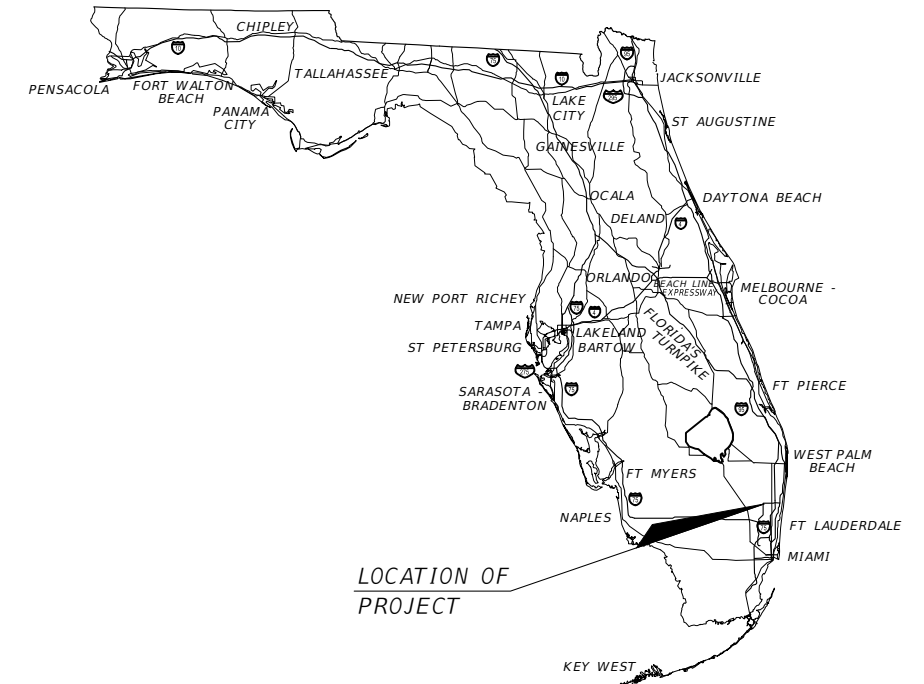


NW 21ST STREET CORRIDOR RESURFACING

INDEX OF ROADWAY PLANS

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01	KEY SHEET
02	TYPICAL SECTIONS
03	PROJECT NOTES
04	SPECIAL DETAILS
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11-12	CITY OF LAUDERHILL ENGINEERING STANDARDS AND SPECIAL DETAILS SHEETS
13	BROWARD COUNTY - PAVEMENT MARKING AND SIGNS DETAILS
14-17	ZURN TRENCH DRAIN DETAILS

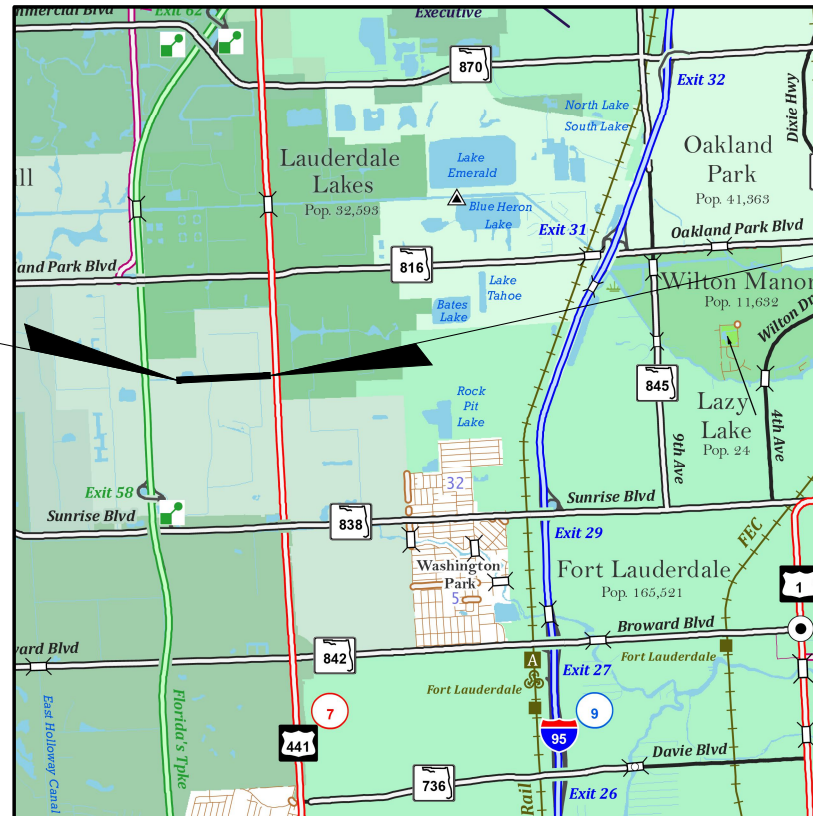
THE CITY OF LAUDERHILL BROWARD COUNTY, FLORIDA



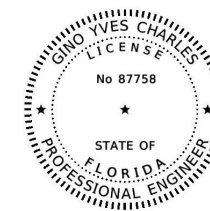
CITY OFFICIALS

KEN THURSTON	MAYOR
SARAI "RAY" MARTIN	VICE MAYOR
MELISSA P. DUNN	COMMISSIONER
DENISE D. GRANT	COMMISSIONER
LAWRENCE "JABBOW" MARTIN	COMMISSIONER
DESORAE GILES-SMITH	CITY MANAGER
ANGEL PETTI ROSENBERG	CITY ATTORNEY
J. MARTIN CALA	CITY ENGINEER

BEGIN PROJECT.
STA 10+89.00



END PROJECT.
STA 39+06.00



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY

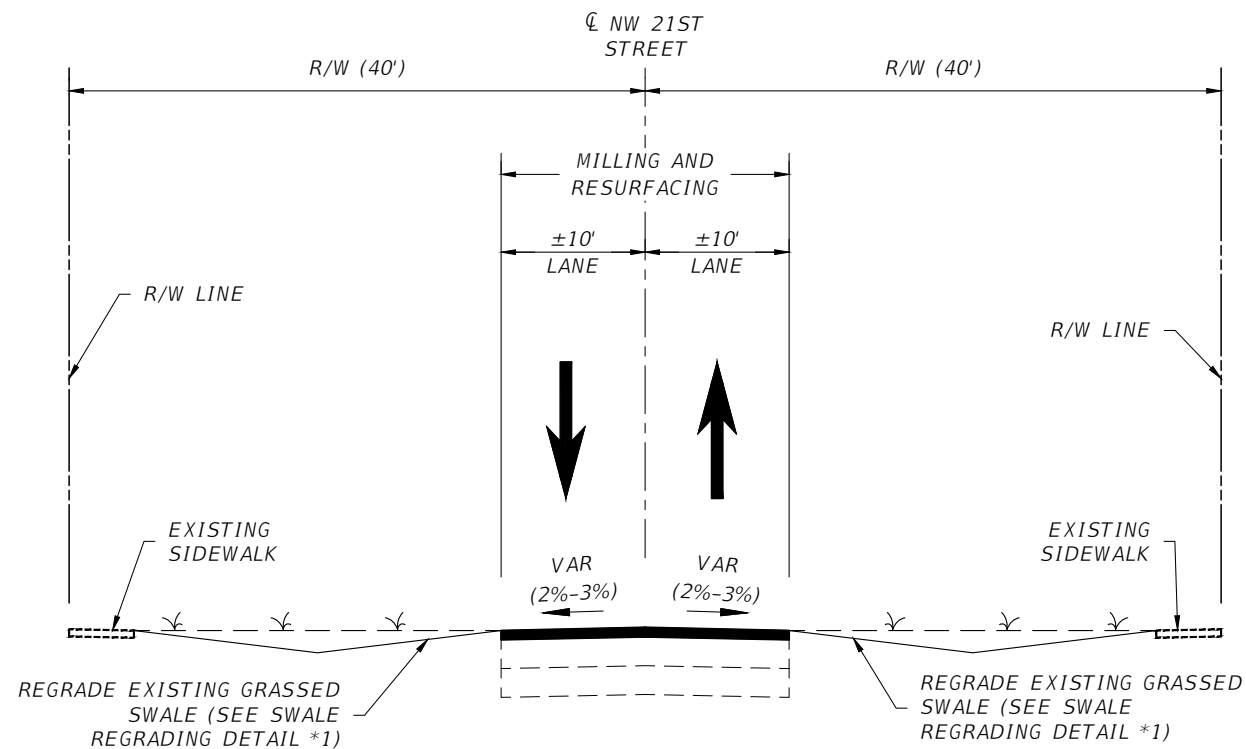
ON THE DATE ADJACENT TO THE SEAL

PLANS PREPARED BY:
MCMAHON, A BOWMAN COMPANY
2090 PALM BEACH LAKES BLVD, SUITE 400
WEST PALM BEACH, FL 33409
PHONE: (561) 840-8650 FAX: (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO: 4908

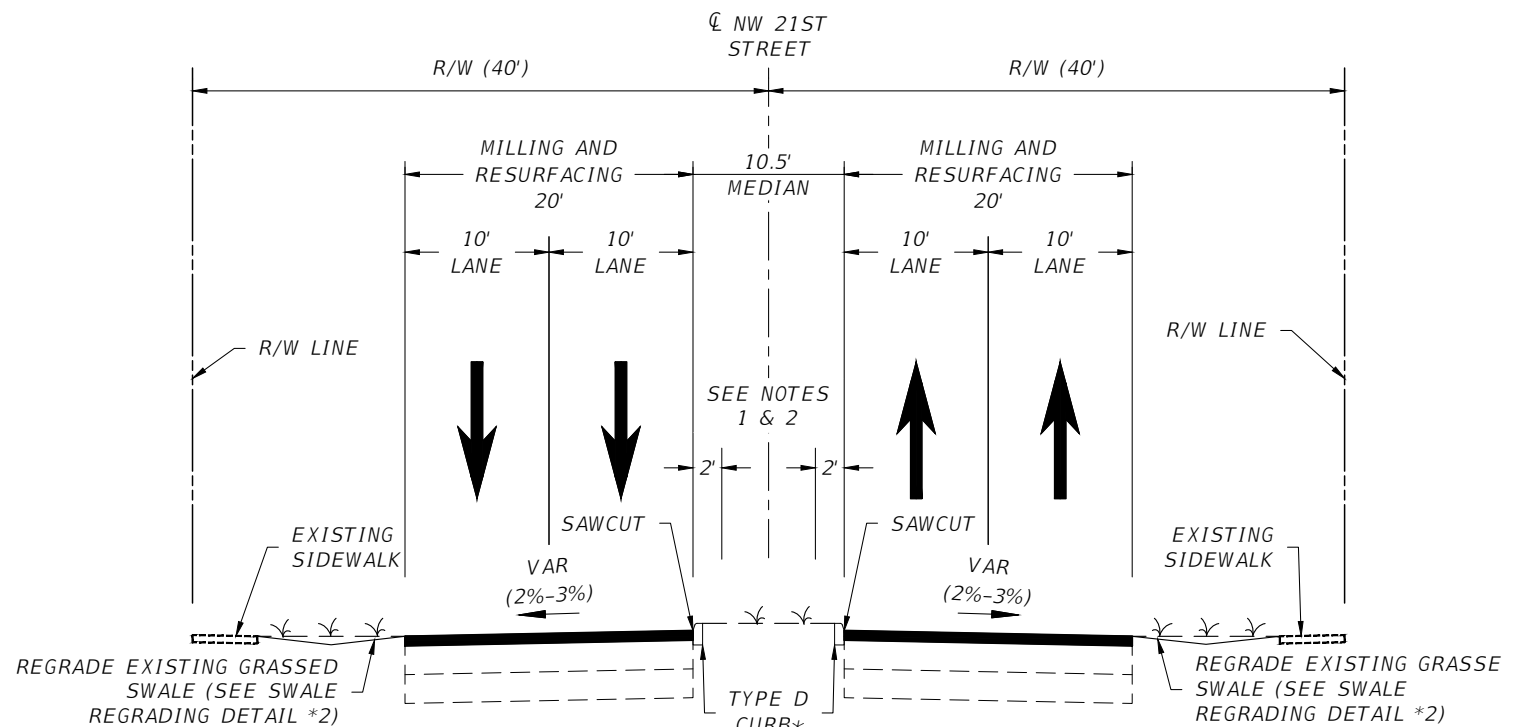
ROADWAY PLANS
ENGINEER OF RECORD: GINO CHARLES, P.E.
P.E. NO.: 87758

Know what's below.
Call **811** before you dig.

FISCAL YEAR	SHEET NO.
23	01

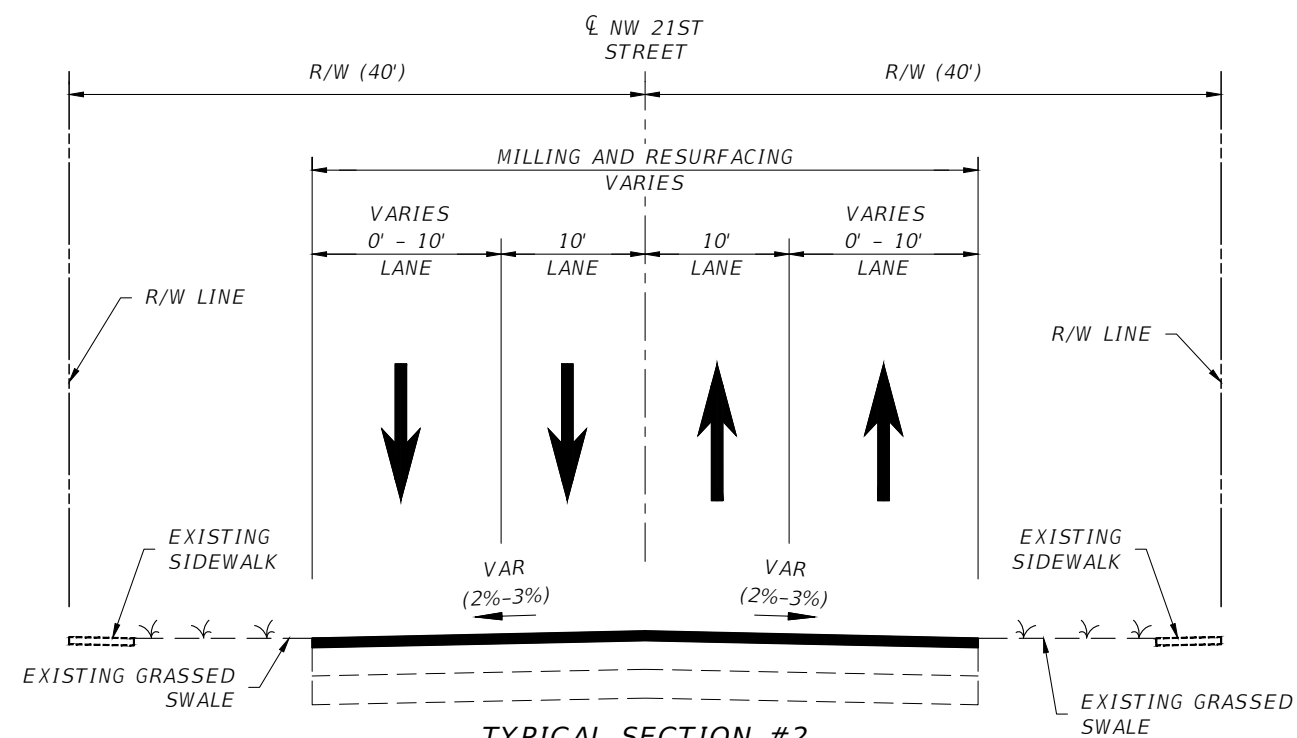


TYPICAL SECTION #1
STA. 10+89.00 TO STA. 19+20.00



TYPICAL SECTION #3
STA. 23+39 TO STA. 39+06.00

***SEE CITY OF LAUDERHILL
ENGINEERING DETAIL R-21**



TYPICAL SECTION #2
STA. 19+20.00 TO STA. 23+39.00

MILLING (STA 10+89 - STA 37+20)
MILL EXISTING ASPHALT PAVEMENT (1.5" AVG. DEPTH)
RESURFACING (STA 10+89 - STA 37+20)
TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) (1.5")

MILLING (STA 37+20 - STA 39+06)
MILL EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)
RESURFACING (STA 37+20 - STA 39+06)
TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) (1")

NOTES:

1. THE CONTRACTOR SHALL REMOVE THE EXISTING CURB IN THE MEDIAN, INCLUDING THE EXISTING CURB AND CONCRETE AT THE MEDIAN NOSE. THE CONTRACTOR SHALL CONSTRUCT NEW TYPE D CURB WITH CURB PAD; BACKFILL WITH SUITABLE MATERIAL, REGRADE 2' AREA AT THE BACK OF THE CURB AND INSTALL SOD ALONG THE MEDIAN AND 4" THICK CONCRETE AT THE MEDIAN NOSE.
2. THE CONTRACTOR SHALL USE CAUTION WHEN WORKING IN THE MEDIAN SO AS NOT TO DAMAGE THE IRRIGATION SYSTEM. ANY IRRIGATION DAMAGED BY THE CONTRACTOR, SHALL BE REPAIRED AND REPLACED IN KIND.
3. THE CONTRACTOR SHALL SAWCUT ALONG THE EDGE OF PAVEMENT AT DRIVEWAY LOCATIONS.
4. THE CONTRACTOR SHALL USE CAUTION AND PROVIDE PROTECTION DURING THE MILLING AND RESURFACING OPERATIONS SO AS NOT TO DAMAGE THE CONCRETE SIDEWALK ON THE BRIDGE AND THE STAMPED AND BRICK PAVED DRIVEWAYS.

NO.	REVISION	BY	DATE

CITY OF LAUDERHILL
5581 W OAKLAND PARK BLVD,
LAUDERHILL, FL 33131
(954) 739-0100

MCMAHON
2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908
E.O.R. GINO CHARLES, P.E.
P.E. NO. 87758

FLORIDA LICENSE No. _____ SIGNATURE DATE _____

DATE : 9/6/23
PROJ. # : XXXXXXX
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APPD. BY: GC
PLOT BY: HY
FILE NAME: ---
REF. # : XXXXXXX
F.B. & PG. : XXXXXXX

**NW 21ST STREET CORRIDOR RESURFACING
TYPICAL SECTIONS**

SHEET
02

GENERAL NOTES

1. THE CONTRACTOR SHALL CAREFULLY PROTECT FROM DISTURBANCE ALL SURVEY MONUMENTS, STAKES AND BENCH MARKS. ALL MAJOR SURVEY MONUMENTS THAT HAVE BEEN DAMAGED BY THE CONTRACTOR, INCLUDING SECTION CORNERS, ¼ SECTION CORNERS, PROPERTY CORNERS OR BLOCK CONTROL POINTS SHALL BE REPLACED UNDER THE SUPERVISION OF A FLORIDA REGISTERED LAND SURVEYOR AND MAPPER AT THE CONTRACTOR'S EXPENSE WITH MARKERS OF A SIZE AND TYPE APPROVED BY THE SURVEYOR.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND PROTECTION, REPAIR AND/OR REPLACEMENT OF ALL UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
3. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1 (800) 432-4770), SEVEN (7) BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE. A CONTRACTOR'S REPRESENTATIVE SHALL BE PRESENT WHEN THE UTILITY COMPANY LOCATES THEIR FACILITIES. THE LOCATION OF EXISTING UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR AND THE UTILITY REPRESENTATIVE WHEN NECESSARY DURING CONSTRUCTION.

UTILITY OWNER	CONTACT PERSON	PHONE NUMBER
CITY OF LAUDERHILL	JOAN FLETCHER	954-730-4204
CROWN CASTLE	FIBER DIG TEAM	800-654-3110
COMCAST CABLE	RICARDO DAVIDSON	786-586-8505
BROWARD COUNTY DES	ROBERT BLOUNT	954-847-2745
FLORIDA POWER & LIGHT	JOEL BRAY	386-586-6403
MCI	INVESTIGATION TEAM	800-624-9675 EXT 2
TECO PEOPLE GAS	JOAN DOMNING	813-275-3783

4. THE CONTRACTOR SHALL TAKE ALL NECESSARY CARE AND CAUTION TO PREVENT MILLED MATERIALS FROM ENTERING THE EXISTING AND PROPOSED DRAINAGE SYSTEM. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEM MILLING EXISTING ASPHALT PAVEMENT.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJOINING PROPERTIES AT ALL TIMES.
6. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES AND ASSUMES RESPONSIBILITY OF ANY DAMAGES OR PERSONAL INJURY SHOULD AN ACCIDENT OCCUR.
7. ALL VEGETATION, DEBRIS, CONCRETE OR OTHER UNSUITABLE MATERIAL SHALL BE DISPOSED LEGALLY OFF SITE IN AREAS PROVIDED BY THE CONTRACTOR AT HIS EXPENSE.
8. ALL WORK SHALL BE ACCOMPLISHED ACCORDING TO APPLICABLE MUNICIPAL, STATE AND FEDERAL CODES.
9. EXISTING DRAINAGE STRUCTURES WITHIN THE CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED.
10. NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM THEIR RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC ALONG THE PROPOSED CONSTRUCTION AREA.
11. EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE NOTED.
12. ALL PROPOSED SIGNS SHALL USE TYPE XI SHEETING.
13. INSTALL BLUE BI-DIRECTIONAL RPMS AT FIRE HYDRANT LOCATIONS PER FDOT STANDARD PLANS INDEX 706-01 (SHEET 6 OF 6)

EROSION CONTROL

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL LOCAL, STATE AND FEDERAL POLLUTION PREVENTION REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO F.D.E.P. N.P.D.E.S. REQUIREMENTS.
2. ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. CONSTRUCTION PRACTICES INCLUDE:
 - a. CONSTRUCT TEMPORARY SEDIMENTATION BASINS OR EARTHEN BERMS AT DOWN-GRADIENT ENDS OF NEWLY GRADED AREAS TO PROVIDE FOR SEDIMENT AND TURBIDITY REMOVAL.
 - b. LIMIT SITE CLEARING TO THOSE AREAS REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION. EXISTING TREES AND VEGETATION ARE TO REMAIN.
 - c. SEDIMENT BARRIERS, HAY BALES AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THE POTENTIAL FOR EROSION IS ELIMINATED.


TRAFFIC CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SAFE AND ADEQUATE WALKING SURFACE APPLICABLE TO THE AMERICANS WITH DISABILITIES ACT (ADA) FOR PEDESTRIANS DURING CONSTRUCTION. SAFE WALK ROUTES FOR ALL PEDESTRIANS INCLUDING AT SCHOOL ZONES, AND AT TRANSIT BUS STOPS WITHIN THE VICINITY OF THE CONSTRUCTION ZONE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. THIS INCLUDES SAFE WALK ROUTES/ACCESS TO AND FROM EXISTING BUS STOPS, SCHOOL ZONES, AND ACCESS TO TRANSIT VEHICLES.
2. SIDEWALKS, GUTTERS, DRAINS, FIRE HYDRANTS AND PRIVATE DRIVES SHALL BE KEPT IN GOOD CONDITION FOR THEIR INTENDED USES. FIRE HYDRANTS ON OR ADJACENT TO THE WORK SHALL BE KEPT ACCESSIBLE TO FIRE APPARATUS AT ALL TIMES, AND NO MATERIAL OR OBSTRUCTION SHALL BE PLACED WITHIN TEN (10) FEET OF ANY SUCH HYDRANT.
3. TRAFFIC CONTROLS WILL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT FDOT STANDARD PLANS (102 SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD) AS MINIMUM CRITERIA.
4. CONSTRUCTION SIGNING SHALL BE INSTALLED 3 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ADVANCE WARNING SIGNS SHALL BE USED IN ACCORDANCE WITH FDOT STANDARD INDEX 102 SERIES OF THE STANDARDS PLANS.
5. THE CONTRACTOR SHALL REMOVE OR COVER ANY EXISTING OR PROPOSED SIGNS OR PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL THROUGH THE WORK ZONE. WHEN THE CONFLICT NO LONGER EXISTS THE CONTRACTOR SHALL RESTORE THE SIGNS OR PAVEMENT MARKINGS TO THEIR ORIGINAL POSITION. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY MILLING, GRINDING, SAND OR HYDRO BLASTING OR BY OTHER METHOD APPROVED BY THE ENGINEER. USE OF BLACK PAINT TO COVER EXISTING PAVEMENT MARKINGS IS PROHIBITED.
6. THE EXISTING POSTED REGULATORY SPEED OF 25 MPH SHALL BE MAINTAINED THROUGHOUT THE PROJECT WORK ZONE.
7. PRIOR TO IMPLEMENTING A DETOUR ROUTE THE CONTRACTOR SHALL EXAMINE THE ROUTES) FOR SAFETY AND DRIVEABILITY, ENSURING ALL ROADWAY SURFACES ARE FREE OF POTHOLES, AND DROPOFFS, AND ENSURING THAT ALL SIGNS AND PAVEMENT MARKINGS ARE APPROPRIATE, AND REFLECT PROPER DIRECTION FOR TRAFFIC. ANY AREAS REQUIRING REPAIRS SHALL BE MADE AND THE ENGINEER NOTIFIED. ALL COSTS ASSOCIATED WITH THIS TASK WILL BE INCLUDED IN THE MAINTENANCE OF TRAFFIC PAY ITEM.
8. NO AREA SHALL BE MILLED, WHICH CANNOT BE RESURFACED, AND TEMPORARILY STRIPED WITHIN THE SAME WORK PERIOD.
9. THE WORK ZONE FOR A PAVING OR MILLING OPERATION WILL BE PERFORMED ONE LANE AT A TIME.
10. ONE LANE CLOSURE IS PERMITTED BETWEEN THE HOURS OF 8:30am TO 5:00pm.


PAY ITEM FOOT NOTES:

- ITEM 8: TYPE SP-12.5 ASPH. CONC. STRUCTURAL COURSE: INCLUDES 13 TONS FOR THE CONSTRUCTION OF SPEED HUMPS, AND 67 TONS FOR PAVING THE AREA BETWEEN THE VALLEY GUTTER AND THE R/W, IN FRONT OF THE BELLWOOD APARTMENTS.
- ITEM 10: VALVE BOXES (ADJUST): INCLUDES THE CLEANING OUT OF THE EXISTING VALVE LOCATED AT STA. 23+31 (22' LT) AND INSTALLING A VALVE COVER.
- ITEM 17: FRENCH DRAIN 15" PERFORATED HDPE: INCLUDES THE COST OF PAVEMENT RESTORATION.
- ITEM 18: TRENCH DRAIN: INCLUDES ALL LABOR AND MATERIAL FOR A COMPLETE INSTALLATION.
- ITEM 21: RETRO-REFLECTIVE PAVEMENT MARKERS: INCLUDES THE INSTALLATION OF 6 BLUE RPMS AT FIRE HYDRANT LOCATIONS.
- ITEM 27: THERMOPLASTIC, STANDARD WHITE, MESSAGE OR SYMBOL: INCLUDES 6 ARROWS AT SPEED HUMPS AND 3 PEDESTRIAN LANE SYMBOLS.
- ITEM 33: CLEARING AND GRUBBING: INCLUDES THE REMOVAL OF 612 SY OF ASPHALT PAVEMENT, FRONTING THE BELLWOOD APARTMENTS.

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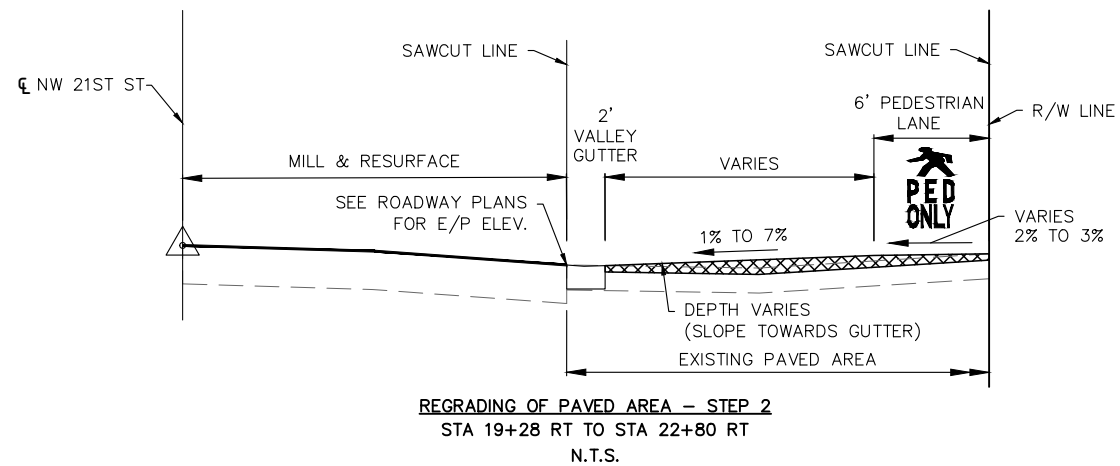
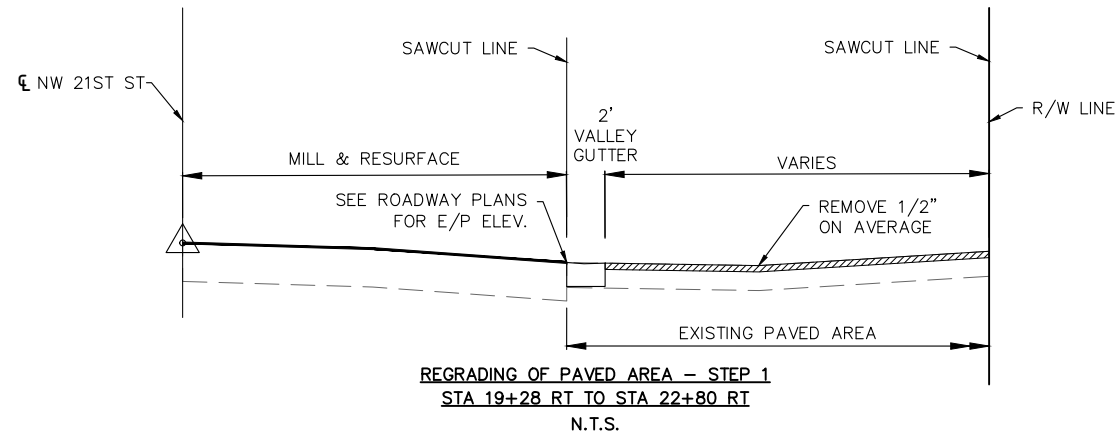
2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908
E.O.R. GINO CHARLES, P.E.
P.E. NO. 87758

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NW 21ST STREET CORRIDOR RESURFACING
PROJECT NOTES

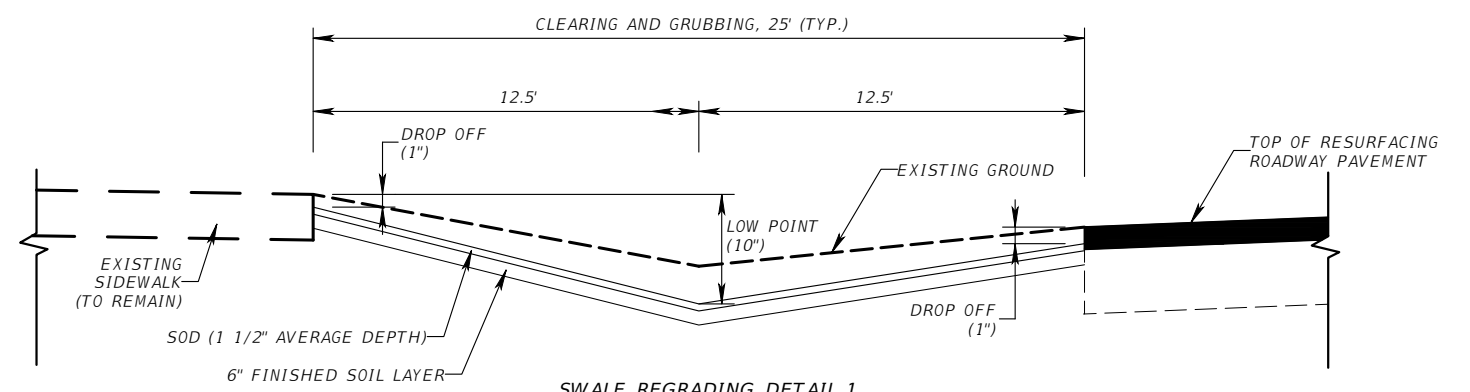
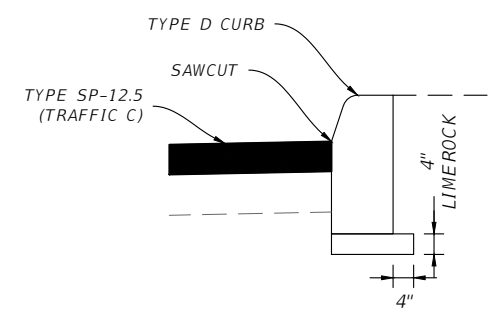
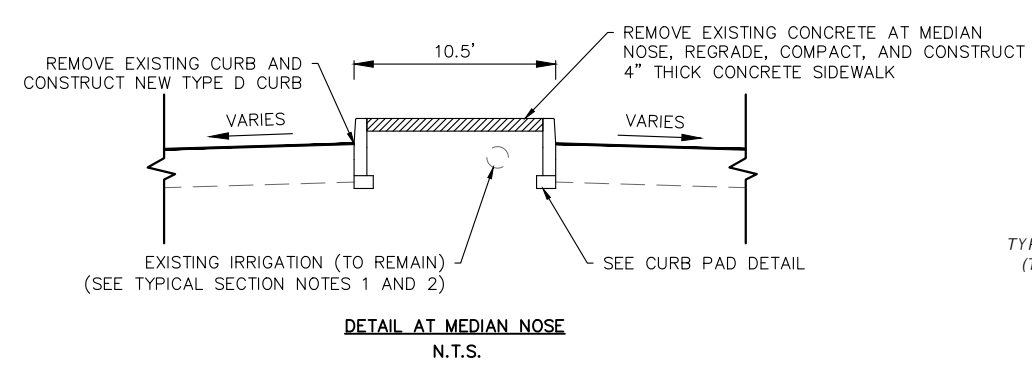
SHEET
03



LEGEND

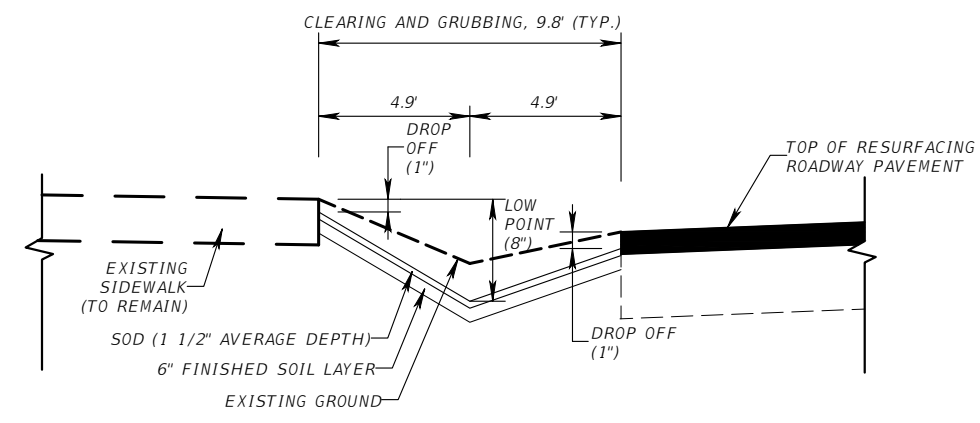
REMOVING EXISTING ASPHALT

RESURFACING TYPE 12.5 STRUCTURAL COURSE ASPHALT THICKNESS VARIES FROM 1/2" TO 3 1/2"



STA 12+05 TO 13+20, LT
 STA 12+09 TO 14+87, RT
 STA 13+70 TO 20+35, LT
 STA 15+53 TO 19+35, RT

- EXCAVATE TO THE EXTENT NEEDED TO CONSTRUCT THE 6" TOPSOIL.
- DRIVEWAYS ARE EXCLUDED WITHIN THESE LIMITS. ONLY GRASS AREAS ARE BEING REGRADED.



STA 23+60 TO 32+40, RT
 STA 24+35 TO 30+68, LT
 STA 31+49 TO 31+92, LT
 STA 33+42 TO 33+91, LT
 STA 33+77 TO 35+71, RT

- EXCAVATE TO THE EXTENT NEEDED TO CONSTRUCT THE 6" TOPSOIL.
- DRIVEWAYS ARE EXCLUDED WITHIN THESE LIMITS. ONLY GRASS AREAS ARE BEING REGRADED.

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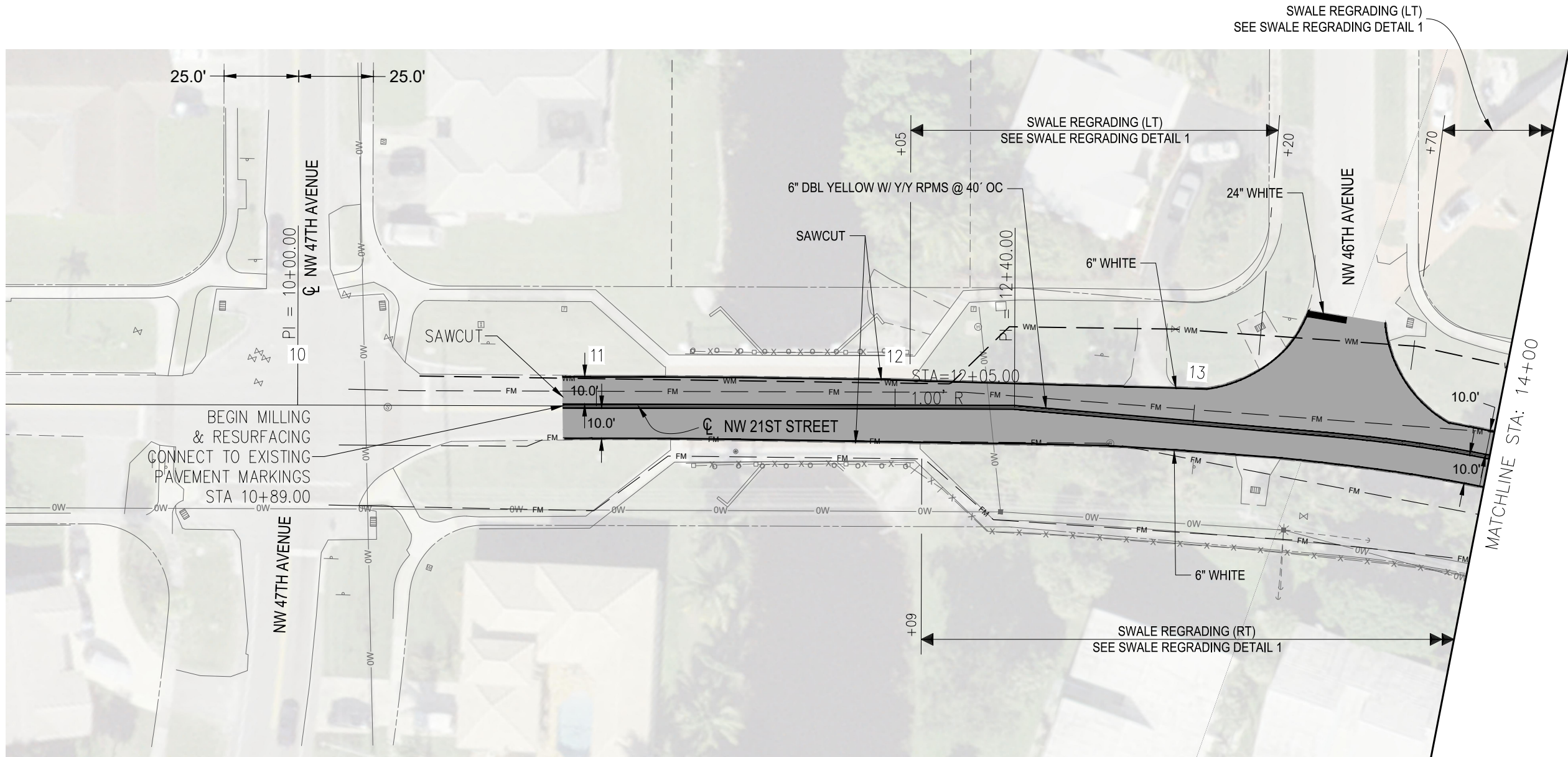
McMAHON
 TRANSPORTATION ENGINEERS & PLANNERS
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
 WEST PALM BEACH, FL 33407 FAX (561) 840-8590
 CERTIFICATE OF AUTHORIZATION NO. 4908
 E.O.R. GINO CHARLES, P.E.
 P.E. NO. 87758

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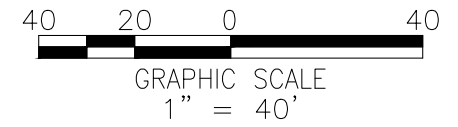
**NW 21ST STREET CORRIDOR RESURFACING
 SPECIAL DETAILS**

SHEET
 04




 MILLING & RESURFACING

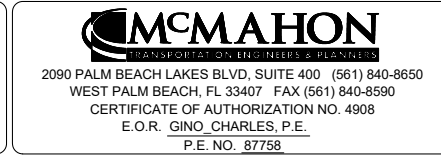
NOTE: LIMIT OF MILLING & RESURFACING AT SIDESTREET TO BACK OF EXISTING STOP BAR UNLESS OTHERWISE NOTED



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McMAHON
 TRANSPORTATION CONSULTANTS
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
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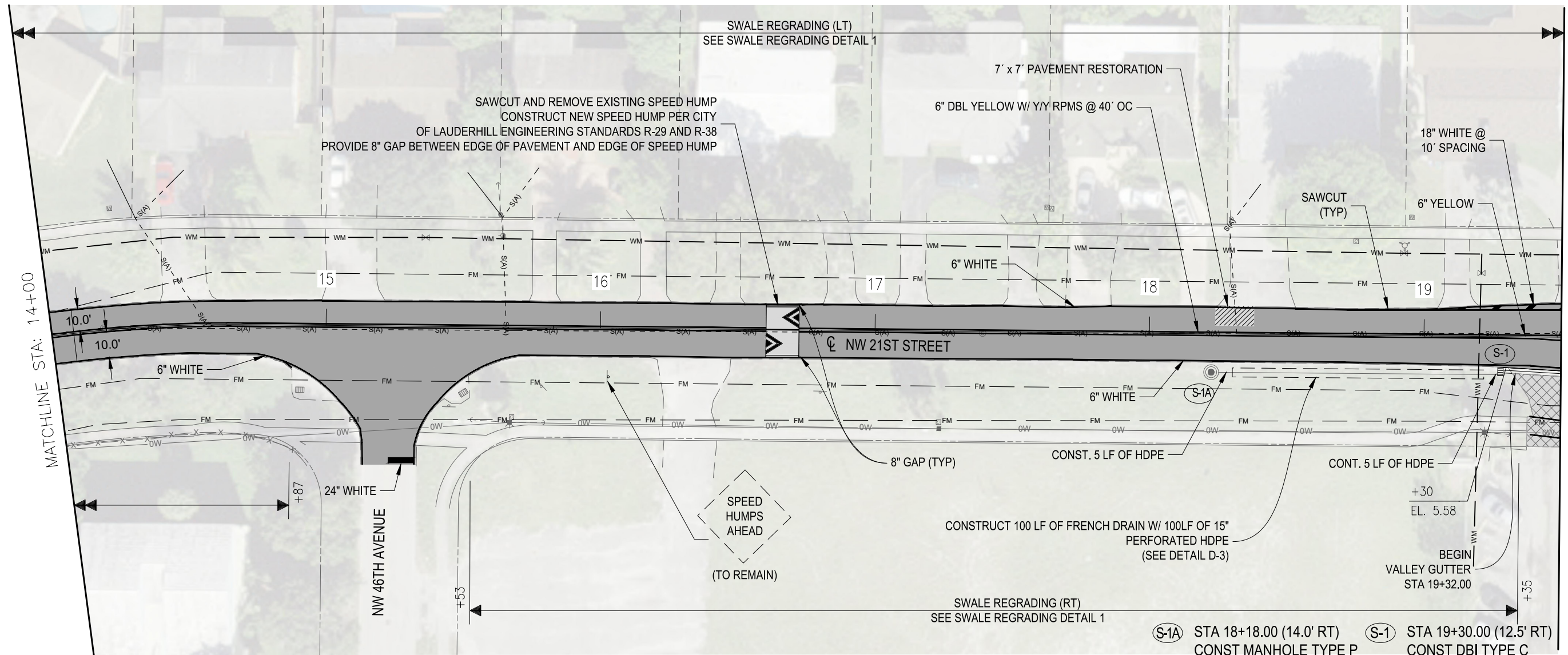
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**NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN**

SHEET
05

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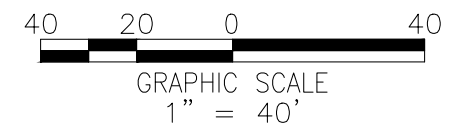


MILLING & RESURFACING

REMOVAL OF EXISTING ASPHALT & RESURFACE W/ ASPHALT (SEE DETAIL SHEET 4)

7' x 7' PAVEMENT RESTORATION; BEGIN STA 18+29.5 PER CITY OF LAUDEHILL ENG. STDS R-25. EXIST. PAVMT.: 6" LIMEROCK BASE AND 3" ASPH. CONC. STRUCTURAL COURSE. TOP LAYER OF PROPOSED PAVEMENT RESTORATION: 1.5" TYPE SP-12.5 STRUCTURAL COURSE (COURSE C)

- (S-1A)** STA 18+18.00 (14.0' RT)
CONST MANHOLE TYPE P
SEE DETAIL D-6
RIM ELEV. 5.60
FL. EI. 2.0 (E)
- (S-1)** STA 19+30.00 (12.5' RT)
CONST DBI TYPE C
SEE DETAIL D-9
GRATE EL. 5.56
FL. EI. 2.0 (W)
PRB 18" 180° BAFFLE (W)



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CITY OF LAUDERHILL
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McMAHON
 ENGINEERS ARCHITECTS PLANNERS
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
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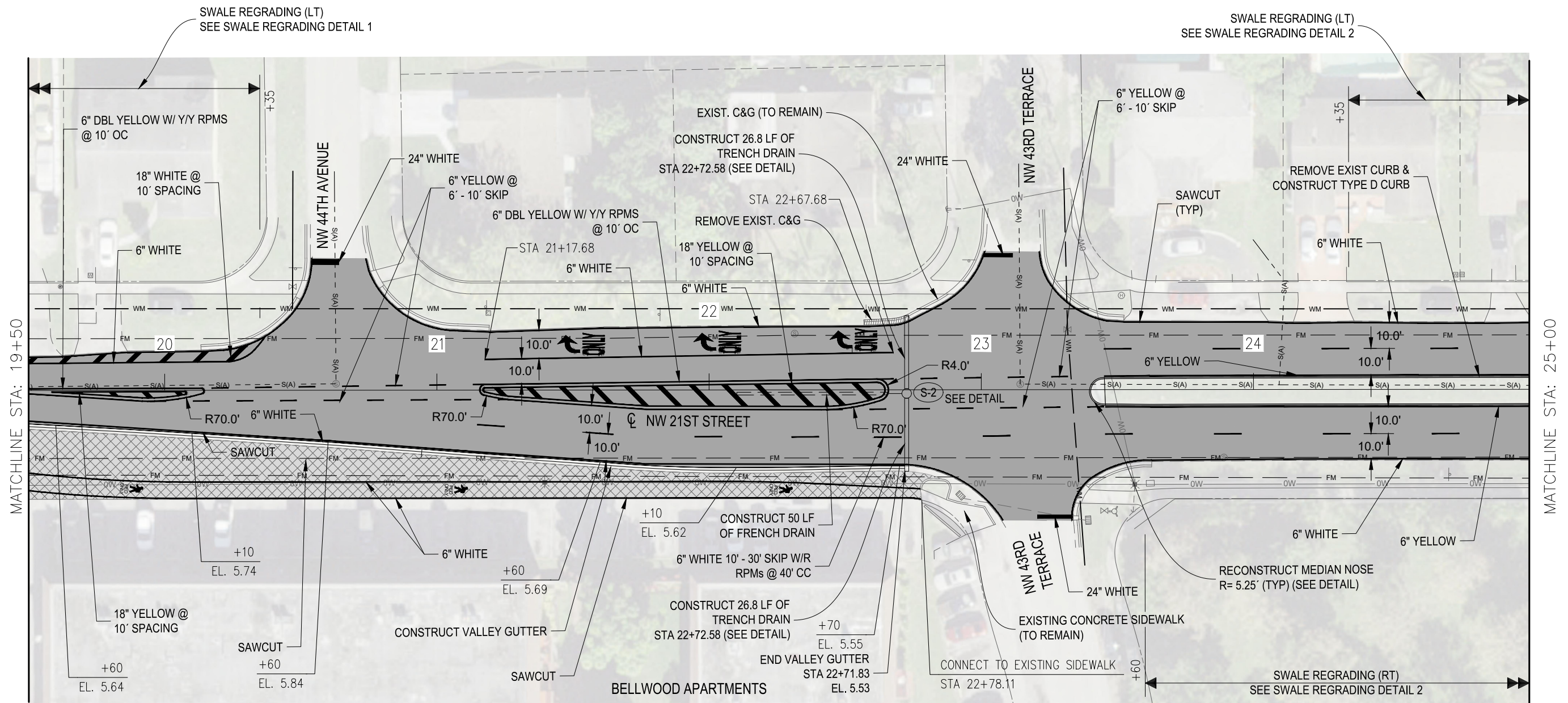
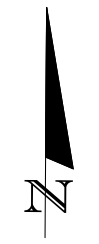
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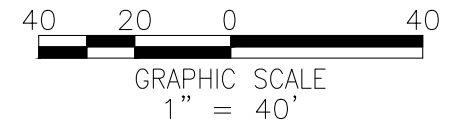
NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN

SHEET
 06

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- MILLING & RESURFACING
- REMOVAL OF EXISTING ASPHALT & RESURFACE W/ ASPHALT (SEE DETAIL SHEET 4)



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CITY OF LAUDERHILL
 5581 W OAKLAND PARK BLVD,
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McMAHON
TRANSPORTATION CONSULTANTS
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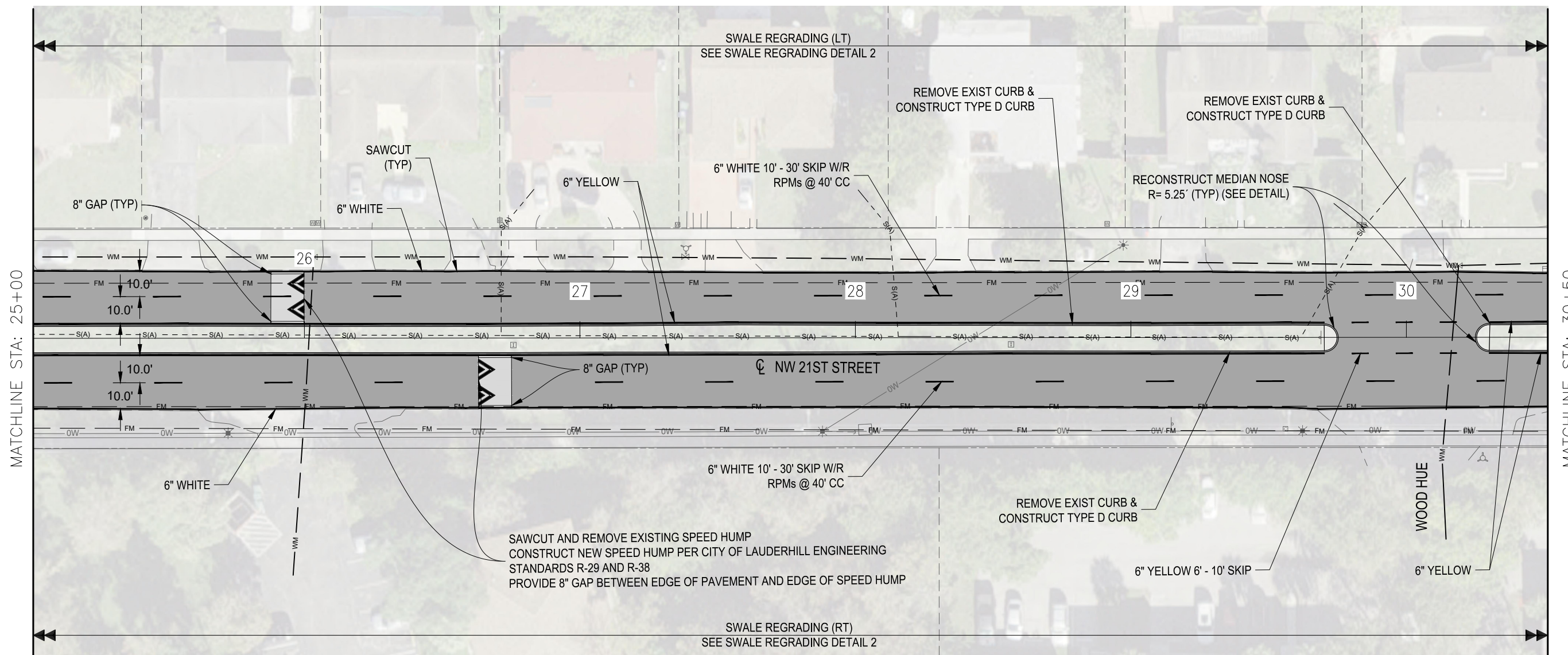
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**NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN**

SHEET
07

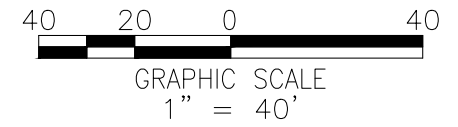
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MATCHLINE STA: 25+00

MATCHLINE STA: 30+50


 MILLING & RESURFACING



NO.	REVISION	BY	DATE



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 LAUDERHILL, FL 33131
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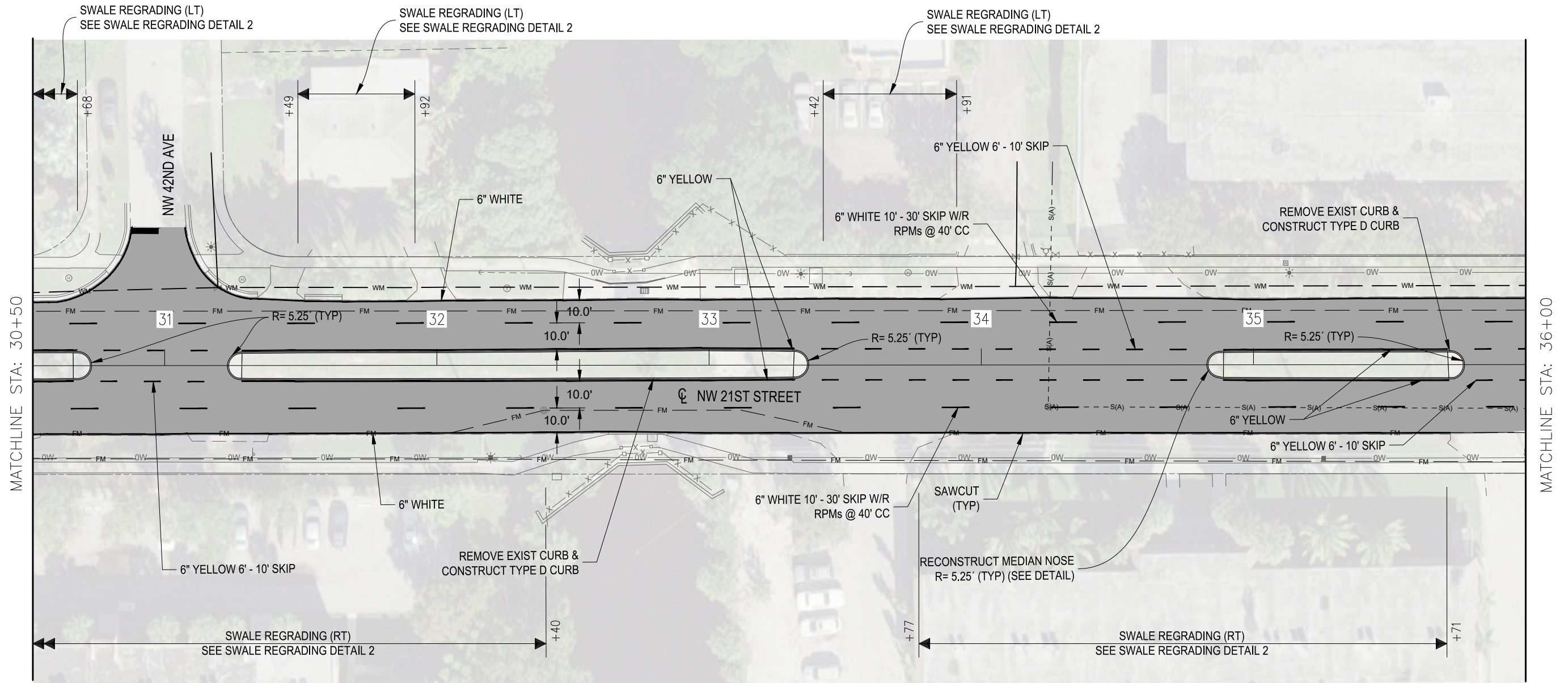
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 APPD. BY: GC
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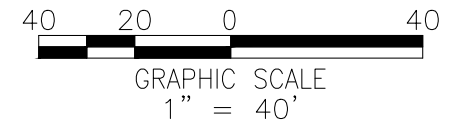
FLORIDA LICENSE No. SIGNATURE DATE

**NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN**


SHEET
08




 MILLING & RESURFACING



NO.	REVISION	BY	DATE



CITY OF LAUDERHILL
 5581 W OAKLAND PARK BLVD,
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 (954) 739-0100



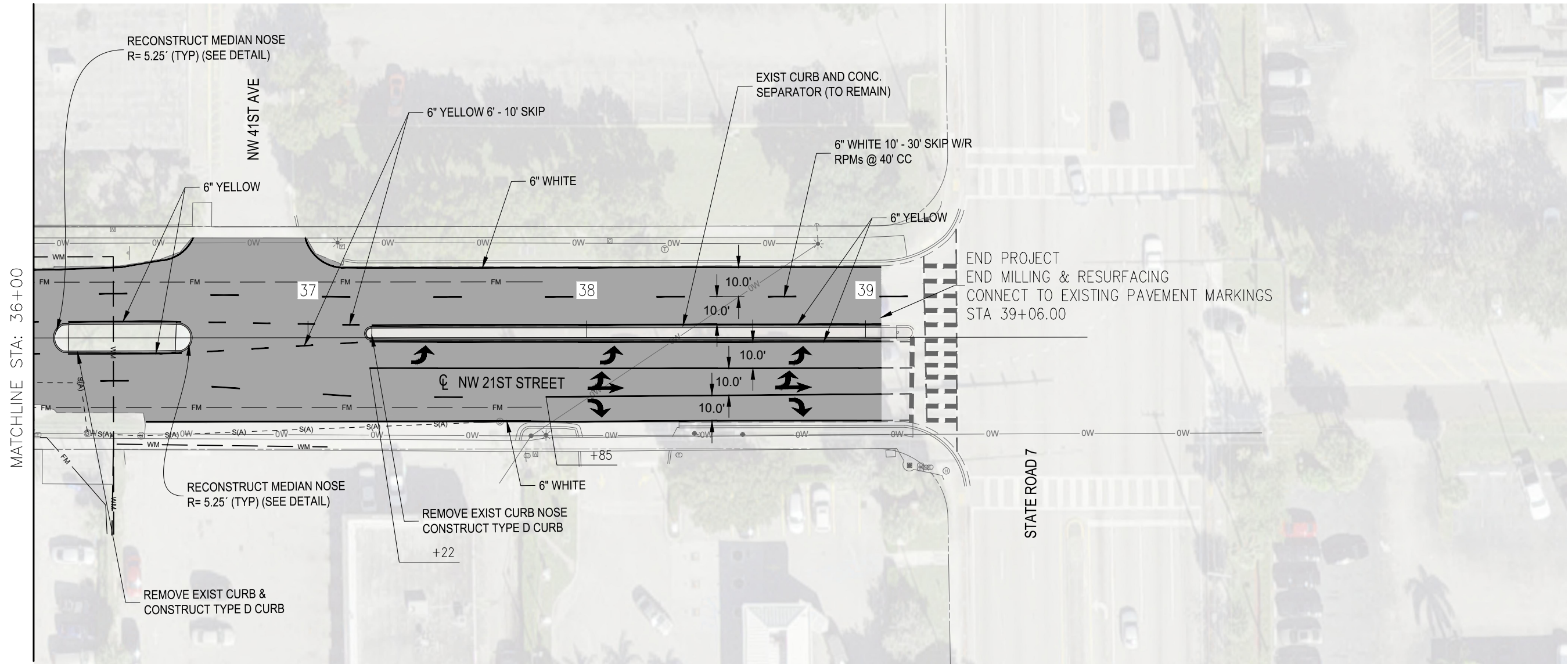
McMAHON
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
 WEST PALM BEACH, FL 33407 FAX (561) 840-8590
 CERTIFICATE OF AUTHORIZATION NO. 4908
 E.O.R. GINO CHARLES, P.E.
 P.E. NO. 87758

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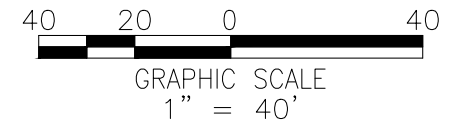
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**NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN**


SHEET
09




MILLING & RESURFACING



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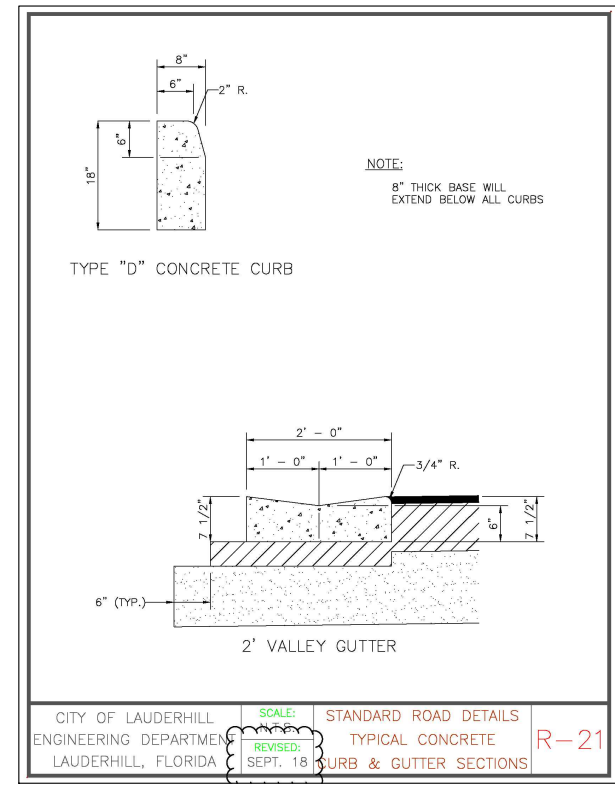
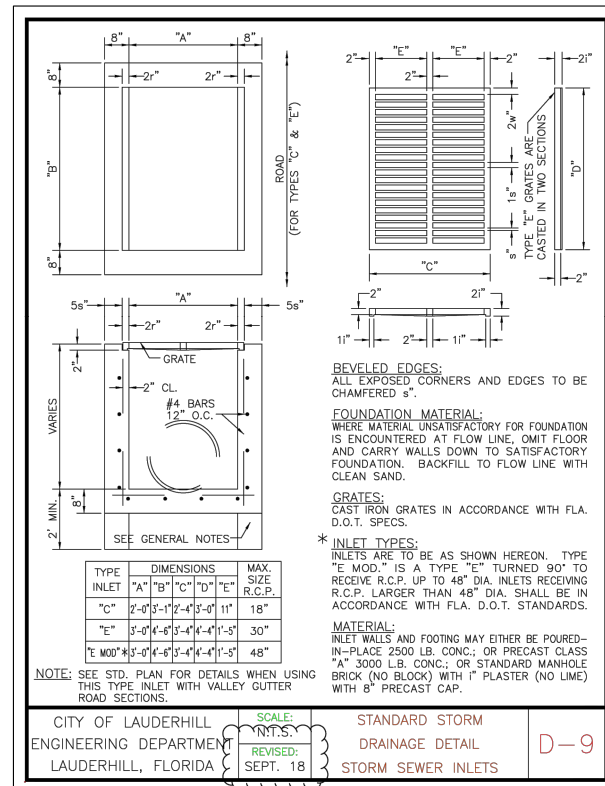
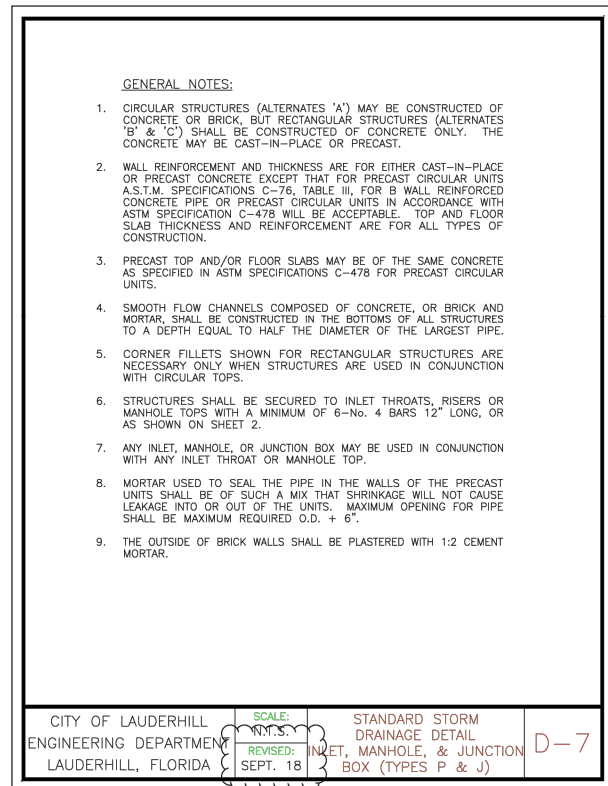
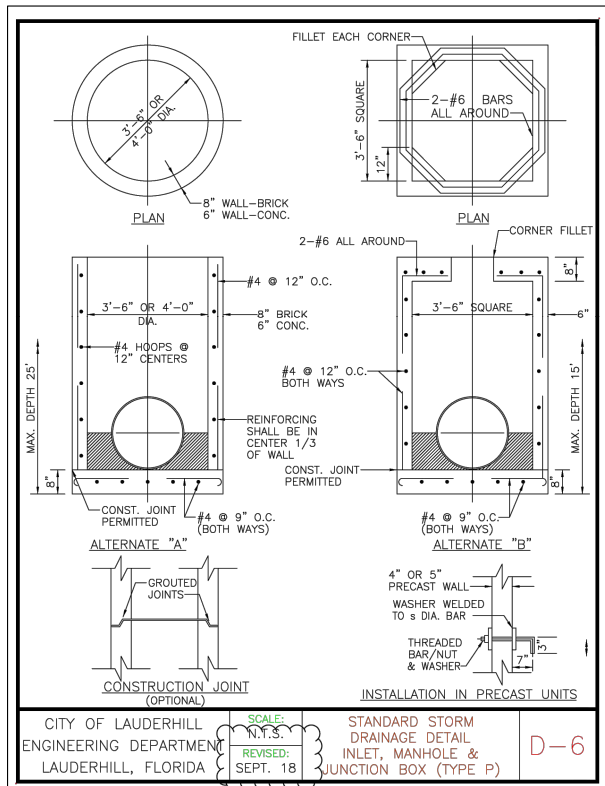
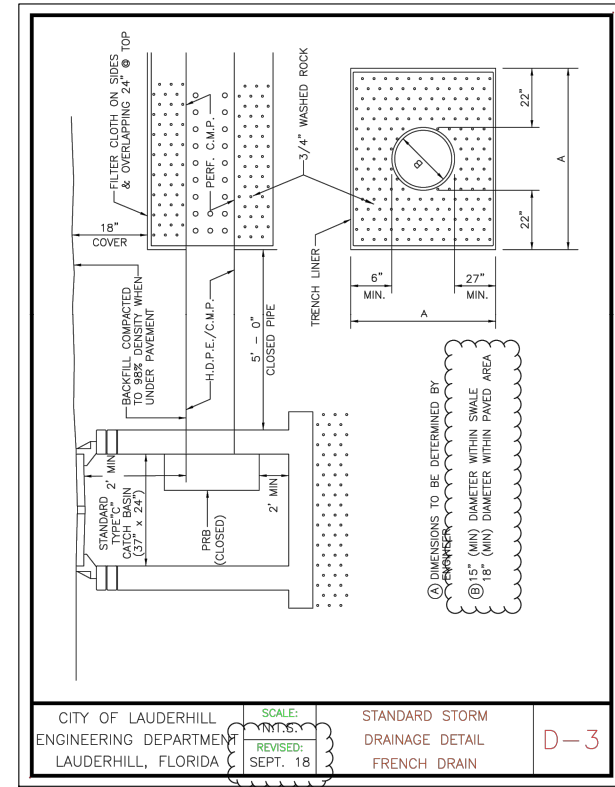
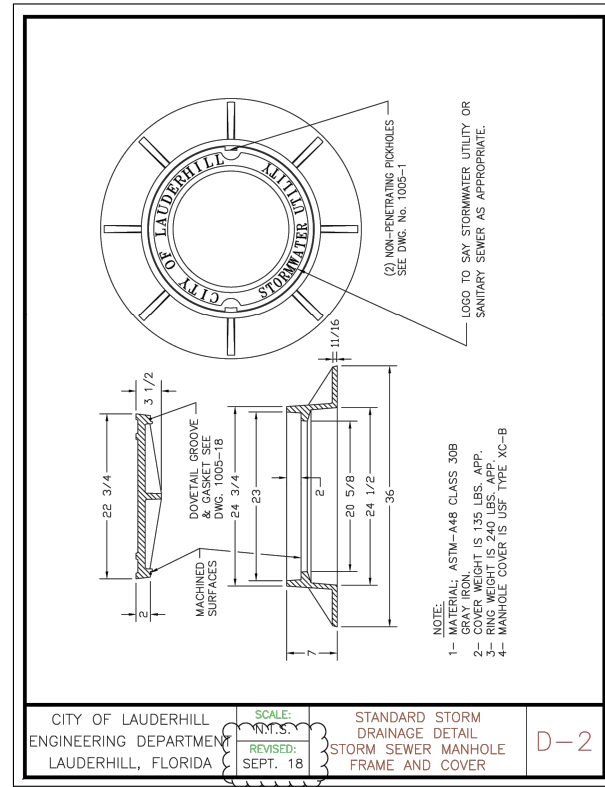
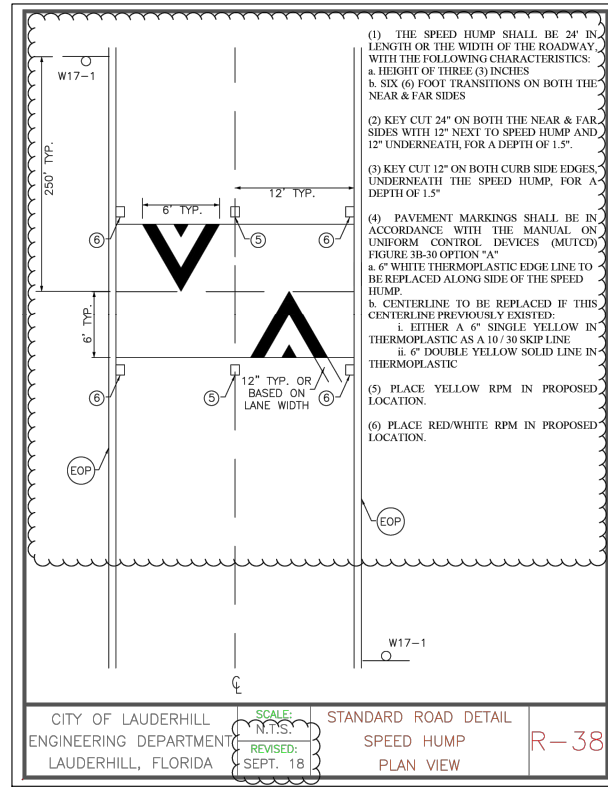
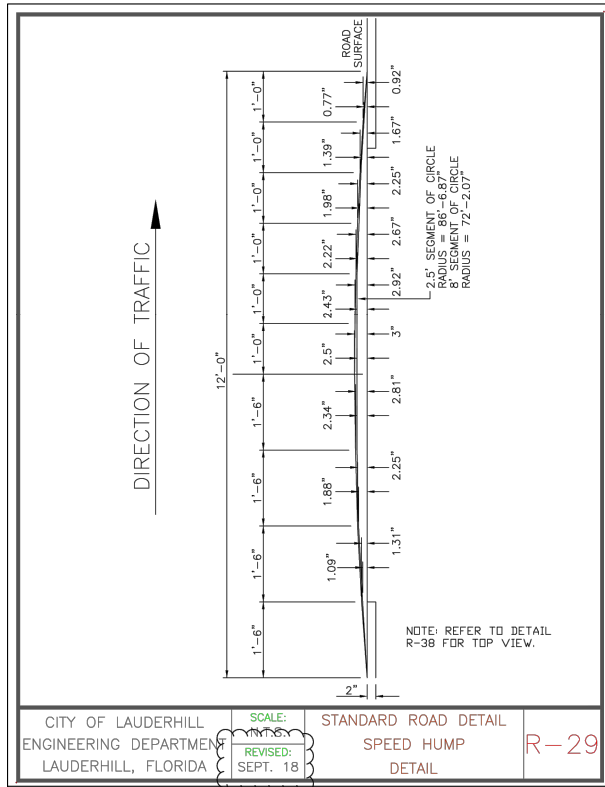
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TRANSPORTATION CONSULTANTS
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
 WEST PALM BEACH, FL 33407 FAX (561) 840-8590
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**NW 21ST STREET CORRIDOR RESURFACING
 ROADWAY PLAN**

SHEET
10



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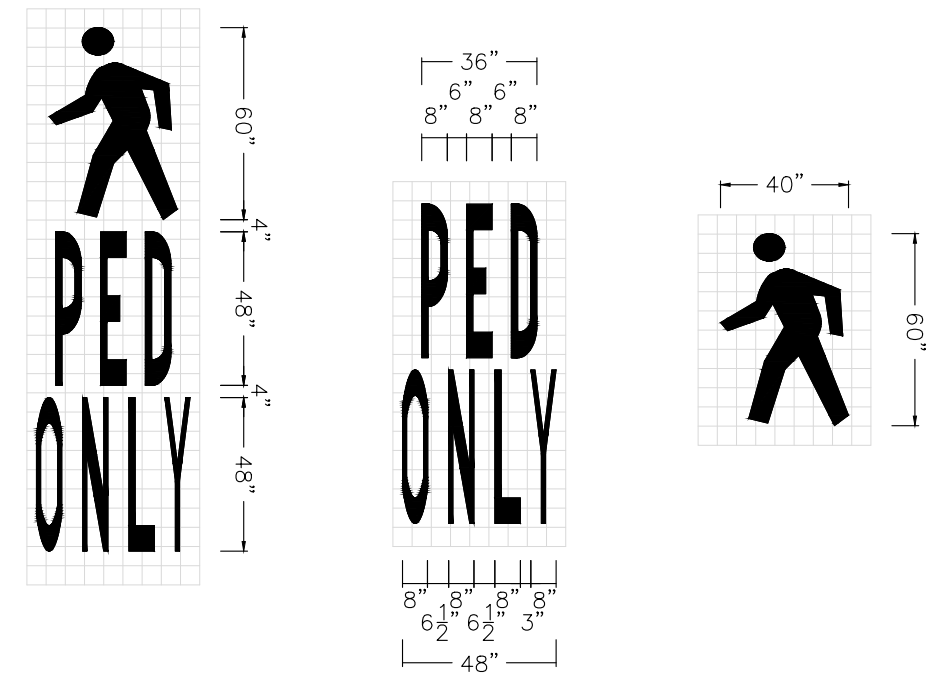
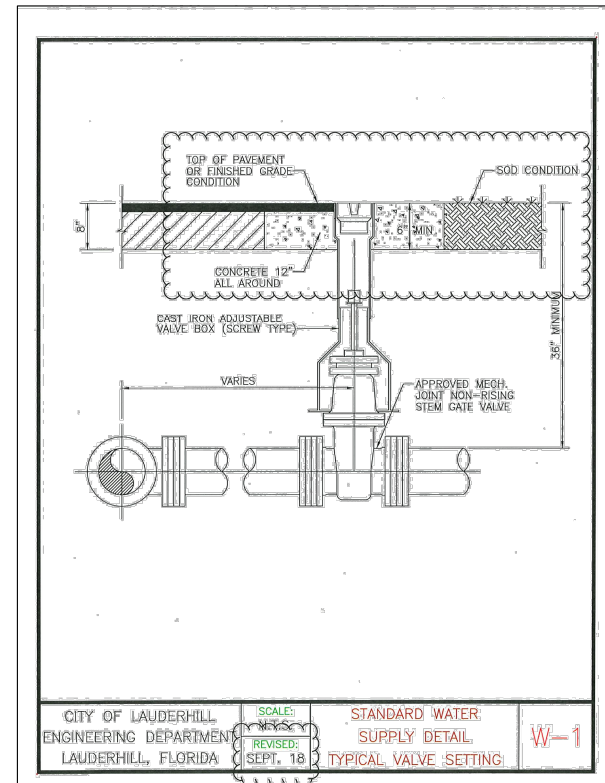
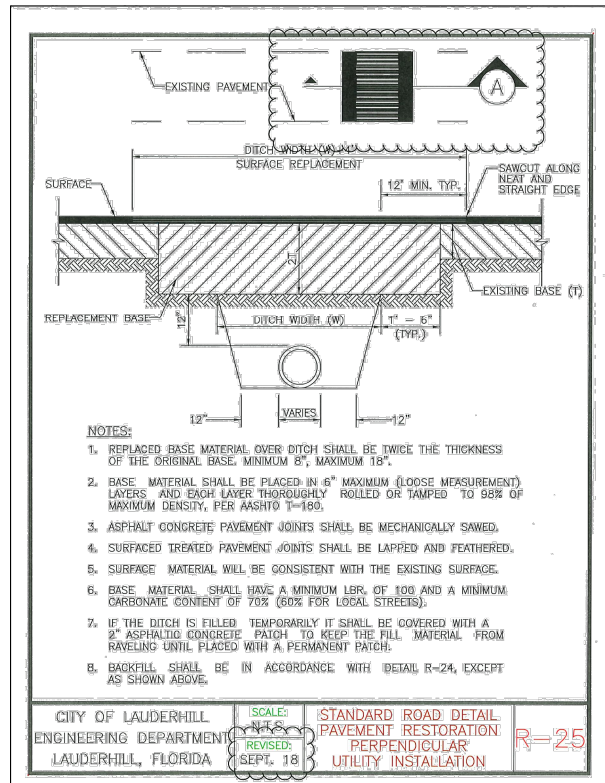
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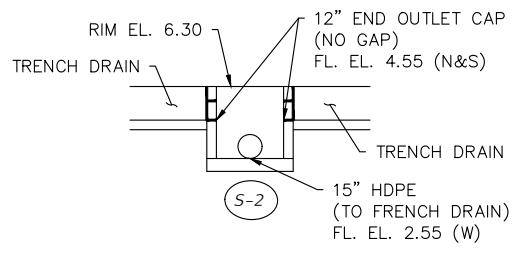
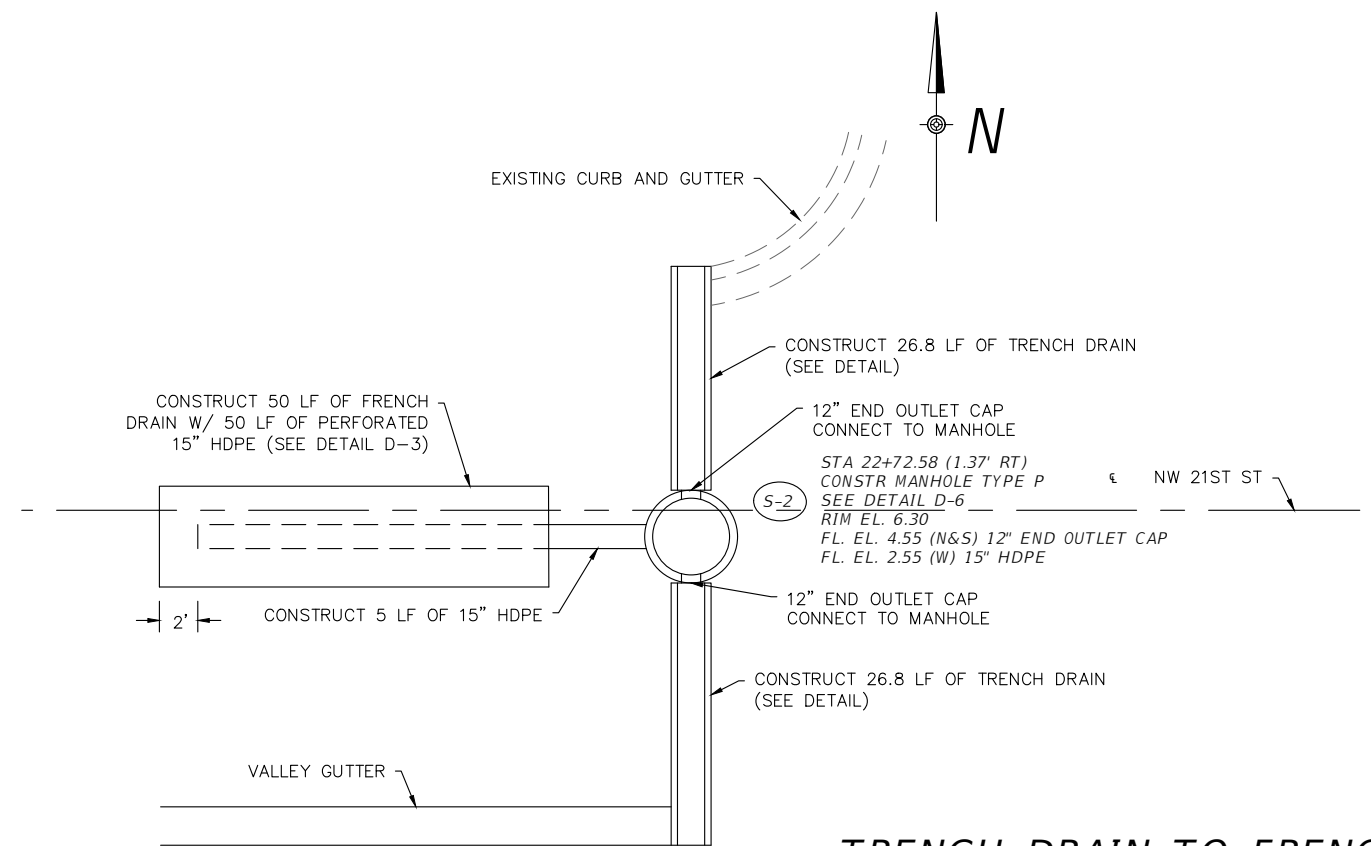
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NW 21ST STREET CORRIDOR RESURFACING
CITY OF LAUDERHILL
ENGINEERING STANDARDS
AND SPECIAL DETAILS

SHEET
11



PEDESTRIAN PAVEMENT MARKING DETAIL
N.T.S.



TRENCH DRAIN TO FRENCH DRAIN DETAIL
N.T.S.

NO.	REVISION	BY	DATE

CITY OF LAUDERHILL
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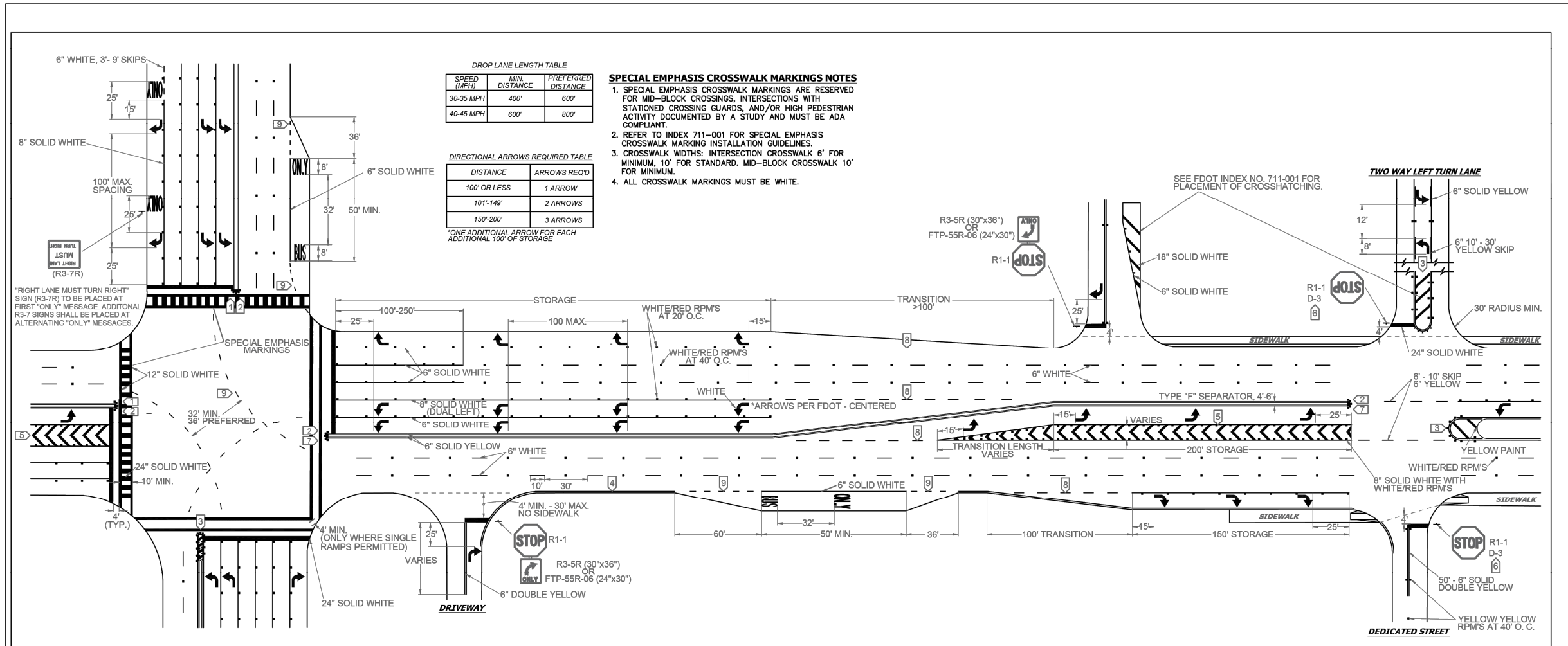
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TRANSPORTATION ENGINEERS & PLANNERS
2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
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NW 21ST STREET CORRIDOR RESURFACING
CITY OF LAUDERHILL
ENGINEERING STANDARDS
AND SPECIAL DETAILS

SHEET
12



DROP LANE LENGTH TABLE

SPEED (MPH)	MIN. DISTANCE	PREFERRED DISTANCE
30-35 MPH	400'	600'
40-45 MPH	600'	800'

DIRECTIONAL ARROWS REQUIRED TABLE

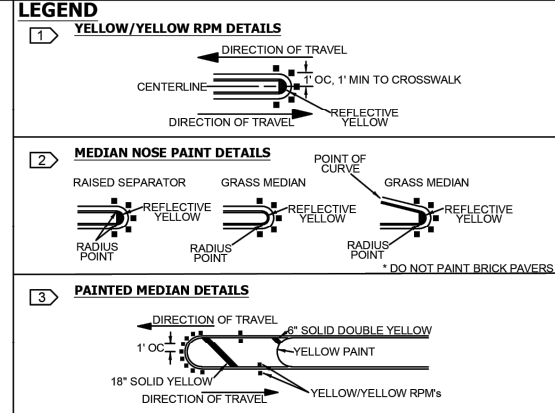
DISTANCE	ARROWS REQ'D
100' OR LESS	1 ARROW
101'-149'	2 ARROWS
150'-200'	3 ARROWS

*ONE ADDITIONAL ARROW FOR EACH ADDITIONAL 100' OF STORAGE

SPECIAL EMPHASIS CROSSWALK MARKINGS NOTES

- SPECIAL EMPHASIS CROSSWALK MARKINGS ARE RESERVED FOR MID-BLOCK CROSSINGS, INTERSECTIONS WITH STATIONED CROSSING GUARDS, AND/OR HIGH PEDESTRIAN ACTIVITY DOCUMENTED BY A STUDY AND MUST BE ADA COMPLIANT.
- REFER TO INDEX 711-001 FOR SPECIAL EMPHASIS CROSSWALK MARKING INSTALLATION GUIDELINES.
- CROSSWALK WIDTHS: INTERSECTION CROSSWALK 6' FOR MINIMUM, 10' FOR STANDARD. MID-BLOCK CROSSWALK 10' FOR MINIMUM.
- ALL CROSSWALK MARKINGS MUST BE WHITE.

- NOTES**
- ALL PAVEMENT MARKINGS SHALL BE ALKYD BASED THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
 - ALL PAVEMENT MARKINGS ON PAVEMENT SYSTEMS SHALL BE 3M 380/381 SERIES TAPE OR EQUIVALENT AND APPLIED WITH P60 ADHESIVE AS PER MANUFACTURERS SPECIFICATIONS.
 - ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", BCTED STANDARDS, AND FDOT DESIGN STANDARDS.
 - SEE FDOT INDEX NO 706-001 FOR PLACEMENT OF RPM'S (FOR BULLNOSE RPM TREATMENT, SEE LEGEND NO. 1)
 - RPM'S SHALL BE CLASS "B" OR EQUIVALENT, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.
 - FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.
 - FOR BIKE LANE DETAILS SEE FDOT INDEX NO. 711-002.
 - EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SAND BLASTING.
 - ALL STOP LINES TO BE 4' BEHIND CROSSWALK OR SIDEWALK.
 - PAVEMENT MARKING REFLECTIVITY SHALL BE UNIFORM ACROSS THE ENTIRE STRIPE AND SHALL HAVE A MINIMUM REFLECTIVITY READING OF 250 MILLICANDELAS FOR WHITE AND 175 MILLICANDELAS FOR YELLOW.
 - ALL PRODUCTS MUST BE ON FDOT'S APPROVED PRODUCTS LIST (APL).
 - RPM'S SHALL NOT BE INSTALLED ADJACENT TO BIKE LANES.
 - LONGITUDINAL CROSSWALK MARKINGS SHALL BE INSTALLED AT ALL CROSS STREETS ON COUNTY ROADS THAT ARE FOUR LANES OR GREATER.



STOP SIGN NOTE
WHERE SIDE ROADS INTERSECT A MULTI-LANE STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 45 MPH OR HIGHER, THE MINIMUM SIZE OF THE STOP SIGNS FACING THE SIDE ROAD APPROACHES, EVEN IF THE SIDE ROAD ONLY HAS ONE APPROACH LANE, SHALL BE 36"x36".
WHERE SIDE ROADS INTERSECT A MULTI-LANE (INCLUDING TURN LANE) STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 40 MPH OR LOWER, THE MINIMUM SIZE OF THE STOP SIGN FACING THE SIDE ROAD APPROACHES SHALL BE 36"x36".

REVISIONS

DATE	DESCRIPTION
11-24-2020	UPDATED NOTES
04-14-2021	UPDATED NOTES
05-06-2022	UPDATED NOTES



**PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING DIVISION**

DESIGN BY: CARMELO CARATOZZOLO, P.E. SCALE: NTS
DRAWN BY: STEPHON RAMOUTAR
CHECKED BY: CARMELO CARATOZZOLO, P.E.

**PAVEMENT MARKINGS
AND SIGNS
DETAILS**

**SHEET
NO.
1 OF 1**

NO.	REVISION	BY	DATE

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5581 W OAKLAND PARK BLVD,
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MCMAHON
TRANSPORTATION ENGINEERS & PLANNERS

2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
WEST PALM BEACH, FL 33407 FAX (561) 840-8590
CERTIFICATE OF AUTHORIZATION NO. 4908
E.O.R. GINO CHARLES, P.E.
P.E. NO. 87758

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**NW 21ST STREET CORRIDOR RESURFACING
BROWARD COUNTY - PAVEMENT
MARKINGS AND SIGNS DETAILS**

**SHEET
13**

PERMA-TRENCH
IMPORTANT NOTE: The maximum temperature must not exceed 140°F [60°C].
 The operational variance should not exceed 80°F [26°C] within a 24 hr period. If there are any chemical, required flow rate, or temperature concerns, you will need to contact the Zurn factory at (855) 663-9876 for help designing your system.

LAYOUT HAS BEEN DEVELOPED FROM DRAWINGS OR SKETCHES SUBMITTED TO ZURN. PLEASE TAKE SOME TIME TO VERIFY OUR INTERPRETATION.
 NOTE: ALL PRICES SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE.

DATE: _____
 ACCEPT LAYOUT: _____

23JY28-9
 LOAD RATING: DIN/EN 1433 CLASS F

CONTENT:

- 1) COVER PAGE
- 2) SPECS. DETAILS, BOM
- 3) LAYOUT
- 4) INSTALL SHEET

PROJECT:

NW 21ST ST-43 TER

Z874-18-HDG-GDF

REP AGENCY: **SPECIFIED SALES ASSOCIATES**
 REP: **SCOTT SHUGART**
 CUSTOMER: N/A
 ORDER NUMBER: N/A



1-855-663-9876
1-855-ONE-ZURN



DIMENSIONAL DATA (INCHES AND FRACTIONS) - DO NOT SCALE DWG ALL DIMENSIONS ARE AFTER FINISHING UNLESS NOTED BREAK SHARP EDGES ± 0.030 MAX - WELD SIZES ARE: MINIMUM		B	REVISED SYSTEM TO Z874-18-HDG-GDF-E12	LZ	KG	08/22/23
© = CRITICAL DIMENSION STANDARD TOLERANCES (UNLESS SPECIFIED)		REV	REVISION HISTORY			
MATERIAL CASTING		DRAWN BY	CHECKED BY	APPROVED BY	DATE	SCALE
PLASTIC AND MANUFACTURED		LZ	AW	KG	07/31/21	NONE
TOLERANCES		SHEET SIZE		PAGE NO.		
FRACTIONS		A		1 of 4		
DECIMALS		Z874-18 TRENCH		REVISION		
ANGLES		ZURN		B		
RADIUSES		ZURN INDUSTRIES, LLC		PLUMBING PRODUCTS GROUP		
CHAMFERS		1801 PITTSBURGH AVE		ERIE, PA 16502		
FILLETED EDGES		© 2018				

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NW 21ST STREET CORRIDOR RESURFACING
 TRENCH DRAIN DESIGN

SHEET
 14

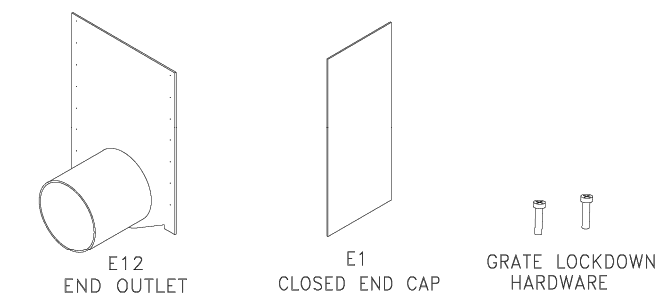
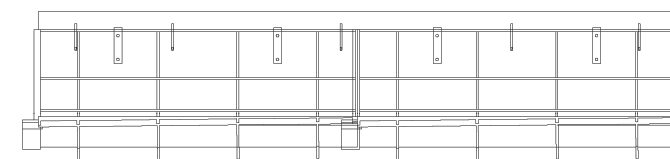
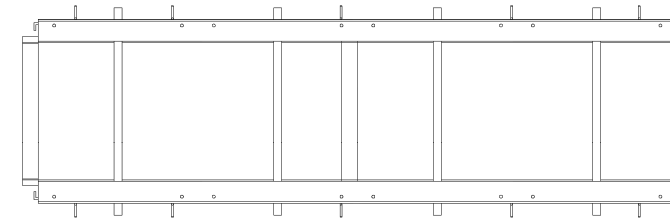
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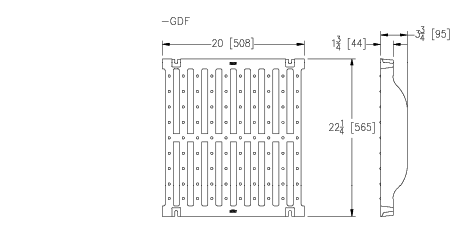
23JY28-9
 LOAD RATING: DIN/EN 1433 CLASS F

Z874-18-HDG-GDF Bill of Material																
TD Run	Line #	Length	Channel Quantity	Total Length	Channel	Frame	Grate	Grate QTY	Cuts	QTY Cuts	Fabs	QTY Fab	Outlets	QTY Outlets	Options	QTY Options
	Line 1	80.00	1	80.00	-001	-HDG	-GDF	4							E1	1
	Line 2	80.00	1	80.00	-002	-HDG	-GDF	4								
	Line 3	80.00	1	80.00	-003	-HDG	-GDF	4								
	Line 4	80.00	1	80.00	-004	-HDG	-GDF	4					E12	1		
		IN.														
	TOTAL			320.00				16		0		0		1		1
		FT														
	TOTAL			26.67												



ENGINEERING SPECIFICATION: Zurn Z874-18-HDG Channels shall be 80" [2032mm] long, 23" [584mm] wide reveal and have an 18" [457mm] wide throat. Modular channel sections shall be made of 0% water absorbent High Density Polyethylene (HDPE). Shall have a positive mechanical connection between channel sections that will not separate during the installation and shall mechanically lock into the concrete surround every 10" [254mm]. Channels shall weigh less than 9 lbs. [4.1kg] per linear foot, have smooth 5" [127mm] radiused self cleaning bottom with a Manning's coefficient of 0.009 and 1.00% or neutral 0% built-in slope. Channels are available with inverts ranging from 10.25" [260mm] to 35.21" [894mm]. Channel shall have all grates locked down. Channels come with clips attached to the frame to accommodate vertical re-bar for positioning and anchoring purposes. The 1/4" [6mm] thick Galvanized Carbon Steel Frame Assembly conforms to ASTM specification A36 and Galvanizing conforms to ASTM specification A123 with 10 - 4" [102mm] long concrete anchors per 80" [2032mm]. Frames shall be produced in the USA.

GDF GRATE ENGINEERING SPECIFICATION: The Zurn -GDF, Galvanized Ductile Iron Slotted Grate, is 22-1/4" [565mm] wide x 20" [508mm] long, weighing 73.4 lbs per linear foot [109.2 kg. per linear meter]. The grate has an open area of 94.1 square inches per linear foot [1992 cm²/m], DIN Rating of Class F, ANSI Rating of Special-Duty, H-20 Load Rated and FAA Load Rated.



<small>DIMENSIONAL DATA INCHES AND (MM). DO NOT SCALE DWG. ALL DIMENSIONS ARE AFTER FINISHING UNLESS NOTED. BREAK SHARP EDGES ± 0.030 MAX - WELD SIZES ARE: MINIMUM</small>		B	REVISED SYSTEM TO Z874-18-HDG-GDF-E12	LZ	KG	08/22/23
<small>© = CRITICAL DIMENSION (UNLESS SPECIFIED)</small>		REV	REVISION HISTORY	BY	APV.	DATE
<small>METAL CASTING</small> .XXX ± .005 .XX ± .02 .X ± .1	<small>PLASTIC AND MANUFACTURED</small> .XXX ± .005 .XX ± .02 .X ± .1	DRAWN BY: LZ CHECKED BY: AW APPROVED BY: KG DATE: 07/31/21	SCALE: NTS SHEET SIZE: A	PAGE NO. 2 of 4		
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NW 21ST STREET CORRIDOR RESURFACING
 TRENCH DRAIN DESIGN

SHEET
 15

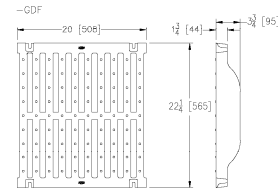
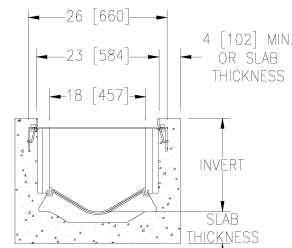
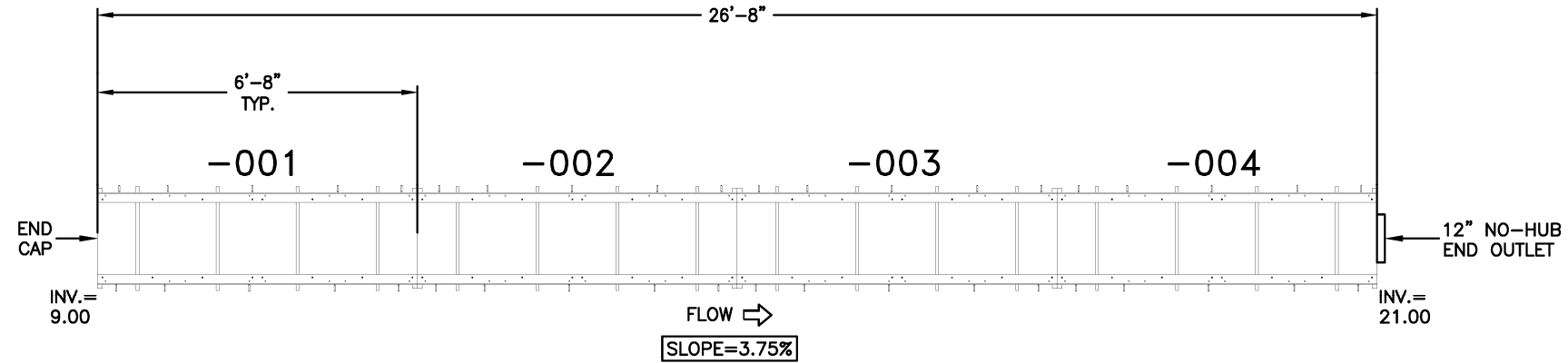
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DATE: _____
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23JY28-9
 LOAD RATING: DIN/EN 1433 CLASS F

TD-1
QTY:2
W/-HDG-GDF
ALL FULL GRATES



- NOTES:**
 1. DURING INSTALLATION OF TRENCH SYSTEM, INTERNAL BRACING IS RECOMMENDED FOR INVERT DEPTHS LESS THAN 16", AND REQUIRED FOR INVERT DEPTHS GREATER THAN 16".

DIMENSIONAL DATA INCHES AND [mm] - DO NOT SCALE DWG ALL DIMENSIONS ARE AFTER FINISHING UNLESS NOTED BREAK SHARP EDGES ± 0.000 MAX - WELD SIZES ARE: MINIMUM		REVISED SYSTEM TO Z874-18-HDG-GDF-E12		LZ	KG	08/22/23
© = CRITICAL DIMENSION STANDARD TOLERANCES (UNLESS SPECIFIED)		REVISION HISTORY		BY	APV.	DATE
METAL CASTING		DRAWN BY	CHECKED BY	APPROVED BY	DATE	SCALE
PLASTIC AND MANUFACTURED		LZ	AW	KG	07/31/21	1/4" = 1'-0"
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ZURN		ZURN INDUSTRIES, LLC PLUMBING PRODUCTS GROUP 1801 PITTSBURGH AVE ERIE, PA 16502 © 2018				

NO.	REVISION	BY	DATE

CITY OF LAUDERHILL
 5581 W OAKLAND PARK BLVD,
 LAUDERHILL, FL 33131
 (954) 739-0100

MCMAHON
 TRANSPORTATION ENGINEERS & PLANNERS
 2090 PALM BEACH LAKES BLVD, SUITE 400 (561) 840-8650
 WEST PALM BEACH, FL 33407 FAX (561) 840-8590
 CERTIFICATE OF AUTHORIZATION NO. 4908
 E.O.R. GINO CHARLES, P.E.
 P.E. NO. 87758

FLORIDA LICENSE No. _____ SIGNATURE DATE _____

DATE : 9/6/23
 PROJ. # : XXXXXXX
 DRAWN BY : HY
 APPD. BY : GC
 PLOT BY : HY
 FILE NAME : _____
 REF. # : XXXXXXX
 F.B. & PG. : XXXXXXX

**NW 21ST STREET CORRIDOR RESURFACING
 TRENCH DRAIN DESIGN**

SHEET
16

PERMA-TRENCH
IMPORTANT NOTE: The maximum temperature must not exceed 140°F [60°C].
 The operational variance should not exceed 80°F [26°C] within a 24 hr period. If there are any chemical, required flow rate, or temperature concerns, you will need to contact the Zurn factory at (855) 663-9876 for help designing your system.

LAYOUT HAS BEEN DEVELOPED FROM DRAWINGS OR SKETCHES SUBMITTED TO ZURN. PLEASE TAKE SOME TIME TO VERIFY OUR INTERPRETATION.
 NOTE: ALL PRICES SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE.

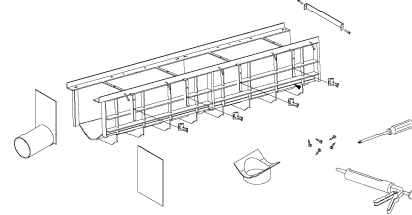
DATE: _____

ACCEPT LAYOUT: _____

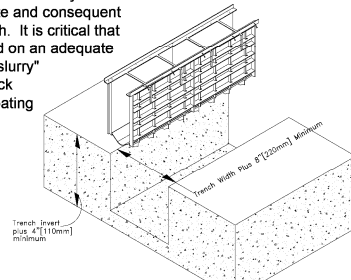
23JY28-9

LOAD RATING: DIN/EN 1433 CLASS F

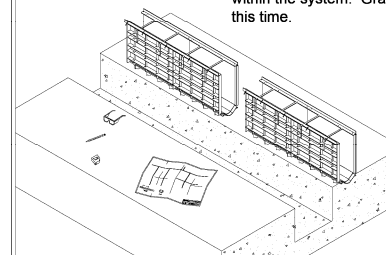
Locate the trench sections that are to receive any accessories, such as end caps, bottom outlets, and/or end outlets. These accessories can be easily attached with a silicon caulking and/or sheet metal screws. Trim the end caps to the appropriate depth prior to attaching them to the trench sections.



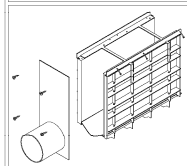
Trench excavation must be 4 inches greater than the trench depth and a minimum of 31 inches in width. Soft and/or shifting soil substrates may cause cracking of the concrete and consequent movement of the trench. It is critical that the concrete be poured on an adequate foundation. A 2" - 4" "slurry" pour can be used to lock rebar in to eliminate floating of the system.



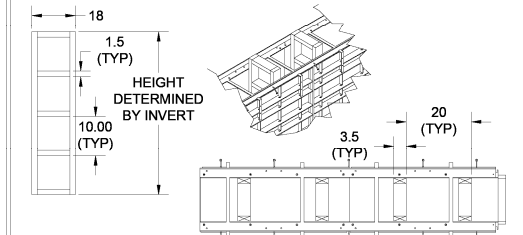
Upon completion of the trench excavation, the channels should be placed in numeric order alongside the excavation and according to the job layout. Each trench section has a trench identification number indicating its sequence within the system. Grates are not installed at this time.



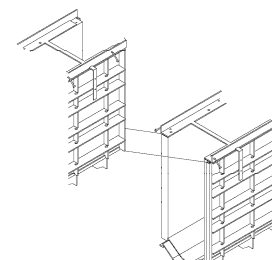
To attach an end outlet, remove the 2" male overlap portion of the trench as shown. Trim the end outlet to the appropriate height and attach with the hardware provided.



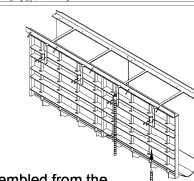
Any Z874-18 channels deeper than 16" invert (1808P & higher channels) recommend internal sidewall bracing every 20". Bracing shall be made from standard 2x4 and shall be provided and constructed on site by others. Internal bracing shall be 18" wide, the height will be determined to match the invert depth, and horizontal braces shall be placed every 10".



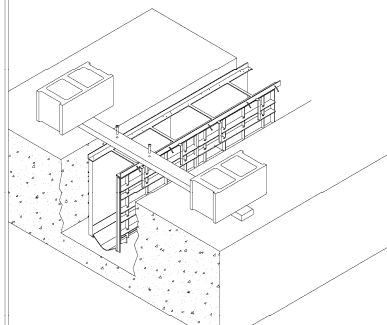
Assembling the trench run is easy with Perma-Trench's unique mechanical joint interlock. Simply align the two mating ends of the trench sections and fasten with the hardware fasteners provided. Silicon caulking may be used at each joint as a sealer.



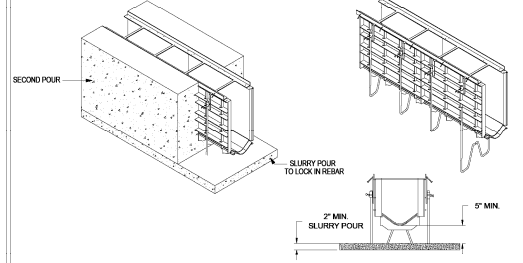
Typically, a trench system is assembled from the outlet on back. Starting with the deepest section or catch basin, set the first channel utilizing Flo-Thru's unique Rebar Clip anchoring system. Rebar clips are used on both sides of the length of each trench drain for easy attachment to #4 rebar stakes. Simply attach the Rebar Clip to the anchor straps and align the rebar stakes where needed, then drive the stakes into the ground for positive anchoring. Attach the trench drain to the rebar stakes with the hardware provided.



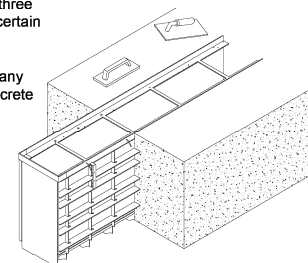
An alternative means of installation is to suspend the trench drain as shown. Wooden braces to hang the trench run can be attached to the drain body through the grate lock down bars as illustrated above.



The system may also be installed using the bedding brackets in the place of the re-bar stakes. The excavation shall be dug 2" deeper to allow the slurry pour needed to lock the bedding brackets into place to hold the system from floating. Once this is complete the concrete shall be placed as in the standard installation.



Pour the concrete around the three sides of the trench drain. Be certain to adequately VIBRATE the concrete as it is being placed. Proper vibration will eliminate any unwanted voids within the concrete pour.



Finish troweling should be done to set the top edge of the trench drain about 1/16" below the floor grade. Remember to compensate for concrete shrink that may occur during cure so that the edge of the trench drain does not protrude above the finished floor grade.

- ▲ **WARNING:** Cancer and reproductive harm - www.P65Warnings.ca.gov.
- ▲ **ADVERTENCIA:** Cáncer y daño reproductivo - www.P65Warnings.ca.gov.
- ▲ **AVERTISSEMENT:** Cancer et effets néfastes sur la reproduction - www.P65Warnings.ca.gov.

IMPORTANT ADDITIONAL NOTES:

- Standard concrete practices shall be used in the installation and finishing of the concrete surrounding the Zurn System. Expansion and control joints should be installed as specified by the engineer.
- For Class C rated and above grates place bolts in tapped holes to accommodate grate lockdown bolts if not installing grates at time of concrete pour.
- This Install Sheet provides quick reference details ONLY. Visit www.Zurn.com for the complete installation instructions.

DIMENSIONAL DATA INCHES AND (mm) - DO NOT SCALE DWGS
 ALL DIMENSIONS ARE AFTER FINISHING UNLESS NOTED
 BREAK SHARP EDGES ± 0.000 MAX - WELD SIZES ARE:
 MINIMUM

METAL CASTING		PLASTIC AND MANUFACTURED	
TOLERANCE	FINISH	TOLERANCE	FINISH
.005 ±	AS SUPPLIED	.005 ±	AS SUPPLIED
.010 ±	AS SUPPLIED	.010 ±	AS SUPPLIED
.015 ±	AS SUPPLIED	.015 ±	AS SUPPLIED
.020 ±	AS SUPPLIED	.020 ±	AS SUPPLIED
.030 ±	AS SUPPLIED	.030 ±	AS SUPPLIED
.040 ±	AS SUPPLIED	.040 ±	AS SUPPLIED
.050 ±	AS SUPPLIED	.050 ±	AS SUPPLIED
.060 ±	AS SUPPLIED	.060 ±	AS SUPPLIED
.070 ±	AS SUPPLIED	.070 ±	AS SUPPLIED
.080 ±	AS SUPPLIED	.080 ±	AS SUPPLIED
.090 ±	AS SUPPLIED	.090 ±	AS SUPPLIED
.100 ±	AS SUPPLIED	.100 ±	AS SUPPLIED
.125 ±	AS SUPPLIED	.125 ±	AS SUPPLIED
.150 ±	AS SUPPLIED	.150 ±	AS SUPPLIED
.175 ±	AS SUPPLIED	.175 ±	AS SUPPLIED
.200 ±	AS SUPPLIED	.200 ±	AS SUPPLIED
.250 ±	AS SUPPLIED	.250 ±	AS SUPPLIED
.300 ±	AS SUPPLIED	.300 ±	AS SUPPLIED
.375 ±	AS SUPPLIED	.375 ±	AS SUPPLIED
.450 ±	AS SUPPLIED	.450 ±	AS SUPPLIED
.500 ±	AS SUPPLIED	.500 ±	AS SUPPLIED
.625 ±	AS SUPPLIED	.625 ±	AS SUPPLIED
.750 ±	AS SUPPLIED	.750 ±	AS SUPPLIED
.875 ±	AS SUPPLIED	.875 ±	AS SUPPLIED
1.000 ±	AS SUPPLIED	1.000 ±	AS SUPPLIED
1.250 ±	AS SUPPLIED	1.250 ±	AS SUPPLIED
1.500 ±	AS SUPPLIED	1.500 ±	AS SUPPLIED
1.750 ±	AS SUPPLIED	1.750 ±	AS SUPPLIED
2.000 ±	AS SUPPLIED	2.000 ±	AS SUPPLIED
2.500 ±	AS SUPPLIED	2.500 ±	AS SUPPLIED
3.000 ±	AS SUPPLIED	3.000 ±	AS SUPPLIED
3.750 ±	AS SUPPLIED	3.750 ±	AS SUPPLIED
4.500 ±	AS SUPPLIED	4.500 ±	AS SUPPLIED
5.000 ±	AS SUPPLIED	5.000 ±	AS SUPPLIED

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B	REVISED SYSTEM TO Z874-18-HDG-GDF-E12	LZ	KG	08/22/23
REV	CHECKED	APPROVED	DATE	SCALE
LZ	AW	KG	07/31/21	NTS
SHEET SIZE: A				
PAGE NO. 4 of 4				
Z874-18 INSTALL SHEET FOR NW 21ST ST-43 TER				
ZURN			ZURN INDUSTRIES, LLC PLUMBING PRODUCTS GROUP 1801 PITTSBURGH AVE ERIE, PA 16502 © 2018	
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**NW 21ST STREET CORRIDOR RESURFACING
 TRENCH DRAIN DESIGN**

SHEET
17

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