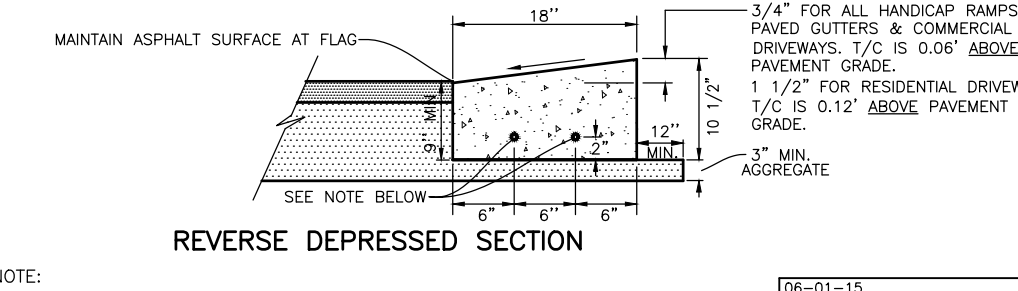
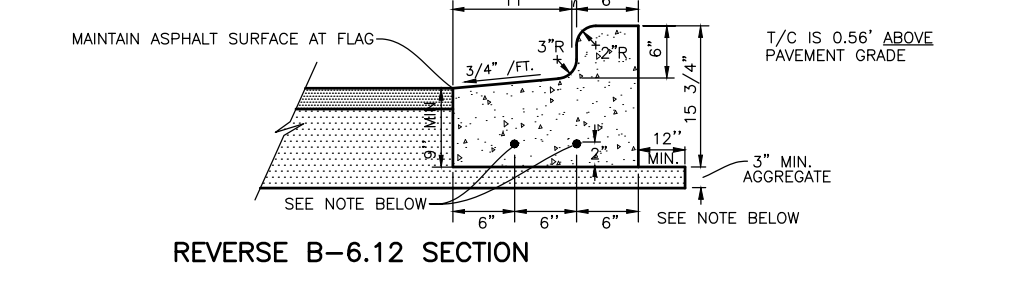
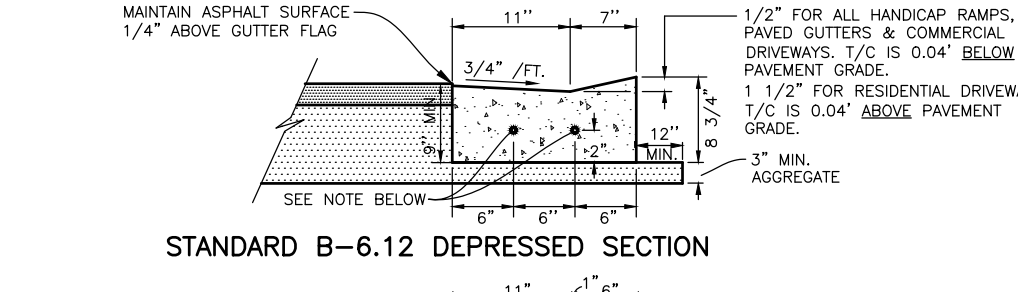
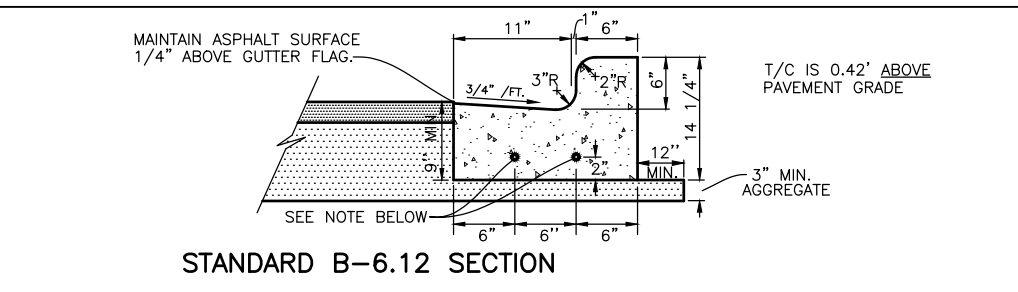
N-EC-EROSION-BLANKET2



**BOLLARD PIPE DETAIL #1**

06-01-15

S-RB-BOLLARD-1

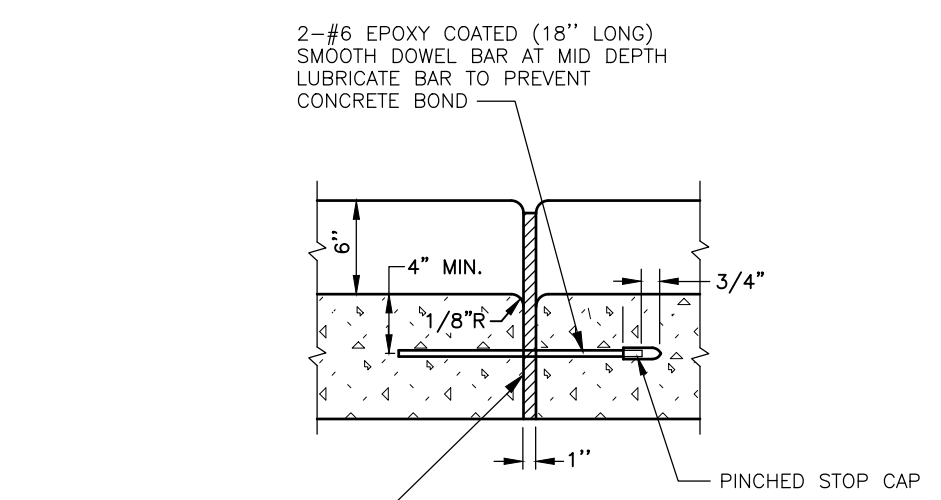


**NOTE:**  
 1. EXPANSION JOINTS TO BE LOCATED AT HIGH POINTS, UTILITY STRUCTURES, CURB RETURNS, COLD JOINTS OR 60' MAX. SEE DETAIL.  
 2. CONTRACTION JOINTS ARE TO BE SAW CUT 2" DEEP AT 20' INTERVALS MAX.  
 3. INSTALL 2-#4 DEFORMED BARS X 10'-0" LONG OVER ALL TRENCHES.  
 4. TRANSITION CURB AND GUTTER AS NECESSARY TO MEET DRAINAGE STRUCTURE FRAME AND GRATE.

**MODIFIED B-6.12 CURB & GUTTER DETAIL**

06-01-15

S-RB-B612-CURB



**TYPICAL EXPANSION JOINT DETAIL CROSS SECTION**

06-01-15

S-RB-EXPANSION-JOINT

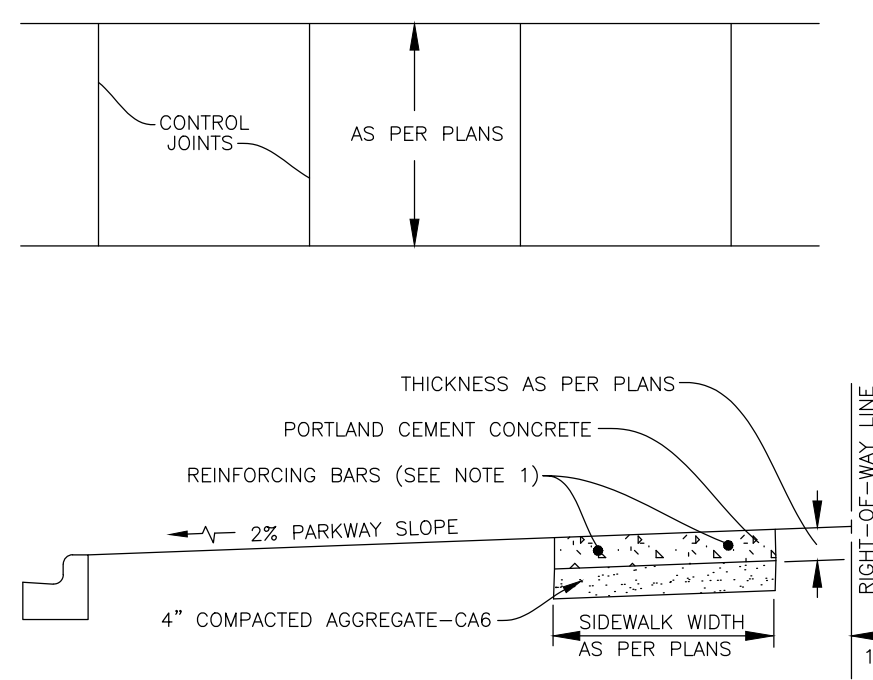
RIP-RAP							
STONE RIP-RAP							BEDDING
PIPE DIAMETER (IN.)	QUALITY DESIGNATION	GRADATION NUMBER	MINIMUM THICKNESS (IN.)	MINIMUM LENGTH (FT.)	WEIGHT RANGE (#)	AVERAGE WEIGHT (#)	MINIMUM THICKNESS (IN.)
12"	B	3	8"	4'	1-50	10	4.5"
15"	B	3	8"	5	1-50	10	4.5"
18"	B	4	16"	6'	1-150	40	6"
21"	B	4	16"	7'	1-150	40	7"
24"	B	4	16"	8'	1-150	40	7"
27"	B	4	16"	9'	1-150	40	7"
30"	B	4	16"	10'	1-150	40	7"
36"	B	5	22"	12'	3-400	90	10"
42"	B	5	22"	14'	3-400	90	10"
48"	B	6	26"	16'	6-600	170	12"
54"	B	6	26"	18'	6-600	170	12"
60"	B	6	26"	20'	6-600	170	12"
72"	B	6	26"	24'	6-600	170	12"

**NOTE:**  
 1. FOR PIPE LARGER THAN 72" A SPECIAL DESIGN OF RIP-RAP OR APRON IS REQUIRED.  
 2. REFER TO I.D.O.T. SPECIFICATIONS AND STANDARDS FOR BEDDING GRADATION.

**STONE RIP RAP DETAIL**

06-01-15

S-ST-RIPRAP-STONE

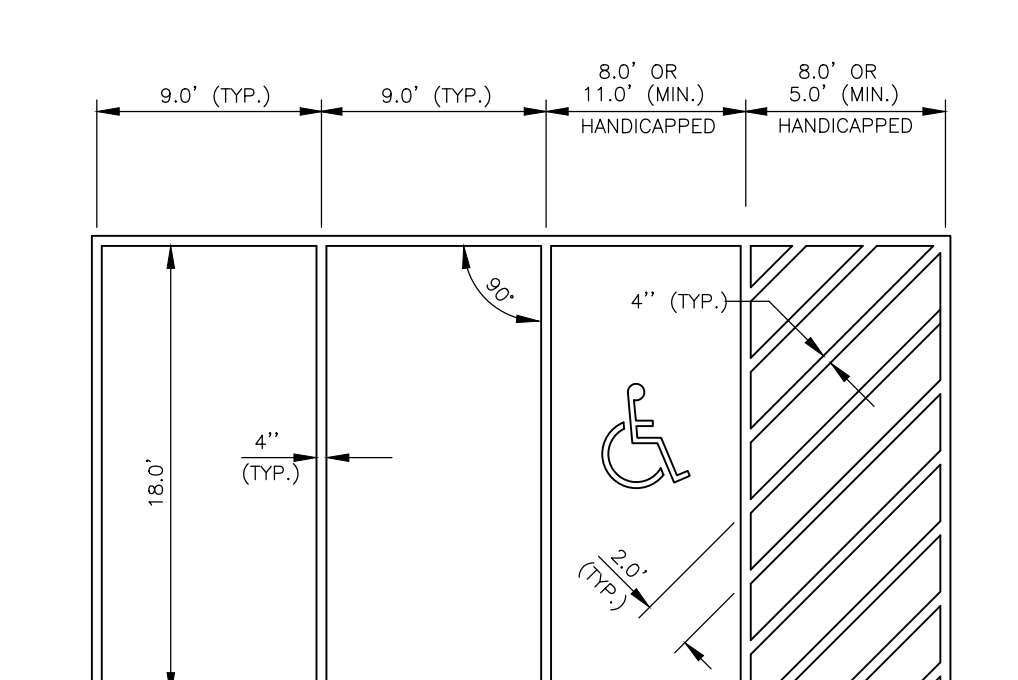


**NOTE:**  
 1. AT ALL TRENCH CROSSINGS, 2-#4 REFORMED REINFORCING BARS (10' LONG) SHALL BE PLACED OVER THE TRENCH.  
 2. CONCRETE THICKNESS SHALL BE 6" AT ALL DRIVEWAYS AND TRENCH CROSSINGS.  
 3. 3/4" EXPANSION JOINTS SHALL BE CONSTRUCTED AT A MAXIMUM SPACING OF 50'.  
 4. CONTROL JOINTS SHALL BE SPACED THE SAME AS THE SIDEWALK WIDTH AND 1/4" IN DEPTH.

**SIDEWALK DETAIL**

06-01-15

S-RD-SIDEWALK

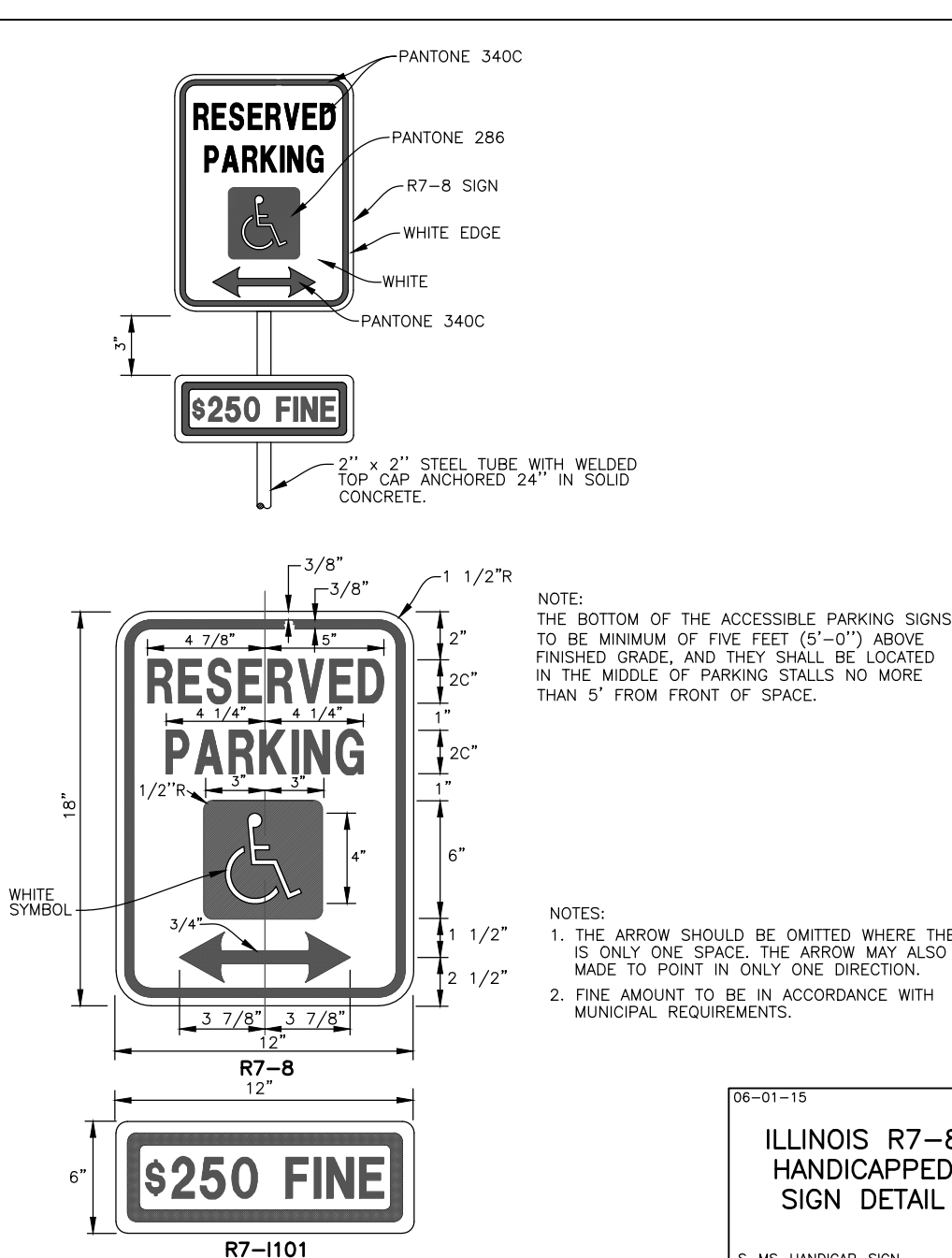


**NOTE:**  
 1. HANDICAPPED STALL AND SYMBOL STRIPING TO BE PER JURISDICTION GOVERNMENT AGENCY STANDARDS.  
 2. STANDARD PARKING STALL STRIPING TO BE TWO COATS YELLOW PAINT UNLESS OTHERWISE NOTED.

**TYPICAL 90" PARKING STRIPING DETAIL**

06-01-15

S-MS-PARKING

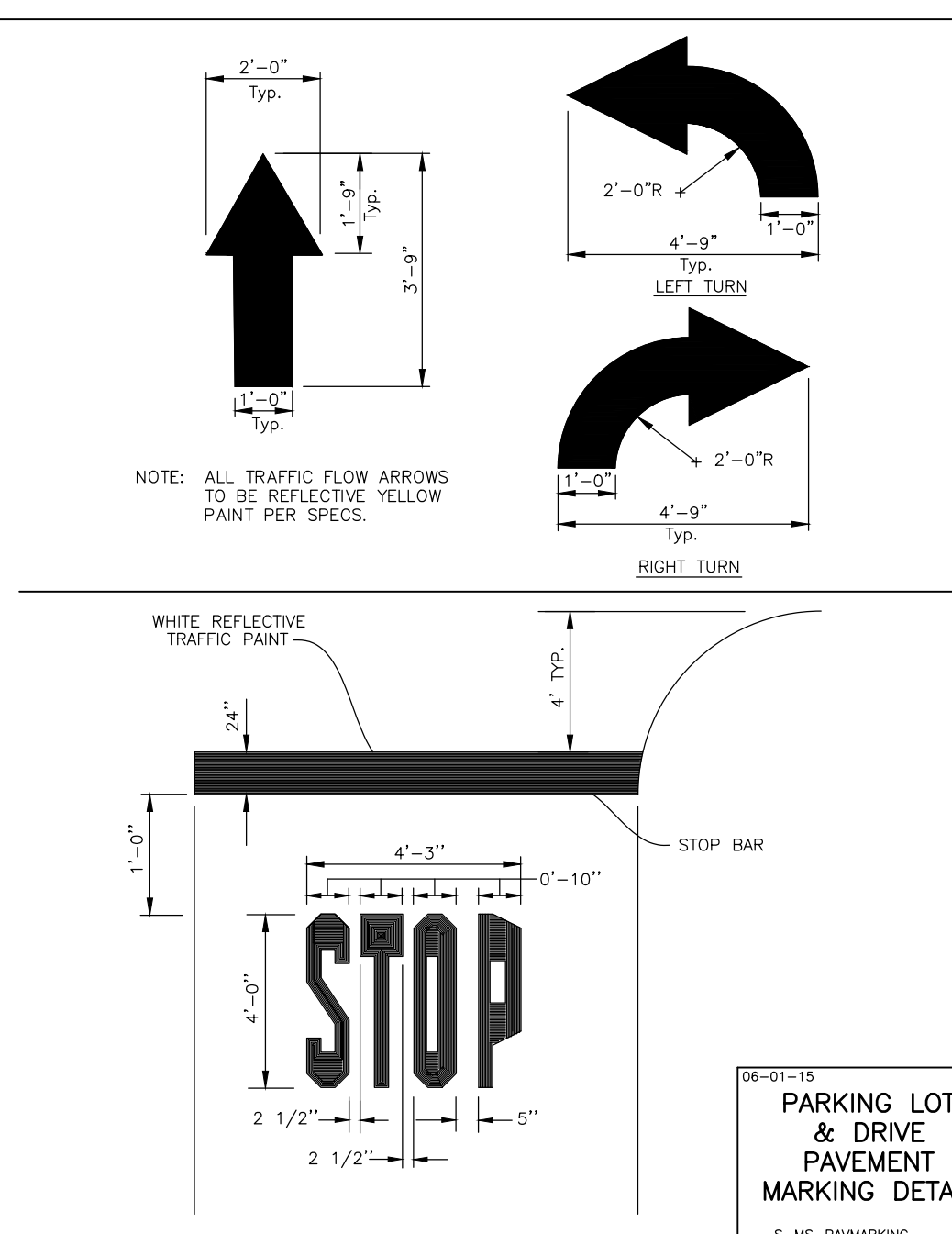


**NOTE:**  
 1. THE BOTTOM OF THE ACCESSIBLE PARKING SIGNS TO BE MINIMUM OF FIVE FEET (5'-0") ABOVE FINISHED GRADE, AND THEY SHALL BE LOCATED IN THE MIDDLE OF PARKING STALLS NO MORE THAN 5' FROM FRONT OF SPACE.  
 2. THE ARROW SHOULD BE OMITTED WHERE THERE IS ONLY ONE SPACE. THE ARROW MAY ALSO BE MADE TO POINT IN ONLY ONE DIRECTION.  
 3. FINE AMOUNT TO BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.

**ILLINOIS R7-8 HANDICAPPED SIGN DETAIL**

06-01-15

S-MS-HANDICAP-SIGN



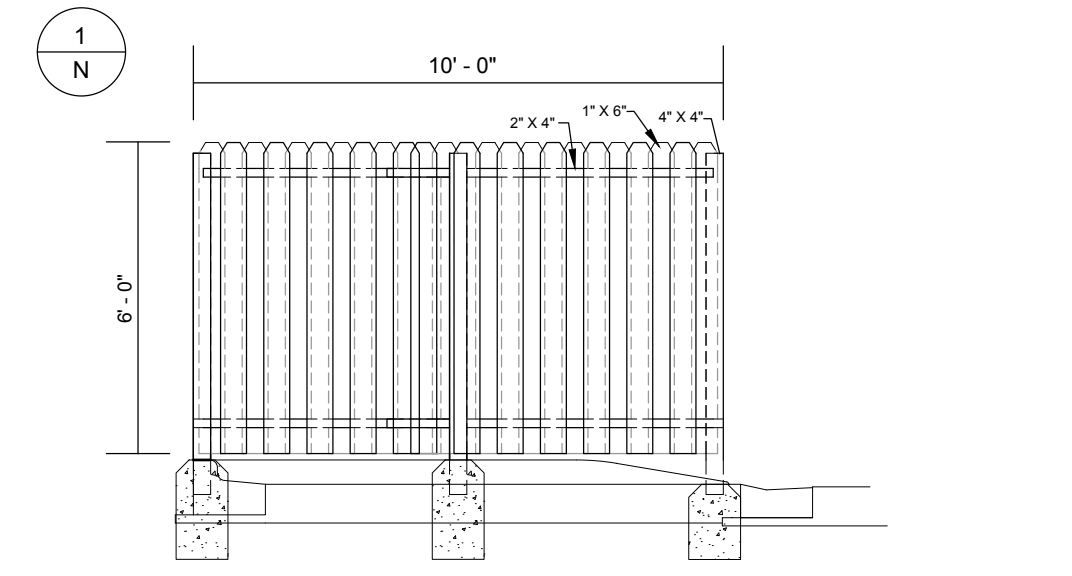
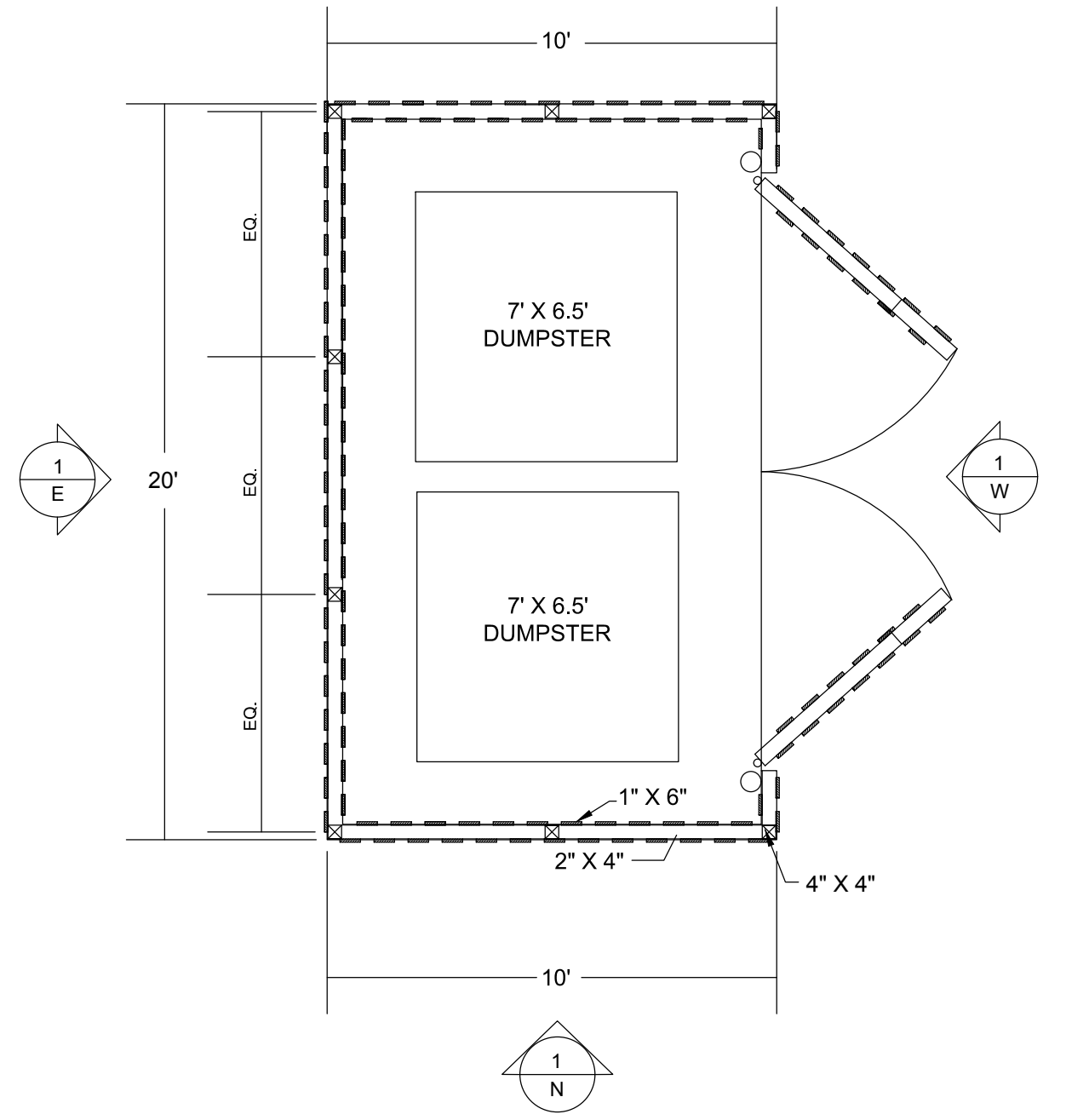
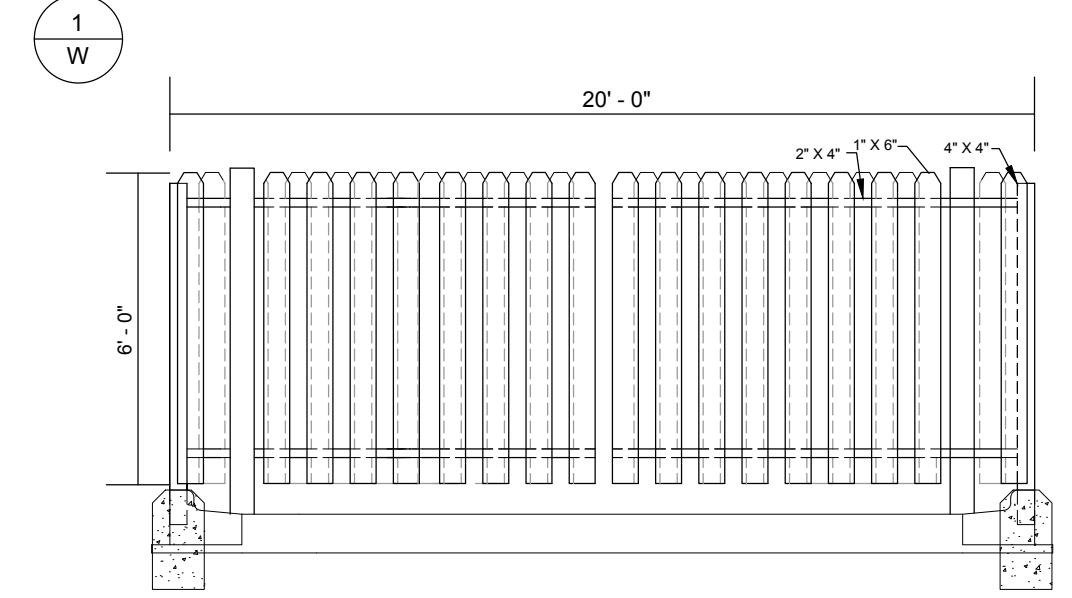
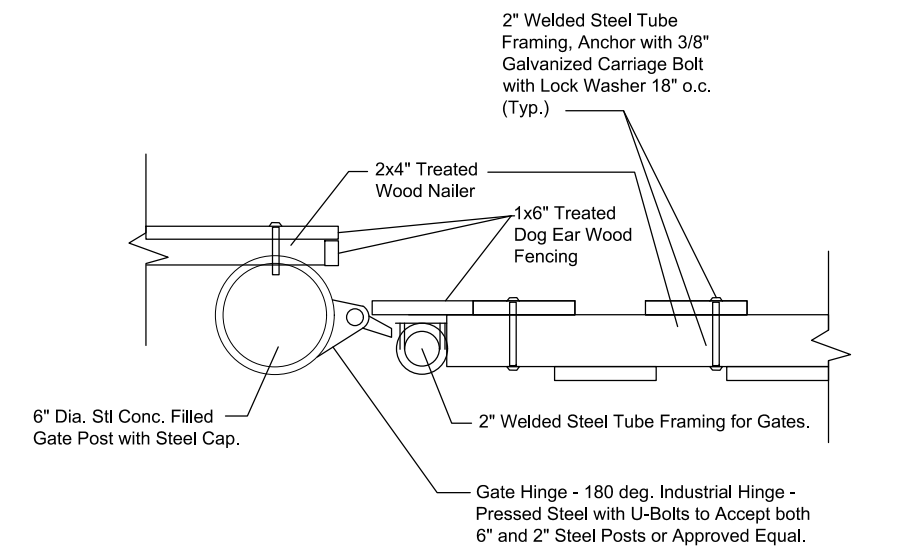
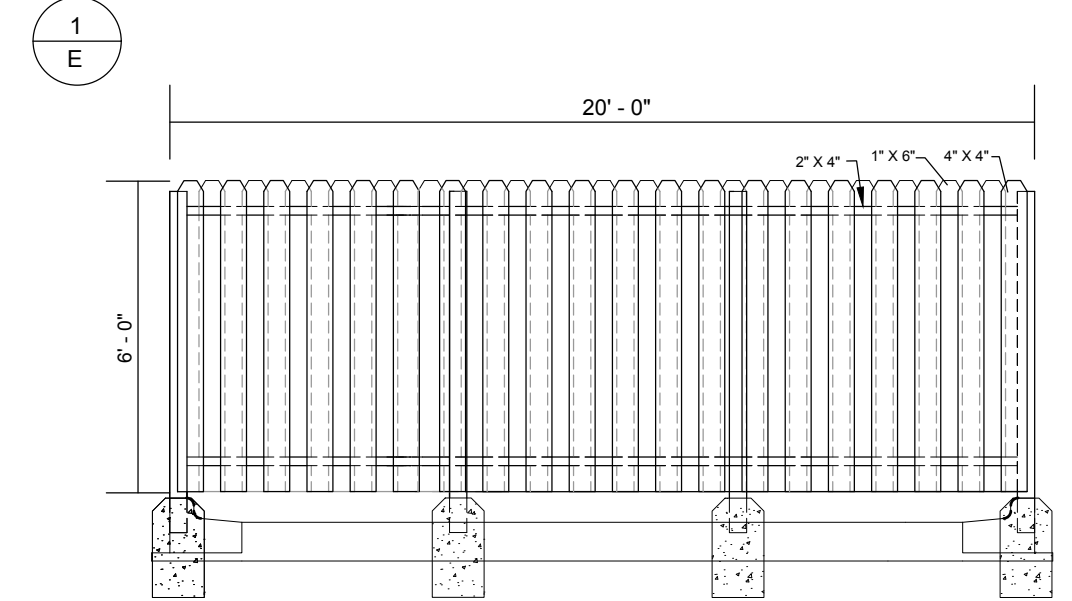
**NOTE:**  
 ALL TRAFFIC FLOW ARROWS TO BE REFLECTIVE YELLOW PAINT PER SPECS.

**PARKING LOT & DRIVE PAVEMENT MARKING DETAIL**

06-01-15

S-MS-PAVEMARK

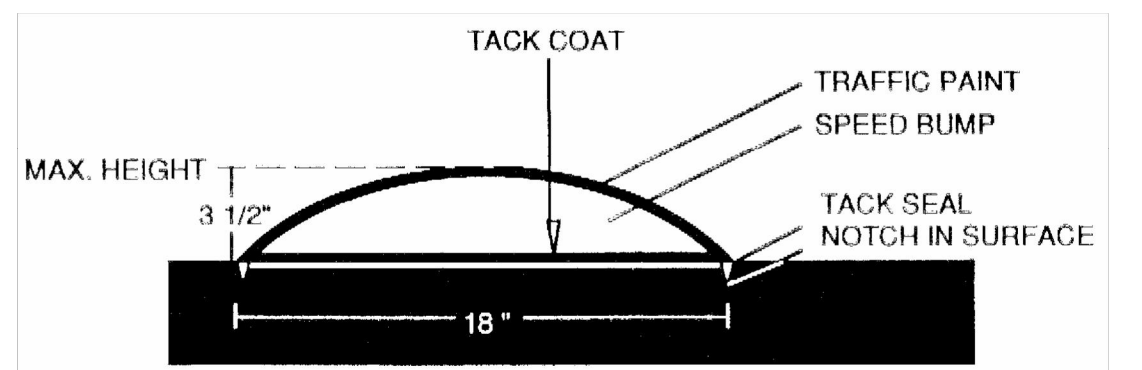
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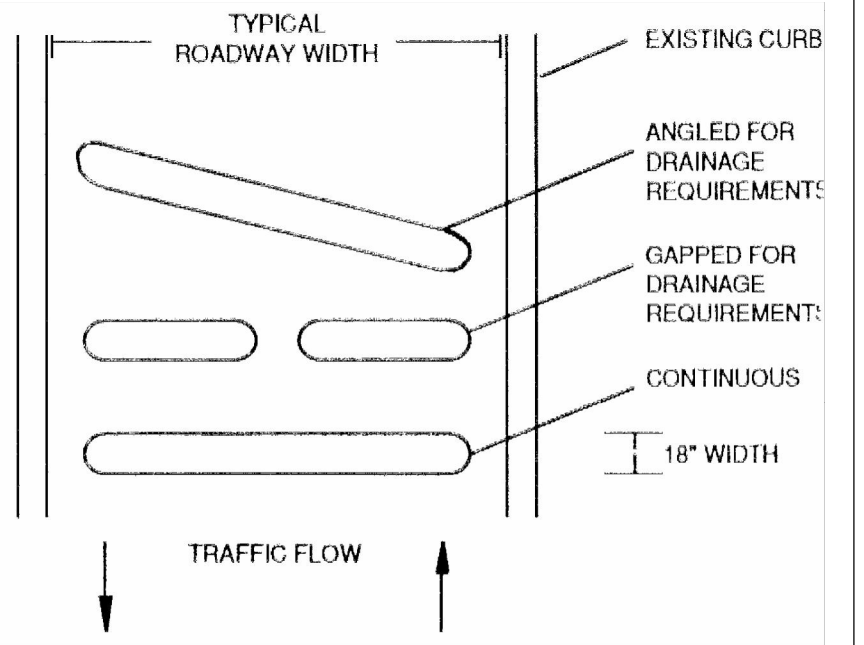
- GENERAL NOTES:
1. GENERIC DETAIL FOR REFERENCE/BIDDING ONLY - CONTRACTOR TO PROVIDE CUSTOM MANUFACTURER SHOP DRAWINGS FOR EACH ENCLOSURE. TO BE APPROVED BY OWNER PRIOR TO CONSTRUCTION
  2. ALL WOOD TO BE WESTERN RED CEDAR - NO. 2 GRADE
  3. ALL FASTENERS TO BE HOT-DIPPED GALVANIZED IRON OR ALUMINUM
  4. SEE PAVING PLAN FOR REINFORCED CONCRETE SLAB SPECIFICATIONS
  5. REVERSE B&I CURB AND GUTTER TO SURROUND ENCLOSURE SLAB ON ALL SIDES EXCEPT FRONT
  6. EASTERN ENCLOSURE SHALL HAVE DEPRESSED B&I CURB AND GUTTER INSTALLED ALONG FRONT. SLAB PERIMETER CURB SHALL TAPER TO MEET DEPRESSED CURB AT FRONT EDGE
  7. NORTHERN ENCLOSURE SHALL NOT HAVE CURB AND GUTTER ALONG FRONT. SLAB PERIMETER CURB SHALL BE CONTINUOUS WITH PAVEMENT BARRIER CURB
  8. CONTRACTOR TO COORDINATE BOLLARD PLACEMENT WITH OWNER PRIOR TO CONSTRUCTION
  9. CONTRACTOR TO COORDINATE LOCKS, BOLTS, AND PINS WITH OWNER PRIOR TO CONSTRUCTION

DUMPSTER ENCLOSURE DETAIL

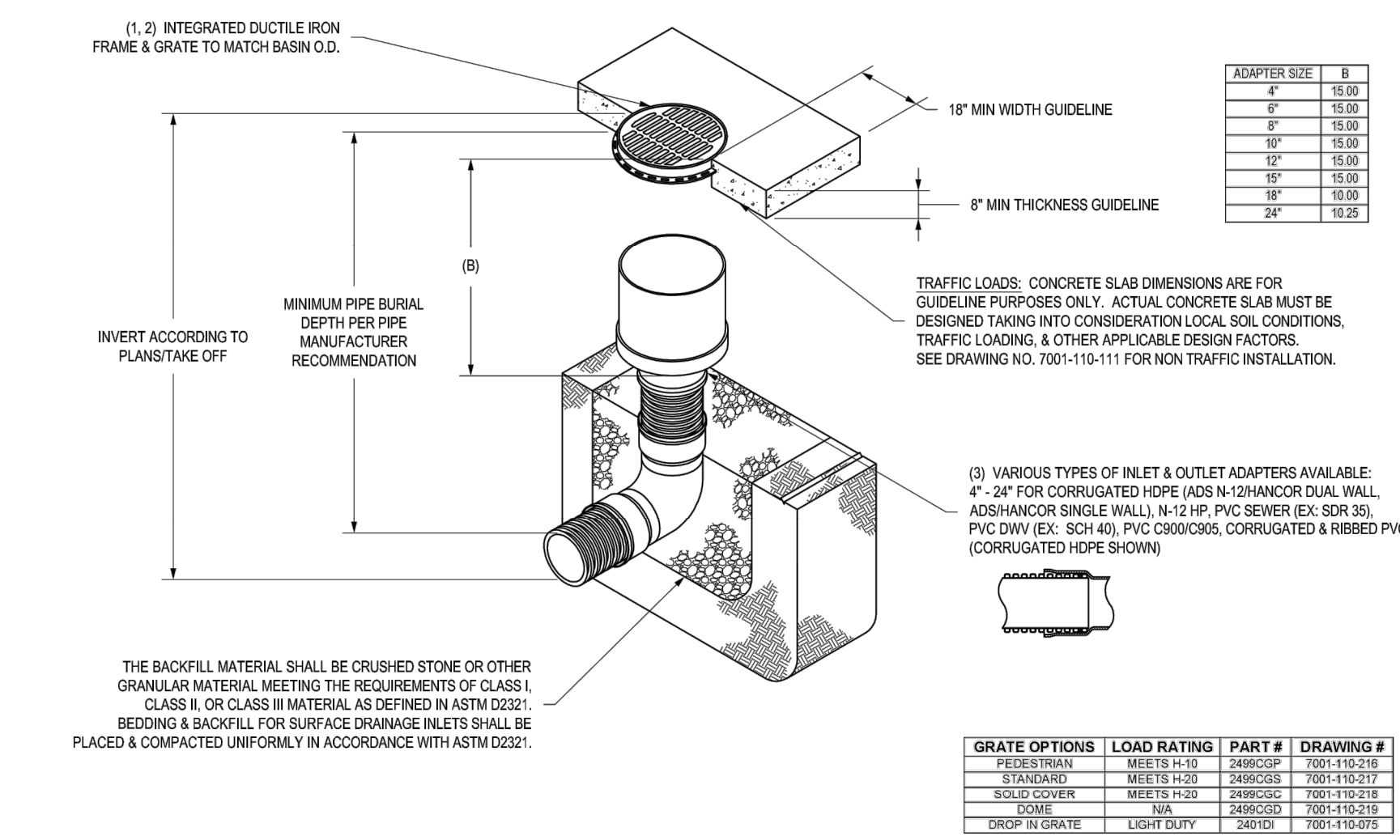
### Speed Bumps



1. Lay out and mark area for placement of speed bumps.
2. Clean area of all dirt and debris.
3. Notch existing asphalt surface to alleviate speed bump displacement.
4. Tack coat area of installation using liquid asphalt.
5. Install hot mix surface asphalt to a maximum height of 3-1/2" at the apex and a width of 18".
6. Apply a seal of liquid asphalt to the adjoining edge of the installation to help prevent moisture penetration.
7. Apply heavy-duty reflective traffic paint sufficient to identify the speed bump.



### NYLOPLAST 24" INLINE DRAIN: 2724AG \_\_ X



ADAPTER SIZE	B
4"	10.00
6"	10.00
8"	10.00
10"	10.00
12"	10.00
14"	10.00
16"	10.00
18"	10.00
20"	10.25

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PETESTRAIN	MEETS H-10	2499COP	7001-110-318
STANDARD	MEETS H-10	2499CGL	7001-110-317
SOLID COVER	MEETS H-10	2499CSD	7001-110-318
SOME	N/A	2499CQ1	7001-110-319
DROP IN GRATE	LIGHT DUTY	2499CQ	7001-110-315

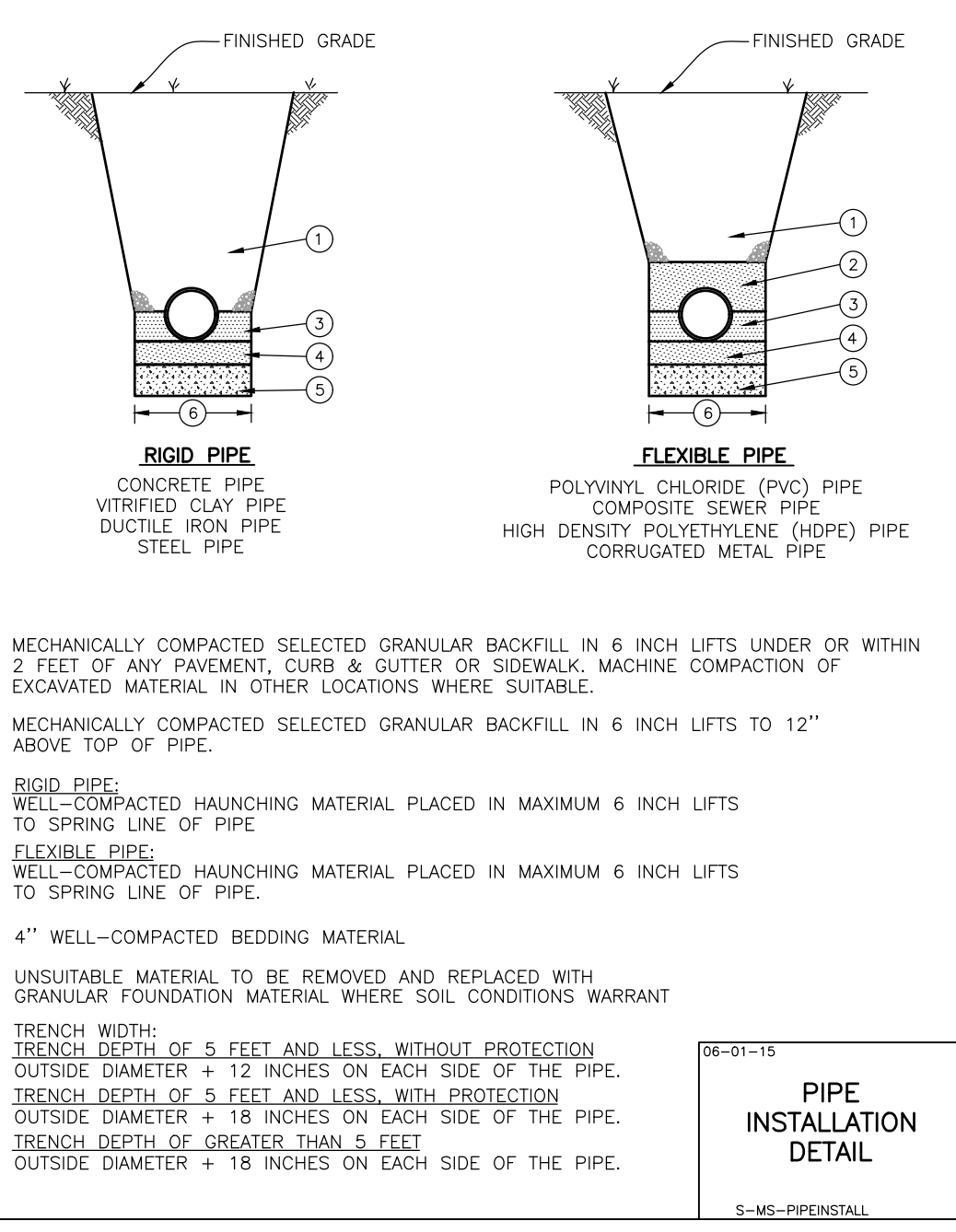
1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-90-05.  
 2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-90-05.  
 3 - DRAINAGE CONNECTION FITS 20" JOINT THICKNESS SHALL CONFORM TO ASTM D2121 FOR CORRUGATED HOPE (40S N-12) AND/OR DUAL WALL, 40/12 HP, & PVC SEWER.  
 4 - DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY.  
 5 - DIMENSIONS ARE IN INCHES.  
 6 - SEE DRAWING NO. 7001-110-325 FOR ADS-N-6 & HANCOCK DUAL WALL BELL INFORMATION & DRAWING NO. 7001-110-384 FOR N-12 HP BELL INFORMATION.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONVEY, TRANSFER, OR LICENSE THE USE OF THE INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY: EBC  
 DATE: 04-03-06  
 REVISIONS: N/A  
 PROJECT NO.: N/A  
 DATE: 03-15-16  
 DWG NO.: 7003-110-028

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NYLOPLAST  
 24 IN INLINE DRAIN QUICK SPEC INSTALLATION DETAIL  
 DWG NO. 7003-110-028 REV E



DATE	BY	REVISIONS

**Manhard CONSULTING LTD.**  
 800 Westlake Parkway • Suite 100 • Lake Park, GA 30142  
 800 Westlake Parkway • Suite 100 • Lake Park, GA 30142  
 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

DEPKE JUVENILE JUSTICE CENTER - PAVING IMPROVEMENTS  
 LAKE COUNTY, ILLINOIS  
 CONSTRUCTION DETAILS

PROJ. MGR: SMS  
 PROJ. ASSOC: HCM  
 DRAWN BY: HCM  
 DATE: 05-17-17  
 SCALE: N.T.S.

SHEET  
 7 OF 7  
 DLRLC

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PENDING APPROVAL - NOT FOR CONSTRUCTION

**MANHARD CONSULTING, LTD.  
STANDARD SPECIFICATIONS**

**GENERAL CONDITIONS** CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S services stated herein.

**DEFINITION OF TERMS**

- a. "CLIENT" shall mean LAKE COUNTY, which is the person or entity with whom Manhard Consulting, Ltd. has contracted with to prepare Civil Engineering Plans and SPECIFICATIONS.
- b. "ENGINEER" shall mean Manhard Consulting, Ltd., a Civil Engineering consultant on the subject project.
- c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering Plans and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.
- d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
- e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

**INTENT OF THE PLANS AND SPECIFICATIONS**

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

**INTERPRETATION OF PLANS AND SPECIFICATIONS**

- a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.
- b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
- c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER'S attention shall be called to the same before the work is begun hereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

**GOVERNING BODIES**

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

**LOCATION OF UNDERGROUND FACILITIES AND UTILITIES**

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR'S responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

**UNSATURABLE SOILS**

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

**PROTECTION OF TREES**

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

**NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES**

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

**TRAFFIC CONTROL**

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT'S construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

**WORK AREA**

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

**UTILITY POLES**

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

**RESTORATION**

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project and as directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain lines, water mains, etc.

**CLEANING UP**

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "room clean" or the equivalent, unless more exactly specified.

**ROAD CLEANING**

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR'S trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

**SAFETY AND PROTECTION**

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR'S or the general public's safety in, on, or near the construction site.

**HOLD HARMLESS**

To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to: (1) injury or damage occurring by reason of the failure of or use or misuse of any host, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any party or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs of travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

**INSURANCE**

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy, provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER'S other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

**THIRD PARTY BENEFICIARY**

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

Note: These Specifications are for Northern Illinois.

**DETAILED SPECIFICATIONS**

**I. DEMOLITION**

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, fumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local regulations. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company. CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lanes within the project area shall remain in service, clear of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout the specific work and through all phases of construction. The CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc., clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate/phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

VOIDS left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation. The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

**II. EARTHWORK****STANDARDS**

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

**SOIL BORING DATA**

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

**EARTHWORK CALCULATIONS AND CROSS SECTIONS**

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction tolerances and construction methods that are beyond the control of the ENGINEER.

**CLEARING, GRUBBING AND TREE REMOVAL**

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

**TOPSOIL STRIPPING**

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

**TOPSOIL REESPREAD**

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of four inches (4") of topsoil shall be respread over all appeared areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

**SEEDING**

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

**SODDING**

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

**EXCAVATION AND EMBANKMENT**

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culvert's necessary to complete the excavation and embankments.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filing of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any underdraining that may be required).

Type Material	Percent	
	Compaction Standard	Pavement & Floor Slabs Gross Areas
Sandy Soils	Modified Proctor	95% 90%
Clayey Soils	Standard Proctor	95% 90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- Any soil whose optimum moisture content exceeds 25%.
- Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
- Any soil whose silt content exceeds 60% by weight.
- Any soil whose maximum density is less than 100 pounds per cubic foot.
- Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt sediments and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed 1/8 inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall be responsible for the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

**EROSION CONTROL**

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

**UNDERCUTTING DURING EARTHWORK**

If the subgrade cannot be dried adequately by dicing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

**MISCELLANEOUS CONTRACT ITEMS**

The following items may be required at the CLIENT'S option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

- GEOTEXTILE FABRIC**

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

- EROSION CONTROL BLANKET**

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards. The Illinois Urban Manual and/or the details shown on the PLANS.

**III. UNDERGROUND IMPROVEMENTS****A. GENERAL****STANDARDS**

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

**SELECTED GRANULAR BACKFILL**

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

**MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS**

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTI designation C-476. All joints between sections and frames (except sanitary manholes, see Section IIB Manholes below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and under joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used. Valve Vaults shall have constrictive cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totalling not more than 8" in height. All manholes and catch basin steps shall be copolymer

polypropylene with continuous 1/2" steel reinforcement as manufactured by MA Industries, or approved equal.

**AUGER/BORING AND CASING**

"INTENTIONALLY OMITTED"

**AUGER (OPEN BORE)**

"INTENTIONALLY OMITTED"

**HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS**

"INTENTIONALLY OMITTED"

**STRUCTURE ADJUSTMENTS**

Structures shall be adjusted to the finished grade as shown on PLANS.

**B. SANITARY SEWERS AND APPURTENANCES**

"INTENTIONALLY OMITTED"

**C. WATER MAINS AND APPURTENANCES**

"INTENTIONALLY OMITTED"

**D. STORM SEWERS AND APPURTENANCES****STORM SEWER PIPE**

Storm sewer pipe shall conform to the following:

- "INTENTIONALLY OMITTED"
- Polyvinyl Chloride (PVC) Pipe: ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 36-inch), rated SDR 35, continually marked with manufacturer's name, pipe size, cell classification, SDR rating. Joints shall be flexible elastomeric seals conforming to ASTM D3212.
- "INTENTIONALLY OMITTED"
- "INTENTIONALLY OMITTED"
- "INTENTIONALLY OMITTED"
- "INTENTIONALLY OMITTED"
- "INTENTIONALLY OMITTED"

Precast tees, bends, and manholes may be used if permitted by the JURISDICTIONAL GOVERNMENTAL ENTITY.

Storm sewers may be constructed with reinforced concrete pipe using only flexible gasket joints (ASTM 361 or 443) for water main crossings.

Storm sewer shall include bedding and trench backfill.

**MANHOLES, INLETS & CATCH BASINS**

Manholes, Inlets and Catch Basins shall be constructed in conformance with Section IIA Manholes, etc. above. The space between connecting pipes and the wall of the manhole shall be completely filled with non-shrink hydraulic cement mortar. Frames and lids shall be Neenah or approved equal unless specified otherwise on the PLANS. All frames and gratings shall be provided such that the flange fully covers the opening plus 2" of the structure as a minimum. \* Provide "Wave" Type Frame & grate for all structures located in curb where gradient exceeds 2.0%. Manholes shall include steps, frame & grate, bedding and trench backfill.

**FLARED END SECTION**

"INTENTIONALLY OMITTED"

**RIP RAP**

Stone rip rap consisting of pieces of "A" quality stone 4" to 8" in diameter shall be furnished and installed in accordance with IDOT Specifications and shall be placed where shown on the plans, to a minimum thickness of 12" and a width as indicated on the plans. Broken concrete or concrete blocks will not be acceptable.

**FOUNDATION, BEDDING AND HAUNCHING**

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

**UNDERDRAINS**

"INTENTIONALLY OMITTED"

**MISCELLANEOUS**

- All existing field drainage tile or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly reconnected and/or connected to the storm sewer system.
- Footed drains shall be connected to sump pumps or discharged directly into storm sewers. Footing drains or drainage tile shall not be connected to the sanitary sewer.

**CONNECTION FOR STORM SERVICE TO STORM MAIN**

Connections of storm sewer services to storm sewer mains should be made with manufactured tees when available. Availability of manufactured tees will be a function of the storm sewer material and pipe diameter size of the service sewer and main. If manufactured tees are not reasonably available, connections should be made in accordance with practice with storm sewer other than concrete pipe. For concrete pipe connections without manufactured tees the storm sewer main shall be machine cored and the service sewer connected using non-shrink grout for the void between pipes. The service sewer shall be cut flush with the inside wall of the sewer main and not extend into the inside flow area of the main or otherwise impede flow.

**IV. ROADWAY AND PARKING LOT IMPROVEMENTS****STANDARDS**

Work shall be completed in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition (hereinafter referred to collectively as