

## ADA Operations Contact Info

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*Your Destination...Our Priority*





## MnDOT ADA Training

# (1803) PROSECUTION OF WORK SPECIAL PROJECT ADA REQUIREMENTS

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- Congress passed the Americans with Disabilities Act (ADA) in 1990.
- U.S. Access Board's Public Rights-of-Way Accessibility Guidelines (PROWAG) issued in 2005
- ADA building regulations revised in 2010, effective March 2012
- All pedestrian facilities and shared use trails within MnDOT right-of-way must be constructed according to PROWAG (as of February 2010) and the 2010 ADA Standards.

( 1504) A requirement appearing in one of the contract documents is as binding as though the requirement appears in all.

Order of Precedence:

- Addenda
- Special Provisions
- Project Specific Plan Sheets
- Supplemental Specifications
- Standard Plan Sheets and Standard Plates
- Standard Specifications

# 1803 Special Provision Highlights

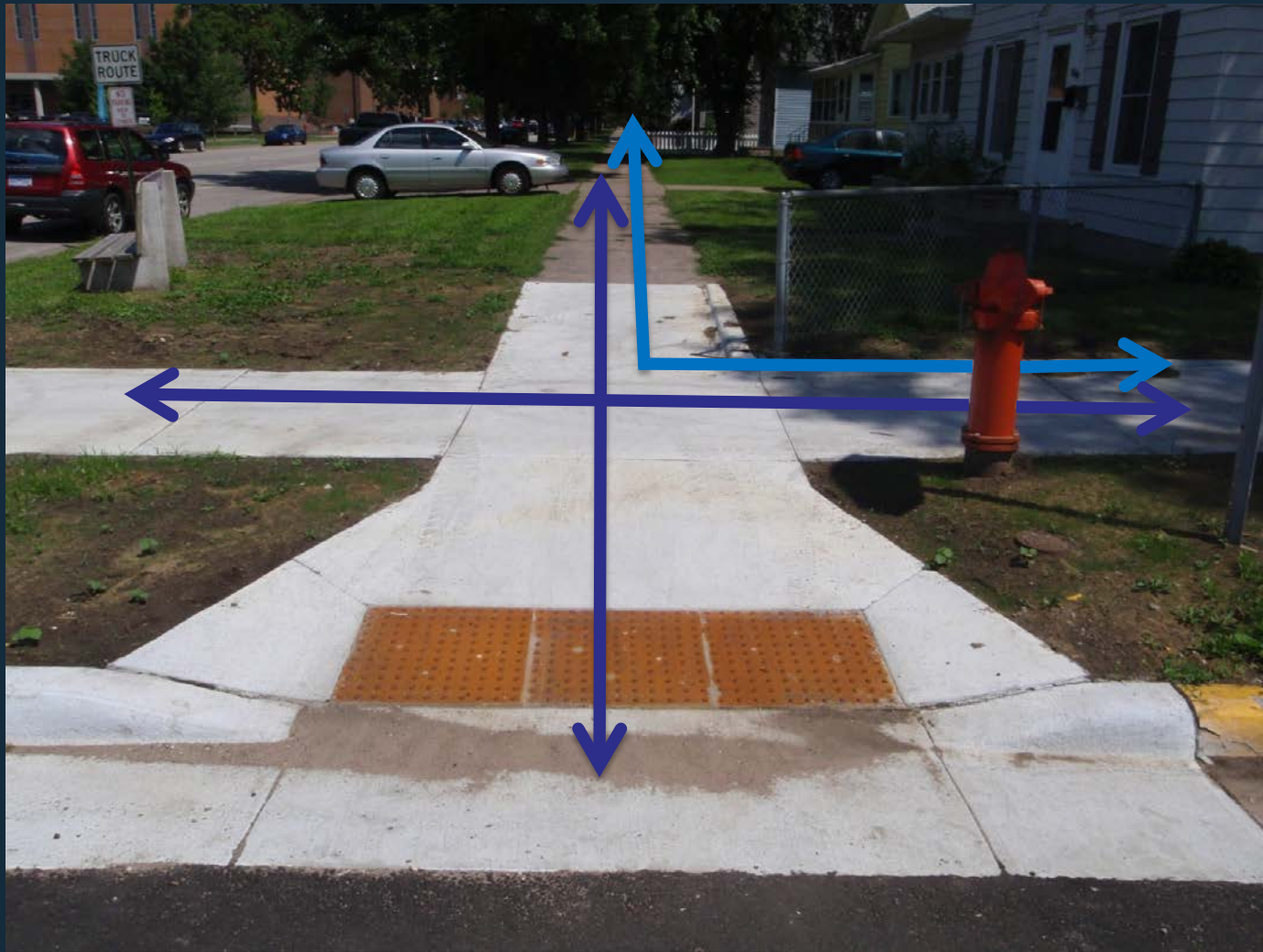


- The appropriate pedestrian ramp details for each quadrant are included in the plans. The Engineer may provide additional details to those provided in the plans that meet the PROWAG guidelines as the need arises and field conditions dictate.
- The contractor must designate a **RESPONSIBLE** person **FAMILIAR** with PROWAG to assess proposed sidewalk layouts at each site before work begins.
- Any time work the contractor is performing concerns pedestrian facilities, the contractor's representative shall be on site.

# Pedestrian Access Route (PAR)



- Pedestrian Access Route must be constructed to meet the following criteria:



# (1) PAR

- Minimum 4 ft. wide Pedestrian Access Route (PAR)
- Maximum cross slope of 2%



# (1) PAR

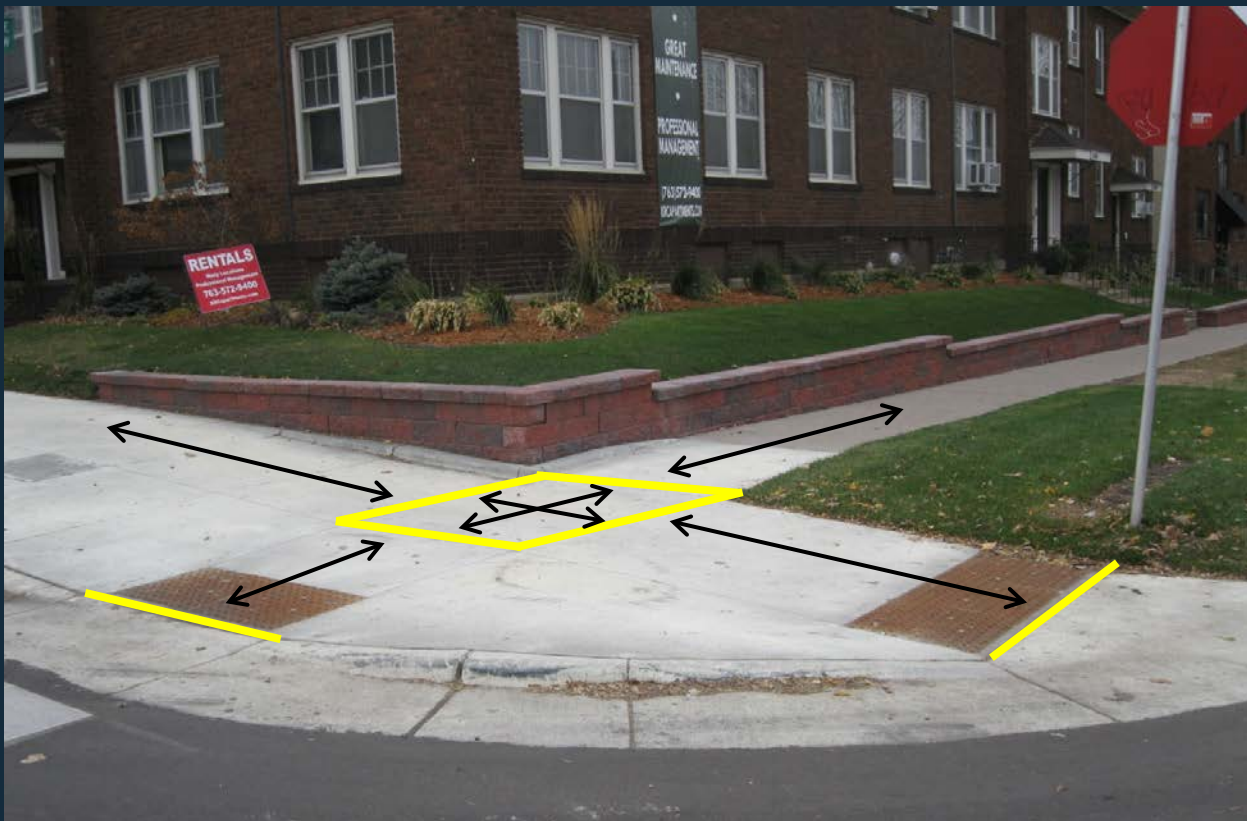
- Vertical discontinuities (bumps) must be less than 0.25 inches.
- Must provide positive drainage without allowing any ponding





# (1) PAR

- All grade breaks within the PAR shall be constructed perpendicular to the path of travel.



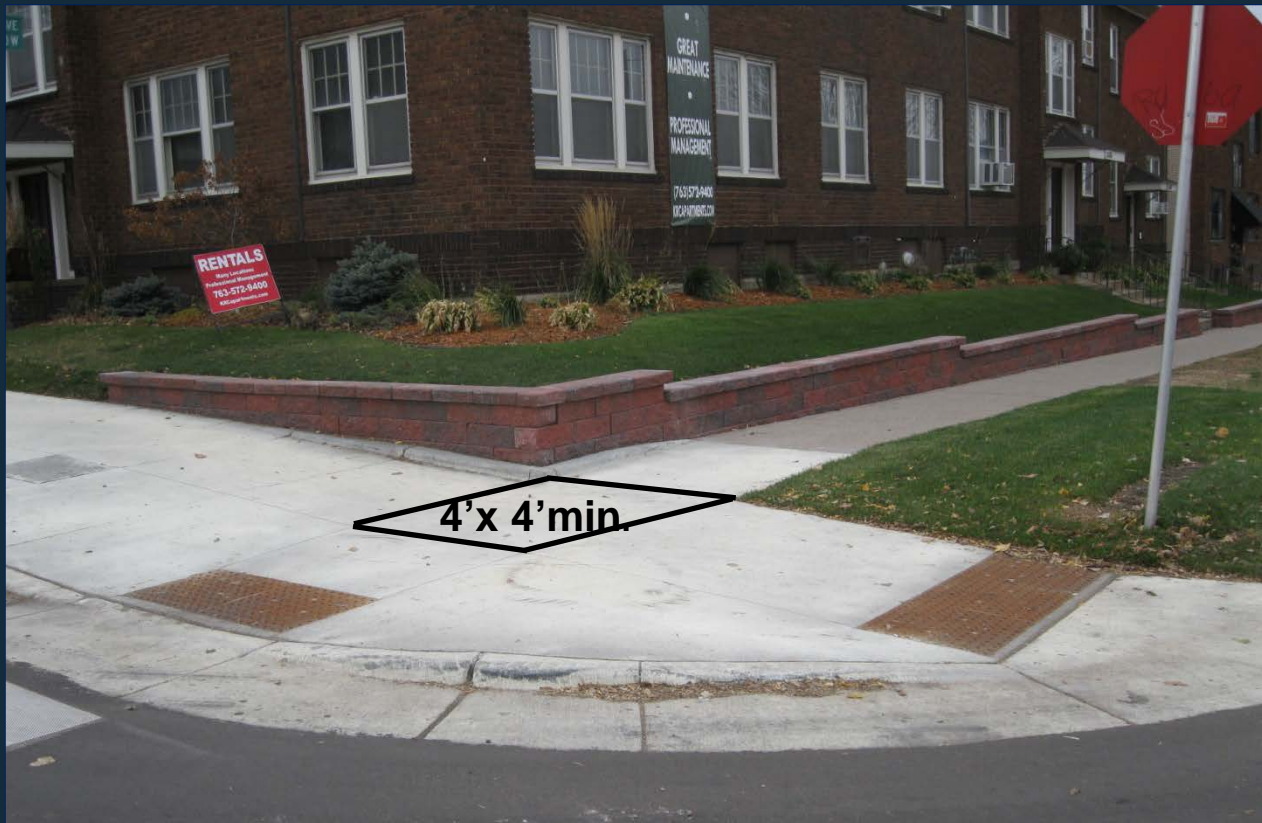
## (2) Landings

- Landings are part of the PAR and must be constructed to meet the following criteria:



## (2) Landings

- 4 feet by 4 feet minimum width.



# (2) Landings

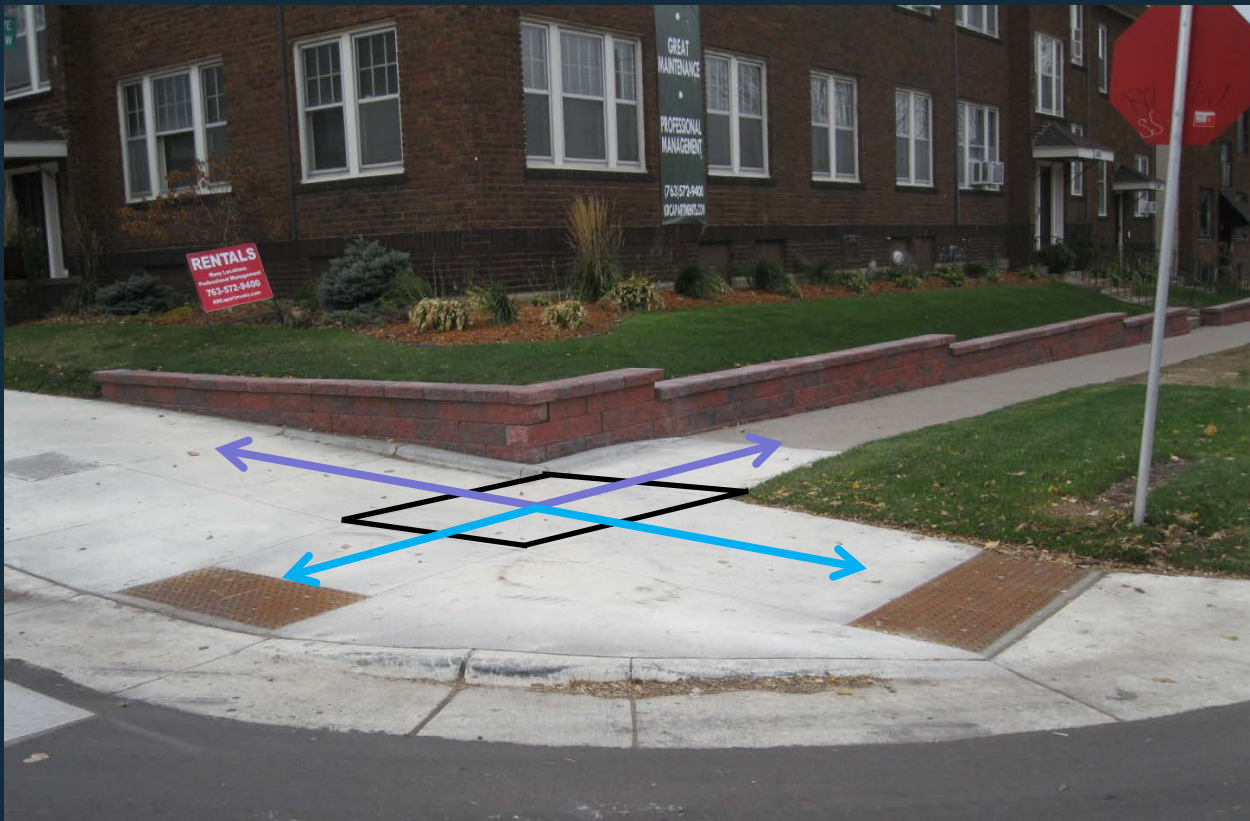


- Maximum slope of 2% in all directions.



## (2) Landings

- Required at all locations where the PAR changes directions or inverse grades.
- Must be connected to the PAR.



# 2521 Concrete Walk ADA Landings



## S-3.1 CONSTRUCTION REQUIREMENTS

(A) **Concrete Walk** – The walk shall be constructed as detailed in the Plan and conform to the requirements of MnDOT 2521, Walks.

To avoid corner breaks, all walk edges shall be formed and constructed perpendicular to the back of curb and gutter sections and concrete structures for a one foot minimum distance.

All existing signs shall be salvaged and reinstalled as directed by the Engineer or as indicated in the Plan.

(B) **Grading** – If not otherwise detailed in the Plan, all fill sections shall be graded flush with the top of walk for a minimum 18 inches from the edge of walk and then down at a maximum 1:3 slope to existing terrain. The Contractor shall blend in the toe of fill slope and adjacent areas so as not to adversely affect drainage.

(C) **Landings** – An initial landing is the first required landing of a pedestrian ramp. All initial landings required at the top of a ramped sloped surface (>2% longitudinal slope), shall be formed and placed separately in an independent concrete pour. This does not include initial landings placed at roadway grade such as depressed corners, parallel ramps, rural flat landings, or flat cut-throughs. Secondary landings consist of all landings beyond the initial landing. These secondary landings do not require a separate landing pour.

Wet casting or drill and grouting of dowel bars will be required in accordance with the details shown in Standard Plan 5-297.250 Sheet 5 of 5. These bars may be either smooth or deformed and shall be installed with 2" minimum concrete cover.

When not accounted for in the Plan, payment for these bars will be made under Item 2301.602 (Drill & Grout Reinforcement Bar (Epoxy Coated)) by the Each at the Predetermined Price of \$ 10.00 per bar furnished and installed. All necessary subgrade preparation and aggregate base placement for the entire ramp construction limit shall be done before the initial landing is constructed at each location.

## S-3.2 METHOD OF MEASUREMENT

# (3) Ramps

- Longitudinal slopes less than 5% in the direction of travel require no landing at the top of the ramp (unless the PAR changes direction).



# (3) Ramps



- Longitudinal slopes between 5% and 8.3% in the direction of travel require a landing at the top of the ramp and at a change of direction.





# “ Hold Points”



- If the Contractor constructs any pedestrian or shared-use facilities that are not per plan, do not meet the above requirements, or do not follow the agreed upon resolution, the Contractor shall be responsible for correcting the deficient facilities with no compensation paid for the corrective work.
- To ensure that the pedestrian facilities are constructed in compliance with PROWAG, the contractor shall follow the following three steps:

# Step (1) Removals



- The Contractor shall use the appropriate ramp details in the plan and identify the removal limits for the sidewalk and curb and gutter.  
If the contractor determines the removal limits are not adequate to meet PROWAG, **the Contractor shall stop work immediately on that quadrant and consult the Engineer to determine the best solution.**
- (If the Contractor and Inspector are actively working together at the beginning of the project most issues should be resolved quickly).

# Determine the best solutions



4 Steps to help in determining the best solutions:

1. Check Your construction plan sheets including notes and tabulations .
2. Check Standard Plans find Curb Ramp type and notes that provide additional direction.
3. Check Special Provisions 1803 and any ADA pay items and follow construction requirements.
4. Consult your Engineer first and if additional guidance needed contact ADA office.

# Step (1) Removals

- Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may finish the removals.



# Step (2) Curb and Gutter

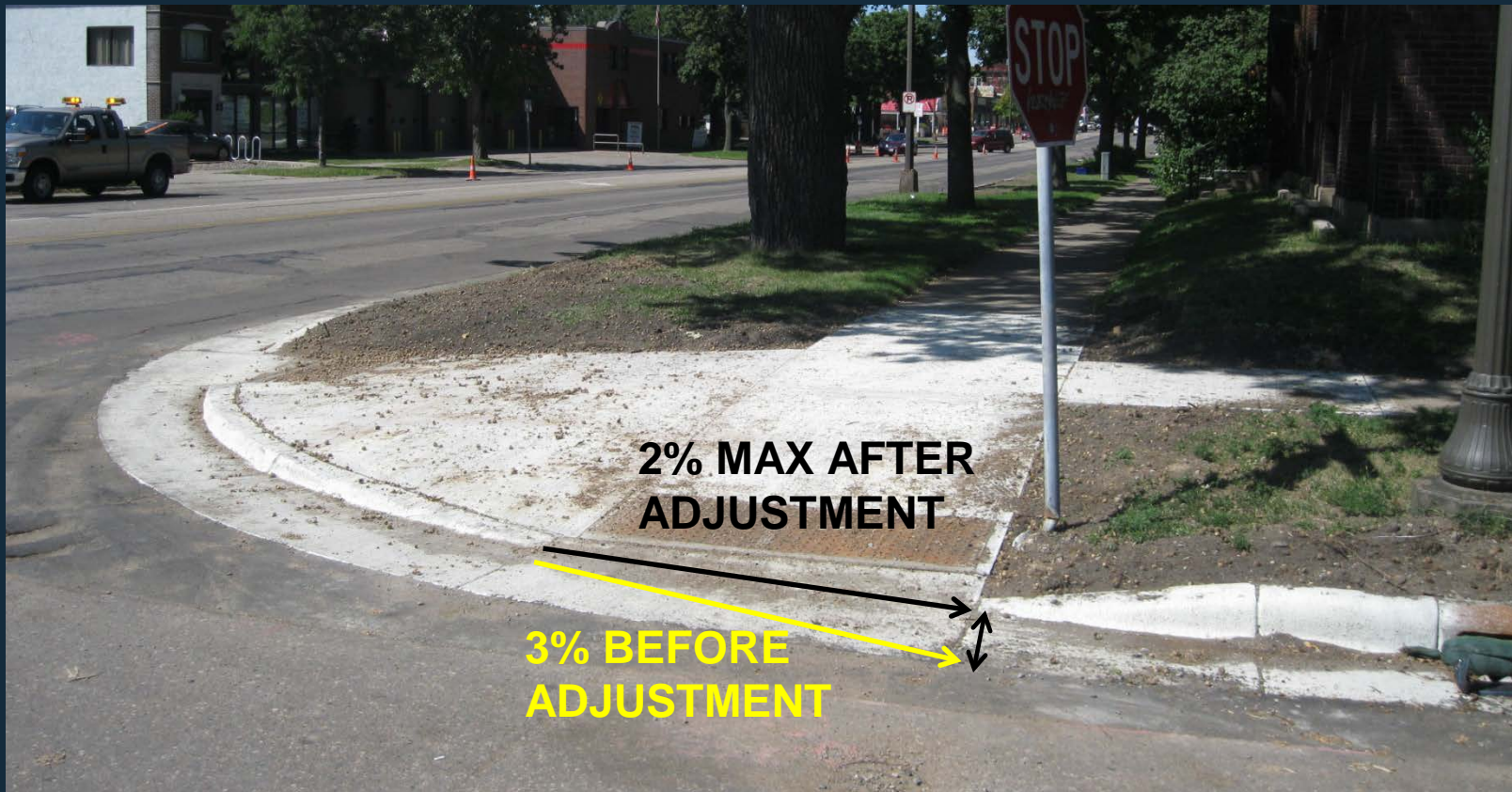


- The Contractor shall not alter any existing drainage patterns unless called for in the Plans.
- Verify zero height curb and curb transitions
- Verify that proposed curb flow line will provide positive drainage as well as maintain existing gutter inflows/outflows.
- The curb and gutter shall be constructed as detailed in the Plan with a defined flow line.
- The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met.

# Step (2) Curb and Gutter



- Spec. 2531 Concrete Curb and Gutter ADA : if gutter flow line exceeds 2% The flow line should be adjusted to allow a flatter slope, but still provide positive drainage.



# Step (3) Landings and Ramps



- After the curb and gutter has been correctly poured and the contractor has set the sidewalk forms and prior to placing the concrete curb ramps/sidewalk:



# Step (3) Landings and Ramps



- The Contractor shall verify the slope requirements will be achieved.
- If any requirements cannot be met, the Contractor shall meet with the Engineer to determine the best solution.



# Setting Forms



In addition, the longitudinal slopes shown in the Construction Plans and the Standard Plans shall be utilized unless these conditions cannot be met. The starting point for setting the forms on the controlling ramp leg should be the following:

Steep (S) = 7%

Flat (F) = 4%

Landing = 1.5%

Sidewalk Cross Slope = 1.5%

Fan ramp = 5%

# (C) Layout Responsibilities

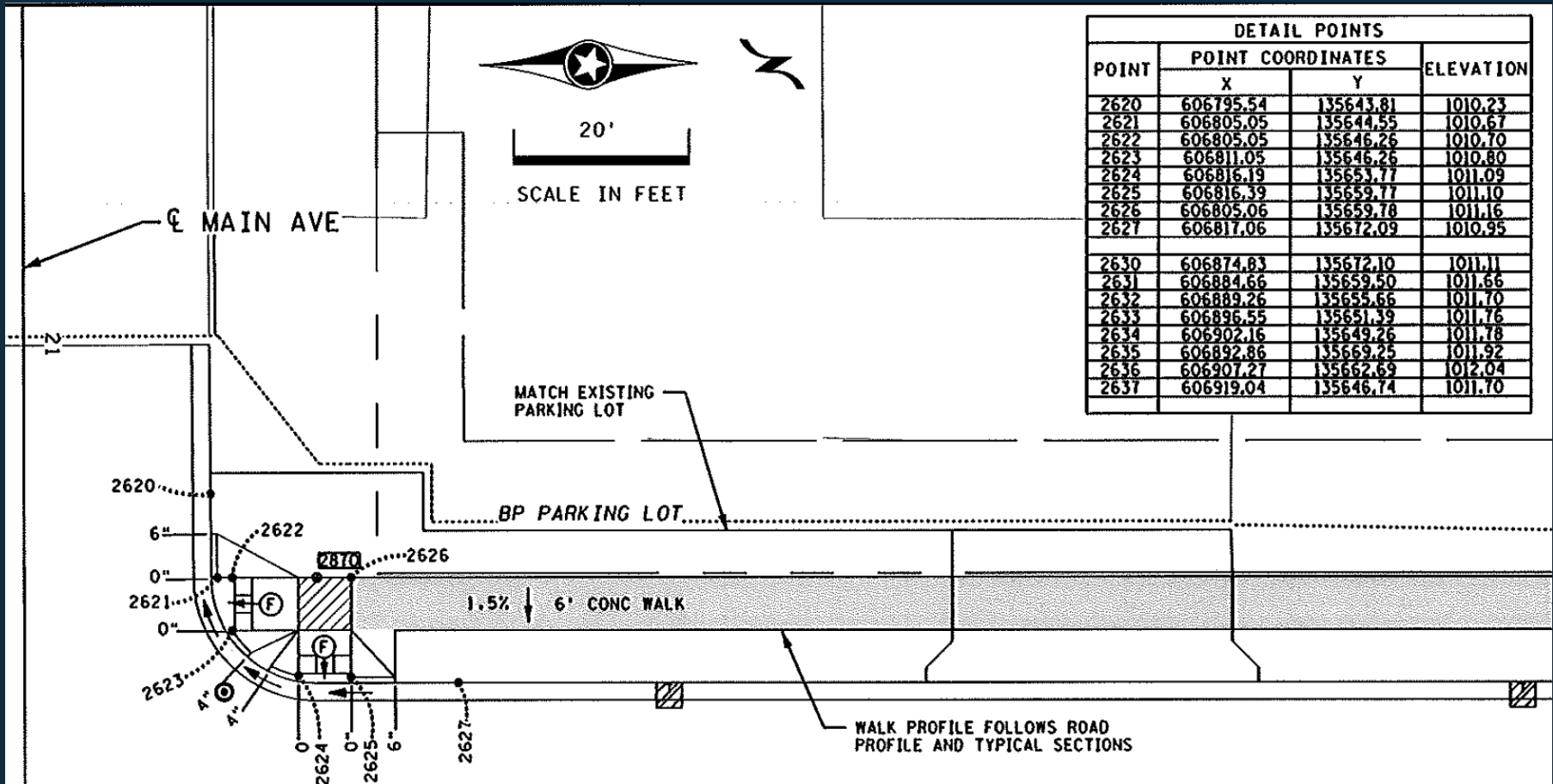


- It shall be the responsibility of the Contractor, or the Contractor's Surveyor if applicable, to lay out all proposed work at each intersection in accordance with plans and provisions.
- Layout includes: Placement of grade breaks, curb transitions, gutter flow lines, truncated dome placements, crosswalk marking placement, flares, landing limits, and ramp limits.
- This layout work shall be incidental.

# (C) Layout Responsibilities



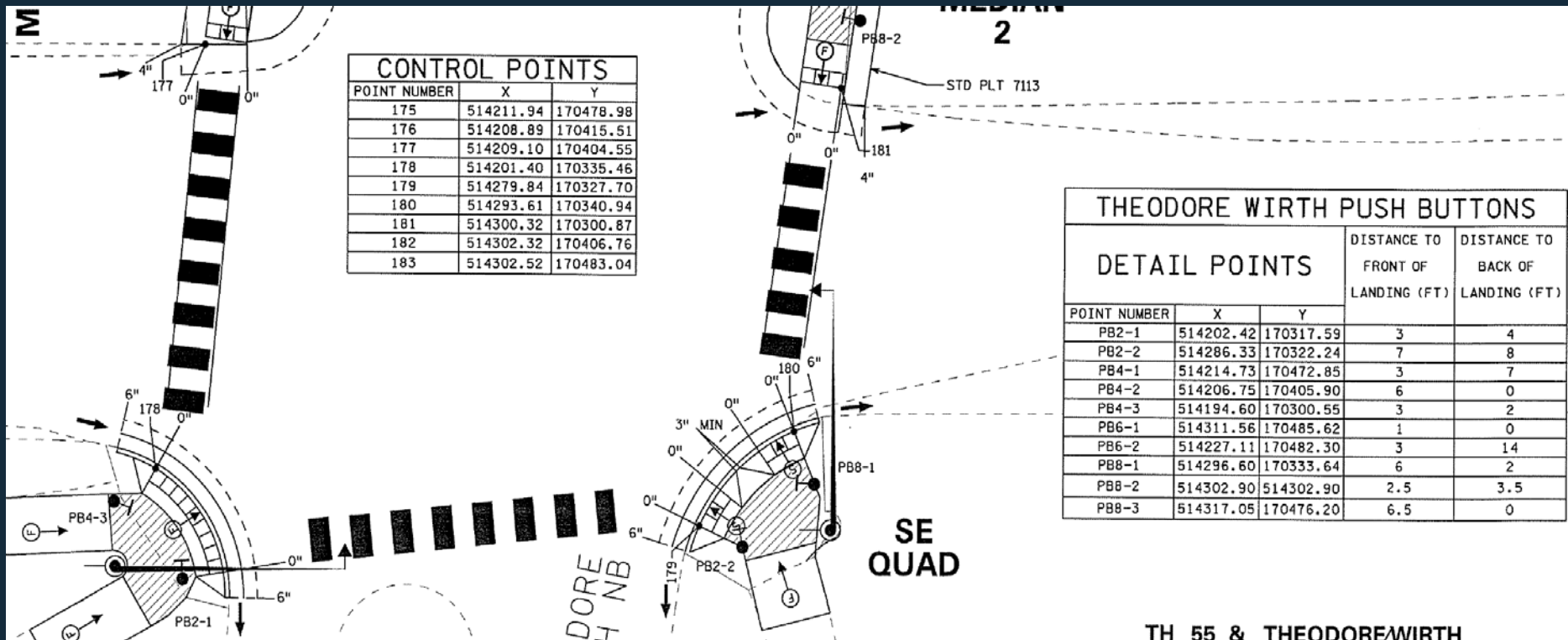
If specific dimensions are not provided in the plan, the contractor shall be expected to scale dimensions from the plan.



# (C) Layout Responsibilities



- If contractor surveying is not called for in the plans, the owner's surveyor will only stake points and elevations provided in the plans.



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# (D) Contractor Responsibilities



- The Contractor shall utilize measures and methods when working near existing buildings and or private landscaping that will avoid damaging the buildings face or structure or other private property.



# (E) Concrete Placing and Finishing



- The Contractor shall round all joints and edges of the walk with a  $\frac{1}{4}$  inch radius edging tool.



# (E) Concrete Placing and Finishing



- Contraction joints shall extend to at least 30% of sidewalk thickness. If saw cutting provide  $\frac{1}{8}$  inch wide contraction joint as per MnDOT 2521.3D



# (E) Concrete Placing and Finishing



The contractor shall also have the option of providing saw cuts to construct the sidewalk joints.



This work shall be considered incidental with no extra compensation paid.



# (F) Concrete Placing and Finishing



- Where sidewalk is constructed around fixed structures and the grade has been changed, the sidewalk shall be finished around these structures to the satisfaction of the Engineer at no additional cost.





# (G) Pedestrian Signal Systems

Push buttons face towards the intersection and parallel to outside edge of crosswalk.



# (G) Pedestrian Signal Systems



Push buttons shall be minimum 4' maximum 10' from back edge of curb( 1.5' to 4' if mounted on signal pole as indicated in plan or as approved by Engineer.



# (G) Pedestrian Signal Systems



At rural locations without curb and gutter it is recommended APS push buttons be set back 8 ft. from edge of roadway for preservation purposes.



# (G) Pedestrian Signal Systems



Shall be offset no more than 5 ft. from projected outside edge of crosswalk/domes



# (G) Pedestrian Signal Systems

Shall be offset no more than 5 ft. from projected outside edge of crosswalk / domes.



# (G) Pedestrian Signal Systems



Push buttons shall be a minimum 10 ft. apart, except in islands and medians then provide 6 ft. minimum clear distance.

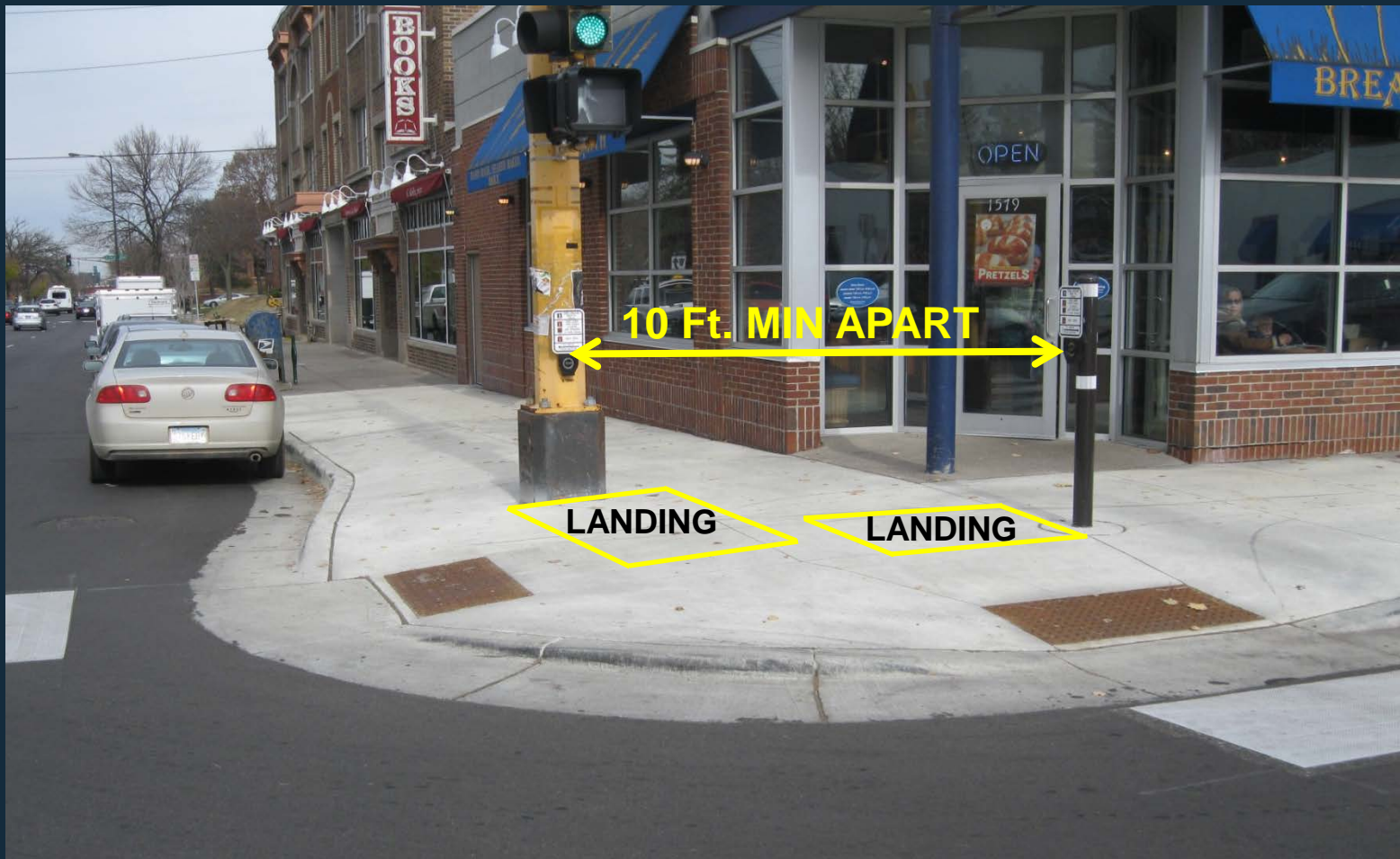




# (G) Pedestrian Signal Systems



4' x 4' minimum landing immediately adjacent with 2% max slope in all directions



# (G) Pedestrian Signal Systems



Provide 6 ft. clear distance between obstructions whenever possible for MAR (maintenance access route).



# (G) Pedestrian Signal Systems

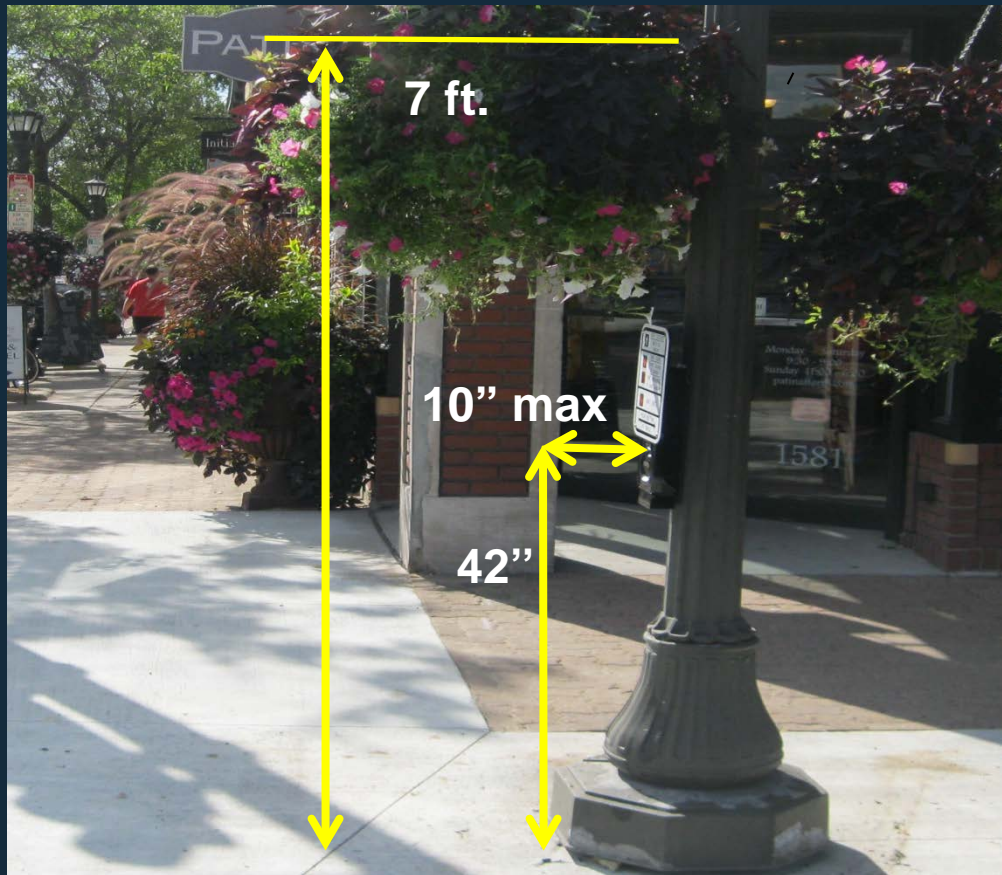
All new hand holes shall be placed outside the PAR ,Inclusive of ramps and landings.



# (G) Pedestrian Signal Systems



The push button shall be mounted at a height of 42 inches, have 10 inch maximum side reach, and 7 ft. minimum overhead sign clearance.



# (G) Pedestrian Signal Systems



Crosswalks shall be striped in a straight alignment between the outside edges of detectable warnings with no kinks unless shown as kinked in the plan.



# (G) Pedestrian Signal Systems



Crosswalks shall be striped in a straight at the outside edge of the detectable warnings.



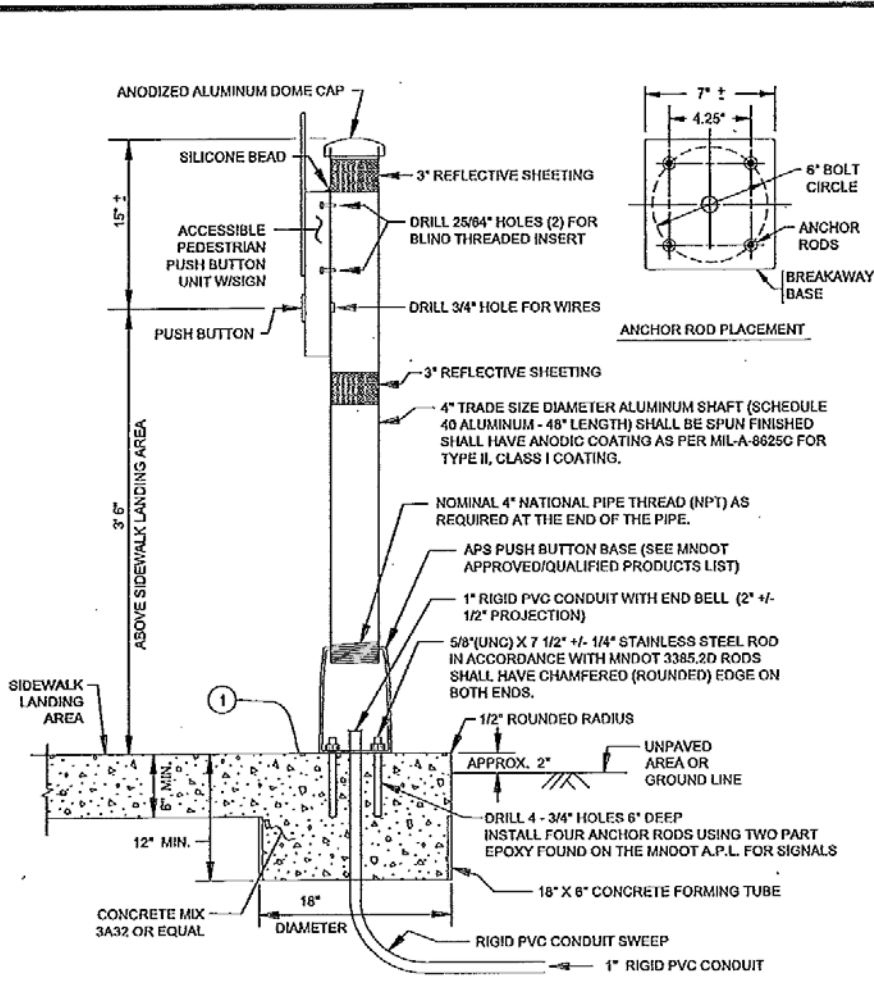
# (G) Pedestrian Signal Systems

The Contractor shall maintain all working points and use them for push button layout.



# NEW for all APS 2014

## New Breakaway Pedestal Base Push Button Station





# (G) Pedestrian Signal Systems



## APS Push Button Station and Location

### APS PUSH BUTTON STATION

**NOTES:**

- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK, SIGNAL OR POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
- ORIENT ACCESS OPENING ON THE BREAKAWAY PAVEMENT IMMEDIATELY BELOW THE APS BUTTON.
- FLUSH THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE WORK.
- BLIND THREADED INSERTS (BOLT MUST BE INSERTED USING MANUFACTURER'S SPECIFIED INSTALLATION TOOL, NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE).
- BLIND THREADED INSERTS SHALL BE 1/4" - 20 UNF PLATED STEEL WITH 1/4" - 20 UNF THREADED INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .333" APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MOUNTING QUALIFIED PRODUCTS LIST FOR SIGNALS.
- APS MOUNTING BOLTS SHALL BE 1/4" - 20 STAINLESS STEEL APPLY BRUSH ON ANTI SEIZURE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
- APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
- THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER ISLANDS. SEE MOUNTING QUALIFIED PRODUCTS LIST (BPL) FOR APPROVED TUBE APPLICATION SHEETING.
- ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN INSTALLING PEDESTRIAN PUSH BUTTON STATIONS.

① THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" THICK ENOUGH TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.

② ALL JOINTS SHALL BE A MINIMUM OF 5" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

### REQUIREMENTS FOR LOCATING APS PUSH BUTTONS:

- THIS IS A GENERAL DETAIL INTENDED TO SHOW THE REQUIREMENTS OF APS PUSH BUTTON LOCATION. FOR PROJECT SPECIFIC DETAILS REGARDING PEDESTRIAN RAMP LAYOUT, SEE THE PEDESTRIAN CURB RAMP AND SIDEWALK DETAILS.
- THE FACE OF THE BUTTON SHALL BE PARALLEL WITH THE OUTSIDE EDGE OF CROSSWALK.
- A MINIMUM 4 FT X 4 FT LANDING AREA SHALL BE PROVIDED ADJACENT TO EACH BUTTON, WITH A 2 PERCENT MAXIMUM SLOPE IN ALL DIRECTIONS.
- BUTTONS SHALL BE WITHIN 5 FT OF THE OUTSIDE EDGE OF THE CROSSWALK.
- BUTTONS SHALL BE BETWEEN 1.5 FT AND 10 FT FROM THE BACK OF CURB OR EDGE OF ROADWAY, MEASURED IN THE DIRECTION OF TRAVEL. STANDALONE PUSH BUTTON STATIONS SHOULD BE 4' MINIMUM FROM THE BACK OF CURB TO AVOID KNOCKDOWNS.
- BUTTONS SHALL BE AT LEAST 10 FT APART.

THIS DETAIL APPLIES WHEN PUSH BUTTON IS AT TOP OF RAMP.

THIS DETAIL APPLIES WHEN PUSH BUTTON IS AT BOTTOM OF RAMP.

SIGNAL CONTROL POINTS	DISTANCE TO CROSSING OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
PSB-1	A	B
PSB-2	C	D

A - DISTANCE MEASURED FROM THE PUSH BUTTON TO THE FRONT OF LANDING/TOP OF RAMP.

B - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE BACK OF LANDING/EDGE OF WALK.

C - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE OUTSIDE EDGE OF DOWNS IN THE DIRECTION OF TRAVEL.

D - CLEAR DISTANCE FROM THE PUSH BUTTON TO THE BACK OF LANDING MEASURED IN THE OPPOSITE DIRECTION OF TRAVEL.

① BUTTON SHOULD BE 2 FT MINIMUM FROM RAMP GRADE BREAK AND BACK OF WALK.

② PROVIDE A MAINTENANCE ACCESS ROUTE (MAR) WHEREVER POSSIBLE FOR SNOW REMOVAL PURPOSES. A MAR REQUIRES A 6 FT MINIMUM CLEAR DISTANCE BETWEEN A PUSH BUTTON AND ANY OBSTRUCTIONS, INCLUDING BUILDINGS, CURB, ELECTRICAL FOUNDATIONS, SIGNAL CABINETS, OR ANOTHER PUSH BUTTON.

### TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

CONTRACTOR MUST USE OPTION 1 OR 2 WHEN THE APS PUSH BUTTON IS SHOWN AT THE EDGE OF WALK. OPTION USED (OR SELECTED) MUST BE THE SAME THROUGHOUT THE ENTIRE PROJECT.

BY	DATE	REVISIONS

SYSTEM ID: \_\_\_\_\_

METER ADDRESS: \_\_\_\_\_

MASTER ID: \_\_\_\_\_

T.E. ACCESSIBLE PEDESTRIAN SIGNAL (APS)

T.C. TYPICAL APS PUSH BUTTON LOCATION DETAIL

S.A.P. NO. \_\_\_\_\_

DATE: 10-30-13

DRAWN BY: \_\_\_\_\_

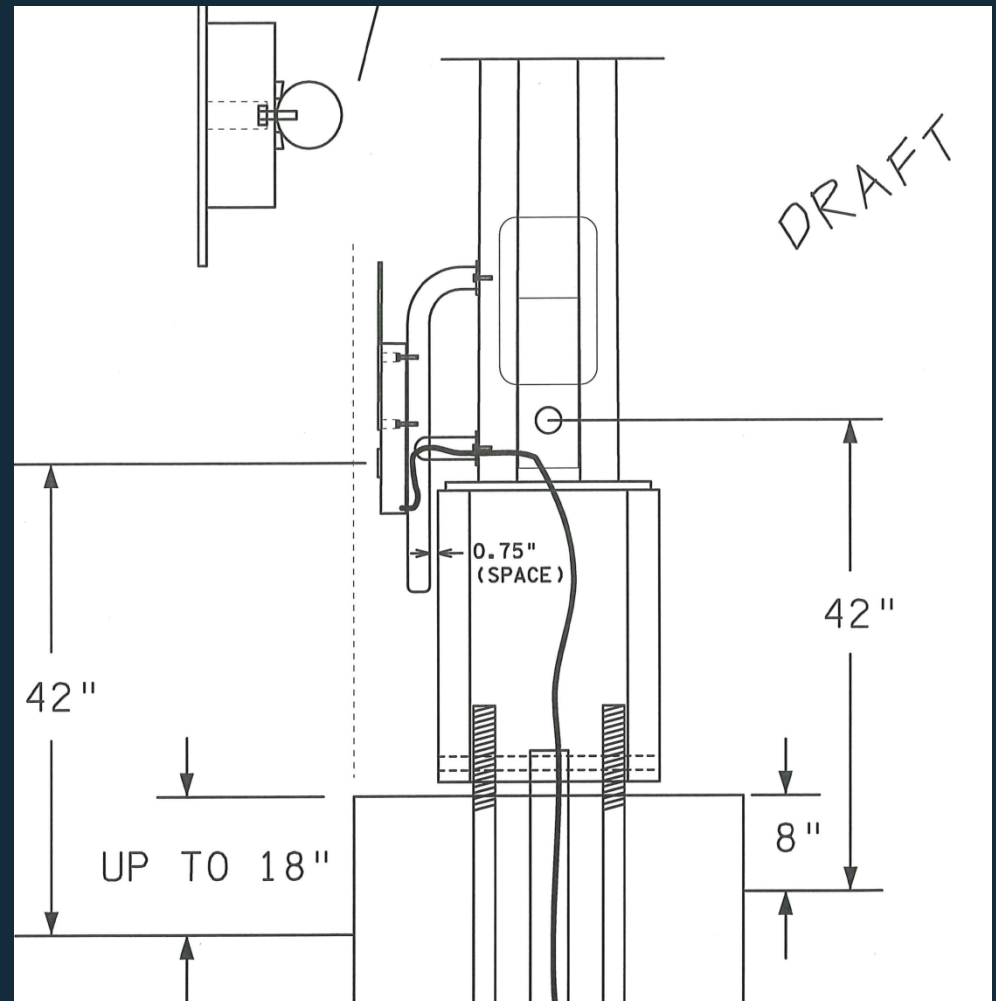
CHK BY: \_\_\_\_\_

STATE PROJ. NO. \_\_\_\_\_

IT.H. SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEETS

# New for all APS 2014

## New APS Signal Pole Bracket



# Questions?



ADA Training

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